

Planck 2018 Results: Cosmological Parameter Tables

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Abstract

These tables summarize the results of *Planck* 2018 parameter estimation exploration results. They are based on *Planck* HFI data and *Planck* lensing, as well as additional non-CMB data as detailed in the main parameter papers.

1 Introduction

The tables are arranged in groups, firstly by cosmological model, and then by data combination. The name tags match those of the full chains also provided on the PLA. The names all start with **base** to denote the baseline model, followed by the parameter tags of any additional parameters that are also varied (as defined in the parameter paper). Data combination tags are as follows (see the parameters paper for full description and references):

Data tag	Data used
plikHM	Baseline high- ℓ <i>Planck</i> power spectra (plik cross-half-mission, $30 \leq \ell \leq 2508$).
CamSpecHM	CamSpec high- ℓ <i>Planck</i> power spectra.
CleanedCamSpecHM	Foreground-cleaned CamSpec high- ℓ <i>Planck</i> power spectra.
lowl	Low- ℓ <i>Planck</i> temperature (Commander , $2 \leq \ell \leq 29$).
lowE	Low- ℓ HFI <i>EE</i> polarization only (SimAll , $2 \leq \ell \leq 29$).
lensing	<i>Planck</i> lensing power spectrum reconstruction. When used without other CMB likelihoods, it is marginalized over the theory CMB spectra given.
BAO	Baryon oscillation data from BOSS DR12, MGS, and 6DF.
Pantheon18	Supernova data from the Pantheon sample, with updated main distance file with heliocentric redshifts.
JLA	Supernova data from the SDSS-II/SNLS3 Joint Light-curve Analysis.
Riess18	Hubble parameter measurement from SHOES (Riess et al. 2018a, $H_0 = 73.45 \pm 1.66$).
BK15	Bicep-Keck (+Planck/WMAP) 2015 analysis (arXiv:1810.05216).
zre6p5	A hard prior, $z_{\text{re}} > 6.5$.
reion	A hard prior, $z_{\text{re}} > 6.5$, combined with a Gaussian prior, $z_{\text{re}} = 7 \pm 1$.
lenspriors	Standard base parameters with $n_s = 0.96 \pm 0.02$, $\Omega_b h^2 = 0.0222 \pm 0.0005$, $100 > H_0 > 40$, $\tau = 0.055$.
DESpriors	DES cosmological parameter priors (flat on $0.1 < \Omega_m < 0.9$, $0.03 < \Omega_b < 0.07$, $55 < H_0 < 91$, $0.5 < 10^9 A_s < 5$, $Y_P = 0.245341$ and, if varied, $0.05\text{eV} < \sum m_\nu < 1\text{eV}$).
CookeDH	A Gaussian prior $\Omega_b h^2 = 0.0222 \pm 0.0005$ (conservative, motivated by Cooke et al. 2017).
Cooke17	A Gaussian prior on D/H (Cooke et al. 2017), mean and error adjusted to approximately agree with CookeDH for $N_{\text{eff}} = 3.046$.
Aver15	A Gaussian constraint on $Y_P^{\text{BBN}} = 0.2449 \pm 0.0040$ (Aver et al. 2015).
theta	A Gaussian prior $100\theta_{\text{MC}} = 1.0409 \pm 0.0006$ (acoustic scale from <i>Planck</i> CMB without LCDM assumption).
WMAP	The full WMAP (temperature and polarization) 9-year data.
DES	DES 1yr, cosmic shear+galaxy auto+cross.
DESlens	DES 1yr, cosmic shear only.
DESw	DES 1yr, galaxy auto+cross only.

The high- ℓ *Planck* likelihoods have TT, TE, EE variants from each spectrum alone, plus the TTTEEE joint constraint. Note that unless **nnu** is specified in the file name, the neutrino mass sum is fixed to $\sum_\nu m_\nu = 0.06\text{eV}$ (including for DES chains). Non-linear corrections are modelled with HMCode in all cases (including when using DESpriors).

Data likelihoods are either included when running the chains, or by importance sampling. Data combinations that are added by importance sampling appear at the end of the list, following the **post_** tag. Note that the best fits are merely examples of parameter combinations that fit the data well; due to parameter degeneracies there may be other combinations of parameters that fit the data nearly equally well.

Beneath each table is the $\chi_{\text{eff}}^2 = -2\log(\text{likelihood})$ for each best-fit model, and also the contributions coming from each separate part of the likelihood. Mean minus log likelihoods are also given, as $\bar{\chi}_{\text{eff}}^2$. The tables also give the χ_{eff}^2 of the various component parts of the likelihood, where quoted values are the best-fit and mean, standard

deviation (in the case of 1σ tables), or effective degrees of freedom (ν , defined by $\sigma^2/2$). Normalization of likelihoods is arbitrary, i.e., a constant can be added to log likelihoods without affecting any results. Only some likelihoods normalize so that the number is immediately interpretable as similar to a χ^2 for some number of data points.

The $R - 1$ value is also given, which measures the convergence of the sampling chains, with small values being better converged. The sampling uncertainty on quoted mean values are typically of order $R - 1$ in units of the standard deviation.

Parameter constraints were calculated from Monte Carlo chains from **CosmoMC** using **GetDist** (getdist.readthedocs.org).

Parameters and derived parameters, along with the name tags used in the chain files, are briefly described in the tables below.

Additional nuisance parameters for each likelihood are described in more detail in the respective papers.

Parameter	Tag	baseline	Definition
$\Omega_b h^2$	omegab2	...	Baryon density today
$\Omega_c h^2$	omegac2	...	Cold dark matter density today
$100\theta_{\text{MC}}$	theta	...	$100\times$ approximation to r_s/D_M (CosmoMC)
τ	tau	...	Thomson scattering optical depth due to reionization
Ω_K	omegak	0	$\Omega_{\text{tot}} = 1 - \Omega_K$
Σm_ν	mnu	0.06	Sum of active neutrino masses in eV
$m_{\nu, \text{sterile}}^{\text{eff}}$	meffsterile	0	Effective mass in sterile neutrinos in eV
w_0	w	-1	Dark energy equation of state, $w(a) = w_0 + (1 - a)w_a$
w_a	wa	0	As above (perturbations modelled using PPF)
N_{eff}	nnu	3.046	Total effective number of massive and massless neutrinos (see text)
Y_{P}	yhe	BBN	Fraction of baryonic mass in helium (only if varied independently of BBN)
α_{-1}	alpha1	0	Fully correlated isocurvature amplitude parameter
A_{L}	Alens	1	Amplitude of the lensing power relative to the physical value
$A_{\text{L}}^{\phi\phi}$	Aphiphi	1	Amplitude of the lensing reconstruction power relative to the physical value
$A_{\text{L}}^{\text{fid}}$	Alensf	...	Amplitude of the lensing power relative to a fixed fiducial spectrum
n_s	ns	...	Scalar spectrum power-law index ($k_0 = 0.05\text{Mpc}^{-1}$)
n_t	nt	Inflation	Tensor spectrum power-law index ($k_0 = 0.05\text{Mpc}^{-1}$)
$d \ln n_s / d \ln k$	nrun	0	Running of the spectral index
$\log[10^{10} A_s]$	logA	...	Log power of the primordial curvature perturbations ($k_0 = 0.05\text{Mpc}^{-1}$)
$r_{0.05}$	r	0	Tensor power spectrum amplitude ($k_0 = 0.05\text{Mpc}^{-1}$)
H_0	H0	...	Current expansion rate in $\text{km s}^{-1}\text{Mpc}^{-1}$
Ω_{m}	omegam	...	Matter density (incl. massive neutrinos) today divided by the critical density
Ω_{Λ}	omegal	...	Dark energy density divided by the critical density today
$\Omega_{\text{m}} h^2$	omegamh2	...	Total matter density today (incl. massive neutrinos)
$\Omega_{\text{m}} h^3$	omegamh3	...	$h \times$ total matter density today
σ_8	sigma8	...	RMS matter fluctuations today in linear theory
S_8	S8	...	$\sigma_8(\Omega_{\text{m}}/0.3)^{0.5}$
$\sigma_8 \Omega_{\text{m}}^{0.5}$	s8omegamp5	...	$\sigma_8 \Omega_{\text{m}}^{0.5}$ constrained by low-redshift lensing
$\sigma_8 \Omega_{\text{m}}^{0.25}$	s8omegamp25	...	$\sigma_8 \Omega_{\text{m}}^{0.25}$ constrained by CMB lensing
$\sigma_8 / h^{0.5}$	s8h5	...	$\sigma_8 / h^{0.5}$
$\sigma_8 / h^{0.5}$	rdragh	...	$r_{\text{drag}} h$ in Mpc
$\langle d^2 \rangle^{1/2}$	rmsdeflect	...	RMS CMB lensing deflection angle in arcmin (approx. using $2 \leq L \leq 2000$)
z_{re}	zrei	...	Redshift at which Universe is half reionized
$10^9 A_s$	A	...	Power of the primordial curvature perturbations ($k_0 = 0.05\text{Mpc}^{-1}$)
$10^9 A_s e^{-2\tau}$	clamp	...	Parameter determining the small-scale CMB power
Y_{P}	yheused	bbn	Fraction of baryonic mass in helium
$Y_{\text{P}}^{\text{BBN}}$	YpBBN	bbn	Nucleon fraction in helium
10^5D/H	DHBBN	bbn	10^5 deuterium-helium ratio from Parthenope BBN prediction (pre-Marcucci rates)
Age/Gyr	age	...	Time since the start of the hot big bang

Parameter	Tag	baseline	Definitions
z_*	zstar	...	Redshift for which the optical depth equals unity
$r_* = r_s(z_*)$	rstar	...	Comoving size of the sound horizon at $z = z_*$
$100\theta_*$	thetastar	...	100× Angular size of the sound horizon at last scattering
$D_M/\text{Gpc}(z_*)$	DAstar	...	Comoving angular diameter distance to last scattering
z_{drag}	zdrag	...	Redshift at which baryon-drag optical depth equals unity
$r_{\text{drag}} = r_s(z_{\text{drag}})$	rdrag	...	Comoving size of the sound horizon at $z = z_{\text{drag}}$
k_D	kd	...	Characteristic damping comoving wavenumber (Mpc^{-1})
$100\theta_D$	thetad	...	100× angular extent of photon diffusion at last scattering
z_{eq}	zeq	...	Redshift of matter-radiation equality (massless neutrinos)
k_{eq}	keq	...	$[a(z_{\text{eq}})H(z_{\text{eq}})]^{-1}$
$100\theta_{\text{eq}}$	thetaeq	...	100× angular size of the comoving Horizon at matter-radiation equality
$100\theta_{s,\text{eq}}$	thetarseq	...	100× angular size of the comoving sound Horizon at matter-radiation equality
D_{40}	D40	...	$\ell(\ell+1)C_\ell^{TT}/2\pi$ at $\ell = 40$ in μK^2
D_{220}	D200	...	$\ell(\ell+1)C_\ell^{TT}/2\pi$ at $\ell = 220$ in μK^2
D_{810}	D810	...	$\ell(\ell+1)C_\ell^{TT}/2\pi$ at $\ell = 810$ in μK^2
D_{1420}	D1420	...	$\ell(\ell+1)C_\ell^{TT}/2\pi$ at $\ell = 1420$ in μK^2
D_{2000}	D2000	...	$\ell(\ell+1)C_\ell^{TT}/2\pi$ at $\ell = 2000$ in μK^2
$n_{s,0.002}$	ns02	...	Scalar spectral index at $k = 0.002\text{Mpc}^{-1}$
$r_{0.002}$	r02	0	Tensor/scalar ratio at $k = 0.002\text{Mpc}^{-1}$
$r_{0.01}$	rBB	0	Tensor/scalar ratio at $k = 0.01\text{Mpc}^{-1}$ (roughly BB peak)
r_{10}	r10	0	Tensor-scalar temperature C_ℓ amplitude at $\ell = 10$
A_t	AT	0	$10^9 A_t$ ($k_0 = 0.05\text{Mpc}^{-1}$)
$10^9 A_t e^{-2\tau}$	ctlamp	0	Parameter determining $\ell \simeq 100$ tensor C_ℓ amplitude
$H(z)$	Hubble{100z}	...	Hubble parameter at redshift z ($\text{km s}^{-1}\text{Mpc}^{-1}$)
$D_M(z)$	DM{100z}	...	Comoving angular diameter distance to redshift z in Mpc
$f\sigma_8(z)$	fsigma8z{100z}	...	Growth parameter $f\sigma_8$ at redshift z
$\sigma_8(z)$	sigma8z{100z}	...	σ_8 at redshift z
f_{2000}^{143}	f2000_143	...	Total temperature foreground power at $\ell = 2000$ in 143GHz C_ℓ
$f_{2000}^{143 \times 217}$	f2000_x	...	Total temperature foreground power at $\ell = 2000$ in $217\text{GHz} \times 143\text{GHz}$ C_ℓ
f_{2000}^{217}	f2000_217	...	Total temperature foreground power at $\ell = 2000$ in 217GHz C_ℓ
χ_x^2	chi2_x	...	$-2\log(\text{likelihood})$ for likelihood x ; (most are normalized like a χ^2).

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2 Baseline model

2.1 base_CamSpecHM_TT_lowl_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022132	0.02214 ± 0.00022	$\sigma_8 \Omega_m^{0.5}$	0.4585	0.458 ± 0.013	$100\theta_{s,eq}$	0.44861	0.4487 ± 0.0046
$\Omega_c h^2$	0.12049	0.1205 ± 0.0021	$\sigma_8 \Omega_m^{0.25}$	0.6098	0.610 ± 0.012	$H(0.15)$	72.32	72.34 ± 0.79
$100\theta_{MC}$	1.040846	1.04084 ± 0.00048	$\sigma_8/h^{0.5}$	0.9911	0.991 ± 0.016	$D_M(0.15)$	646.9	646.8 ± 8.0
τ	0.0519	0.0521 ± 0.0080	$r_{drag}h$	98.58	98.6 ± 1.6	$H(0.38)$	82.57	82.59 ± 0.57
$\ln(10^{10} A_s)$	3.0384	3.039 ± 0.016	$\langle d^2 \rangle^{1/2}$	2.4473	2.448 ± 0.038	$D_M(0.38)$	1540.8	1541 ± 16
n_s	0.9639	0.9638 ± 0.0058	z_{re}	7.50	$7.49^{+0.83}_{-0.75}$	$H(0.51)$	89.362	89.38 ± 0.44
y_{cal}	1.00037	1.0005 ± 0.0025	$10^9 A_s$	2.0872	2.089 ± 0.034	$D_M(0.51)$	1994.7	1994 ± 19
A_{100}^{PS}	238.8	242 ± 25	$10^9 A_s e^{-2\tau}$	1.8813	1.882 ± 0.014	$H(0.61)$	95.040	95.05 ± 0.35
A_{143}^{PS}	41.3	41 ± 8	D_{40}	1228.7	1230 ± 15	$D_M(0.61)$	2320.0	2320 ± 20
A_{217}^{PS}	100.6	101 ± 10	D_{220}	5701.7	5704 ± 43	$H(2.33)$	236.64	236.6 ± 1.3
A_{217}^{CIB}	45.0	41^{+7}_{-8}	D_{810}	2534.0	2534 ± 14	$D_M(2.33)$	5775.9	5775 ± 16
A_{143}^{tSZ}	5.89	$3.7^{+1.8}_{-2.6}$	D_{1420}	814.3	814.3 ± 5.2	$f\sigma_8(0.15)$	0.4624	0.462 ± 0.012
$r_{143 \times 217}^{PS}$	0.582	0.65 ± 0.13	D_{2000}	229.56	229.6 ± 1.8	$\sigma_8(0.15)$	0.7486	0.7486 ± 0.0075
$r_{143 \times 217}^{CIB}$	0.791	> 0.456	$n_{s,0.002}$	0.9639	0.9638 ± 0.0058	$f\sigma_8(0.38)$	0.4789	0.4788 ± 0.0096
$\xi^{tSZ \times CIB}$	0.12	—	Y_P	0.245298	$0.24529^{+0.00010}_{-0.000082}$	$\sigma_8(0.38)$	0.6627	0.6627 ± 0.0060
A^{kSZ}	1.2	—	Y_P^{BBN}	0.246624	$0.24662^{+0.00010}_{-0.000082}$	$f\sigma_8(0.51)$	0.4766	0.4765 ± 0.0082
A_{100}^{dust}	1.011	1.01 ± 0.19	$10^5 D/H$	2.6309	2.630 ± 0.042	$\sigma_8(0.51)$	0.6199	0.6198 ± 0.0054
A_{143}^{dust}	0.991	0.98 ± 0.18	Age/Gyr	13.8257	13.825 ± 0.037	$f\sigma_8(0.61)$	0.4710	0.4708 ± 0.0073
A_{217}^{dust}	0.966	0.97 ± 0.10	z_*	1090.266	1090.26 ± 0.41	$\sigma_8(0.61)$	0.5896	0.5896 ± 0.0051
$A_{143 \times 217}^{dust}$	0.995	1.03 ± 0.16	r_*	144.485	144.49 ± 0.48	$f\sigma_8(2.33)$	0.29696	0.2970 ± 0.0025
c_{100}	0.99755	0.9975 ± 0.0011	$100\theta_*$	1.041053	1.04105 ± 0.00047	$\sigma_8(2.33)$	0.30581	0.3058 ± 0.0027
c_{217}	1.00139	1.0012 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.8788	13.879 ± 0.044	f_{2000}^{143}	31.12	30.8 ± 3.0
H_0	66.96	66.98 ± 0.92	z_{drag}	1059.437	1059.43 ± 0.45	f_{2000}^{217}	107.60	107.6 ± 2.0
Ω_Λ	0.6805	0.680 ± 0.013	r_{drag}	147.225	147.23 ± 0.48	$f_{2000}^{143 \times 217}$	32.96	33.0 ± 2.1
Ω_m	0.3195	0.320 ± 0.013	k_D	0.14054	0.14054 ± 0.00052	χ_{small}^2	395.83	396.9 ± 1.6
$\Omega_m h^2$	0.14327	0.1432 ± 0.0020	$100\theta_D$	0.161064	0.16106 ± 0.00026	χ_{lowl}^2	23.40	23.5 ± 1.3
$\Omega_m h^3$	0.095935	0.09593 ± 0.00045	z_{eq}	3408.3	3408 ± 48	$\chi_{CamSpec}^2$	7050.3	7063.4 ± 5.4
σ_8	0.8110	0.8110 ± 0.0089	k_{eq}	0.010403	0.01040 ± 0.00015	χ_{prior}^2	2.17	7.7 ± 3.6
S_8	0.8370	0.837 ± 0.024	$100\theta_{eq}$	0.8115	0.8117 ± 0.0089	χ_{CMB}^2	7469.6	7483.8 ± 5.5

Best-fit $\chi_{eff}^2 = 7471.74$; $\bar{\chi}_{eff}^2 = 7491.54$; $R - 1 = 0.00710$

χ_{eff}^2 : CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.83 commander_dx12.v3.2.29: 23.40 CamSpec like_10.7HM: 7050.34

2.2 base_CamSpecHM_TT_lowl_lowE_post_BAO

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\text{b}}h^2$	0.02223 ± 0.00019	$\sigma_8/h^{0.5}$	0.981 ± 0.012	$D_{\text{M}}(0.38)$	1528.8 ± 9.3
$\Omega_{\text{c}}h^2$	0.1189 ± 0.0012	$r_{\text{drag}}h$	99.84 ± 0.94	$H(0.51)$	89.69 ± 0.29
$100\theta_{\text{MC}}$	1.04105 ± 0.00042	$\langle d^2 \rangle^{1/2}$	2.424 ± 0.028	$D_{\text{M}}(0.51)$	1981 ± 11
τ	0.0537 ± 0.0079	z_{re}	7.61 ± 0.81	$H(0.61)$	95.29 ± 0.24
$\ln(10^{10}A_{\text{s}})$	3.039 ± 0.017	$10^9 A_{\text{s}}$	2.088 ± 0.035	$D_{\text{M}}(0.61)$	2305 ± 12
n_{s}	0.9674 ± 0.0042	$10^9 A_{\text{s}} e^{-2\tau}$	1.875 ± 0.012	$H(2.33)$	235.71 ± 0.78
y_{cal}	1.0006 ± 0.0025	D_{40}	1222 ± 13	$D_{\text{M}}(2.33)$	5765 ± 12
A_{100}^{PS}	241 ± 25	D_{220}	5711 ± 42	$f\sigma_8(0.15)$	0.4537 ± 0.0077
A_{143}^{PS}	40 ± 8	D_{810}	2534 ± 14	$\sigma_8(0.15)$	0.7456 ± 0.0069
A_{217}^{PS}	101 ± 10	D_{1420}	815.3 ± 5.1	$f\sigma_8(0.38)$	0.4723 ± 0.0065
A_{217}^{CIB}	41_{-8}^{+7}	D_{2000}	229.9 ± 1.8	$\sigma_8(0.38)$	0.6611 ± 0.0059
A_{143}^{tSZ}	$3.9_{-2.5}^{+1.9}$	$n_{\text{s},0.002}$	0.9674 ± 0.0042	$f\sigma_8(0.51)$	0.4711 ± 0.0059
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.13	Y_{P}	$0.245334_{-0.000072}^{+0.000085}$	$\sigma_8(0.51)$	0.6188 ± 0.0055
$r_{143 \times 217}^{\text{CIB}}$	> 0.458	$Y_{\text{P}}^{\text{BBN}}$	$0.246660_{-0.000073}^{+0.000085}$	$f\sigma_8(0.61)$	0.4663 ± 0.0054
$\xi^{\text{tSZ} \times \text{CIB}}$	—	$10^5 \text{D}/\text{H}$	2.613 ± 0.037	$\sigma_8(0.61)$	0.5888 ± 0.0052
A^{kSZ}	—	Age/Gyr	13.803 ± 0.027	$f\sigma_8(2.33)$	0.2970 ± 0.0026
A_{100}^{dust}	1.01 ± 0.19	z_*	1090.01 ± 0.29	$\sigma_8(2.33)$	0.3062 ± 0.0027
A_{143}^{dust}	0.97 ± 0.17	r_*	144.82 ± 0.32	f_{2000}^{143}	30.4 ± 3.0
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04125 ± 0.00041	f_{2000}^{217}	107.4 ± 2.0
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.17	$D_{\text{M}}(z_*)/\text{Gpc}$	13.909 ± 0.031	$f_{2000}^{143 \times 217}$	32.7 ± 2.1
c_{100}	0.9975 ± 0.0010	z_{drag}	1059.52 ± 0.44	χ_{small}^2	397.0 ± 1.7
c_{217}	1.0012 ± 0.0016	r_{drag}	147.54 ± 0.34	χ_{lowl}^2	22.81 ± 0.89
H_0	67.67 ± 0.54	k_{D}	0.14028 ± 0.00044	χ_{CamSpec}^2	7063.9 ± 5.3
Ω_{Λ}	0.6902 ± 0.0073	$100\theta_{\text{D}}$	0.16102 ± 0.00026	$\chi_{6\text{DF}}^2$	0.054 ± 0.072
Ω_{m}	0.3098 ± 0.0073	z_{eq}	3373 ± 28	χ_{MGS}^2	1.39 ± 0.53
$\Omega_{\text{m}}h^2$	0.1418 ± 0.0012	k_{eq}	0.010294 ± 0.000087	χ_{DR12BAO}^2	4.7 ± 1.6
$\Omega_{\text{m}}h^3$	0.09593 ± 0.00045	$100\theta_{\text{eq}}$	0.8183 ± 0.0053	χ_{prior}^2	7.7 ± 3.5
σ_8	0.8067 ± 0.0078	$100\theta_{\text{s,eq}}$	0.4521 ± 0.0027	χ_{BAO}^2	6.1 ± 1.3
S_8	0.820 ± 0.015	$H(0.15)$	72.92 ± 0.47	χ_{CMB}^2	7483.8 ± 5.4
$\sigma_8\Omega_{\text{m}}^{0.5}$	0.4490 ± 0.0082	$D_{\text{M}}(0.15)$	640.9 ± 4.6		
$\sigma_8\Omega_{\text{m}}^{0.25}$	0.6018 ± 0.0080	$H(0.38)$	83.00 ± 0.35		

$\bar{\chi}_{\text{eff}}^2 = 7497.55$; $R - 1 = 0.01113$

2.3 base_CamSpecHM_TT_lowl_lowE_post_Riess18

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02239 ± 0.00022	$\sigma_8 \Omega_m^{0.25}$	0.592 ± 0.011	$D_M(0.15)$	633.5 ± 7.0
$\Omega_c h^2$	0.1171 ± 0.0018	$\sigma_8/h^{0.5}$	0.968 ± 0.015	$H(0.38)$	$83.55^{+0.50}_{-0.55}$
$100\theta_{MC}$	1.04132 ± 0.00046	$r_{drag}h$	101.3 ± 1.5	$D_M(0.38)$	1514 ± 14
τ	0.0558 ± 0.0082	$\langle d^2 \rangle^{1/2}$	2.396 ± 0.034	$H(0.51)$	$90.13^{+0.40}_{-0.45}$
$\ln(10^{10} A_s)$	3.039 ± 0.016	z_{re}	7.76 ± 0.81	$D_M(0.51)$	1963 ± 17
n_s	0.9718 ± 0.0053	$10^9 A_s$	2.089 ± 0.034	$H(0.61)$	$95.64^{+0.32}_{-0.37}$
y_{cal}	1.0008 ± 0.0026	$10^9 A_s e^{-2\tau}$	1.868 ± 0.013	$D_M(0.61)$	2286 ± 18
A_{100}^{PS}	240 ± 25	D_{40}	1214 ± 14	$H(2.33)$	234.7 ± 1.1
A_{143}^{PS}	39 ± 8	D_{220}	5724 ± 43	$D_M(2.33)$	5750^{+17}_{-15}
A_{217}^{PS}	101^{+10}_{-10}	D_{810}	2534 ± 14	$f\sigma_8(0.15)$	0.443 ± 0.011
A_{217}^{CIB}	40 ± 7	D_{1420}	$816.9^{+5.3}_{-4.8}$	$\sigma_8(0.15)$	0.7419 ± 0.0074
A_{143}^{tSZ}	$3.8^{+1.9}_{-2.4}$	D_{2000}	230.6 ± 1.8	$f\sigma_8(0.38)$	0.4644 ± 0.0088
$r_{143 \times 217}^{PS}$	0.66 ± 0.13	$n_{s,0.002}$	0.9718 ± 0.0053	$\sigma_8(0.38)$	0.6591 ± 0.0060
$r_{143 \times 217}^{CIB}$	> 0.417	Y_P	0.245400 ± 0.000086	$f\sigma_8(0.51)$	0.4646 ± 0.0077
$\xi^{tSZ \times CIB}$	—	Y_P^{BBN}	0.246726 ± 0.000086	$\sigma_8(0.51)$	0.6174 ± 0.0054
A^{kSZ}	4.9 ± 2.7	$10^5 D/H$	2.583 ± 0.040	$f\sigma_8(0.61)$	0.4607 ± 0.0069
A_{100}^{dust}	1.02 ± 0.20	Age/Gyr	13.771 ± 0.035	$\sigma_8(0.61)$	0.5878 ± 0.0051
A_{143}^{dust}	0.97 ± 0.17	z_*	1089.65 ± 0.38	$f\sigma_8(2.33)$	0.2969 ± 0.0025
A_{217}^{dust}	0.97 ± 0.10	r_*	145.17 ± 0.43	$\sigma_8(2.33)$	0.3067 ± 0.0026
$A_{143 \times 217}^{dust}$	1.03 ± 0.16	$100\theta_*$	1.04151 ± 0.00045	f_{2000}^{143}	$29.9^{+2.8}_{-3.1}$
c_{100}	0.9975 ± 0.0010	$D_M(z_*)/\text{Gpc}$	13.938 ± 0.040	f_{2000}^{217}	106.9 ± 2.0
c_{217}	1.0012 ± 0.0015	z_{drag}	1059.77 ± 0.45	$f_{2000}^{143 \times 217}$	32.2 ± 2.1
H_0	68.54 ± 0.84	r_{drag}	147.84 ± 0.43	χ_{small}^2	397.2 ± 1.9
Ω_Λ	0.701 ± 0.011	k_D	0.14009 ± 0.00049	χ_{lowl}^2	22.13 ± 0.92
Ω_m	0.299 ± 0.011	$100\theta_D$	0.16089 ± 0.00026	$\chi_{CamSpec}^2$	7067.0 ± 6.0
$\Omega_m h^2$	0.1401 ± 0.0017	z_{eq}	3334 ± 42	$\chi_{H073p45}^2$	9.0 ± 3.0
$\Omega_m h^3$	0.09604 ± 0.00045	k_{eq}	0.01017 ± 0.00013	χ_{prior}^2	7.6 ± 3.4
σ_8	0.8015 ± 0.0086	$100\theta_{eq}$	0.8262 ± 0.0081	χ_{CMB}^2	7486.3 ± 5.9
S_8	0.800 ± 0.021	$100\theta_{s,eq}$	0.4561 ± 0.0042		
$\sigma_8 \Omega_m^{0.5}$	0.438 ± 0.011	$H(0.15)$	73.68 ± 0.73		
$\bar{\chi}_{eff}^2 = 7502.88; R - 1 = 0.07941$					

2.4 base_CamSpecHM_TT_lowl_lowE_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\text{b}}h^2$	0.02214 ± 0.00022	$\sigma_8\Omega_{\text{m}}^{0.5}$	0.459 ± 0.013	$100\theta_{\text{s,eq}}$	0.4489 ± 0.0046
$\Omega_{\text{c}}h^2$	0.1204 ± 0.0021	$\sigma_8\Omega_{\text{m}}^{0.25}$	0.610 ± 0.012	$H(0.15)$	72.38 ± 0.78
$100\theta_{\text{MC}}$	1.04086 ± 0.00047	$\sigma_8/h^{0.5}$	0.992 ± 0.016	$D_{\text{M}}(0.15)$	646.4 ± 7.9
τ	$0.0538^{+0.0048}_{-0.0082}$	$r_{\text{drag}}h$	98.7 ± 1.6	$H(0.38)$	82.61 ± 0.56
$\ln(10^{10}A_{\text{s}})$	$3.042^{+0.012}_{-0.016}$	$\langle d^2 \rangle^{1/2}$	2.450 ± 0.037	$D_{\text{M}}(0.38)$	1540 ± 16
n_{s}	0.9641 ± 0.0058	z_{re}	$7.67^{+0.54}_{-0.81}$	$H(0.51)$	89.40 ± 0.44
y_{cal}	1.0005 ± 0.0025	$10^9 A_{\text{s}}$	$2.095^{+0.025}_{-0.033}$	$D_{\text{M}}(0.51)$	1994 ± 18
A_{100}^{PS}	242 ± 25	$10^9 A_{\text{s}}e^{-2\tau}$	1.881 ± 0.014	$H(0.61)$	95.07 ± 0.35
A_{143}^{PS}	41 ± 8	D_{40}	1229 ± 15	$D_{\text{M}}(0.61)$	2319 ± 20
A_{217}^{PS}	101 ± 10	D_{220}	5704 ± 42	$H(2.33)$	236.6 ± 1.3
A_{217}^{CIB}	41 ± 7	D_{810}	2534 ± 14	$D_{\text{M}}(2.33)$	5775 ± 16
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	D_{1420}	814.4 ± 5.2	$f\sigma_8(0.15)$	0.463 ± 0.012
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.13	D_{2000}	229.6 ± 1.8	$\sigma_8(0.15)$	0.7496 ± 0.0069
$r_{143 \times 217}^{\text{CIB}}$	> 0.455	$n_{\text{s},0.002}$	0.9641 ± 0.0058	$f\sigma_8(0.38)$	0.4792 ± 0.0095
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_{P}	$0.24530^{+0.00010}_{-0.000082}$	$\sigma_8(0.38)$	$0.6637^{+0.0051}_{-0.0057}$
A^{kSZ}	—	$Y_{\text{P}}^{\text{BBN}}$	$0.24662^{+0.00010}_{-0.000082}$	$f\sigma_8(0.51)$	0.4769 ± 0.0081
A_{100}^{dust}	1.01 ± 0.20	$10^5 \text{D}/\text{H}$	2.629 ± 0.041	$\sigma_8(0.51)$	$0.6208^{+0.0044}_{-0.0052}$
A_{143}^{dust}	0.98 ± 0.18	Age/Gyr	13.824 ± 0.036	$f\sigma_8(0.61)$	0.4713 ± 0.0071
A_{217}^{dust}	0.97 ± 0.10	z_*	1090.24 ± 0.41	$\sigma_8(0.61)$	$0.5905^{+0.0040}_{-0.0049}$
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	r_*	144.51 ± 0.48	$f\sigma_8(2.33)$	$0.2974^{+0.0019}_{-0.0024}$
c_{100}	0.9975 ± 0.0011	$100\theta_*$	1.04106 ± 0.00046	$\sigma_8(2.33)$	$0.3063^{+0.0020}_{-0.0026}$
c_{217}	1.0012 ± 0.0016	$D_{\text{M}}(z_*)/\text{Gpc}$	13.881 ± 0.044	f_{2000}^{143}	30.7 ± 3.0
H_0	67.02 ± 0.92	z_{drag}	1059.44 ± 0.45	f_{2000}^{217}	107.5 ± 2.0
Ω_{Λ}	0.681 ± 0.013	r_{drag}	147.25 ± 0.48	$f_{2000}^{143 \times 217}$	32.9 ± 2.1
Ω_{m}	0.319 ± 0.013	k_{D}	0.14053 ± 0.00051	χ_{simall}^2	396.8 ± 1.6
$\Omega_{\text{m}}h^2$	0.1432 ± 0.0020	$100\theta_{\text{D}}$	0.16106 ± 0.00026	χ_{lowl}^2	23.5 ± 1.3
$\Omega_{\text{m}}h^3$	0.09594 ± 0.00045	z_{eq}	3406 ± 48	χ_{CamSpec}^2	7063.2 ± 5.4
σ_8	0.8120 ± 0.0084	k_{eq}	0.01040 ± 0.00014	χ_{prior}^2	7.7 ± 3.5
S_8	0.837 ± 0.024	$100\theta_{\text{eq}}$	0.8121 ± 0.0089	χ_{CMB}^2	7483.6 ± 5.4

$\bar{\chi}_{\text{eff}}^2 = 7491.26$; $R - 1 = 0.00680$

2.5 base_CamSpecHM_TT_lowl_lowE_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}} h^2$	0.02223 ± 0.00019	$\sigma_8/h^{0.5}$	0.982 ± 0.011	$D_{\mathrm{M}}(0.38)$	1528.7 ± 9.3
$\Omega_{\mathrm{c}} h^2$	0.1189 ± 0.0012	$r_{\mathrm{drag}} h$	99.85 ± 0.94	$H(0.51)$	89.70 ± 0.29
$100\theta_{\mathrm{MC}}$	1.04105 ± 0.00042	$\langle d^2 \rangle^{1/2}$	2.427 ± 0.026	$D_{\mathrm{M}}(0.51)$	1981 ± 11
τ	$0.0550^{+0.0055}_{-0.0080}$	z_{re}	$7.75^{+0.60}_{-0.81}$	$H(0.61)$	95.30 ± 0.24
$\ln(10^{10} A_{\mathrm{s}})$	$3.041^{+0.013}_{-0.016}$	$10^9 A_{\mathrm{s}}$	$2.093^{+0.026}_{-0.034}$	$D_{\mathrm{M}}(0.61)$	2305 ± 12
n_{s}	0.9675 ± 0.0042	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.875 ± 0.012	$H(2.33)$	235.71 ± 0.78
y_{cal}	1.0006 ± 0.0025	D_{40}	1222^{+12}_{-14}	$D_{\mathrm{M}}(2.33)$	5765 ± 12
A_{100}^{PS}	241 ± 25	D_{220}	5711 ± 41	$f\sigma_8(0.15)$	0.4542 ± 0.0075
A_{143}^{PS}	40 ± 8	D_{810}	2534 ± 14	$\sigma_8(0.15)$	$0.7466^{+0.0057}_{-0.0066}$
A_{217}^{PS}	101 ± 10	D_{1420}	815.3 ± 5.0	$f\sigma_8(0.38)$	0.4729 ± 0.0063
A_{217}^{CIB}	41^{+7}_{-8}	D_{2000}	230.0 ± 1.7	$\sigma_8(0.38)$	$0.6620^{+0.0047}_{-0.0056}$
A_{143}^{tSZ}	$3.9^{+2.0}_{-2.5}$	$n_{\mathrm{s},0.002}$	0.9675 ± 0.0042	$f\sigma_8(0.51)$	0.4717 ± 0.0056
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	Y_{P}	$0.245335^{+0.000084}_{-0.000073}$	$\sigma_8(0.51)$	$0.6196^{+0.0043}_{-0.0052}$
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.457	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246662^{+0.000084}_{-0.000073}$	$f\sigma_8(0.61)$	0.4669 ± 0.0051
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$10^5 \mathrm{D}/\mathrm{H}$	2.613 ± 0.036	$\sigma_8(0.61)$	$0.5896^{+0.0041}_{-0.0049}$
A^{kSZ}	—	$\mathrm{Age}/\mathrm{Gyr}$	13.803 ± 0.027	$f\sigma_8(2.33)$	$0.2974^{+0.0020}_{-0.0025}$
A_{100}^{dust}	1.01 ± 0.19	z_*	1090.00 ± 0.29	$\sigma_8(2.33)$	$0.3067^{+0.0020}_{-0.0026}$
A_{143}^{dust}	0.97 ± 0.18	r_*	144.83 ± 0.31	f_{2000}^{143}	30.4 ± 3.0
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04125 ± 0.00041	f_{2000}^{217}	107.3 ± 2.0
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.17	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.909 ± 0.031	$f_{2000}^{143 \times 217}$	32.7 ± 2.1
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.53 ± 0.44	χ_{small}^2	396.9 ± 1.7
c_{217}	1.0011 ± 0.0016	r_{drag}	147.54 ± 0.34	χ_{lowl}^2	22.83 ± 0.89
H_0	67.67 ± 0.54	k_{D}	0.14028 ± 0.00044	$\chi_{\mathrm{CamSpec}}^2$	7063.8 ± 5.3
Ω_{Λ}	0.6904 ± 0.0073	$100\theta_{\mathrm{D}}$	0.16101 ± 0.00025	$\chi_{6\mathrm{DF}}^2$	0.054 ± 0.071
Ω_{m}	0.3096 ± 0.0073	z_{eq}	3372 ± 28	χ_{MGS}^2	1.40 ± 0.53
$\Omega_{\mathrm{m}} h^2$	0.1418 ± 0.0012	k_{eq}	0.010293 ± 0.000087	$\chi_{\mathrm{DR12BAO}}^2$	4.6 ± 1.5
$\Omega_{\mathrm{m}} h^3$	0.09594 ± 0.00045	$100\theta_{\mathrm{eq}}$	0.8184 ± 0.0053	χ_{prior}^2	7.7 ± 3.5
σ_8	$0.8078^{+0.0066}_{-0.0075}$	$100\theta_{\mathrm{s,eq}}$	0.4522 ± 0.0027	χ_{BAO}^2	6.1 ± 1.2
S_8	0.821 ± 0.015	$H(0.15)$	72.93 ± 0.47	χ_{CMB}^2	7483.5 ± 5.3
$\sigma_8 \Omega_{\mathrm{m}}^{0.5}$	0.4495 ± 0.0080	$D_{\mathrm{M}}(0.15)$	640.8 ± 4.6		
$\sigma_8 \Omega_{\mathrm{m}}^{0.25}$	0.6025 ± 0.0077	$H(0.38)$	83.00 ± 0.35		

$\bar{\chi}_{\mathrm{eff}}^2 = 7497.31$; $R - 1 = 0.01176$

2.6 base_CamSpecHM_TT_lowl_lowE_post_Riess18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02240 ± 0.00022	$\sigma_8 \Omega_m^{0.25}$	0.593 ± 0.011	$D_M(0.15)$	633.4 ± 7.0
$\Omega_c h^2$	0.1171 ± 0.0018	$\sigma_8/h^{0.5}$	0.969 ± 0.015	$H(0.38)$	$83.57^{+0.50}_{-0.56}$
$100\theta_{MC}$	1.04133 ± 0.00046	$r_{drag}h$	101.4 ± 1.5	$D_M(0.38)$	1514 ± 14
τ	$0.0568^{+0.0063}_{-0.0081}$	$\langle d^2 \rangle^{1/2}$	2.398 ± 0.034	$H(0.51)$	$90.14^{+0.40}_{-0.45}$
$\ln(10^{10} A_s)$	$3.041^{+0.013}_{-0.016}$	z_{re}	$7.86^{+0.64}_{-0.83}$	$D_M(0.51)$	1963 ± 17
n_s	0.9719 ± 0.0052	$10^9 A_s$	$2.093^{+0.028}_{-0.033}$	$H(0.61)$	$95.65^{+0.33}_{-0.37}$
y_{cal}	1.0008 ± 0.0026	$10^9 A_s e^{-2\tau}$	1.868 ± 0.012	$D_M(0.61)$	2286 ± 18
A_{100}^{PS}	240 ± 25	D_{40}	1214 ± 14	$H(2.33)$	234.7 ± 1.1
A_{143}^{PS}	39 ± 8	D_{220}	5725 ± 43	$D_M(2.33)$	5750^{+17}_{-15}
A_{217}^{PS}	101^{+10}_{-10}	D_{810}	2534^{+14}_{-13}	$f\sigma_8(0.15)$	0.444 ± 0.011
A_{217}^{CIB}	40^{+7}_{-8}	D_{1420}	$816.9^{+5.3}_{-4.8}$	$\sigma_8(0.15)$	$0.7425^{+0.0064}_{-0.0076}$
A_{143}^{tSZ}	$3.8^{+1.9}_{-2.4}$	D_{2000}	230.7 ± 1.7	$f\sigma_8(0.38)$	0.4647 ± 0.0088
$r_{143 \times 217}^{PS}$	0.66 ± 0.13	$n_{s,0.002}$	0.9719 ± 0.0052	$\sigma_8(0.38)$	$0.6597^{+0.0049}_{-0.0061}$
$r_{143 \times 217}^{CIB}$	> 0.417	Y_P	0.245402 ± 0.000086	$f\sigma_8(0.51)$	0.4648 ± 0.0076
$\xi^{tSZ \times CIB}$	—	Y_P^{BBN}	0.246728 ± 0.000086	$\sigma_8(0.51)$	$0.6180^{+0.0044}_{-0.0055}$
A^{kSZ}	4.9 ± 2.7	$10^5 D/H$	2.582 ± 0.040	$f\sigma_8(0.61)$	0.4610 ± 0.0068
A_{100}^{dust}	1.02 ± 0.20	Age/Gyr	13.770 ± 0.035	$\sigma_8(0.61)$	$0.5884^{+0.0040}_{-0.0051}$
A_{143}^{dust}	0.97 ± 0.17	z_*	1089.63 ± 0.38	$f\sigma_8(2.33)$	$0.2972^{+0.0019}_{-0.0025}$
A_{217}^{dust}	0.97 ± 0.10	r_*	145.18 ± 0.43	$\sigma_8(2.33)$	$0.3070^{+0.0021}_{-0.0025}$
$A_{143 \times 217}^{dust}$	1.03 ± 0.16	$100\theta_*$	1.04151 ± 0.00045	f_{2000}^{143}	$29.8^{+2.7}_{-3.1}$
c_{100}	0.9975 ± 0.0010	$D_M(z_*)/\text{Gpc}$	13.939 ± 0.040	f_{2000}^{217}	106.9 ± 2.0
c_{217}	1.0012 ± 0.0015	z_{drag}	1059.78 ± 0.45	$f_{2000}^{143 \times 217}$	32.2 ± 2.1
H_0	68.56 ± 0.84	r_{drag}	147.85 ± 0.43	χ_{small}^2	397.2 ± 2.0
Ω_Λ	0.702 ± 0.011	k_D	0.14009 ± 0.00048	χ_{lowl}^2	22.13 ± 0.92
Ω_m	0.298 ± 0.011	$100\theta_D$	0.16089 ± 0.00026	$\chi_{CamSpec}^2$	7066.9 ± 5.9
$\Omega_m h^2$	0.1401 ± 0.0017	z_{eq}	3333 ± 42	$\chi_{H073p45}^2$	8.9 ± 3.0
$\Omega_m h^3$	0.09605 ± 0.00045	k_{eq}	0.01017 ± 0.00013	χ_{prior}^2	7.5 ± 3.4
σ_8	$0.8021^{+0.0079}_{-0.0088}$	$100\theta_{eq}$	0.8264 ± 0.0081	χ_{CMB}^2	7486.2 ± 5.8
S_8	0.800 ± 0.021	$100\theta_{s,eq}$	0.4562 ± 0.0042		
$\sigma_8 \Omega_m^{0.5}$	0.438 ± 0.012	$H(0.15)$	73.70 ± 0.73		
$\bar{\chi}_{eff}^2 = 7502.64; R - 1 = 0.09766$					

2.7 base_CamSpecHM_TTTEE_lowl_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022297	0.02229 ± 0.00016	S_8	0.8261	0.827 ± 0.016	$100\theta_{s,eq}$	0.45045	0.4503 ± 0.0030
$\Omega_c h^2$	0.11956	0.1196 ± 0.0014	$\sigma_8 \Omega_m^{0.5}$	0.4525	0.4529 ± 0.0089	$H(0.15)$	72.73	72.71 ± 0.53
$100\theta_{MC}$	1.040870	1.04088 ± 0.00032	$\sigma_8 \Omega_m^{0.25}$	0.6047	0.6050 ± 0.0083	$D_M(0.15)$	642.8	643.0 ± 5.3
τ	0.0531	0.0528 ± 0.0080	$\sigma_8/h^{0.5}$	0.9843	0.985 ± 0.012	$H(0.38)$	82.874	82.86 ± 0.38
$\ln(10^{10} A_s)$	3.0390	3.039 ± 0.016	$r_{drag} h$	99.32	99.3 ± 1.1	$D_M(0.38)$	1532.6	1533 ± 11
n_s	0.96623	0.9658 ± 0.0045	$\langle d^2 \rangle^{1/2}$	2.4329	2.434 ± 0.028	$H(0.51)$	89.610	89.60 ± 0.30
y_{cal}	1.00034	1.0005 ± 0.0025	z_{re}	7.56	$7.52^{+0.83}_{-0.75}$	$D_M(0.51)$	1985.0	1985 ± 12
A_{100}^{PS}	234.8	240 ± 25	$10^9 A_s$	2.0884	2.088 ± 0.034	$H(0.61)$	95.243	95.24 ± 0.24
A_{143}^{PS}	41.1	40 ± 8	$10^9 A_s e^{-2\tau}$	1.8780	1.879 ± 0.011	$D_M(0.61)$	2309.6	2310 ± 13
A_{217}^{PS}	101.9	102 ± 10	D_{40}	1225.0	1226 ± 13	$H(2.33)$	236.19	236.24 ± 0.83
A_{217}^{CIB}	44.3	40 ± 7	D_{220}	5716.0	5718 ± 39	$D_M(2.33)$	5766.4	5767 ± 11
A_{143}^{tSZ}	6.43	$3.9^{+1.8}_{-2.5}$	D_{810}	2534.7	2535 ± 13	$f\sigma_8(0.15)$	0.4569	0.4572 ± 0.0083
$r_{143 \times 217}^{PS}$	0.629	0.66 ± 0.13	D_{1420}	815.77	815.6 ± 4.8	$\sigma_8(0.15)$	0.7467	0.7467 ± 0.0067
$r_{143 \times 217}^{CIB}$	0.764	$0.56^{+0.40}_{-0.17}$	D_{2000}	230.27	230.2 ± 1.6	$f\sigma_8(0.38)$	0.4748	0.4750 ± 0.0068
$\xi^{tSZ \times CIB}$	0.20	—	$n_{s,0.002}$	0.96623	0.9658 ± 0.0045	$\sigma_8(0.38)$	0.6616	0.6616 ± 0.0057
A^{kSZ}	0.26	$4.7^{+2.2}_{-4.0}$	Y_P	0.245366	$0.245362^{+0.000068}_{-0.000059}$	$f\sigma_8(0.51)$	0.4731	0.4733 ± 0.0060
A_{100}^{dust}	1.003	1.01 ± 0.20	Y_P^{BBN}	0.246692	$0.246689^{+0.000068}_{-0.000059}$	$\sigma_8(0.51)$	0.6191	0.6190 ± 0.0053
A_{143}^{dust}	0.980	0.96 ± 0.18	$10^5 D/H$	2.5994	2.601 ± 0.030	$f\sigma_8(0.61)$	0.4680	0.4681 ± 0.0055
A_{217}^{dust}	0.966	0.97 ± 0.10	Age/Gyr	13.8046	13.805 ± 0.025	$\sigma_8(0.61)$	0.58903	0.5890 ± 0.0050
$A_{143 \times 217}^{dust}$	1.012	1.03 ± 0.16	z_*	1089.976	1089.99 ± 0.28	$f\sigma_8(2.33)$	0.29692	0.2969 ± 0.0025
c_{100}	0.99760	0.9975 ± 0.0010	r_*	144.600	144.58 ± 0.31	$\sigma_8(2.33)$	0.30603	0.3060 ± 0.0026
c_{217}	1.00127	1.0011 ± 0.0016	$100\theta_*$	1.041058	1.04107 ± 0.00031	f_{2000}^{143}	30.03	29.8 ± 2.8
c_{TE}	0.99645	0.9968 ± 0.0049	$D_M(z_*)/\text{Gpc}$	13.8897	13.888 ± 0.029	f_{2000}^{217}	106.72	106.9 ± 1.9
c_{EE}	0.99197	0.9921 ± 0.0049	z_{drag}	1059.742	1059.73 ± 0.33	$f_{2000}^{143 \times 217}$	32.23	32.2 ± 2.0
H_0	67.43	67.41 ± 0.62	r_{drag}	147.288	147.27 ± 0.31	χ_{small}^2	395.90	396.9 ± 1.7
Ω_Λ	0.6866	0.6861 ± 0.0085	k_D	0.140603	0.14061 ± 0.00034	χ_{lowl}^2	23.00	23.16 ± 0.94
Ω_m	0.3134	0.3139 ± 0.0085	$100\theta_D$	0.160865	0.16087 ± 0.00019	$\chi_{CamSpec}^2$	11499.6	11514.5 ± 5.6
$\Omega_m h^2$	0.14250	0.1426 ± 0.0013	z_{eq}	3390.0	3392 ± 31	χ_{prior}^2	2.22	7.8 ± 3.5
$\Omega_m h^3$	0.096089	0.09610 ± 0.00031	k_{eq}	0.010347	0.010352 ± 0.000095	χ_{CMB}^2	11918.5	11934.6 ± 5.7
σ_8	0.8082	0.8083 ± 0.0076	$100\theta_{eq}$	0.8152	0.8150 ± 0.0059			

Best-fit $\chi_{eff}^2 = 11920.76$; $\bar{\chi}_{eff}^2 = 11942.46$; $R - 1 = 0.01233$

χ_{eff}^2 : CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.90 commander_dx12_v3.2.29: 23.00 CamSpec like_10.7HM_1400_unified: 11499.65

2.8 base_CamSpecHM_TTTEE_lowl_lowE_post_BAO

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02234 ± 0.00015	$\sigma_8 \Omega_m^{0.5}$	0.4488 ± 0.0070	$D_M(0.15)$	640.4 ± 3.9
$\Omega_c h^2$	0.1190 ± 0.0010	$\sigma_8 \Omega_m^{0.25}$	0.6017 ± 0.0070	$H(0.38)$	83.05 ± 0.29
$100\theta_{MC}$	1.04097 ± 0.00030	$\sigma_8/h^{0.5}$	0.980 ± 0.010	$D_M(0.38)$	1527.8 ± 7.8
τ	0.0538 ± 0.0079	$r_{\text{drag}} h$	99.81 ± 0.79	$H(0.51)$	89.75 ± 0.24
$\ln(10^{10} A_s)$	3.039 ± 0.016	$\langle d^2 \rangle^{1/2}$	2.425 ± 0.025	$D_M(0.51)$	1979.4 ± 9.2
n_s	0.9674 ± 0.0039	z_{re}	$7.60^{+0.83}_{-0.73}$	$H(0.61)$	95.35 ± 0.20
y_{cal}	1.0005 ± 0.0025	$10^9 A_s$	2.089 ± 0.034	$D_M(0.61)$	2303.5 ± 9.9
A_{100}^{PS}	240 ± 25	$10^9 A_s e^{-2\tau}$	1.876 ± 0.011	$H(2.33)$	235.84 ± 0.64
A_{143}^{PS}	39 ± 8	D_{40}	1223 ± 12	$D_M(2.33)$	5761.9 ± 9.3
A_{217}^{PS}	102 ± 10	D_{220}	5722 ± 39	$f\sigma_8(0.15)$	0.4535 ± 0.0066
A_{217}^{CIB}	40 ± 7	D_{810}	2535 ± 13	$\sigma_8(0.15)$	0.7455 ± 0.0065
A_{143}^{tSZ}	$3.9^{+1.8}_{-2.6}$	D_{1420}	816.1 ± 4.7	$f\sigma_8(0.38)$	0.4722 ± 0.0057
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	D_{2000}	230.4 ± 1.6	$\sigma_8(0.38)$	0.6611 ± 0.0057
$r_{143 \times 217}^{\text{CIB}}$	$0.56^{+0.37}_{-0.20}$	$n_{s,0.002}$	0.9674 ± 0.0039	$f\sigma_8(0.51)$	0.4710 ± 0.0052
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P	$0.245381^{+0.000061}_{-0.000053}$	$\sigma_8(0.51)$	0.6187 ± 0.0053
A^{kSZ}	$4.7^{+2.1}_{-4.0}$	Y_P^{BBN}	$0.246707^{+0.000062}_{-0.000054}$	$f\sigma_8(0.61)$	0.4662 ± 0.0048
A_{100}^{dust}	1.01 ± 0.19	$10^5 \text{D}/\text{H}$	2.592 ± 0.027	$\sigma_8(0.61)$	0.5888 ± 0.0050
A_{143}^{dust}	0.96 ± 0.18	Age/Gyr	13.795 ± 0.021	$f\sigma_8(2.33)$	0.2969 ± 0.0025
A_{217}^{dust}	0.98 ± 0.10	z_*	1089.87 ± 0.23	$\sigma_8(2.33)$	0.3062 ± 0.0026
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	r_*	144.73 ± 0.25	f_{2000}^{143}	29.6 ± 2.8
c_{100}	0.9975 ± 0.0010	$100\theta_*$	1.04116 ± 0.00030	f_{2000}^{217}	106.8 ± 1.9
c_{217}	1.0011 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.901 ± 0.024	$f_{2000}^{143 \times 217}$	32.0 ± 2.0
c_{TE}	0.9969 ± 0.0049	z_{drag}	1059.79 ± 0.32	χ_{small}^2	397.0 ± 1.7
c_{EE}	0.9924 ± 0.0049	r_{drag}	147.40 ± 0.26	χ_{lowl}^2	22.87 ± 0.82
H_0	67.71 ± 0.46	k_D	0.14051 ± 0.00032	χ_{CamSpec}^2	11514.6 ± 5.7
Ω_Λ	0.6904 ± 0.0062	$100\theta_D$	0.16084 ± 0.00019	$\chi_{6\text{DF}}^2$	0.045 ± 0.057
Ω_m	0.3096 ± 0.0062	z_{eq}	3377 ± 24	χ_{MGS}^2	1.36 ± 0.45
$\Omega_m h^2$	0.14194 ± 0.00098	k_{eq}	0.010305 ± 0.000072	χ_{DR12BAO}^2	4.6 ± 1.3
$\Omega_m h^3$	0.09611 ± 0.00031	$100\theta_{\text{eq}}$	0.8179 ± 0.0044	χ_{prior}^2	7.8 ± 3.4
σ_8	0.8066 ± 0.0073	$100\theta_{s,\text{eq}}$	0.4518 ± 0.0023	χ_{BAO}^2	6.0 ± 1.0
S_8	0.819 ± 0.013	$H(0.15)$	72.97 ± 0.39	χ_{CMB}^2	11934.5 ± 5.7

$$\bar{\chi}_{\text{eff}}^2 = 11948.28; R - 1 = 0.01864$$

2.9 base_CamSpecHM_TTTEE_lowl_lowE_post_Riess18

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02242 ± 0.00015	S_8	0.810 ± 0.015	$100\theta_{s,eq}$	0.4538 ± 0.0029
$\Omega_c h^2$	0.1181 ± 0.0013	$\sigma_8 \Omega_m^{0.5}$	0.4435 ± 0.0083	$H(0.15)$	73.34 ± 0.50
$100\theta_{MC}$	$1.04108^{+0.00032}_{-0.00028}$	$\sigma_8 \Omega_m^{0.25}$	0.5973 ± 0.0080	$D_M(0.15)$	636.8 ± 4.9
τ	0.0553 ± 0.0079	$\sigma_8/h^{0.5}$	0.974 ± 0.011	$H(0.38)$	83.32 ± 0.36
$\ln(10^{10} A_s)$	3.041 ± 0.016	$r_{drag} h$	100.5 ± 1.0	$D_M(0.38)$	1520.5 ± 9.7
n_s	0.9696 ± 0.0043	$\langle d^2 \rangle^{1/2}$	2.412 ± 0.027	$H(0.51)$	89.96 ± 0.29
y_{cal}	1.0006 ± 0.0025	z_{re}	$7.72^{+0.83}_{-0.71}$	$D_M(0.51)$	1971 ± 11
A_{100}^{PS}	240 ± 25	$10^9 A_s$	2.092 ± 0.034	$H(0.61)$	95.52 ± 0.23
A_{143}^{PS}	38 ± 8	$10^9 A_s e^{-2\tau}$	1.873 ± 0.011	$D_M(0.61)$	2294 ± 12
A_{217}^{PS}	102 ± 10	D_{40}	1219 ± 13	$H(2.33)$	235.34 ± 0.79
A_{217}^{CIB}	39 ± 7	D_{220}	5729 ± 39	$D_M(2.33)$	5755 ± 11
A_{143}^{tSZ}	$3.9^{+1.8}_{-2.7}$	D_{810}	2535 ± 13	$f\sigma_8(0.15)$	0.4487 ± 0.0078
$r_{143 \times 217}^{PS}$	0.66 ± 0.13	D_{1420}	817.0 ± 4.8	$\sigma_8(0.15)$	0.7440 ± 0.0066
$r_{143 \times 217}^{CIB}$	$0.55^{+0.35}_{-0.22}$	D_{2000}	230.8 ± 1.6	$f\sigma_8(0.38)$	0.4685 ± 0.0065
$\xi^{tSZ \times CIB}$	—	$n_{s,0.002}$	0.9696 ± 0.0043	$\sigma_8(0.38)$	0.6604 ± 0.0057
A^{kSZ}	$4.6^{+1.8}_{-4.2}$	Y_P	$0.245413^{+0.000063}_{-0.000053}$	$f\sigma_8(0.51)$	0.4680 ± 0.0058
A_{100}^{dust}	1.02 ± 0.20	Y_P^{BBN}	$0.246739^{+0.000063}_{-0.000054}$	$\sigma_8(0.51)$	0.6183 ± 0.0052
A_{143}^{dust}	0.96 ± 0.18	$10^5 D/H$	$2.577^{+0.026}_{-0.029}$	$f\sigma_8(0.61)$	0.4637 ± 0.0054
A_{217}^{dust}	0.98 ± 0.10	Age/Gyr	13.779 ± 0.023	$\sigma_8(0.61)$	0.5886 ± 0.0049
$A_{143 \times 217}^{dust}$	1.03 ± 0.16	z_*	1089.69 ± 0.26	$f\sigma_8(2.33)$	0.2971 ± 0.0025
c_{100}	0.9976 ± 0.0010	r_*	144.90 ± 0.30	$\sigma_8(2.33)$	0.3066 ± 0.0026
c_{217}	1.0011 ± 0.0016	$100\theta_*$	$1.04126^{+0.00031}_{-0.00028}$	f_{2000}^{143}	29.2 ± 2.8
c_{TE}	0.9969 ± 0.0049	$D_M(z_*)/Gpc$	13.916 ± 0.028	f_{2000}^{217}	106.5 ± 1.9
c_{EE}	0.9925 ± 0.0049	z_{drag}	1059.91 ± 0.32	$f_{2000}^{143 \times 217}$	31.8 ± 2.0
H_0	68.14 ± 0.58	r_{drag}	147.55 ± 0.31	χ_{small}^2	397.1 ± 1.8
Ω_Λ	0.6960 ± 0.0077	k_D	0.14042 ± 0.00034	χ_{lowl}^2	22.52 ± 0.83
Ω_m	0.3040 ± 0.0077	$100\theta_D$	0.16078 ± 0.00018	$\chi_{CamSpec}^2$	11516.4 ± 6.4
$\Omega_m h^2$	0.1411 ± 0.0012	z_{eq}	3357 ± 30	$\chi_{H073p45}^2$	10.3 ± 2.2
$\Omega_m h^3$	0.09615 ± 0.00031	k_{eq}	0.010245 ± 0.000090	χ_{prior}^2	7.8 ± 3.5
σ_8	0.8044 ± 0.0075	$100\theta_{eq}$	0.8218 ± 0.0057	χ_{CMB}^2	11936.1 ± 6.3
$\bar{\chi}_{eff}^2 = 11954.26; R - 1 = 0.03390$					

2.10 base_CamSpecHM_TTTEEE_lowl_lowE_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02230 ± 0.00016	S_8	0.828 ± 0.016	$100\theta_{s,eq}$	0.4504 ± 0.0030
$\Omega_c h^2$	0.1196 ± 0.0014	$\sigma_8 \Omega_m^{0.5}$	0.4533 ± 0.0088	$H(0.15)$	72.73 ± 0.53
$100\theta_{MC}$	1.04089 ± 0.00031	$\sigma_8 \Omega_m^{0.25}$	0.6057 ± 0.0081	$D_M(0.15)$	642.8 ± 5.3
τ	$0.0545^{+0.0049}_{-0.0082}$	$\sigma_8/h^{0.5}$	0.986 ± 0.011	$H(0.38)$	82.88 ± 0.38
$\ln(10^{10} A_s)$	$3.042^{+0.011}_{-0.016}$	$r_{drag} h$	99.3 ± 1.1	$D_M(0.38)$	1533 ± 11
n_s	0.9660 ± 0.0044	$\langle d^2 \rangle^{1/2}$	2.437 ± 0.027	$H(0.51)$	89.62 ± 0.30
y_{cal}	1.0005 ± 0.0025	z_{re}	$7.69^{+0.55}_{-0.81}$	$D_M(0.51)$	1985 ± 12
A_{100}^{PS}	240 ± 25	$10^9 A_s$	$2.095^{+0.023}_{-0.034}$	$H(0.61)$	95.25 ± 0.24
A_{143}^{PS}	39 ± 8	$10^9 A_s e^{-2\tau}$	1.878 ± 0.011	$D_M(0.61)$	2310 ± 13
A_{217}^{PS}	102 ± 10	D_{40}	1226 ± 13	$H(2.33)$	236.22 ± 0.83
A_{217}^{CIB}	40 ± 7	D_{220}	5718 ± 39	$D_M(2.33)$	5766 ± 11
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	D_{810}	2535 ± 13	$f\sigma_8(0.15)$	0.4577 ± 0.0082
$r_{143 \times 217}^{PS}$	0.66 ± 0.13	D_{1420}	815.7 ± 4.9	$\sigma_8(0.15)$	$0.7477^{+0.0054}_{-0.0064}$
$r_{143 \times 217}^{CIB}$	$0.56^{+0.40}_{-0.17}$	D_{2000}	230.3 ± 1.6	$f\sigma_8(0.38)$	0.4755 ± 0.0066
$\xi^{tSZ \times CIB}$	—	$n_{s,0.002}$	0.9660 ± 0.0044	$\sigma_8(0.38)$	$0.6626^{+0.0043}_{-0.0055}$
A^{kSZ}	$4.7^{+2.1}_{-4.1}$	Y_P	$0.245364^{+0.000068}_{-0.000059}$	$f\sigma_8(0.51)$	0.4738 ± 0.0058
A_{100}^{dust}	1.01 ± 0.20	Y_P^{BBN}	$0.246691^{+0.000068}_{-0.000059}$	$\sigma_8(0.51)$	$0.6200^{+0.0039}_{-0.0051}$
A_{143}^{dust}	0.96 ± 0.18	$10^5 D/H$	2.600 ± 0.030	$f\sigma_8(0.61)$	0.4687 ± 0.0052
A_{217}^{dust}	0.97 ± 0.10	Age/Gyr	13.804 ± 0.025	$\sigma_8(0.61)$	$0.5899^{+0.0036}_{-0.0048}$
$A_{143 \times 217}^{dust}$	1.03 ± 0.16	z_*	1089.98 ± 0.28	$f\sigma_8(2.33)$	$0.2973^{+0.0018}_{-0.0024}$
c_{100}	0.9975 ± 0.0010	r_*	144.59 ± 0.31	$\sigma_8(2.33)$	$0.3065^{+0.0018}_{-0.0026}$
c_{217}	1.0011 ± 0.0016	$100\theta_*$	1.04108 ± 0.00031	f_{2000}^{143}	29.7 ± 2.8
c_{TE}	0.9966 ± 0.0049	$D_M(z_*)/\text{Gpc}$	13.889 ± 0.029	f_{2000}^{217}	106.9 ± 1.9
c_{EE}	0.9921 ± 0.0049	z_{drag}	1059.74 ± 0.33	$f_{2000}^{143 \times 217}$	32.1 ± 2.0
H_0	67.43 ± 0.61	r_{drag}	147.28 ± 0.31	χ_{small}^2	396.8 ± 1.7
Ω_Λ	0.6864 ± 0.0085	k_D	0.14061 ± 0.00035	χ_{lowl}^2	23.17 ± 0.94
Ω_m	0.3136 ± 0.0085	$100\theta_D$	0.16087 ± 0.00019	$\chi_{CamSpec}^2$	11514.3 ± 5.6
$\Omega_m h^2$	0.1425 ± 0.0013	z_{eq}	3391 ± 31	χ_{prior}^2	7.8 ± 3.5
$\Omega_m h^3$	0.09610 ± 0.00031	k_{eq}	0.010349 ± 0.000095	χ_{CMB}^2	11934.4 ± 5.7
σ_8	$0.8094^{+0.0065}_{-0.0073}$	$100\theta_{eq}$	0.8152 ± 0.0059		

$\bar{\chi}_{eff}^2 = 11942.19$; $R - 1 = 0.01099$

2.11 base_CamSpecHM_TTTEEE_lowl_lowE_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02234 ± 0.00015	$\sigma_8 \Omega_m^{0.5}$	0.4493 ± 0.0068	$D_M(0.15)$	640.3 ± 3.9
$\Omega_c h^2$	0.1189 ± 0.0010	$\sigma_8 \Omega_m^{0.25}$	0.6024 ± 0.0067	$H(0.38)$	83.06 ± 0.29
$100\theta_{MC}$	1.04097 ± 0.00030	$\sigma_8/h^{0.5}$	0.9814 ± 0.0097	$D_M(0.38)$	1527.5 ± 7.8
τ	$0.0552^{+0.0054}_{-0.0079}$	$r_{\text{drag}} h$	99.83 ± 0.79	$H(0.51)$	89.75 ± 0.23
$\ln(10^{10} A_s)$	$3.042^{+0.012}_{-0.016}$	$\langle d^2 \rangle^{1/2}$	2.427 ± 0.023	$D_M(0.51)$	1979.1 ± 9.2
n_s	0.9675 ± 0.0039	z_{re}	$7.75^{+0.59}_{-0.79}$	$H(0.61)$	95.36 ± 0.20
y_{cal}	1.0005 ± 0.0025	$10^9 A_s$	$2.095^{+0.025}_{-0.034}$	$D_M(0.61)$	2303.2 ± 9.9
A_{100}^{PS}	240 ± 25	$10^9 A_s e^{-2\tau}$	1.876 ± 0.011	$H(2.33)$	235.83 ± 0.64
A_{143}^{PS}	39 ± 8	D_{40}	1223 ± 12	$D_M(2.33)$	5761.6 ± 9.3
A_{217}^{PS}	102 ± 10	D_{220}	5722 ± 39	$f\sigma_8(0.15)$	0.4540 ± 0.0065
A_{217}^{CIB}	40 ± 7	D_{810}	2535 ± 13	$\sigma_8(0.15)$	$0.7465^{+0.0052}_{-0.0063}$
A_{143}^{tSZ}	$3.9^{+1.8}_{-2.5}$	D_{1420}	816.1 ± 4.8	$f\sigma_8(0.38)$	0.4727 ± 0.0055
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	D_{2000}	230.4 ± 1.6	$\sigma_8(0.38)$	$0.6620^{+0.0044}_{-0.0055}$
$r_{143 \times 217}^{\text{CIB}}$	$0.56^{+0.37}_{-0.20}$	$n_{s,0.002}$	0.9675 ± 0.0039	$f\sigma_8(0.51)$	0.4716 ± 0.0049
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P	$0.245382^{+0.000061}_{-0.000053}$	$\sigma_8(0.51)$	$0.6196^{+0.0041}_{-0.0051}$
A^{kSZ}	$4.7^{+2.1}_{-4.0}$	Y_P^{BBN}	$0.246709^{+0.000061}_{-0.000053}$	$f\sigma_8(0.61)$	0.4668 ± 0.0045
A_{100}^{dust}	1.01 ± 0.19	$10^5 D/H$	2.591 ± 0.027	$\sigma_8(0.61)$	$0.5896^{+0.0038}_{-0.0049}$
A_{143}^{dust}	0.96 ± 0.18	Age/Gyr	13.794 ± 0.021	$f\sigma_8(2.33)$	$0.2974^{+0.0019}_{-0.0025}$
A_{217}^{dust}	0.98 ± 0.10	z_*	1089.86 ± 0.23	$\sigma_8(2.33)$	$0.3067^{+0.0020}_{-0.0026}$
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	r_*	144.73 ± 0.25	f_{2000}^{143}	29.5 ± 2.8
c_{100}	0.9975 ± 0.0010	$100\theta_*$	1.04116 ± 0.00029	f_{2000}^{217}	106.7 ± 1.9
c_{217}	1.0011 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.901 ± 0.024	$f_{2000}^{143 \times 217}$	32.0 ± 2.0
c_{TE}	0.9968 ± 0.0048	z_{drag}	1059.79 ± 0.32	χ_{small}^2	396.9 ± 1.7
c_{EE}	0.9923 ± 0.0049	r_{drag}	147.41 ± 0.26	χ_{lowl}^2	22.88 ± 0.82
H_0	67.73 ± 0.46	k_D	0.14051 ± 0.00032	χ_{CamSpec}^2	11514.4 ± 5.6
Ω_Λ	0.6905 ± 0.0061	$100\theta_D$	0.16084 ± 0.00019	$\chi_{6\text{DF}}^2$	0.044 ± 0.056
Ω_m	0.3095 ± 0.0061	z_{eq}	3376 ± 23	χ_{MGS}^2	1.37 ± 0.45
$\Omega_m h^2$	0.14192 ± 0.00098	k_{eq}	0.010304 ± 0.000072	χ_{DR12BAO}^2	4.5 ± 1.3
$\Omega_m h^3$	0.09611 ± 0.00032	$100\theta_{\text{eq}}$	0.8180 ± 0.0044	χ_{prior}^2	7.8 ± 3.4
σ_8	$0.8076^{+0.0060}_{-0.0071}$	$100\theta_{s,\text{eq}}$	0.4519 ± 0.0023	χ_{BAO}^2	5.96 ± 0.97
S_8	0.820 ± 0.013	$H(0.15)$	72.98 ± 0.39	χ_{CMB}^2	11934.2 ± 5.7

$$\bar{\chi}_{\text{eff}}^2 = 11947.99; R - 1 = 0.01741$$

2.12 base_CamSpecHM_TTTEEE_lowl_lowE_post_Riess18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02242 ± 0.00015	S_8	0.810 ± 0.015	$100\theta_{s,eq}$	0.4539 ± 0.0029
$\Omega_c h^2$	0.1180 ± 0.0013	$\sigma_8 \Omega_m^{0.5}$	0.4438 ± 0.0083	$H(0.15)$	73.36 ± 0.49
$100\theta_{MC}$	$1.04108^{+0.00032}_{-0.00028}$	$\sigma_8 \Omega_m^{0.25}$	0.5977 ± 0.0078	$D_M(0.15)$	636.6 ± 4.8
τ	$0.0564^{+0.0062}_{-0.0076}$	$\sigma_8/h^{0.5}$	0.975 ± 0.011	$H(0.38)$	83.33 ± 0.36
$\ln(10^{10} A_s)$	$3.043^{+0.013}_{-0.016}$	$r_{drag} h$	100.6 ± 1.0	$D_M(0.38)$	1520.2 ± 9.7
n_s	0.9697 ± 0.0043	$\langle d^2 \rangle^{1/2}$	2.414 ± 0.026	$H(0.51)$	89.97 ± 0.29
y_{cal}	1.0006 ± 0.0025	z_{re}	$7.84^{+0.65}_{-0.75}$	$D_M(0.51)$	1971 ± 11
A_{100}^{PS}	239 ± 25	$10^9 A_s$	$2.096^{+0.027}_{-0.033}$	$H(0.61)$	95.53 ± 0.23
A_{143}^{PS}	38 ± 8	$10^9 A_s e^{-2\tau}$	1.873 ± 0.011	$D_M(0.61)$	2294 ± 12
A_{217}^{PS}	102 ± 10	D_{40}	1219 ± 13	$H(2.33)$	235.32 ± 0.79
A_{217}^{CIB}	39 ± 7	D_{220}	5729 ± 39	$D_M(2.33)$	5754 ± 10
A_{143}^{tSZ}	$3.9^{+1.8}_{-2.7}$	D_{810}	2535 ± 13	$f\sigma_8(0.15)$	0.4489 ± 0.0078
$r_{143 \times 217}^{PS}$	0.66 ± 0.13	D_{1420}	817.0 ± 4.8	$\sigma_8(0.15)$	$0.7448^{+0.0057}_{-0.0064}$
$r_{143 \times 217}^{CIB}$	$0.55^{+0.35}_{-0.22}$	D_{2000}	230.8 ± 1.6	$f\sigma_8(0.38)$	0.4689 ± 0.0064
$\xi^{tSZ \times CIB}$	—	$n_{s,0.002}$	0.9697 ± 0.0043	$\sigma_8(0.38)$	$0.6610^{+0.0047}_{-0.0055}$
A^{kSZ}	$4.6^{+1.8}_{-4.2}$	Y_P	$0.245414^{+0.000062}_{-0.000053}$	$f\sigma_8(0.51)$	0.4684 ± 0.0057
A_{100}^{dust}	1.02 ± 0.20	Y_P^{BBN}	$0.246741^{+0.000062}_{-0.000054}$	$\sigma_8(0.51)$	$0.6190^{+0.0043}_{-0.0050}$
A_{143}^{dust}	0.96 ± 0.18	$10^5 D/H$	$2.576^{+0.026}_{-0.029}$	$f\sigma_8(0.61)$	0.4641 ± 0.0052
A_{217}^{dust}	0.98 ± 0.10	Age/Gyr	13.778 ± 0.023	$\sigma_8(0.61)$	$0.5892^{+0.0041}_{-0.0048}$
$A_{143 \times 217}^{dust}$	1.03 ± 0.16	z_*	1089.68 ± 0.26	$f\sigma_8(2.33)$	$0.2974^{+0.0020}_{-0.0024}$
c_{100}	0.9976 ± 0.0010	r_*	144.91 ± 0.30	$\sigma_8(2.33)$	$0.3069^{+0.0021}_{-0.0025}$
c_{217}	1.0011 ± 0.0016	$100\theta_*$	$1.04126^{+0.00031}_{-0.00027}$	f_{2000}^{143}	29.1 ± 2.8
c_{TE}	0.9968 ± 0.0049	$D_M(z_*)/Gpc$	13.916 ± 0.028	f_{2000}^{217}	106.5 ± 1.9
c_{EE}	0.9925 ± 0.0049	z_{drag}	1059.92 ± 0.32	$f_{2000}^{143 \times 217}$	31.7 ± 2.0
H_0	68.16 ± 0.57	r_{drag}	147.56 ± 0.31	χ_{small}^2	397.1 ± 1.8
Ω_Λ	0.6962 ± 0.0077	k_D	0.14041 ± 0.00034	χ_{lowl}^2	22.52 ± 0.83
Ω_m	0.3038 ± 0.0077	$100\theta_D$	0.16077 ± 0.00018	$\chi_{CamSpec}^2$	11516.3 ± 6.5
$\Omega_m h^2$	0.1411 ± 0.0012	z_{eq}	3356 ± 30	$\chi_{H073p45}^2$	10.3 ± 2.2
$\Omega_m h^3$	0.09615 ± 0.00031	k_{eq}	0.010243 ± 0.000090	χ_{prior}^2	7.8 ± 3.5
σ_8	$0.8052^{+0.0066}_{-0.0073}$	$100\theta_{eq}$	0.8220 ± 0.0056	χ_{CMB}^2	11935.9 ± 6.3
$\bar{\chi}_{eff}^2 = 11954.01; R - 1 = 0.03572$					

2.13 base_CamSpecHM_TE_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022470	0.02248 ± 0.00026	D_{220}	5719	5716 ± 61	$H(0.38)$	83.66	83.69 ± 0.59
$\Omega_c h^2$	0.11696	0.1169 ± 0.0021	D_{810}	2547.9	2546 ± 26	$D_M(0.38)$	1511.4	1511 ± 16
$100\theta_{MC}$	1.04140	1.04141 ± 0.00051	D_{1420}	824.6	824 ± 12	$H(0.51)$	90.225	90.26 ± 0.47
τ	0.0518	0.0504 ± 0.0088	D_{2000}	233.38	233.3 ± 4.4	$D_M(0.51)$	1960.2	1959 ± 18
$\ln(10^{10} A_s)$	3.0345	3.031 ± 0.021	$n_{s,0.002}$	0.9781	0.978 ± 0.011	$H(0.61)$	95.730	95.76 ± 0.39
n_s	0.9781	0.978 ± 0.011	Y_P	0.245433	0.24544 ± 0.00010	$D_M(0.61)$	2282.8	2282 ± 20
y_{cal}	1.00007	0.99999 ± 0.0025	Y_P^{BBN}	0.246760	0.24676 ± 0.00010	$H(2.33)$	234.70	234.7 ± 1.3
H_0	68.68	68.72 ± 0.93	$10^5 D/H$	2.5673	2.566 ± 0.047	$D_M(2.33)$	5745.7	5745 ± 17
Ω_Λ	0.7030	0.703 ± 0.012	Age/Gyr	13.7598	13.757 ± 0.039	$f\sigma_8(0.15)$	0.4421	0.441 ± 0.013
Ω_m	0.2970	0.297 ± 0.012	z_*	1089.531	1089.51 ± 0.42	$\sigma_8(0.15)$	0.7415	0.740 ± 0.010
$\Omega_m h^2$	0.14007	0.1400 ± 0.0020	r_*	145.146	145.15 ± 0.50	$f\sigma_8(0.38)$	0.4634	0.462 ± 0.011
$\Omega_m h^3$	0.09620	0.09622 ± 0.00054	$100\theta_*$	1.04158	1.04158 ± 0.00050	$\sigma_8(0.38)$	0.6589	0.6576 ± 0.0084
σ_8	0.8009	0.799 ± 0.012	$D_M(z_*)/\text{Gpc}$	13.9352	13.936 ± 0.047	$f\sigma_8(0.51)$	0.4638	0.4626 ± 0.0095
S_8	0.7968	0.795 ± 0.025	z_{drag}	1059.93	1059.98 ± 0.55	$\sigma_8(0.51)$	0.6173	0.6161 ± 0.0077
$\sigma_8 \Omega_m^{0.5}$	0.4364	0.435 ± 0.013	r_{drag}	147.79	147.79 ± 0.52	$f\sigma_8(0.61)$	0.4600	0.4589 ± 0.0086
$\sigma_8 \Omega_m^{0.25}$	0.5912	0.590 ± 0.013	k_D	0.14021	0.14021 ± 0.00060	$\sigma_8(0.61)$	0.5878	0.5866 ± 0.0072
$\sigma_8/h^{0.5}$	0.9664	0.964 ± 0.018	$100\theta_D$	0.160793	0.16078 ± 0.00032	$f\sigma_8(2.33)$	0.29696	0.2964 ± 0.0036
$r_{drag} h$	101.50	101.6 ± 1.6	z_{eq}	3331.9	3331 ± 48	$\sigma_8(2.33)$	0.30681	0.3063 ± 0.0037
$\langle d^2 \rangle^{1/2}$	2.3760	2.370 ± 0.043	k_{eq}	0.010169	0.01017 ± 0.00014	χ_{small}^2	395.67	396.9 ± 1.6
z_{re}	7.36	$7.18^{+0.93}_{-0.75}$	$100\theta_{eq}$	0.8267	0.8271 ± 0.0092	$\chi_{CamSpec}^2$	2575.95	2581.0 ± 3.2
$10^9 A_s$	2.0790	2.072 ± 0.042	$100\theta_{s,eq}$	0.45633	0.4565 ± 0.0047	χ_{prior}^2	10.03	11.0 ± 1.4
$10^9 A_s e^{-2\tau}$	1.8744	1.873 ± 0.019	$H(0.15)$	73.80	73.85 ± 0.80	χ_{CMB}^2	2971.61	2977.9 ± 3.6
D_{40}	1201.3	1200 ± 26	$D_M(0.15)$	632.3	632.0 ± 7.7			

Best-fit $\chi_{eff}^2 = 2981.64$; $\bar{\chi}_{eff}^2 = 2988.91$; $R - 1 = 0.00640$

χ_{eff}^2 : CMB - small_100x143_offlike5_EE_Aplanck_B: 395.67 CamSpec like_10.7HM_1400_unified: 2575.95

2.14 base_CamSpecHM_TE_lowE_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\text{b}}h^2$	0.02249 ± 0.00026	D_{220}	5716 ± 61	$H(0.38)$	83.72 ± 0.59
$\Omega_{\text{c}}h^2$	0.1168 ± 0.0021	D_{810}	2547 ± 26	$D_{\text{M}}(0.38)$	1510 ± 16
$100\theta_{\text{MC}}$	1.04141 ± 0.00051	D_{1420}	825 ± 12	$H(0.51)$	90.28 ± 0.47
τ	$0.0535^{+0.0039}_{-0.0081}$	D_{2000}	233.6 ± 4.4	$D_{\text{M}}(0.51)$	1959 ± 18
$\ln(10^{10}A_{\text{s}})$	$3.037^{+0.015}_{-0.018}$	$n_{\text{s},0.002}$	0.979 ± 0.011	$H(0.61)$	95.77 ± 0.39
n_{s}	0.979 ± 0.011	Y_{P}	0.24544 ± 0.00010	$D_{\text{M}}(0.61)$	2281 ± 20
y_{cal}	0.99997 ± 0.0025	$Y_{\text{P}}^{\text{BBN}}$	0.24677 ± 0.00010	$H(2.33)$	234.6 ± 1.3
H_0	68.76 ± 0.93	$10^5\text{D}/\text{H}$	2.564 ± 0.047	$D_{\text{M}}(2.33)$	5744 ± 17
Ω_{Λ}	0.704 ± 0.012	Age/Gyr	13.756 ± 0.039	$f\sigma_8(0.15)$	0.442 ± 0.013
Ω_{m}	0.296 ± 0.012	z_*	1089.49 ± 0.42	$\sigma_8(0.15)$	0.7423 ± 0.0091
$\Omega_{\text{m}}h^2$	0.1400 ± 0.0020	r_*	145.17 ± 0.50	$f\sigma_8(0.38)$	0.464 ± 0.010
$\Omega_{\text{m}}h^3$	0.09622 ± 0.00053	$100\theta_*$	1.04159 ± 0.00050	$\sigma_8(0.38)$	0.6597 ± 0.0074
σ_8	0.802 ± 0.011	$D_{\text{M}}(z_*)/\text{Gpc}$	13.937 ± 0.047	$f\sigma_8(0.51)$	0.4639 ± 0.0091
S_8	0.797 ± 0.024	z_{drag}	1059.99 ± 0.55	$\sigma_8(0.51)$	0.6181 ± 0.0067
$\sigma_8\Omega_{\text{m}}^{0.5}$	0.436 ± 0.013	r_{drag}	147.80 ± 0.52	$f\sigma_8(0.61)$	0.4602 ± 0.0083
$\sigma_8\Omega_{\text{m}}^{0.25}$	0.591 ± 0.013	k_{D}	0.14021 ± 0.00060	$\sigma_8(0.61)$	$0.5885^{+0.0058}_{-0.0065}$
$\sigma_8/h^{0.5}$	0.967 ± 0.017	$100\theta_{\text{D}}$	0.16077 ± 0.00032	$f\sigma_8(2.33)$	$0.2974^{+0.0027}_{-0.0032}$
$r_{\text{drag}}h$	101.6 ± 1.6	z_{eq}	3329 ± 47	$\sigma_8(2.33)$	$0.3073^{+0.0027}_{-0.0033}$
$\langle d^2 \rangle^{1/2}$	2.376 ± 0.042	k_{eq}	0.01016 ± 0.00014	χ_{simall}^2	396.4 ± 1.2
z_{re}	$7.51^{+0.40}_{-0.84}$	$100\theta_{\text{eq}}$	0.8274 ± 0.0092	χ_{CamSpec}^2	2581.0 ± 3.2
10^9A_{s}	$2.085^{+0.030}_{-0.037}$	$100\theta_{\text{s,eq}}$	0.4567 ± 0.0047	χ_{prior}^2	11.0 ± 1.4
$10^9A_{\text{s}}e^{-2\tau}$	1.873 ± 0.019	$H(0.15)$	73.88 ± 0.80	χ_{CMB}^2	2977.5 ± 3.4
D_{40}	1199 ± 26	$D_{\text{M}}(0.15)$	631.7 ± 7.7		

$\bar{\chi}_{\text{eff}}^2 = 2988.52$; $R - 1 = 0.00517$

2.15 base_CamSpecHM_EE_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.02320	0.0233 ± 0.0012	D_{220}	5947	5950 ± 190	$H(0.38)$	83.13	$83.3^{+1.7}_{-1.9}$
$\Omega_c h^2$	0.11965	0.1192 ± 0.0047	D_{810}	2597.7	2597 ± 39	$D_M(0.38)$	1527.9	1525 ± 46
$100\theta_{MC}$	1.03933	1.03928 ± 0.00087	D_{1420}	839.2	840 ± 19	$H(0.51)$	89.90	$90.1^{+1.4}_{-1.6}$
τ	0.0500	0.0504 ± 0.0088	D_{2000}	238.6	238.8 ± 7.1	$D_M(0.51)$	1979	1975 ± 54
$\ln(10^{10} A_s)$	3.0583	3.058 ± 0.022	$n_{s,0.002}$	0.9650	0.967 ± 0.014	$H(0.61)$	95.55	$95.7^{+1.1}_{-1.4}$
n_s	0.9650	0.967 ± 0.014	Y_P	0.245745	0.24575 ± 0.00047	$D_M(0.61)$	2302	2298 ± 59
y_{cal}	0.99999	1.0000 ± 0.0025	Y_P^{BBN}	0.247073	0.24708 ± 0.00047	$H(2.33)$	237.00	236.8 ± 2.2
H_0	67.63	67.9 ± 2.6	$10^5 D/H$	2.439	$2.44^{+0.18}_{-0.21}$	$D_M(2.33)$	5748	5743^{+66}_{-59}
Ω_Λ	0.6863	$0.687^{+0.035}_{-0.028}$	Age/Gyr	13.760	13.75 ± 0.14	$f\sigma_8(0.15)$	0.4585	0.456 ± 0.029
Ω_m	0.3137	$0.313^{+0.028}_{-0.035}$	z_*	1088.88	$1088.8^{+1.6}_{-1.8}$	$\sigma_8(0.15)$	0.7490	$0.747^{+0.015}_{-0.013}$
$\Omega_m h^2$	0.14350	0.1431 ± 0.0038	r_*	143.89	143.94 ± 0.66	$f\sigma_8(0.38)$	0.4764	0.474 ± 0.023
$\Omega_m h^3$	0.09705	$0.0971^{+0.0015}_{-0.0017}$	$100\theta_*$	1.03943	1.03937 ± 0.00084	$\sigma_8(0.38)$	0.6637	$0.662^{+0.010}_{-0.0089}$
σ_8	0.8108	$0.809^{+0.019}_{-0.017}$	$D_M(z_*)/\text{Gpc}$	13.843	13.849 ± 0.062	$f\sigma_8(0.51)$	0.4747	0.473 ± 0.019
S_8	0.829	0.825 ± 0.058	z_{drag}	1061.80	1061.9 ± 2.3	$\sigma_8(0.51)$	0.6210	$0.6198^{+0.0087}_{-0.0077}$
$\sigma_8 \Omega_m^{0.5}$	0.4541	0.452 ± 0.032	r_{drag}	146.27	146.31 ± 0.69	$f\sigma_8(0.61)$	0.4696	$0.468^{+0.017}_{-0.016}$
$\sigma_8 \Omega_m^{0.25}$	0.6068	0.604 ± 0.028	k_D	0.14235	0.1423 ± 0.0012	$\sigma_8(0.61)$	0.5908	0.5898 ± 0.0076
$\sigma_8/h^{0.5}$	0.9859	0.982 ± 0.039	$100\theta_D$	0.15943	$0.1594^{+0.0012}_{-0.0014}$	$f\sigma_8(2.33)$	0.29780	0.2974 ± 0.0035
$r_{drag} h$	98.92	99.3 ± 3.9	z_{eq}	3414	3405 ± 90	$\sigma_8(2.33)$	0.30692	0.3067 ± 0.0037
$\langle d^2 \rangle^{1/2}$	2.457	2.449 ± 0.075	k_{eq}	0.010419	0.01039 ± 0.00027	χ^2_{small}	395.62	396.8 ± 1.6
z_{re}	7.06	$7.06^{+0.90}_{-0.76}$	$100\theta_{eq}$	0.8123	0.814 ± 0.019	$\chi^2_{CamSpec}$	1886.52	1891.5 ± 3.1
$10^9 A_s$	2.1292	2.130 ± 0.046	$100\theta_{s,eq}$	0.4482	0.4492 ± 0.0091	χ^2_{prior}	10.03	11.0 ± 1.4
$10^9 A_s e^{-2\tau}$	1.9264	1.925 ± 0.024	$H(0.15)$	72.95	73.2 ± 2.3	χ^2_{CMB}	2282.13	2288.3 ± 3.5
D_{40}	1264.6	1260 ± 31	$D_M(0.15)$	640.9	639 ± 22			

Best-fit $\chi^2_{eff} = 2292.16$; $\bar{\chi}^2_{eff} = 2299.35$; $R - 1 = 0.00959$

χ^2_{eff} : CMB - small_100x143_offlike5_EE_Aplanck_B: 395.62 CamSpec like_10.7HM_1400_unified: 1886.52

2.16 base_CamSpecHM_EE_lowE_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.0233 ± 0.0011	D_{220}	5943 ± 190	$H(0.38)$	$83.3^{+1.7}_{-1.9}$
$\Omega_c h^2$	0.1192 ± 0.0047	D_{810}	2596 ± 39	$D_M(0.38)$	1525 ± 46
$100\theta_{MC}$	1.03928 ± 0.00087	D_{1420}	839 ± 19	$H(0.51)$	$90.0^{+1.4}_{-1.6}$
τ	$0.0539^{+0.0046}_{-0.0079}$	D_{2000}	238.8 ± 7.0	$D_M(0.51)$	1976 ± 55
$\ln(10^{10} A_s)$	$3.065^{+0.017}_{-0.019}$	$n_{s,0.002}$	$0.968^{+0.013}_{-0.014}$	$H(0.61)$	$95.7^{+1.1}_{-1.4}$
n_s	$0.968^{+0.013}_{-0.014}$	Y_P	0.24574 ± 0.00046	$D_M(0.61)$	2299 ± 59
y_{cal}	1.0000 ± 0.0025	Y_P^{BBN}	0.24707 ± 0.00047	$H(2.33)$	236.8 ± 2.2
H_0	67.9 ± 2.6	$10^5 D/H$	$2.44^{+0.18}_{-0.20}$	$D_M(2.33)$	5744^{+66}_{-58}
Ω_Λ	$0.687^{+0.035}_{-0.028}$	Age/Gyr	13.75 ± 0.14	$f\sigma_8(0.15)$	0.458 ± 0.029
Ω_m	$0.313^{+0.028}_{-0.035}$	z_*	$1088.9^{+1.6}_{-1.8}$	$\sigma_8(0.15)$	$0.750^{+0.014}_{-0.012}$
$\Omega_m h^2$	0.1431 ± 0.0038	r_*	143.96 ± 0.66	$f\sigma_8(0.38)$	0.476 ± 0.023
$\Omega_m h^3$	$0.0970^{+0.0015}_{-0.0017}$	$100\theta_*$	1.03938 ± 0.00084	$\sigma_8(0.38)$	$0.6647^{+0.0092}_{-0.0083}$
σ_8	$0.812^{+0.018}_{-0.016}$	$D_M(z_*)/\text{Gpc}$	13.851 ± 0.062	$f\sigma_8(0.51)$	0.474 ± 0.019
S_8	0.829 ± 0.058	z_{drag}	1061.8 ± 2.3	$\sigma_8(0.51)$	0.6220 ± 0.0075
$\sigma_8 \Omega_m^{0.5}$	0.454 ± 0.032	r_{drag}	146.34 ± 0.68	$f\sigma_8(0.61)$	$0.469^{+0.017}_{-0.015}$
$\sigma_8 \Omega_m^{0.25}$	0.607 ± 0.027	k_D	0.1423 ± 0.0012	$\sigma_8(0.61)$	0.5919 ± 0.0067
$\sigma_8/h^{0.5}$	0.986 ± 0.038	$100\theta_D$	$0.1595^{+0.0012}_{-0.0014}$	$f\sigma_8(2.33)$	$0.2984^{+0.0028}_{-0.0031}$
$r_{drag} h$	99.3 ± 3.9	z_{eq}	3405 ± 90	$\sigma_8(2.33)$	0.3078 ± 0.0033
$\langle d^2 \rangle^{1/2}$	2.456 ± 0.074	k_{eq}	0.01039 ± 0.00027	χ_{simall}^2	396.5 ± 1.4
z_{re}	$7.43^{+0.30}_{-0.85}$	$100\theta_{eq}$	0.814 ± 0.019	$\chi_{CamSpec}^2$	1891.4 ± 3.1
$10^9 A_s$	$2.144^{+0.035}_{-0.042}$	$100\theta_{s,eq}$	0.4492 ± 0.0091	χ_{prior}^2	11.0 ± 1.4
$10^9 A_s e^{-2\tau}$	1.924 ± 0.024	$H(0.15)$	73.2 ± 2.3	χ_{CMB}^2	2287.9 ± 3.4
D_{40}	1260 ± 31	$D_M(0.15)$	640 ± 22		

$$\bar{\chi}_{\text{eff}}^2 = 2298.97; R - 1 = 0.00869$$

2.17 base_CamSpecHM_TE_lowE_BAO

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022423	0.02242 ± 0.00023	D_{810}	2547.3	2547 ± 25	$H(0.51)$	90.035	90.04 ± 0.30
$\Omega_c h^2$	0.11784	0.1179 ± 0.0012	D_{1420}	824.1	824 ± 12	$D_M(0.51)$	1968.0	1968 ± 11
$100\theta_{MC}$	1.041276	1.04131 ± 0.00047	D_{2000}	233.21	233.0 ± 4.2	$H(0.61)$	95.582	95.59 ± 0.26
τ	0.0511	0.0496 ± 0.0084	$n_{s,0.002}$	0.9766	0.976 ± 0.010	$D_M(0.61)$	2291.2	2291 ± 12
$\ln(10^{10} A_s)$	3.0345	$3.032^{+0.021}_{-0.018}$	Y_P	0.245416	0.245412 ± 0.000092	$H(2.33)$	235.22	235.23 ± 0.80
n_s	0.9766	0.976 ± 0.010	Y_P^{BBN}	0.246743	0.246738 ± 0.000092	$D_M(2.33)$	5751.7	5751 ± 13
y_{cal}	0.99984	0.99996 ± 0.0025	$10^5 D/H$	2.5756	2.577 ± 0.043	$f\sigma_8(0.15)$	0.4471	0.4464 ± 0.0083
H_0	68.28	68.29 ± 0.54	Age/Gyr	13.7724	13.771 ± 0.030	$\sigma_8(0.15)$	0.7435	0.7423 ± 0.0090
Ω_Λ	0.6977	0.6977 ± 0.0069	z_*	1089.664	1089.67 ± 0.32	$f\sigma_8(0.38)$	0.4673	0.4665 ± 0.0074
Ω_m	0.3023	0.3023 ± 0.0069	r_*	144.951	144.95 ± 0.34	$\sigma_8(0.38)$	0.6601	0.6590 ± 0.0078
$\Omega_m h^2$	0.14091	0.1409 ± 0.0012	$100\theta_*$	1.041451	1.04149 ± 0.00047	$f\sigma_8(0.51)$	0.4670	0.4662 ± 0.0068
$\Omega_m h^3$	0.09621	0.09623 ± 0.00052	$D_M(z_*)/\text{Gpc}$	13.9182	13.918 ± 0.033	$\sigma_8(0.51)$	0.6181	0.6171 ± 0.0073
σ_8	0.8036	0.802 ± 0.010	z_{drag}	1059.89	1059.90 ± 0.53	$f\sigma_8(0.61)$	0.4628	0.4621 ± 0.0065
S_8	0.8066	0.805 ± 0.016	r_{drag}	147.606	147.61 ± 0.38	$\sigma_8(0.61)$	0.5884	0.5875 ± 0.0069
$\sigma_8 \Omega_m^{0.5}$	0.4418	0.4411 ± 0.0086	k_D	0.14036	0.14036 ± 0.00051	$f\sigma_8(2.33)$	0.29706	0.2966 ± 0.0035
$\sigma_8 \Omega_m^{0.25}$	0.5958	0.5949 ± 0.0091	$100\theta_D$	0.160809	0.16082 ± 0.00031	$\sigma_8(2.33)$	0.30667	0.3062 ± 0.0036
$\sigma_8/h^{0.5}$	0.9725	0.971 ± 0.013	z_{eq}	3351.9	3352 ± 29	χ_{small}^2	395.71	396.8 ± 1.5
$r_{drag} h$	100.78	100.80 ± 0.92	k_{eq}	0.010230	0.010231 ± 0.000087	$\chi_{CamSpec}^2$	2576.15	2580.4 ± 2.9
$\langle d^2 \rangle^{1/2}$	2.3882	2.387 ± 0.032	$100\theta_{eq}$	0.8228	0.8228 ± 0.0053	χ_{6DF}^2	0.0038	0.040 ± 0.054
z_{re}	7.31	$7.13^{+0.91}_{-0.73}$	$100\theta_{s,eq}$	0.45432	0.4543 ± 0.0027	χ_{MGS}^2	1.89	1.96 ± 0.58
$10^9 A_s$	2.0791	2.074 ± 0.041	$H(0.15)$	73.461	73.47 ± 0.47	$\chi_{DR12BAO}^2$	3.370	3.93 ± 0.78
$10^9 A_s e^{-2\tau}$	1.8770	1.877 ± 0.017	$D_M(0.15)$	635.59	635.5 ± 4.5	χ_{prior}^2	10.03	11.0 ± 1.4
D_{40}	1203.3	1206 ± 24	$H(0.38)$	83.411	83.42 ± 0.36	χ_{BAO}^2	5.266	5.93 ± 0.98
D_{220}	5710	5715 ± 59	$D_M(0.38)$	1518.1	1517.9 ± 9.2	χ_{CMB}^2	2971.85	2977.2 ± 3.3

Best-fit $\chi_{eff}^2 = 2987.15$; $\bar{\chi}_{eff}^2 = 2994.10$; $R - 1 = 0.00951$

χ_{eff}^2 : BAO - 6DF: 0.00 MGS: 1.89 DR12BAO: 3.37 CMB - small_100x143_offlike5_EE_Aplanck_B: 395.71 CamSpec like_10.7HM_1400_unified: 2576.15

2.18 base_CamSpecHM_TE_lowE_BAO_post_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\text{b}}h^2$	0.02245 ± 0.00023	D_{1420}	827 ± 10	$H(0.61)$	95.58 ± 0.26
$\Omega_{\text{c}}h^2$	0.1181 ± 0.0011	D_{2000}	234.1 ± 3.7	$D_{\text{M}}(0.61)$	2292 ± 12
$100\theta_{\text{MC}}$	1.04128 ± 0.00046	$n_{\text{s},0.002}$	0.9761 ± 0.0099	$H(2.33)$	235.42 ± 0.72
τ	0.0522 ± 0.0073	Y_{P}	$0.245422^{+0.000092}_{-0.000082}$	$D_{\text{M}}(2.33)$	5751 ± 13
$\ln(10^{10}A_{\text{s}})$	3.041 ± 0.015	$Y_{\text{P}}^{\text{BBN}}$	$0.246749^{+0.000092}_{-0.000083}$	$f\sigma_8(0.15)$	0.4496 ± 0.0062
n_{s}	0.9761 ± 0.0099	$10^5\text{D}/\text{H}$	2.572 ± 0.041	$\sigma_8(0.15)$	0.7462 ± 0.0063
y_{cal}	1.0002 ± 0.0025	Age/Gyr	13.771 ± 0.030	$f\sigma_8(0.38)$	0.4696 ± 0.0052
H_0	68.21 ± 0.52	z_*	1089.66 ± 0.32	$\sigma_8(0.38)$	0.6623 ± 0.0056
Ω_{Λ}	0.6965 ± 0.0066	r_*	144.87 ± 0.30	$f\sigma_8(0.51)$	0.4692 ± 0.0047
Ω_{m}	0.3035 ± 0.0066	$100\theta_*$	1.04146 ± 0.00046	$\sigma_8(0.51)$	0.6202 ± 0.0053
$\Omega_{\text{m}}h^2$	0.1412 ± 0.0011	$D_{\text{M}}(z_*)/\text{Gpc}$	13.910 ± 0.030	$f\sigma_8(0.61)$	0.4649 ± 0.0044
$\Omega_{\text{m}}h^3$	0.09631 ± 0.00049	z_{drag}	1059.98 ± 0.51	$\sigma_8(0.61)$	0.5904 ± 0.0050
σ_8	0.8067 ± 0.0068	r_{drag}	147.51 ± 0.33	$f\sigma_8(2.33)$	0.2980 ± 0.0026
S_8	0.811 ± 0.012	k_{D}	0.14048 ± 0.00046	$\sigma_8(2.33)$	0.3076 ± 0.0028
$\sigma_8\Omega_{\text{m}}^{0.5}$	0.4444 ± 0.0065	$100\theta_{\text{D}}$	0.16077 ± 0.00030	χ_{lensing}^2	9.6 ± 1.1
$\sigma_8\Omega_{\text{m}}^{0.25}$	0.5987 ± 0.0064	z_{eq}	3359 ± 26	χ_{small}^2	396.6 ± 1.2
$\sigma_8/h^{0.5}$	0.9767 ± 0.0093	k_{eq}	0.010251 ± 0.000079	χ_{CamSpec}^2	2580.2 ± 2.7
$r_{\text{drag}}h$	100.62 ± 0.87	$100\theta_{\text{eq}}$	0.8217 ± 0.0048	$\chi_{6\text{DF}}^2$	0.032 ± 0.044
$\langle d^2 \rangle^{1/2}$	2.399 ± 0.028	$100\theta_{\text{s,eq}}$	0.4537 ± 0.0025	χ_{MGS}^2	1.85 ± 0.54
z_{re}	7.40 ± 0.74	$H(0.15)$	73.41 ± 0.45	χ_{DR12BAO}^2	3.91 ± 0.76
10^9A_{s}	2.092 ± 0.031	$D_{\text{M}}(0.15)$	636.1 ± 4.4	χ_{prior}^2	11.0 ± 1.4
$10^9A_{\text{s}}e^{-2\tau}$	1.884 ± 0.013	$H(0.38)$	83.39 ± 0.35	χ_{CMB}^2	2986.4 ± 3.3
D_{40}	1210 ± 24	$D_{\text{M}}(0.38)$	1519.1 ± 8.9	χ_{BAO}^2	5.79 ± 0.79
D_{220}	5731 ± 57	$H(0.51)$	90.02 ± 0.29		
D_{810}	2556 ± 20	$D_{\text{M}}(0.51)$	1969 ± 11		

$\bar{\chi}_{\text{eff}}^2 = 3003.21$; $R - 1 = 0.01219$

2.19 base_CamSpecHM_TE_lowE_BAO_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02243 ± 0.00023	D_{810}	2549 ± 25	$H(0.51)$	90.06 ± 0.30
$\Omega_c h^2$	0.1178 ± 0.0012	D_{1420}	824 ± 11	$D_M(0.51)$	1967 ± 11
$100\theta_{MC}$	1.04131 ± 0.00047	D_{2000}	233.4 ± 4.2	$H(0.61)$	95.60 ± 0.26
τ	$0.0528^{+0.0036}_{-0.0079}$	$n_{s,0.002}$	0.976 ± 0.010	$D_M(0.61)$	2291 ± 12
$\ln(10^{10} A_s)$	$3.038^{+0.014}_{-0.017}$	Y_P	0.245416 ± 0.000092	$H(2.33)$	235.23 ± 0.80
n_s	0.976 ± 0.010	Y_P^{BBN}	0.246742 ± 0.000092	$D_M(2.33)$	5751 ± 13
y_{cal}	0.99998 ± 0.0025	$10^5 D/H$	2.575 ± 0.043	$f\sigma_8(0.15)$	0.4478 ± 0.0079
H_0	68.31 ± 0.54	Age/Gyr	13.770 ± 0.030	$\sigma_8(0.15)$	0.7449 ± 0.0076
Ω_Λ	$0.6979^{+0.0074}_{-0.0066}$	z_*	1089.66 ± 0.32	$f\sigma_8(0.38)$	0.4681 ± 0.0068
Ω_m	$0.3021^{+0.0066}_{-0.0074}$	r_*	144.95 ± 0.34	$\sigma_8(0.38)$	$0.6613^{+0.0061}_{-0.0070}$
$\Omega_m h^2$	0.1409 ± 0.0012	$100\theta_*$	1.04149 ± 0.00047	$f\sigma_8(0.51)$	0.4678 ± 0.0062
$\Omega_m h^3$	0.09624 ± 0.00053	$D_M(z_*)/\text{Gpc}$	13.918 ± 0.033	$\sigma_8(0.51)$	$0.6193^{+0.0056}_{-0.0065}$
σ_8	0.8051 ± 0.0085	z_{drag}	1059.92 ± 0.53	$f\sigma_8(0.61)$	0.4636 ± 0.0058
S_8	0.808 ± 0.015	r_{drag}	147.60 ± 0.38	$\sigma_8(0.61)$	$0.5895^{+0.0053}_{-0.0061}$
$\sigma_8 \Omega_m^{0.5}$	0.4425 ± 0.0083	k_D	0.14037 ± 0.00052	$f\sigma_8(2.33)$	$0.2976^{+0.0026}_{-0.0031}$
$\sigma_8 \Omega_m^{0.25}$	0.5968 ± 0.0084	$100\theta_D$	0.16081 ± 0.00031	$\sigma_8(2.33)$	$0.3073^{+0.0027}_{-0.0032}$
$\sigma_8/h^{0.5}$	0.974 ± 0.012	z_{eq}	3352 ± 29	χ_{small}^2	396.4 ± 1.0
$r_{drag} h$	100.82 ± 0.92	k_{eq}	0.010230 ± 0.000087	$\chi_{CamSpec}^2$	2580.4 ± 2.9
$\langle d^2 \rangle^{1/2}$	2.393 ± 0.030	$100\theta_{eq}$	0.8229 ± 0.0053	χ_{6DF}^2	0.040 ± 0.055
z_{re}	$7.46^{+0.35}_{-0.85}$	$100\theta_{s,eq}$	0.4544 ± 0.0027	χ_{MGS}^2	1.98 ± 0.59
$10^9 A_s$	$2.087^{+0.028}_{-0.036}$	$H(0.15)$	73.49 ± 0.47	$\chi_{DR12BAO}^2$	3.92 ± 0.78
$10^9 A_s e^{-2\tau}$	1.878 ± 0.017	$D_M(0.15)$	635.4 ± 4.5	χ_{prior}^2	11.0 ± 1.4
D_{40}	1206 ± 24	$H(0.38)$	83.43 ± 0.36	χ_{BAO}^2	5.94 ± 0.99
D_{220}	5716 ± 59	$D_M(0.38)$	1517.6 ± 9.2	χ_{CMB}^2	2976.8 ± 3.1
$\bar{\chi}_{eff}^2 = 2993.70; R - 1 = 0.01568$					

2.20 base_CamSpecHM_TE_lowE_BAO_post_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02245 ± 0.00022	D_{1420}	827 ± 10	$H(0.61)$	95.59 ± 0.26
$\Omega_c h^2$	0.1180 ± 0.0011	D_{2000}	234.1 ± 3.7	$D_M(0.61)$	2292 ± 11
$100\theta_{MC}$	1.04128 ± 0.00046	$n_{s,0.002}$	0.9763 ± 0.0099	$H(2.33)$	235.38 ± 0.71
τ	$0.0538^{+0.0047}_{-0.0074}$	Y_P	$0.245423^{+0.000091}_{-0.000082}$	$D_M(2.33)$	5751 ± 13
$\ln(10^{10} A_s)$	$3.043^{+0.012}_{-0.014}$	Y_P^{BBN}	$0.246749^{+0.000091}_{-0.000083}$	$f\sigma_8(0.15)$	0.4499 ± 0.0061
n_s	0.9763 ± 0.0099	$10^5 D/H$	2.572 ± 0.041	$\sigma_8(0.15)$	0.7471 ± 0.0057
y_{cal}	1.0002 ± 0.0024	Age/Gyr	13.770 ± 0.030	$f\sigma_8(0.38)$	0.4700 ± 0.0051
H_0	68.24 ± 0.51	z_*	1089.65 ± 0.32	$\sigma_8(0.38)$	$0.6632^{+0.0048}_{-0.0054}$
Ω_Λ	0.6968 ± 0.0065	r_*	144.88 ± 0.29	$f\sigma_8(0.51)$	0.4696 ± 0.0046
Ω_m	0.3032 ± 0.0065	$100\theta_*$	1.04146 ± 0.00046	$\sigma_8(0.51)$	$0.6210^{+0.0045}_{-0.0051}$
$\Omega_m h^2$	0.1411 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.911 ± 0.029	$f\sigma_8(0.61)$	0.4653 ± 0.0042
$\Omega_m h^3$	0.09630 ± 0.00049	z_{drag}	1059.97 ± 0.50	$\sigma_8(0.61)$	$0.5912^{+0.0043}_{-0.0049}$
σ_8	0.8076 ± 0.0063	r_{drag}	147.53 ± 0.33	$f\sigma_8(2.33)$	$0.2984^{+0.0022}_{-0.0025}$
S_8	0.812 ± 0.012	k_D	0.14047 ± 0.00046	$\sigma_8(2.33)$	$0.3080^{+0.0023}_{-0.0027}$
$\sigma_8 \Omega_m^{0.5}$	0.4447 ± 0.0065	$100\theta_D$	0.16077 ± 0.00030	$\chi^2_{lensing}$	9.5 ± 1.0
$\sigma_8 \Omega_m^{0.25}$	0.5993 ± 0.0062	z_{eq}	3357 ± 26	χ^2_{small}	396.5 ± 1.1
$\sigma_8/h^{0.5}$	0.9777 ± 0.0089	k_{eq}	0.010246 ± 0.000078	$\chi^2_{CamSpec}$	2580.1 ± 2.7
$r_{drag} h$	100.67 ± 0.86	$100\theta_{eq}$	0.8220 ± 0.0048	χ^2_{6DF}	0.032 ± 0.044
$\langle d^2 \rangle^{1/2}$	2.401 ± 0.027	$100\theta_{s,eq}$	0.4539 ± 0.0025	χ^2_{MGS}	1.88 ± 0.54
z_{re}	$7.57^{+0.51}_{-0.74}$	$H(0.15)$	73.43 ± 0.45	$\chi^2_{DR12BAO}$	3.88 ± 0.72
$10^9 A_s$	$2.098^{+0.024}_{-0.030}$	$D_M(0.15)$	635.9 ± 4.3	χ^2_{prior}	11.0 ± 1.4
$10^9 A_s e^{-2\tau}$	1.884 ± 0.013	$H(0.38)$	83.40 ± 0.35	χ^2_{CMB}	2986.1 ± 3.1
D_{40}	1209 ± 24	$D_M(0.38)$	1518.7 ± 8.9	χ^2_{BAO}	5.79 ± 0.80
D_{220}	5730 ± 57	$H(0.51)$	90.03 ± 0.29		
D_{810}	2555 ± 20	$D_M(0.51)$	1969 ± 11		

$\bar{\chi}^2_{eff} = 3002.87$; $R - 1 = 0.01685$

2.21 base_CamSpecHM_EE_lowE_BAO

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.02359	$0.02355^{+0.00060}_{-0.00067}$	D_{810}	2607.3	2605 ± 33	$H(0.51)$	90.47	90.45 ± 0.58
$\Omega_c h^2$	0.11770	0.1178 ± 0.0014	D_{1420}	845.0	844 ± 14	$D_M(0.51)$	1957.7	1958 ± 18
$100\theta_{MC}$	1.03937	1.03946 ± 0.00079	D_{2000}	240.8	240.4 ± 5.3	$H(0.61)$	96.03	$96.01^{+0.51}_{-0.57}$
τ	0.0511	0.0511 ± 0.0081	$n_{s,0.002}$	0.9701	0.9702 ± 0.0094	$D_M(0.61)$	2279.5	2280 ± 20
$\ln(10^{10} A_s)$	3.0603	3.059 ± 0.021	Y_P	0.245904	$0.24587^{+0.00026}_{-0.00023}$	$H(2.33)$	236.12	236.12 ± 0.99
n_s	0.9701	0.9702 ± 0.0094	Y_P^{BBN}	0.247232	$0.24720^{+0.00026}_{-0.00023}$	$D_M(2.33)$	5725.6	5727 ± 29
y_{cal}	1.00012	1.0001 ± 0.0025	$10^5 D/H$	2.373	2.38 ± 0.10	$f\sigma_8(0.15)$	0.4469	0.4472 ± 0.0096
H_0	68.66	68.64 ± 0.83	Age/Gyr	13.710	13.713 ± 0.067	$\sigma_8(0.15)$	0.7447	0.7447 ± 0.0088
Ω_Λ	0.6989	0.6986 ± 0.0089	z_*	1088.26	1088.34 ± 0.77	$f\sigma_8(0.38)$	0.4675	0.4676 ± 0.0082
Ω_m	0.3011	0.3014 ± 0.0089	r_*	144.09	144.11 ± 0.52	$\sigma_8(0.38)$	0.6613	0.6612 ± 0.0075
$\Omega_m h^2$	0.14194	0.1419 ± 0.0014	$100\theta_*$	1.03943	1.03952 ± 0.00080	$f\sigma_8(0.51)$	0.4673	0.4674 ± 0.0074
$\Omega_m h^3$	0.09746	0.0974 ± 0.0012	$D_M(z_*)/\text{Gpc}$	13.862	13.863 ± 0.051	$\sigma_8(0.51)$	0.6193	0.6193 ± 0.0069
σ_8	0.8048	0.8048 ± 0.0098	z_{drag}	1062.57	1062.4 ± 1.4	$f\sigma_8(0.61)$	0.4632	0.4633 ± 0.0068
S_8	0.8062	0.807 ± 0.018	r_{drag}	146.35	146.39 ± 0.69	$\sigma_8(0.61)$	0.5896	0.5895 ± 0.0066
$\sigma_8 \Omega_m^{0.5}$	0.4416	0.442 ± 0.010	k_D	0.14253	0.1424 ± 0.0011	$f\sigma_8(2.33)$	0.29769	0.2977 ± 0.0033
$\sigma_8 \Omega_m^{0.25}$	0.5961	0.596 ± 0.010	$100\theta_D$	0.15901	0.15910 ± 0.00079	$\sigma_8(2.33)$	0.30738	0.3073 ± 0.0034
$\sigma_8/h^{0.5}$	0.9712	0.972 ± 0.015	z_{eq}	3376.6	3377 ± 33	χ^2_{small}	395.59	396.7 ± 1.4
$r_{drag} h$	100.49	100.5 ± 1.1	k_{eq}	0.010306	0.01031 ± 0.00010	$\chi^2_{CamSpec}$	1886.67	1890.8 ± 2.8
$\langle d^2 \rangle^{1/2}$	2.4275	2.427 ± 0.035	$100\theta_{eq}$	0.8201	0.8201 ± 0.0060	χ^2_{6DF}	0.0000	0.053 ± 0.073
z_{re}	7.07	$7.06^{+0.84}_{-0.73}$	$100\theta_{s,eq}$	0.45198	0.4520 ± 0.0031	χ^2_{MGS}	1.68	1.75 ± 0.68
$10^9 A_s$	2.1333	2.132 ± 0.044	$H(0.15)$	73.86	73.84 ± 0.75	$\chi^2_{DR12BAO}$	3.85	4.6 ± 1.4
$10^9 A_s e^{-2\tau}$	1.9260	1.924 ± 0.024	$D_M(0.15)$	632.1	632.4 ± 7.1	χ^2_{prior}	10.03	11.0 ± 1.4
D_{40}	1260.4	1259 ± 30	$H(0.38)$	83.83	83.81 ± 0.64	χ^2_{BAO}	5.52	6.4 ± 1.3
D_{220}	6001	5991 ± 130	$D_M(0.38)$	1510.0	1511 ± 15	χ^2_{CMB}	2282.26	2287.4 ± 3.2

Best-fit $\chi^2_{eff} = 2297.82$; $\bar{\chi}^2_{eff} = 2304.89$; $R - 1 = 0.00669$

χ^2_{eff} : BAO - 6DF: 0.00 MGS: 1.68 DR12BAO: 3.85 CMB - small_100x143_offlike5_EE_Aplanck_B: 395.59 CamSpec like_10.7HM_1400_unified: 1886.67

2.22 base_CamSpecHM_EE_lowE_BAO_post_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02326 ± 0.00054	D_{1420}	835 ± 11	$H(0.61)$	95.86 ± 0.50
$\Omega_c h^2$	0.1172 ± 0.0014	D_{2000}	237.0 ± 4.2	$D_M(0.61)$	2282 ± 19
$100\theta_{MC}$	1.03953 ± 0.00079	$n_{s,0.002}$	0.9690 ± 0.0093	$H(2.33)$	235.46 ± 0.80
τ	$0.0485^{+0.0079}_{-0.0069}$	Y_P	0.24576 ± 0.00022	$D_M(2.33)$	5737 ± 26
$\ln(10^{10} A_s)$	$3.045^{+0.016}_{-0.014}$	Y_P^{BBN}	0.24708 ± 0.00022	$f\sigma_8(0.15)$	0.4423 ± 0.0085
n_s	0.9690 ± 0.0093	$10^5 D/H$	2.432 ± 0.092	$\sigma_8(0.15)$	0.7385 ± 0.0068
y_{cal}	0.9998 ± 0.0025	Age/Gyr	13.737 ± 0.061	$f\sigma_8(0.38)$	0.4629 ± 0.0070
H_0	68.62 ± 0.81	z_*	1088.62 ± 0.69	$\sigma_8(0.38)$	0.6559 ± 0.0058
Ω_Λ	0.7002 ± 0.0087	r_*	144.48 ± 0.38	$f\sigma_8(0.51)$	0.4629 ± 0.0062
Ω_m	0.2998 ± 0.0087	$100\theta_*$	1.03963 ± 0.00080	$\sigma_8(0.51)$	0.6144 ± 0.0054
$\Omega_m h^2$	0.1411 ± 0.0012	$D_M(z_*)/\text{Gpc}$	13.897 ± 0.040	$f\sigma_8(0.61)$	0.4589 ± 0.0056
$\Omega_m h^3$	0.09682 ± 0.00098	z_{drag}	1061.7 ± 1.2	$\sigma_8(0.61)$	0.5849 ± 0.0051
σ_8	0.7979 ± 0.0077	r_{drag}	146.86 ± 0.51	$f\sigma_8(2.33)$	0.2954 ± 0.0026
S_8	0.798 ± 0.016	k_D	0.14175 ± 0.00087	$\sigma_8(2.33)$	0.3051 ± 0.0027
$\sigma_8 \Omega_m^{0.5}$	0.4369 ± 0.0090	$100\theta_D$	0.15948 ± 0.00068	$\chi^2_{lensing}$	9.3 ± 1.4
$\sigma_8 \Omega_m^{0.25}$	0.5904 ± 0.0085	z_{eq}	3356 ± 28	χ^2_{small}	396.7 ± 1.4
$\sigma_8/h^{0.5}$	0.963 ± 0.013	k_{eq}	0.010244 ± 0.000086	$\chi^2_{CamSpec}$	1890.9 ± 2.7
$r_{drag} h$	100.8 ± 1.1	$100\theta_{eq}$	0.8230 ± 0.0054	χ^2_{6DF}	0.052 ± 0.072
$\langle d^2 \rangle^{1/2}$	2.408 ± 0.029	$100\theta_{s,eq}$	0.4538 ± 0.0027	χ^2_{MGS}	1.93 ± 0.68
z_{re}	$6.85^{+0.86}_{-0.70}$	$H(0.15)$	73.79 ± 0.73	$\chi^2_{DR12BAO}$	4.3 ± 1.1
$10^9 A_s$	$2.101^{+0.033}_{-0.029}$	$D_M(0.15)$	632.7 ± 6.9	χ^2_{prior}	11.0 ± 1.4
$10^9 A_s e^{-2\tau}$	1.906 ± 0.017	$H(0.38)$	83.71 ± 0.61	χ^2_{CMB}	2296.9 ± 3.2
D_{40}	1249 ± 27	$D_M(0.38)$	1512 ± 14	χ^2_{BAO}	6.3 ± 1.2
D_{220}	5930 ± 110	$H(0.51)$	90.32 ± 0.55		
D_{810}	2582 ± 25	$D_M(0.51)$	1960 ± 17		

$\bar{\chi}^2_{eff} = 2314.19$; $R - 1 = 0.00959$

2.23 base_CamSpecHM_EE_lowE_BAO_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\text{b}}h^2$	$0.02353^{+0.00060}_{-0.00067}$	D_{810}	2603 ± 33	$H(0.51)$	90.44 ± 0.58
$\Omega_{\text{c}}h^2$	0.1177 ± 0.0014	D_{1420}	843 ± 14	$D_{\text{M}}(0.51)$	1959 ± 18
$100\theta_{\text{MC}}$	1.03946 ± 0.00079	D_{2000}	240.3 ± 5.2	$H(0.61)$	96.00 ± 0.54
τ	$0.0543^{+0.0037}_{-0.0072}$	$n_{\text{s},0.002}$	0.9704 ± 0.0093	$D_{\text{M}}(0.61)$	2281 ± 20
$\ln(10^{10}A_{\text{s}})$	$3.065^{+0.017}_{-0.018}$	Y_{P}	$0.24586^{+0.00026}_{-0.00023}$	$H(2.33)$	236.09 ± 0.98
n_{s}	0.9704 ± 0.0093	$Y_{\text{P}}^{\text{BBN}}$	$0.24719^{+0.00026}_{-0.00023}$	$D_{\text{M}}(2.33)$	5727 ± 29
y_{cal}	1.0001 ± 0.0024	$10^5\text{D}/\text{H}$	2.39 ± 0.11	$f\sigma_8(0.15)$	0.4486 ± 0.0093
H_0	68.63 ± 0.83	Age/Gyr	13.715 ± 0.067	$\sigma_8(0.15)$	0.7470 ± 0.0078
Ω_{Λ}	0.6985 ± 0.0089	z_*	1088.36 ± 0.77	$f\sigma_8(0.38)$	0.4691 ± 0.0078
Ω_{m}	0.3015 ± 0.0089	r_*	144.13 ± 0.52	$\sigma_8(0.38)$	0.6633 ± 0.0066
$\Omega_{\text{m}}h^2$	0.1419 ± 0.0014	$100\theta_*$	1.03952 ± 0.00080	$f\sigma_8(0.51)$	0.4689 ± 0.0070
$\Omega_{\text{m}}h^3$	0.0974 ± 0.0012	$D_{\text{M}}(z_*)/\text{Gpc}$	13.865 ± 0.051	$\sigma_8(0.51)$	0.6212 ± 0.0061
σ_8	0.8073 ± 0.0089	z_{drag}	1062.4 ± 1.4	$f\sigma_8(0.61)$	0.4647 ± 0.0064
S_8	0.809 ± 0.018	r_{drag}	146.42 ± 0.69	$\sigma_8(0.61)$	0.5914 ± 0.0058
$\sigma_8\Omega_{\text{m}}^{0.5}$	0.4432 ± 0.0098	k_{D}	0.1424 ± 0.0011	$f\sigma_8(2.33)$	$0.2986^{+0.0027}_{-0.0030}$
$\sigma_8\Omega_{\text{m}}^{0.25}$	0.5982 ± 0.0095	$100\theta_{\text{D}}$	0.15912 ± 0.00080	$\sigma_8(2.33)$	$0.3083^{+0.0028}_{-0.0031}$
$\sigma_8/h^{0.5}$	0.975 ± 0.014	z_{eq}	3376 ± 33	χ_{simall}^2	396.4 ± 1.3
$r_{\text{drag}}h$	100.5 ± 1.1	k_{eq}	0.01030 ± 0.00010	χ_{CamSpec}^2	1890.7 ± 2.8
$\langle d^2 \rangle^{1/2}$	2.434 ± 0.033	$100\theta_{\text{eq}}$	0.8202 ± 0.0059	$\chi_{6\text{DF}}^2$	0.052 ± 0.071
z_{re}	$7.39^{+0.30}_{-0.81}$	$100\theta_{\text{s,eq}}$	0.4521 ± 0.0030	χ_{MGS}^2	1.75 ± 0.67
$10^9 A_{\text{s}}$	$2.144^{+0.035}_{-0.040}$	$H(0.15)$	73.82 ± 0.75	χ_{DR12BAO}^2	4.6 ± 1.4
$10^9 A_{\text{s}}e^{-2\tau}$	1.923 ± 0.024	$D_{\text{M}}(0.15)$	632.5 ± 7.0	χ_{prior}^2	11.0 ± 1.3
D_{40}	1259 ± 30	$H(0.38)$	83.80 ± 0.63	χ_{BAO}^2	6.4 ± 1.2
D_{220}	5986 ± 130	$D_{\text{M}}(0.38)$	1511 ± 15	χ_{CMB}^2	2287.1 ± 3.1
$\bar{\chi}_{\text{eff}}^2 = 2304.51; R - 1 = 0.01190$					

2.24 base_CamSpecHM_EE_lowE_BAO_post_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02319 ± 0.00053	D_{1420}	833 ± 11	$H(0.61)$	95.82 ± 0.49
$\Omega_c h^2$	0.1171 ± 0.0014	D_{2000}	236.5 ± 4.1	$D_M(0.61)$	2283 ± 19
$100\theta_{MC}$	1.03953 ± 0.00077	$n_{s,0.002}$	0.9695 ± 0.0092	$H(2.33)$	235.33 ± 0.77
τ	$0.0526^{+0.0034}_{-0.0061}$	Y_P	0.24573 ± 0.00022	$D_M(2.33)$	5739 ± 25
$\ln(10^{10} A_s)$	$3.051^{+0.011}_{-0.013}$	Y_P^{BBN}	0.24706 ± 0.00022	$f\sigma_8(0.15)$	0.4435 ± 0.0083
n_s	0.9695 ± 0.0092	$10^5 D/H$	2.443 ± 0.091	$\sigma_8(0.15)$	0.7409 ± 0.0059
y_{cal}	0.9997 ± 0.0024	Age/Gyr	13.744 ± 0.059	$f\sigma_8(0.38)$	0.4643 ± 0.0068
H_0	68.61 ± 0.80	z_*	1088.69 ± 0.69	$\sigma_8(0.38)$	0.6580 ± 0.0049
Ω_Λ	0.7005 ± 0.0086	r_*	144.56 ± 0.37	$f\sigma_8(0.51)$	0.4643 ± 0.0059
Ω_m	0.2995 ± 0.0086	$100\theta_*$	1.03963 ± 0.00078	$\sigma_8(0.51)$	0.6164 ± 0.0045
$\Omega_m h^2$	0.1409 ± 0.0012	$D_M(z_*)/\text{Gpc}$	13.905 ± 0.038	$f\sigma_8(0.61)$	0.4603 ± 0.0053
$\Omega_m h^3$	0.09667 ± 0.00094	z_{drag}	1061.6 ± 1.2	$\sigma_8(0.61)$	$0.5868^{+0.0039}_{-0.0044}$
σ_8	0.8005 ± 0.0068	r_{drag}	146.96 ± 0.49	$f\sigma_8(2.33)$	$0.2964^{+0.0019}_{-0.0022}$
S_8	0.800 ± 0.016	k_D	0.14159 ± 0.00085	$\sigma_8(2.33)$	$0.3061^{+0.0021}_{-0.0024}$
$\sigma_8 \Omega_m^{0.5}$	0.4381 ± 0.0089	$100\theta_D$	0.15957 ± 0.00067	$\chi^2_{lensing}$	9.4 ± 1.5
$\sigma_8 \Omega_m^{0.25}$	0.5922 ± 0.0082	z_{eq}	3352 ± 28	χ^2_{small}	396.15 ± 0.81
$\sigma_8/h^{0.5}$	0.966 ± 0.012	k_{eq}	0.010231 ± 0.000084	$\chi^2_{CamSpec}$	1890.9 ± 2.8
$r_{drag} h$	100.8 ± 1.1	$100\theta_{eq}$	0.8236 ± 0.0054	χ^2_{6DF}	0.052 ± 0.071
$\langle d^2 \rangle^{1/2}$	2.414 ± 0.028	$100\theta_{s,eq}$	0.4541 ± 0.0026	χ^2_{MGS}	1.96 ± 0.67
z_{re}	< 7.49	$H(0.15)$	73.77 ± 0.72	$\chi^2_{DR12BAO}$	4.3 ± 1.0
$10^9 A_s$	$2.114^{+0.023}_{-0.027}$	$D_M(0.15)$	632.8 ± 6.8	χ^2_{prior}	11.0 ± 1.3
$10^9 A_s e^{-2\tau}$	1.903 ± 0.016	$H(0.38)$	83.68 ± 0.60	χ^2_{CMB}	2296.5 ± 3.2
D_{40}	1246 ± 27	$D_M(0.38)$	1512 ± 14	χ^2_{BAO}	6.3 ± 1.2
D_{220}	5914 ± 110	$H(0.51)$	90.29 ± 0.53		
D_{810}	2577 ± 24	$D_M(0.51)$	1961 ± 17		

$\bar{\chi}^2_{eff} = 2313.75$; $R - 1 = 0.00861$

2.25 base_CamSpecHM_TE_lowE_lensing

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022467	0.02248 ± 0.00026	D_{220}	5733	5734 ± 57	$H(0.38)$	83.45	83.46 ± 0.51
$\Omega_c h^2$	0.11787	0.1179 ± 0.0017	D_{810}	2557.1	2557 ± 22	$D_M(0.38)$	1517.4	1517 ± 13
$100\theta_{MC}$	1.041288	1.04130 ± 0.00049	D_{1420}	827.6	827 ± 11	$H(0.51)$	90.070	90.08 ± 0.41
τ	0.0528	0.0527 ± 0.0078	D_{2000}	234.38	234.3 ± 4.0	$D_M(0.51)$	1967.1	1967 ± 16
$\ln(10^{10} A_s)$	3.0418	3.041 ± 0.015	$n_{s,0.002}$	0.9770	0.977 ± 0.011	$H(0.61)$	95.618	95.63 ± 0.35
n_s	0.9770	0.977 ± 0.011	Y_P	0.245433	0.24543 ± 0.00010	$D_M(0.61)$	2290.2	2290 ± 17
y_{cal}	1.00021	1.0001 ± 0.0025	Y_P^{BBN}	0.246759	0.24676 ± 0.00010	$H(2.33)$	235.28	235.3 ± 1.0
H_0	68.31	68.33 ± 0.78	$10^5 D/H$	2.5677	2.567 ± 0.047	$D_M(2.33)$	5749.6	5749 ± 16
Ω_Λ	0.6979	0.698 ± 0.010	Age/Gyr	13.7675	13.766 ± 0.037	$f\sigma_8(0.15)$	0.4486	0.4484 ± 0.0085
Ω_m	0.3021	0.302 ± 0.010	z_*	1089.611	1089.61 ± 0.40	$\sigma_8(0.15)$	0.7463	0.7459 ± 0.0064
$\Omega_m h^2$	0.14098	0.1410 ± 0.0016	r_*	144.911	144.91 ± 0.39	$f\sigma_8(0.38)$	0.4690	0.4687 ± 0.0067
$\Omega_m h^3$	0.09631	0.09632 ± 0.00052	$100\theta_*$	1.041468	1.04147 ± 0.00049	$\sigma_8(0.38)$	0.6625	0.6622 ± 0.0057
σ_8	0.8066	0.8062 ± 0.0071	$D_M(z_*)/\text{Gpc}$	13.9141	13.914 ± 0.037	$f\sigma_8(0.51)$	0.4687	0.4684 ± 0.0058
S_8	0.8094	0.809 ± 0.017	z_{drag}	1060.01	1060.02 ± 0.55	$\sigma_8(0.51)$	0.6205	0.6202 ± 0.0054
$\sigma_8 \Omega_m^{0.5}$	0.4433	0.4431 ± 0.0092	r_{drag}	147.550	147.54 ± 0.40	$f\sigma_8(0.61)$	0.4645	0.4642 ± 0.0052
$\sigma_8 \Omega_m^{0.25}$	0.5980	0.5977 ± 0.0081	k_D	0.14046	0.14047 ± 0.00050	$\sigma_8(0.61)$	0.5906	0.5904 ± 0.0051
$\sigma_8/h^{0.5}$	0.9759	0.975 ± 0.011	$100\theta_D$	0.160751	0.16075 ± 0.00032	$f\sigma_8(2.33)$	0.29819	0.2981 ± 0.0027
$r_{drag} h$	100.80	100.8 ± 1.3	z_{eq}	3353.5	3354 ± 37	$\sigma_8(2.33)$	0.30784	0.3077 ± 0.0030
$\langle d^2 \rangle^{1/2}$	2.3961	2.396 ± 0.034	k_{eq}	0.010235	0.01024 ± 0.00011	$\chi_{lensing}^2$	8.95	9.7 ± 1.3
z_{re}	7.48	$7.44^{+0.82}_{-0.71}$	$100\theta_{eq}$	0.8227	0.8227 ± 0.0072	χ_{small}^2	395.77	396.7 ± 1.3
$10^9 A_s$	2.0943	2.093 ± 0.032	$100\theta_{s,eq}$	0.45421	0.4542 ± 0.0037	$\chi_{CamSpec}^2$	2576.31	2580.7 ± 2.9
$10^9 A_s e^{-2\tau}$	1.8842	1.884 ± 0.014	$H(0.15)$	73.50	73.51 ± 0.67	χ_{prior}^2	10.04	11.0 ± 1.5
D_{40}	1207.8	1208 ± 25	$D_M(0.15)$	635.3	635.2 ± 6.5	χ_{CMB}^2	2981.03	2987.1 ± 3.4

Best-fit $\chi_{eff}^2 = 2991.07$; $\bar{\chi}_{eff}^2 = 2998.15$; $R - 1 = 0.00781$

χ_{eff}^2 : CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p_teb_consext8: 8.95 small_100x143_offlike5_EE_Aplanck_B: 395.77 CamSpec like_10.7HM_1400_unified: 2576.31

2.26 base_CamSpecHM_TE_lowE_lensing_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02248 ± 0.00026	D_{220}	5732 ± 57	$H(0.38)$	83.49 ± 0.50
$\Omega_{\mathrm{c}}h^2$	0.1177 ± 0.0016	D_{810}	2556 ± 22	$D_{\mathrm{M}}(0.38)$	1516 ± 13
$100\theta_{\mathrm{MC}}$	1.04131 ± 0.00049	D_{1420}	827 ± 11	$H(0.51)$	90.11 ± 0.41
τ	$0.0544^{+0.0048}_{-0.0080}$	D_{2000}	234.4 ± 4.0	$D_{\mathrm{M}}(0.51)$	1966 ± 15
$\ln(10^{10}A_{\mathrm{s}})$	$3.044^{+0.012}_{-0.015}$	$n_{\mathrm{s},0.002}$	0.977 ± 0.011	$H(0.61)$	95.65 ± 0.35
n_{s}	0.977 ± 0.011	Y_{P}	0.24544 ± 0.00010	$D_{\mathrm{M}}(0.61)$	2289 ± 17
y_{cal}	1.0001 ± 0.0025	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.24676 ± 0.00010	$H(2.33)$	235.22 ± 0.98
H_0	68.38 ± 0.77	$10^5 D/\mathrm{H}$	2.566 ± 0.047	$D_{\mathrm{M}}(2.33)$	5748 ± 16
Ω_{Λ}	0.6986 ± 0.0098	Age/Gyr	13.765 ± 0.037	$f\sigma_8(0.15)$	0.4485 ± 0.0085
Ω_{m}	0.3014 ± 0.0098	z_{*}	1089.59 ± 0.40	$\sigma_8(0.15)$	0.7468 ± 0.0059
$\Omega_{\mathrm{m}}h^2$	0.1409 ± 0.0015	r_{*}	144.93 ± 0.38	$f\sigma_8(0.38)$	0.4689 ± 0.0067
$\Omega_{\mathrm{m}}h^3$	0.09632 ± 0.00052	$100\theta_{*}$	1.04148 ± 0.00049	$\sigma_8(0.38)$	$0.6631^{+0.0049}_{-0.0054}$
σ_8	0.8071 ± 0.0067	$D_{\mathrm{M}}(z_{*})/\mathrm{Gpc}$	13.916 ± 0.036	$f\sigma_8(0.51)$	0.4687 ± 0.0058
S_8	0.809 ± 0.017	z_{drag}	1060.03 ± 0.55	$\sigma_8(0.51)$	$0.6211^{+0.0046}_{-0.0052}$
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4431 ± 0.0092	r_{drag}	147.57 ± 0.40	$f\sigma_8(0.61)$	0.4646 ± 0.0052
$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.5980 ± 0.0081	k_{D}	0.14045 ± 0.00050	$\sigma_8(0.61)$	$0.5912^{+0.0044}_{-0.0050}$
$\sigma_8/h^{0.5}$	0.976 ± 0.011	$100\theta_{\mathrm{D}}$	0.16074 ± 0.00032	$f\sigma_8(2.33)$	$0.2985^{+0.0023}_{-0.0026}$
$r_{\mathrm{drag}}h$	100.9 ± 1.3	z_{eq}	3351 ± 37	$\sigma_8(2.33)$	$0.3082^{+0.0025}_{-0.0029}$
$\langle d^2 \rangle^{1/2}$	2.397 ± 0.033	k_{eq}	0.01023 ± 0.00011	$\chi^2_{\mathrm{lensing}}$	9.7 ± 1.2
z_{re}	$7.62^{+0.52}_{-0.78}$	$100\theta_{\mathrm{eq}}$	0.8233 ± 0.0071	χ^2_{simall}	396.6 ± 1.3
$10^9 A_{\mathrm{s}}$	$2.100^{+0.025}_{-0.032}$	$100\theta_{\mathrm{s,eq}}$	0.4545 ± 0.0036	$\chi^2_{\mathrm{CamSpec}}$	2580.6 ± 2.9
$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.883 ± 0.014	$H(0.15)$	73.56 ± 0.67	χ^2_{prior}	11.0 ± 1.5
D_{40}	1207 ± 25	$D_{\mathrm{M}}(0.15)$	634.8 ± 6.5	χ^2_{CMB}	2986.8 ± 3.3

$\bar{\chi}^2_{\mathrm{eff}} = 2997.86$; $R - 1 = 0.00847$

2.27 base_CamSpecHM_EE_lowE_lensing

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.02359	0.02359 ± 0.00095	D_{220}	5980	5980 ± 160	$H(0.38)$	84.21	84.2 ± 1.4
$\Omega_c h^2$	0.11600	0.1162 ± 0.0030	D_{810}	2590.4	2591 ± 34	$D_M(0.38)$	1499.4	1501 ± 33
$100\theta_{MC}$	1.03953	1.03954 ± 0.00084	D_{1420}	839.4	839 ± 17	$H(0.51)$	90.74	$90.7^{+1.1}_{-1.3}$
τ	0.0500	$0.0487^{+0.0090}_{-0.0079}$	D_{2000}	238.9	238.8 ± 6.3	$D_M(0.51)$	1945.4	1947 ± 39
$\ln(10^{10} A_s)$	3.0489	3.047 ± 0.019	$n_{s,0.002}$	0.9718	0.972 ± 0.012	$H(0.61)$	96.22	$96.24^{+0.99}_{-1.1}$
n_s	0.9718	0.972 ± 0.012	Y_P	0.245904	0.24588 ± 0.00038	$D_M(0.61)$	2266.3	2268 ± 43
y_{cal}	0.99978	0.9999 ± 0.0024	Y_P^{BBN}	0.247232	0.24721 ± 0.00038	$H(2.33)$	235.02	235.1 ± 1.2
H_0	69.33	69.3 ± 1.9	$10^5 D/H$	2.373	$2.38^{+0.15}_{-0.17}$	$D_M(2.33)$	5719	5719 ± 51
Ω_Λ	0.7082	$0.707^{+0.022}_{-0.019}$	Age/Gyr	13.698	13.70 ± 0.12	$f\sigma_8(0.15)$	0.4353	0.436 ± 0.018
Ω_m	0.2918	$0.293^{+0.019}_{-0.022}$	z_*	1088.12	1088.2 ± 1.3	$\sigma_8(0.15)$	0.7364	$0.7357^{+0.0087}_{-0.0077}$
$\Omega_m h^2$	0.14024	0.1404 ± 0.0022	r_*	144.530	144.49 ± 0.41	$f\sigma_8(0.38)$	0.4576	0.458 ± 0.014
$\Omega_m h^3$	0.09723	0.0973 ± 0.0015	$100\theta_*$	1.03959	1.03960 ± 0.00082	$\sigma_8(0.38)$	0.6549	$0.6542^{+0.0066}_{-0.0059}$
σ_8	0.7948	$0.794^{+0.011}_{-0.0097}$	$D_M(z_*)/\text{Gpc}$	13.9026	13.899 ± 0.041	$f\sigma_8(0.51)$	0.4585	0.458 ± 0.012
S_8	0.7838	0.785 ± 0.035	z_{drag}	1062.45	1062.4 ± 1.9	$\sigma_8(0.51)$	0.6138	0.6131 ± 0.0057
$\sigma_8 \Omega_m^{0.5}$	0.4293	0.430 ± 0.019	r_{drag}	146.80	146.77 ± 0.54	$f\sigma_8(0.61)$	0.4552	0.455 ± 0.010
$\sigma_8 \Omega_m^{0.25}$	0.5841	0.584 ± 0.016	k_D	0.14204	0.1420 ± 0.0011	$\sigma_8(0.61)$	0.5846	0.5839 ± 0.0054
$\sigma_8/h^{0.5}$	0.9545	0.954 ± 0.024	$100\theta_D$	0.15909	$0.15915^{+0.00099}_{-0.0011}$	$f\sigma_8(2.33)$	0.29556	0.2952 ± 0.0028
$r_{drag} h$	101.77	101.7 ± 2.7	z_{eq}	3336	3340 ± 54	$\sigma_8(2.33)$	0.30562	0.3052 ± 0.0033
$\langle d^2 \rangle^{1/2}$	2.3931	2.392 ± 0.046	k_{eq}	0.010182	0.01019 ± 0.00016	$\chi^2_{lensing}$	8.34	9.4 ± 1.4
z_{re}	6.93	$6.77^{+0.92}_{-0.70}$	$100\theta_{eq}$	0.8277	0.827 ± 0.012	χ^2_{small}	395.63	396.8 ± 1.7
$10^9 A_s$	2.1091	2.105 ± 0.040	$100\theta_{s,eq}$	0.4559	0.4556 ± 0.0057	$\chi^2_{CamSpec}$	1887.54	1891.5 ± 2.9
$10^9 A_s e^{-2\tau}$	1.9083	1.910 ± 0.018	$H(0.15)$	74.41	74.4 ± 1.7	χ^2_{prior}	10.04	11.0 ± 1.3
D_{40}	1249.5	1249 ± 27	$D_M(0.15)$	626.7	627 ± 16	χ^2_{CMB}	2291.51	2297.7 ± 3.6

Best-fit $\chi^2_{eff} = 2301.54$; $\bar{\chi}^2_{eff} = 2308.71$; $R - 1 = 0.00642$

χ^2_{eff} : CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p_teb_consext8: 8.34 small_100x143_offlike5_EE_Aplanck_B: 395.63 CamSpec like_10.7HM_1400_unified: 1887.54

2.28 base_CamSpecHM_EE_lowE_lensing_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\text{b}}h^2$	0.02360 ± 0.00095	D_{220}	5975 ± 160	$H(0.38)$	$84.3^{+1.3}_{-1.5}$
$\Omega_{\text{c}}h^2$	0.1158 ± 0.0029	D_{810}	2589 ± 34	$D_{\text{M}}(0.38)$	1498 ± 33
$100\theta_{\text{MC}}$	1.03956 ± 0.00083	D_{1420}	839 ± 17	$H(0.51)$	$90.8^{+1.1}_{-1.3}$
τ	$0.0535^{+0.0039}_{-0.0071}$	D_{2000}	238.8 ± 6.3	$D_{\text{M}}(0.51)$	1944 ± 39
$\ln(10^{10}A_{\text{s}})$	$3.055^{+0.014}_{-0.017}$	$n_{\text{s},0.002}$	0.973 ± 0.012	$H(0.61)$	$96.28^{+0.97}_{-1.1}$
n_{s}	0.973 ± 0.012	Y_{P}	0.24588 ± 0.00038	$D_{\text{M}}(0.61)$	2265 ± 43
y_{cal}	0.9998 ± 0.0024	$Y_{\text{P}}^{\text{BBN}}$	0.24721 ± 0.00038	$H(2.33)$	234.9 ± 1.2
H_0	$69.4^{+1.8}_{-2.0}$	$10^5\text{D}/\text{H}$	2.38 ± 0.16	$D_{\text{M}}(2.33)$	5718^{+54}_{-49}
Ω_{Λ}	0.709 ± 0.020	Age/Gyr	13.70 ± 0.12	$f\sigma_8(0.15)$	0.436 ± 0.018
Ω_{m}	0.291 ± 0.020	z_*	1088.1 ± 1.3	$\sigma_8(0.15)$	$0.7380^{+0.0079}_{-0.0071}$
$\Omega_{\text{m}}h^2$	0.1400 ± 0.0022	r_*	144.58 ± 0.39	$f\sigma_8(0.38)$	0.458 ± 0.014
$\Omega_{\text{m}}h^3$	$0.0972^{+0.0014}_{-0.0016}$	$100\theta_*$	1.03962 ± 0.00081	$\sigma_8(0.38)$	0.6565 ± 0.0054
σ_8	$0.796^{+0.010}_{-0.0092}$	$D_{\text{M}}(z_*)/\text{Gpc}$	13.907 ± 0.039	$f\sigma_8(0.51)$	$0.459^{+0.012}_{-0.011}$
S_8	0.785 ± 0.035	z_{drag}	1062.4 ± 1.9	$\sigma_8(0.51)$	0.6153 ± 0.0048
$\sigma_8\Omega_{\text{m}}^{0.5}$	0.430 ± 0.019	r_{drag}	146.86 ± 0.53	$f\sigma_8(0.61)$	$0.456^{+0.011}_{-0.0093}$
$\sigma_8\Omega_{\text{m}}^{0.25}$	0.585 ± 0.016	k_{D}	0.1419 ± 0.0011	$\sigma_8(0.61)$	0.5861 ± 0.0044
$\sigma_8/h^{0.5}$	0.956 ± 0.023	$100\theta_{\text{D}}$	0.1592 ± 0.0010	$f\sigma_8(2.33)$	$0.2964^{+0.0022}_{-0.0024}$
$r_{\text{drag}}h$	102.0 ± 2.6	z_{eq}	3331 ± 52	$\sigma_8(2.33)$	0.3065 ± 0.0028
$\langle d^2 \rangle^{1/2}$	2.396 ± 0.046	k_{eq}	0.01017 ± 0.00016	χ^2_{lensing}	9.4 ± 1.5
z_{re}	< 7.45	$100\theta_{\text{eq}}$	0.829 ± 0.012	χ^2_{simall}	396.18 ± 0.94
$10^9 A_{\text{s}}$	$2.122^{+0.029}_{-0.035}$	$100\theta_{\text{s,eq}}$	0.4565 ± 0.0056	χ^2_{CamSpec}	1891.6 ± 2.9
$10^9 A_{\text{s}}e^{-2\tau}$	1.907 ± 0.018	$H(0.15)$	$74.5^{+1.6}_{-1.8}$	χ^2_{prior}	11.0 ± 1.4
D_{40}	1247 ± 27	$D_{\text{M}}(0.15)$	626 ± 16	χ^2_{CMB}	2297.2 ± 3.3

$$\bar{\chi}^2_{\text{eff}} = 2308.23; R - 1 = 0.00344$$

2.29 base_CamSpecHM_TE_lowE_lensing_BAO_CookeDH

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_{\text{b}}h^2$	0.022416	0.02240 ± 0.00021	D_{1420}	825.5	825.3 ± 9.8	$H(0.61)$	95.551	95.54 ± 0.24
$\Omega_{\text{c}}h^2$	0.11819	0.1182 ± 0.0011	D_{2000}	233.56	233.5 ± 3.6	$D_{\text{M}}(0.61)$	2293.6	2294 ± 11
$100\theta_{\text{MC}}$	1.041295	1.04127 ± 0.00047	$n_{\text{s},0.002}$	0.9746	0.9749 ± 0.0098	$H(2.33)$	235.45	235.43 ± 0.71
τ	0.0520	0.0525 ± 0.0073	Y_{P}	0.245414	0.245405 ± 0.000082	$D_{\text{M}}(2.33)$	5752.6	5753 ± 12
$\ln(10^{10}A_{\text{s}})$	3.0401	3.041 ± 0.015	$Y_{\text{P}}^{\text{BBN}}$	0.246740	0.246732 ± 0.000082	$f\sigma_{\text{s}}(0.15)$	0.4499	0.4501 ± 0.0062
n_{s}	0.9746	0.9749 ± 0.0098	$10^5 D/H$	2.5769	2.580 ± 0.038	$\sigma_{\text{s}}(0.15)$	0.7460	0.7462 ± 0.0062
y_{cal}	1.00021	1.0001 ± 0.0024	Age/Gyr	13.7739	13.776 ± 0.028	$f\sigma_{\text{s}}(0.38)$	0.4698	0.4700 ± 0.0052
H_0	68.156	68.15 ± 0.50	z_*	1089.704	1089.72 ± 0.30	$\sigma_{\text{s}}(0.38)$	0.6621	0.6623 ± 0.0055
Ω_{Λ}	0.6959	0.6958 ± 0.0064	r_*	144.865	144.88 ± 0.29	$f\sigma_{\text{s}}(0.51)$	0.46926	0.4694 ± 0.0048
Ω_{m}	0.3041	0.3042 ± 0.0064	$100\theta_*$	1.041476	1.04145 ± 0.00047	$\sigma_{\text{s}}(0.51)$	0.6199	0.6201 ± 0.0052
$\Omega_{\text{m}}h^2$	0.14125	0.1412 ± 0.0011	$D_{\text{M}}(z_*)/\text{Gpc}$	13.9096	13.911 ± 0.029	$f\sigma_{\text{s}}(0.61)$	0.46491	0.4651 ± 0.0044
$\Omega_{\text{m}}h^3$	0.096272	0.09624 ± 0.00048	z_{drag}	1059.895	1059.88 ± 0.47	$\sigma_{\text{s}}(0.61)$	0.59007	0.5903 ± 0.0049
σ_{s}	0.8065	0.8068 ± 0.0068	r_{drag}	147.522	147.54 ± 0.33	$f\sigma_{\text{s}}(2.33)$	0.29782	0.2979 ± 0.0025
S_{s}	0.8119	0.812 ± 0.012	k_{D}	0.140450	0.14042 ± 0.00044	$\sigma_{\text{s}}(2.33)$	0.30737	0.3075 ± 0.0027
$\sigma_{\text{s}}\Omega_{\text{m}}^{0.5}$	0.4447	0.4449 ± 0.0065	$100\theta_{\text{D}}$	0.160811	0.16083 ± 0.00028	χ_{lensing}^2	8.95	9.6 ± 1.1
$\sigma_{\text{s}}\Omega_{\text{m}}^{0.25}$	0.5989	0.5991 ± 0.0064	z_{eq}	3360.1	3359 ± 26	χ_{small}^2	395.71	396.7 ± 1.3
$\sigma_{\text{s}}/h^{0.5}$	0.9769	0.9773 ± 0.0094	k_{eq}	0.010255	0.010254 ± 0.000078	χ_{CamSpec}^2	2576.42	2580.2 ± 2.7
$r_{\text{drag}}h$	100.55	100.54 ± 0.85	$100\theta_{\text{eq}}$	0.82132	0.8214 ± 0.0048	$\chi_{6\text{DF}}^2$	0.0002	0.030 ± 0.043
$\langle d^2 \rangle^{1/2}$	2.4024	2.403 ± 0.028	$100\theta_{\text{s,eq}}$	0.45354	0.4536 ± 0.0025	χ_{MGS}^2	1.75	1.80 ± 0.52
z_{re}	7.41	7.44 ± 0.75	$H(0.15)$	73.360	73.35 ± 0.44	χ_{DR12BAO}^2	3.439	3.91 ± 0.79
$10^9 A_{\text{s}}$	2.0907	2.092 ± 0.031	$D_{\text{M}}(0.15)$	636.61	636.7 ± 4.2	χ_{prior}^2	10.22	11.3 ± 1.4
$10^9 A_{\text{s}}e^{-2\tau}$	1.8842	1.884 ± 0.013	$H(0.38)$	83.344	83.33 ± 0.33	χ_{CMB}^2	2981.08	2986.5 ± 3.2
D_{40}	1212.4	1212 ± 24	$D_{\text{M}}(0.38)$	1520.0	1520.3 ± 8.6	χ_{BAO}^2	5.187	5.74 ± 0.77
D_{220}	5733	5729 ± 56	$H(0.51)$	89.988	89.98 ± 0.28			
D_{810}	2554.2	2553 ± 20	$D_{\text{M}}(0.51)$	1970.3	1971 ± 10			

Best-fit $\chi_{\text{eff}}^2 = 2996.49$; $\bar{\chi}_{\text{eff}}^2 = 3003.53$; $R - 1 = 0.00799$

χ_{eff}^2 : BAO - 6DF: 0.00 MGS: 1.75 DR12BAO: 3.44 CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p_teb_consext8: 8.95 small_100x143_offlike5_EE_Aplanck_B: 395.71 CamSpec like_10.7HM_1400_unified: 2576.42

2.30 base_CamSpecHM_EE_lowE_lensing_BAO_CookeDH

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022686	0.02268 ± 0.00037	D_{1420}	825.9	827 ± 10	$H(0.61)$	95.368	95.36 ± 0.36
$\Omega_c h^2$	0.11790	0.1179 ± 0.0013	D_{2000}	233.61	233.8 ± 3.6	$D_M(0.61)$	2300.1	2301 ± 15
$100\theta_{MC}$	1.03957	1.03953 ± 0.00077	$n_{s,0.002}$	0.9678	0.9683 ± 0.0096	$H(2.33)$	235.36	235.37 ± 0.80
τ	0.0499	0.0491 ± 0.0077	Y_P	0.245511	$0.24552^{+0.00014}_{-0.00016}$	$D_M(2.33)$	5762.5	5763 ± 19
$\ln(10^{10} A_s)$	3.0408	3.040 ± 0.015	Y_P^{BBN}	0.246838	$0.24684^{+0.00014}_{-0.00016}$	$f\sigma_8(0.15)$	0.4482	0.4484 ± 0.0074
n_s	0.9678	0.9683 ± 0.0096	$10^5 D/H$	2.529	2.531 ± 0.066	$\sigma_8(0.15)$	0.7407	0.7405 ± 0.0067
y_{cal}	0.99971	0.9999 ± 0.0025	Age/Gyr	13.7970	13.799 ± 0.044	$f\sigma_8(0.38)$	0.4675	0.4676 ± 0.0062
H_0	67.90	67.88 ± 0.63	z_*	1089.35	1089.36 ± 0.50	$\sigma_8(0.38)$	0.6571	0.6569 ± 0.0058
Ω_Λ	0.6937	0.6933 ± 0.0076	r_*	144.733	144.73 ± 0.34	$f\sigma_8(0.51)$	0.4668	0.4667 ± 0.0056
Ω_m	0.3063	0.3067 ± 0.0076	$100\theta_*$	1.03972	1.03968 ± 0.00077	$\sigma_8(0.51)$	0.6152	0.6150 ± 0.0054
$\Omega_m h^2$	0.14123	0.1413 ± 0.0012	$D_M(z_*)/\text{Gpc}$	13.9204	13.921 ± 0.036	$f\sigma_8(0.61)$	0.4622	0.4622 ± 0.0052
$\Omega_m h^3$	0.09590	0.09588 ± 0.00073	z_{drag}	1060.51	1060.50 ± 0.82	$\sigma_8(0.61)$	0.58550	0.5853 ± 0.0051
σ_8	0.8010	0.8008 ± 0.0074	r_{drag}	147.298	147.30 ± 0.42	$f\sigma_8(2.33)$	0.29542	0.2953 ± 0.0026
S_8	0.8093	0.810 ± 0.014	k_D	0.14089	0.14088 ± 0.00066	$\sigma_8(2.33)$	0.30479	0.3047 ± 0.0027
$\sigma_8 \Omega_m^{0.5}$	0.4433	0.4435 ± 0.0079	$100\theta_D$	0.160187	0.16020 ± 0.00050	$\chi^2_{lensing}$	8.37	9.1 ± 1.1
$\sigma_8 \Omega_m^{0.25}$	0.5959	0.5959 ± 0.0077	z_{eq}	3359.6	3360 ± 28	χ^2_{small}	395.66	396.7 ± 1.4
$\sigma_8/h^{0.5}$	0.9720	0.972 ± 0.011	k_{eq}	0.010254	0.010256 ± 0.000086	$\chi^2_{CamSpec}$	1888.53	1891.7 ± 2.8
$r_{drag} h$	100.02	99.98 ± 0.95	$100\theta_{eq}$	0.8208	0.8207 ± 0.0052	χ^2_{6DF}	0.0098	0.049 ± 0.066
$\langle d^2 \rangle^{1/2}$	2.4164	2.415 ± 0.030	$100\theta_{s,eq}$	0.45303	0.4530 ± 0.0027	χ^2_{MGS}	1.41	1.46 ± 0.54
z_{re}	7.12	$7.03^{+0.83}_{-0.70}$	$H(0.15)$	73.12	73.10 ± 0.56	$\chi^2_{DR12BAO}$	4.12	4.8 ± 1.5
$10^9 A_s$	2.0922	2.090 ± 0.031	$D_M(0.15)$	638.8	639.1 ± 5.4	χ^2_{prior}	10.99	12.5 ± 2.2
$10^9 A_s e^{-2\tau}$	1.8935	1.895 ± 0.015	$H(0.38)$	83.136	83.12 ± 0.45	χ^2_{CMB}	2292.56	2297.5 ± 3.4
D_{40}	1237.3	1237 ± 27	$D_M(0.38)$	1524.8	1525 ± 11	χ^2_{BAO}	5.53	6.3 ± 1.2
D_{220}	5829	5829 ± 87	$H(0.51)$	89.794	89.78 ± 0.39			
D_{810}	2561.5	2563 ± 22	$D_M(0.51)$	1976.0	1977 ± 13			

Best-fit $\chi^2_{eff} = 2309.08$; $\bar{\chi}^2_{eff} = 2316.30$; $R - 1 = 0.00893$
 χ^2_{eff} : BAO - 6DF: 0.01 MGS: 1.41 DR12BAO: 4.12 CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p_teb_consext8: 8.37 small_100x143_offlike5_EE_Aplanck_B: 395.66 CamSpec like_10.7HM_1400_unified: 1888.53

2.31 base_CamSpecHM_TE_lowE_lensing_CookeDH

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_{\text{b}}h^2$	0.022406	0.02242 ± 0.00023	D_{220}	5730	5729 ± 60	$H(0.38)$	83.354	83.40 ± 0.47
$\Omega_{\text{c}}h^2$	0.11806	0.1180 ± 0.0016	D_{810}	2554.0	2554 ± 21	$D_{\text{M}}(0.38)$	1519.6	1519 ± 12
$100\theta_{\text{MC}}$	1.041261	1.04129 ± 0.00049	D_{1420}	825.6	826 ± 11	$H(0.51)$	89.991	90.03 ± 0.38
τ	0.0521	0.0527 ± 0.0080	D_{2000}	233.60	233.7 ± 3.9	$D_{\text{M}}(0.51)$	1969.8	1969 ± 15
$\ln(10^{10}A_{\text{s}})$	3.0398	3.041 ± 0.016	$n_{\text{s},0.002}$	0.9752	0.976 ± 0.011	$H(0.61)$	95.548	95.58 ± 0.32
n_{s}	0.9752	0.976 ± 0.011	Y_{P}	0.245410	$0.245410^{+0.000094}_{-0.000083}$	$D_{\text{M}}(0.61)$	2293.2	2292 ± 16
y_{cal}	1.00019	1.0002 ± 0.0025	$Y_{\text{P}}^{\text{BBN}}$	0.246736	$0.246737^{+0.000094}_{-0.000083}$	$H(2.33)$	235.35	235.30 ± 0.99
H_0	68.19	68.25 ± 0.74	$10^5 D/H$	2.5787	2.578 ± 0.042	$D_{\text{M}}(2.33)$	5753.0	5752 ± 15
Ω_{Λ}	0.6965	0.6971 ± 0.0096	Age/Gyr	13.7753	13.773 ± 0.034	$f\sigma_8(0.15)$	0.4493	0.4489 ± 0.0082
Ω_{m}	0.3035	0.3029 ± 0.0096	z_*	1089.704	1089.68 ± 0.37	$\sigma_8(0.15)$	0.7457	0.7459 ± 0.0064
$\Omega_{\text{m}}h^2$	0.14111	0.1410 ± 0.0015	r_*	144.907	144.93 ± 0.38	$f\sigma_8(0.38)$	0.4693	0.4691 ± 0.0065
$\Omega_{\text{m}}h^3$	0.096215	0.09623 ± 0.00048	$100\theta_*$	1.041445	1.04147 ± 0.00048	$\sigma_8(0.38)$	0.6619	0.6621 ± 0.0057
σ_8	0.8061	0.8062 ± 0.0071	$D_{\text{M}}(z_*)/\text{Gpc}$	13.9141	13.916 ± 0.037	$f\sigma_8(0.51)$	0.4689	0.4687 ± 0.0057
S_8	0.8108	0.810 ± 0.016	z_{drag}	1059.895	1059.90 ± 0.49	$\sigma_8(0.51)$	0.6198	0.6200 ± 0.0054
$\sigma_8\Omega_{\text{m}}^{0.5}$	0.4441	0.4437 ± 0.0088	r_{drag}	147.565	147.58 ± 0.40	$f\sigma_8(0.61)$	0.4646	0.4644 ± 0.0051
$\sigma_8\Omega_{\text{m}}^{0.25}$	0.5983	0.5981 ± 0.0079	k_{D}	0.140393	0.14038 ± 0.00049	$\sigma_8(0.61)$	0.5899	0.5902 ± 0.0052
$\sigma_8/h^{0.5}$	0.9762	0.976 ± 0.011	$100\theta_{\text{D}}$	0.160824	0.16082 ± 0.00029	$f\sigma_8(2.33)$	0.29778	0.2979 ± 0.0027
$r_{\text{drag}}h$	100.62	100.7 ± 1.3	z_{eq}	3356.6	3354 ± 37	$\sigma_8(2.33)$	0.30735	0.3076 ± 0.0030
$\langle d^2 \rangle^{1/2}$	2.3996	2.399 ± 0.033	k_{eq}	0.010245	0.01024 ± 0.00011	χ_{lensing}^2	9.01	9.7 ± 1.3
z_{re}	7.41	7.45 ± 0.80	$100\theta_{\text{eq}}$	0.8219	0.8224 ± 0.0070	χ_{small}^2	395.72	396.8 ± 1.5
$10^9 A_{\text{s}}$	2.0901	2.092 ± 0.033	$100\theta_{\text{s,eq}}$	0.45385	0.4541 ± 0.0036	χ_{CamSpec}^2	2576.36	2580.6 ± 2.9
$10^9 A_{\text{s}}e^{-2\tau}$	1.8833	1.883 ± 0.014	$H(0.15)$	73.38	73.44 ± 0.64	χ_{prior}^2	10.20	11.4 ± 1.5
D_{40}	1210.5	1210 ± 26	$D_{\text{M}}(0.15)$	636.4	635.9 ± 6.2	χ_{CMB}^2	2981.09	2987.1 ± 3.5

Best-fit $\chi_{\text{eff}}^2 = 2991.29$; $\bar{\chi}_{\text{eff}}^2 = 2998.52$; $R - 1 = 0.00490$

χ_{eff}^2 : CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p_teb_consext8: 9.01 small_100x143_offlike5_EE_Aplanck_B: 395.72 CamSpec like_10.7HM_1400_unified: 2576.36

2.32 base_CamSpecHM_EE_lowE_lensing_CookeDH

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_{\text{b}}h^2$	0.022495	0.02251 ± 0.00043	D_{220}	5810	5809 ± 91	$H(0.38)$	82.69	82.72 ± 0.70
$\Omega_{\text{c}}h^2$	0.11913	0.1191 ± 0.0020	D_{810}	2556.5	2558 ± 23	$D_{\text{M}}(0.38)$	1536.6	1536 ± 18
$100\theta_{\text{MC}}$	1.03932	1.03936 ± 0.00079	D_{1420}	822.4	823 ± 11	$H(0.51)$	89.43	89.46 ± 0.58
τ	0.0479	$0.0469^{+0.0083}_{-0.0075}$	D_{2000}	232.23	232.5 ± 4.0	$D_{\text{M}}(0.51)$	1990.0	1989 ± 22
$\ln(10^{10}A_{\text{s}})$	3.0378	3.036 ± 0.016	$n_{\text{s},0.002}$	0.9637	0.965 ± 0.011	$H(0.61)$	95.06	95.09 ± 0.50
n_{s}	0.9637	0.965 ± 0.011	Y_{P}	0.245443	0.24545 ± 0.00018	$D_{\text{M}}(0.61)$	2315.2	2314 ± 23
y_{cal}	0.99982	0.9998 ± 0.0025	$Y_{\text{P}}^{\text{BBN}}$	0.246769	0.24677 ± 0.00018	$H(2.33)$	235.96	236.0 ± 1.1
H_0	67.23	67.3 ± 1.0	$10^5 D/H$	2.563	$2.563^{+0.074}_{-0.084}$	$D_{\text{M}}(2.33)$	5776.8	5776 ± 25
Ω_{Λ}	0.6852	0.685 ± 0.013	Age/Gyr	13.829	13.826 ± 0.057	$f\sigma_8(0.15)$	0.4550	0.454 ± 0.011
Ω_{m}	0.3148	0.315 ± 0.013	z_*	1089.69	$1089.68^{+0.63}_{-0.70}$	$\sigma_8(0.15)$	0.7420	0.7413 ± 0.0067
$\Omega_{\text{m}}h^2$	0.14227	0.1422 ± 0.0018	r_*	144.562	144.56 ± 0.41	$f\sigma_8(0.38)$	0.4724	0.4718 ± 0.0085
$\Omega_{\text{m}}h^3$	0.09565	0.09568 ± 0.00077	$100\theta_*$	1.03950	1.03953 ± 0.00079	$\sigma_8(0.38)$	0.6573	0.6568 ± 0.0057
σ_8	0.8033	0.8025 ± 0.0078	$D_{\text{M}}(z_*)/\text{Gpc}$	13.9069	13.907 ± 0.041	$f\sigma_8(0.51)$	0.4706	0.4700 ± 0.0072
S_8	0.8228	0.822 ± 0.022	z_{drag}	1060.16	1060.18 ± 0.91	$\sigma_8(0.51)$	0.6150	0.6145 ± 0.0054
$\sigma_8\Omega_{\text{m}}^{0.5}$	0.4507	0.450 ± 0.012	r_{drag}	147.184	147.18 ± 0.44	$f\sigma_8(0.61)$	0.4655	0.4649 ± 0.0063
$\sigma_8\Omega_{\text{m}}^{0.25}$	0.6017	0.601 ± 0.010	k_{D}	0.14086	0.14087 ± 0.00065	$\sigma_8(0.61)$	0.5851	0.5846 ± 0.0051
$\sigma_8/h^{0.5}$	0.9797	0.979 ± 0.014	$100\theta_{\text{D}}$	0.16037	0.16037 ± 0.00055	$f\sigma_8(2.33)$	0.29489	0.2947 ± 0.0027
$r_{\text{drag}}h$	98.95	99.0 ± 1.6	z_{eq}	3384.3	3384 ± 43	$\sigma_8(2.33)$	0.30388	0.3037 ± 0.0030
$\langle d^2 \rangle^{1/2}$	2.4349	2.430 ± 0.036	k_{eq}	0.010329	0.01033 ± 0.00013	χ_{lensing}^2	8.77	9.6 ± 1.5
z_{re}	6.98	$6.84^{+0.91}_{-0.73}$	$100\theta_{\text{eq}}$	0.8156	0.8159 ± 0.0084	χ_{small}^2	395.72	396.8 ± 1.5
$10^9 A_{\text{s}}$	2.0859	2.082 ± 0.033	$100\theta_{\text{s,eq}}$	0.45045	0.4506 ± 0.0042	χ_{CamSpec}^2	1888.23	1891.6 ± 2.7
$10^9 A_{\text{s}}e^{-2\tau}$	1.8953	1.896 ± 0.015	$H(0.15)$	72.54	72.58 ± 0.90	χ_{prior}^2	10.38	12.2 ± 2.0
D_{40}	1242.9	1241 ± 27	$D_{\text{M}}(0.15)$	644.6	644.4 ± 9.0	χ_{CMB}^2	2292.73	2298.0 ± 3.3

Best-fit $\chi_{\text{eff}}^2 = 2303.11$; $\bar{\chi}_{\text{eff}}^2 = 2310.16$; $R - 1 = 0.00957$

χ_{eff}^2 : CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p_teb_consext8: 8.77 small_100x143_offlike5_EE_Aplanck_B: 395.72 CamSpec like_10.7HM_1400_unified: 1888.23

2.33 base_CamSpecHM_TT_lowl

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022525	0.02242 ± 0.00028	$\sigma_8 \Omega_m^{0.5}$	0.4693	0.468 ± 0.014	$100\theta_{s,eq}$	0.4563	0.4547 ± 0.0058
$\Omega_c h^2$	0.11691	0.1177 ± 0.0026	$\sigma_8 \Omega_m^{0.25}$	0.6359	0.631 ± 0.016	$H(0.15)$	73.84	73.5 ± 1.0
$100\theta_{MC}$	1.04132	1.04122 ± 0.00053	$\sigma_8/h^{0.5}$	1.0394	1.030 ± 0.026	$D_M(0.15)$	631.9	635 ± 10
τ	0.1282	$0.113^{+0.036}_{-0.032}$	$r_{drag}h$	101.52	100.9 ± 2.1	$H(0.38)$	83.69	83.44 ± 0.77
$\ln(10^{10} A_s)$	3.183	$3.154^{+0.068}_{-0.060}$	$\langle d^2 \rangle^{1/2}$	2.560	2.542 ± 0.061	$D_M(0.38)$	1510.7	1518 ± 20
n_s	0.9775	0.9734 ± 0.0081	z_{re}	13.98	$12.7^{+3.0}_{-2.1}$	$H(0.51)$	90.26	90.05 ± 0.61
y_{cal}	1.00018	1.0003 ± 0.0025	$10^9 A_s$	2.411	2.35 ± 0.15	$D_M(0.51)$	1959.3	1967 ± 24
A_{100}^{PS}	219.3	233 ± 25	$10^9 A_s e^{-2\tau}$	1.8656	1.868 ± 0.015	$H(0.61)$	95.758	95.60 ± 0.49
A_{143}^{PS}	45.0	36 ± 9	D_{40}	1234.6	1237 ± 16	$D_M(0.61)$	2281.8	2291 ± 26
A_{217}^{PS}	109.7	104 ± 10	D_{220}	5706.2	5708 ± 41	$H(2.33)$	234.71	235.1 ± 1.5
A_{217}^{CIB}	37.6	38^{+7}_{-8}	D_{810}	2529.3	2528 ± 14	$D_M(2.33)$	5744.2	5752 ± 22
A_{143}^{tSZ}	6.20	$4.0^{+2.0}_{-2.4}$	D_{1420}	817.0	815.1 ± 5.2	$f\sigma_8(0.15)$	0.4754	0.473 ± 0.013
$r_{143 \times 217}^{PS}$	0.807	0.67 ± 0.13	D_{2000}	232.68	231.6 ± 2.2	$\sigma_8(0.15)$	0.7978	0.788 ± 0.022
$r_{143 \times 217}^{CIB}$	0.700	$0.52^{+0.35}_{-0.25}$	$n_{s,0.002}$	0.9775	0.9734 ± 0.0081	$f\sigma_8(0.38)$	0.4984	0.495 ± 0.013
$\xi^{tSZ \times CIB}$	0.96	—	Y_P	0.245453	0.24541 ± 0.00011	$\sigma_8(0.38)$	0.7089	0.700 ± 0.021
A^{kSZ}	0.06	< 5.56	Y_P^{BBN}	0.246780	0.24674 ± 0.00011	$f\sigma_8(0.51)$	0.4988	0.495 ± 0.013
A_{100}^{dust}	1.006	1.01 ± 0.20	$10^5 D/H$	2.557	2.577 ± 0.051	$\sigma_8(0.51)$	0.6642	0.655 ± 0.020
A_{143}^{dust}	0.962	0.96 ± 0.18	Age/Gyr	13.7563	13.773 ± 0.048	$f\sigma_8(0.61)$	0.4948	0.490 ± 0.013
A_{217}^{dust}	0.978	0.98 ± 0.10	z_*	1089.46	1089.66 ± 0.52	$\sigma_8(0.61)$	0.6324	0.624 ± 0.019
$A_{143 \times 217}^{dust}$	1.030	1.02 ± 0.16	r_*	145.12	144.99 ± 0.55	$f\sigma_8(2.33)$	0.3195	0.315 ± 0.010
c_{100}	0.99783	0.9975 ± 0.0011	$100\theta_*$	1.04150	1.04140 ± 0.00051	$\sigma_8(2.33)$	0.3302	0.325 ± 0.011
c_{217}	1.00070	1.0009 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.9335	13.922 ± 0.050	f_{2000}^{143}	25.95	27 ± 4
H_0	68.72	68.3 ± 1.2	z_{drag}	1060.09	1059.89 ± 0.53	f_{2000}^{217}	103.94	105.3 ± 2.4
Ω_Λ	0.7034	$0.698^{+0.016}_{-0.015}$	r_{drag}	147.74	147.65 ± 0.53	$f_{2000}^{143 \times 217}$	29.32	30.3 ± 2.6
Ω_m	0.2966	$0.302^{+0.015}_{-0.016}$	k_D	0.14030	0.14032 ± 0.00053	χ_{lowl}^2	24.50	24.8 ± 1.7
$\Omega_m h^2$	0.14008	0.1408 ± 0.0024	$100\theta_D$	0.160707	0.16081 ± 0.00029	$\chi_{CamSpec}^2$	7046.4	7060.1 ± 5.5
$\Omega_m h^3$	0.096258	0.09616 ± 0.00048	z_{eq}	3332	3349 ± 57	χ_{prior}^2	1.41	7.4 ± 3.3
σ_8	0.8616	0.851 ± 0.023	k_{eq}	0.010170	0.01022 ± 0.00018	χ_{CMB}^2	7070.9	7084.8 ± 5.4
S_8	0.8568	0.854 ± 0.025	$100\theta_{eq}$	0.8268	0.824 ± 0.011			

Best-fit $\chi_{eff}^2 = 7072.29$; $\bar{\chi}_{eff}^2 = 7092.24$; $R - 1 = 0.00797$

χ_{eff}^2 : CMB - commander_dx12_v3_2.29: 24.50 CamSpec like_10.7HM: 7046.38

2.34 base_CamSpecHM_TTTEE_lowl

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022467	0.02243 ± 0.00018	S_8	0.8498	0.846 ± 0.020	$100\theta_{s,eq}$	0.45334	0.4530 ± 0.0034
$\Omega_c h^2$	0.11820	0.1184 ± 0.0016	$\sigma_8 \Omega_m^{0.5}$	0.4655	0.463 ± 0.011	$H(0.15)$	73.32	73.23 ± 0.62
$100\theta_{MC}$	1.041045	1.04102 ± 0.00033	$\sigma_8 \Omega_m^{0.25}$	0.6265	0.623 ± 0.015	$D_M(0.15)$	637.0	637.9 ± 6.1
τ	0.1012	0.094 ± 0.028	$\sigma_8/h^{0.5}$	1.0219	1.015 ± 0.024	$H(0.38)$	83.314	83.25 ± 0.46
$\ln(10^{10} A_s)$	3.132	3.117 ± 0.054	$r_{drag} h$	100.44	100.3 ± 1.2	$D_M(0.38)$	1520.8	1523 ± 12
n_s	0.9723	0.9707 ± 0.0055	$\langle d^2 \rangle^{1/2}$	2.521	2.508 ± 0.056	$H(0.51)$	89.963	89.91 ± 0.37
y_{cal}	1.00023	1.0002 ± 0.0024	z_{re}	11.89	$11.2^{+2.6}_{-2.0}$	$D_M(0.51)$	1971.2	1973 ± 14
A_{100}^{PS}	221.6	234 ± 25	$10^9 A_s$	2.293	2.26 ± 0.12	$H(0.61)$	95.530	$95.48^{+0.28}_{-0.31}$
A_{143}^{PS}	48.3	37 ± 9	$10^9 A_s e^{-2\tau}$	1.8726	1.872 ± 0.012	$D_M(0.61)$	2294.6	2297 ± 16
A_{217}^{PS}	108.5	104 ± 10	D_{40}	1231.7	1233 ± 14	$H(2.33)$	235.48	235.56 ± 0.91
A_{217}^{CIB}	38.8	38 ± 7	D_{220}	5716.2	5716 ± 38	$D_M(2.33)$	5753.6	5756 ± 13
A_{143}^{tSZ}	6.38	$4.0^{+2.0}_{-2.4}$	D_{810}	2532.6	2531 ± 13	$f\sigma_8(0.15)$	0.4708	0.468 ± 0.011
$r_{143 \times 217}^{PS}$	0.768	0.67 ± 0.13	D_{1420}	816.86	815.5 ± 4.7	$\sigma_8(0.15)$	0.7800	0.774 ± 0.020
$r_{143 \times 217}^{CIB}$	0.842	$0.52^{+0.36}_{-0.24}$	D_{2000}	231.94	231.3 ± 1.8	$f\sigma_8(0.38)$	0.4915	0.489 ± 0.011
$\xi^{tSZ \times CIB}$	0.96	—	$n_{s,0.002}$	0.9723	0.9707 ± 0.0055	$\sigma_8(0.38)$	0.6922	0.687 ± 0.018
A^{kSZ}	0.01	< 5.50	Y_P	0.245433	0.245416 ± 0.000071	$f\sigma_8(0.51)$	0.4909	0.488 ± 0.011
A_{100}^{dust}	1.000	1.00 ± 0.20	Y_P^{BBN}	0.246759	0.246743 ± 0.000072	$\sigma_8(0.51)$	0.6481	0.643 ± 0.017
A_{143}^{dust}	0.960	0.95 ± 0.18	$10^5 D/H$	2.5677	2.575 ± 0.034	$f\sigma_8(0.61)$	0.4863	0.483 ± 0.011
A_{217}^{dust}	0.993	0.98 ± 0.10	Age/Gyr	13.7762	13.781 ± 0.029	$\sigma_8(0.61)$	0.6169	0.612 ± 0.016
$A_{143 \times 217}^{dust}$	1.008	1.01 ± 0.16	z_*	1089.641	1089.70 ± 0.33	$f\sigma_8(2.33)$	0.3114	0.3090 ± 0.0084
c_{100}	0.99782	0.9975 ± 0.0011	r_*	144.824	144.81 ± 0.33	$\sigma_8(2.33)$	0.3213	0.3188 ± 0.0089
c_{217}	1.00104	1.0009 ± 0.0016	$100\theta_*$	1.041222	1.04120 ± 0.00032	f_{2000}^{143}	27.38	28 ± 3
c_{TE}	0.9932	0.9938 ± 0.0053	$D_M(z_*)/\text{Gpc}$	13.9091	13.908 ± 0.031	f_{2000}^{217}	104.79	105.5 ± 2.1
c_{EE}	0.9906	0.9907 ± 0.0050	z_{drag}	1060.047	1059.96 ± 0.36	$f_{2000}^{143 \times 217}$	30.07	30.6 ± 2.3
H_0	68.11	68.01 ± 0.72	r_{drag}	147.460	147.46 ± 0.33	χ_{lowl}^2	23.92	24.1 ± 1.4
Ω_Λ	0.6954	0.6940 ± 0.0095	k_D	0.140550	0.14053 ± 0.00034	$\chi_{CamSpec}^2$	11496.2	11512.2 ± 5.7
Ω_m	0.3046	0.3060 ± 0.0095	$100\theta_D$	0.160702	0.16075 ± 0.00021	χ_{prior}^2	1.90	7.8 ± 3.4
$\Omega_m h^2$	0.14131	0.1415 ± 0.0015	z_{eq}	3361.4	3365 ± 35	χ_{CMB}^2	11520.1	11536.3 ± 5.6
$\Omega_m h^3$	0.096250	0.09620 ± 0.00032	k_{eq}	0.010259	0.01027 ± 0.00011			
σ_8	0.8434	0.837 ± 0.021	$100\theta_{eq}$	0.8210	0.8203 ± 0.0067			

Best-fit $\chi_{eff}^2 = 11522.05$; $\bar{\chi}_{eff}^2 = 11544.10$; $R - 1 = 0.00836$

χ_{eff}^2 : CMB - commander_dx12_v3_2_29: 23.92 CamSpec like_10.7HM_1400_unified: 11496.23

2.35 base_CamSpecHM_TT_lowl_lowE_lensing

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_{\text{b}}h^2$	0.022129	0.02215 ± 0.00020	$\sigma_8\Omega_{\text{m}}^{0.25}$	0.6087	0.6088 ± 0.0078	$D_{\text{M}}(0.15)$	646.2	646.1 ± 6.1
$\Omega_{\text{c}}h^2$	0.12025	0.1203 ± 0.0016	$\sigma_8/h^{0.5}$	0.9897	0.990 ± 0.011	$H(0.38)$	82.611	82.63 ± 0.45
$100\theta_{\text{MC}}$	1.040846	1.04085 ± 0.00045	$r_{\text{drag}}h$	98.75	98.8 ± 1.2	$D_{\text{M}}(0.38)$	1539.4	1539 ± 12
τ	0.0525	0.0527 ± 0.0078	$\langle d^2 \rangle^{1/2}$	2.4456	2.446 ± 0.025	$H(0.51)$	89.391	89.41 ± 0.36
$\ln(10^{10}A_{\text{s}})$	3.0388	3.039 ± 0.015	z_{re}	7.55	7.55 ± 0.79	$D_{\text{M}}(0.51)$	1993.1	1993 ± 14
n_{s}	0.96381	0.9639 ± 0.0049	$10^9 A_{\text{s}}$	2.0881	2.090 ± 0.031	$H(0.61)$	95.057	95.08 ± 0.29
y_{cal}	1.00036	1.0004 ± 0.0025	$10^9 A_{\text{s}}e^{-2\tau}$	1.8799	1.880 ± 0.011	$D_{\text{M}}(0.61)$	2318.4	2318 ± 15
A_{100}^{PS}	242.2	243 ± 25	D_{40}	1228.9	1229 ± 13	$H(2.33)$	236.48	236.50 ± 0.95
A_{143}^{PS}	39.7	41 ± 8	D_{220}	5703.6	5706 ± 41	$D_{\text{M}}(2.33)$	5775.5	5775 ± 14
A_{217}^{PS}	99.6	101 ± 10	D_{810}	2532.9	2533 ± 14	$f\sigma_8(0.15)$	0.4612	0.4612 ± 0.0082
A_{217}^{CIB}	44.4	41 ± 7	D_{1420}	813.7	814.0 ± 5.2	$\sigma_8(0.15)$	0.7482	0.7483 ± 0.0057
A_{143}^{tSZ}	5.12	$3.7_{-2.6}^{+1.7}$	D_{2000}	229.35	229.5 ± 1.8	$f\sigma_8(0.38)$	0.4780	0.4781 ± 0.0064
$r_{143 \times 217}^{\text{PS}}$	0.571	0.65 ± 0.13	$n_{\text{s},0.002}$	0.96381	0.9639 ± 0.0049	$\sigma_8(0.38)$	0.66249	0.6626 ± 0.0049
$r_{143 \times 217}^{\text{CIB}}$	0.713	$0.58_{-0.12}^{+0.42}$	Y_{P}	0.245296	$0.245300_{-0.000078}^{+0.000097}$	$f\sigma_8(0.51)$	0.4758	0.4759 ± 0.0054
$\xi^{\text{tSZ} \times \text{CIB}}$	0.06	—	$Y_{\text{P}}^{\text{BBN}}$	0.246622	$0.246626_{-0.000078}^{+0.000098}$	$\sigma_8(0.51)$	0.61968	0.6198 ± 0.0046
A^{kSZ}	2.5	—	$10^5 D/\text{H}$	2.6315	2.628 ± 0.039	$f\sigma_8(0.61)$	0.47031	0.4704 ± 0.0048
A_{100}^{dust}	1.011	1.01 ± 0.20	Age/Gyr	13.8250	13.823 ± 0.032	$\sigma_8(0.61)$	0.58945	0.5896 ± 0.0045
A_{143}^{dust}	0.989	0.98 ± 0.17	z_*	1090.248	1090.23 ± 0.34	$f\sigma_8(2.33)$	0.29694	0.2970 ± 0.0023
A_{217}^{dust}	0.962	0.97 ± 0.10	r_*	144.550	144.54 ± 0.36	$\sigma_8(2.33)$	0.30585	0.3059 ± 0.0026
$A_{143 \times 217}^{\text{dust}}$	1.008	1.03 ± 0.16	$100\theta_*$	1.041058	1.04105 ± 0.00045	f_{2000}^{143}	31.37	30.9 ± 3.0
c_{100}	0.99746	0.9975 ± 0.0011	$D_{\text{M}}(z_*)/\text{Gpc}$	13.8849	13.884 ± 0.034	f_{2000}^{217}	107.78	107.6 ± 2.0
c_{217}	1.00134	1.0012 ± 0.0016	z_{drag}	1059.399	1059.44 ± 0.44	$f_{2000}^{143 \times 217}$	33.18	33.0 ± 2.1
H_0	67.04	67.06 ± 0.71	r_{drag}	147.293	147.27 ± 0.37	χ_{lensing}^2	8.91	9.52 ± 0.88
Ω_{Λ}	0.6818	0.6817 ± 0.0098	k_{D}	0.140467	0.14050 ± 0.00044	χ_{simall}^2	395.87	396.9 ± 1.6
Ω_{m}	0.3182	0.3183 ± 0.0098	$100\theta_{\text{D}}$	0.161077	0.16105 ± 0.00026	χ_{lowl}^2	23.42	23.5 ± 1.0
$\Omega_{\text{m}}h^2$	0.14303	0.1431 ± 0.0015	z_{eq}	3402.5	3403 ± 35	χ_{CamSpec}^2	7050.18	7062.7 ± 5.1
$\Omega_{\text{m}}h^3$	0.095890	0.09592 ± 0.00044	k_{eq}	0.010385	0.01039 ± 0.00011	χ_{prior}^2	2.28	7.6 ± 3.5
σ_8	0.8104	0.8106 ± 0.0064	$100\theta_{\text{eq}}$	0.8125	0.8125 ± 0.0066	χ_{CMB}^2	7478.4	7492.6 ± 5.3
S_8	0.8346	0.835 ± 0.016	$100\theta_{\text{s,eq}}$	0.44916	0.4491 ± 0.0034			
$\sigma_8\Omega_{\text{m}}^{0.5}$	0.4571	0.4572 ± 0.0089	$H(0.15)$	72.39	72.41 ± 0.61			

Best-fit $\chi_{\text{eff}}^2 = 7480.67$; $\bar{\chi}_{\text{eff}}^2 = 7500.24$; $R - 1 = 0.00500$
 χ_{eff}^2 : CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p.teb.consext8: 8.91 simall_100x143_offlike5_EE_Aplanck_B: 395.87 commander_dx12_v3.2_29: 23.42 CamSpec like_10.7HM: 7050.18

2.36 base_CamSpecHM_TT_lowl_lowE_lensing_post_BAO

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02222 ± 0.00019	$\sigma_8/h^{0.5}$	0.9842 ± 0.0090	$D_{\mathrm{M}}(0.38)$	1530.4 ± 8.6
$\Omega_{\mathrm{c}}h^2$	0.1191 ± 0.0011	$r_{\mathrm{drag}}h$	99.65 ± 0.84	$H(0.51)$	89.65 ± 0.27
$100\theta_{\mathrm{MC}}$	1.04102 ± 0.00042	$\langle d^2 \rangle^{1/2}$	2.433 ± 0.021	$D_{\mathrm{M}}(0.51)$	1983 ± 10
τ	0.0554 ± 0.0075	z_{re}	7.80 ± 0.75	$H(0.61)$	95.26 ± 0.23
$\ln(10^{10}A_{\mathrm{s}})$	3.043 ± 0.015	$10^9 A_{\mathrm{s}}$	2.097 ± 0.031	$D_{\mathrm{M}}(0.61)$	2307 ± 11
n_{s}	0.9665 ± 0.0041	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.877 ± 0.011	$H(2.33)$	235.86 ± 0.70
y_{cal}	1.0006 ± 0.0025	D_{40}	1225 ± 12	$D_{\mathrm{M}}(2.33)$	5767 ± 12
A_{100}^{PS}	242 ± 25	D_{220}	5714 ± 40	$f\sigma_8(0.15)$	0.4558 ± 0.0061
A_{143}^{PS}	41 ± 8	D_{810}	2534 ± 14	$\sigma_8(0.15)$	0.7476 ± 0.0057
A_{217}^{PS}	101 ± 10	D_{1420}	815.1 ± 5.0	$f\sigma_8(0.38)$	0.4742 ± 0.0051
A_{217}^{CIB}	41 ± 7	D_{2000}	229.9 ± 1.8	$\sigma_8(0.38)$	0.6627 ± 0.0050
A_{143}^{tSZ}	$3.8^{+1.7}_{-2.6}$	$n_{\mathrm{s},0.002}$	0.9665 ± 0.0041	$f\sigma_8(0.51)$	0.4729 ± 0.0046
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	Y_{P}	$0.245332^{+0.000086}_{-0.000071}$	$\sigma_8(0.51)$	0.6202 ± 0.0047
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.457	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246659^{+0.000086}_{-0.000071}$	$f\sigma_8(0.61)$	0.4679 ± 0.0042
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$10^5 \mathrm{D}/\mathrm{H}$	2.614 ± 0.036	$\sigma_8(0.61)$	0.5902 ± 0.0045
A^{kSZ}	—	$\mathrm{Age}/\mathrm{Gyr}$	13.806 ± 0.027	$f\sigma_8(2.33)$	0.2976 ± 0.0023
A_{100}^{dust}	1.01 ± 0.20	z_*	1090.03 ± 0.28	$\sigma_8(2.33)$	0.3068 ± 0.0025
A_{143}^{dust}	0.97 ± 0.18	r_*	144.77 ± 0.28	f_{2000}^{143}	30.5 ± 3.0
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04122 ± 0.00041	f_{2000}^{217}	107.4 ± 2.0
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.903 ± 0.028	$f_{2000}^{143 \times 217}$	32.8 ± 2.1
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.53 ± 0.43	$\chi_{\mathrm{lensing}}^2$	9.39 ± 0.82
c_{217}	1.0012 ± 0.0015	r_{drag}	147.48 ± 0.31	χ_{simall}^2	397.2 ± 1.9
H_0	67.57 ± 0.49	k_{D}	0.14034 ± 0.00041	χ_{lowl}^2	23.04 ± 0.84
Ω_{Λ}	0.6888 ± 0.0066	$100\theta_{\mathrm{D}}$	0.16101 ± 0.00025	$\chi_{\mathrm{CamSpec}}^2$	7063.1 ± 5.2
Ω_{m}	0.3112 ± 0.0066	z_{eq}	3378 ± 25	$\chi_{6\mathrm{DF}}^2$	0.059 ± 0.072
$\Omega_{\mathrm{m}}h^2$	0.1420 ± 0.0011	k_{eq}	0.010311 ± 0.000077	χ_{MGS}^2	1.28 ± 0.46
$\Omega_{\mathrm{m}}h^3$	0.09595 ± 0.00044	$100\theta_{\mathrm{eq}}$	0.8173 ± 0.0047	$\chi_{\mathrm{DR12BAO}}^2$	4.8 ± 1.5
σ_8	0.8090 ± 0.0063	$100\theta_{\mathrm{s,eq}}$	0.4516 ± 0.0024	χ_{prior}^2	7.6 ± 3.5
S_8	0.824 ± 0.012	$H(0.15)$	72.84 ± 0.43	χ_{CMB}^2	7492.7 ± 5.4
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4512 ± 0.0065	$D_{\mathrm{M}}(0.15)$	641.7 ± 4.2	χ_{BAO}^2	6.2 ± 1.3
$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6042 ± 0.0063	$H(0.38)$	82.94 ± 0.32		

$$\bar{\chi}_{\mathrm{eff}}^2 = 7506.48; R - 1 = 0.00781$$

2.37 base_CamSpecHM_TT_lowl_lowE_lensing_post_Riess18

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}} h^2$	$0.02233^{+0.00021}_{-0.00018}$	$\sigma_8 \Omega_{\mathrm{m}}^{0.25}$	0.6001 ± 0.0077	$D_{\mathrm{M}}(0.15)$	637.4 ± 5.8
$\Omega_{\mathrm{c}} h^2$	0.1182 ± 0.0015	$\sigma_8 / h^{0.5}$	0.979 ± 0.011	$H(0.38)$	83.27 ± 0.44
$100\theta_{\mathrm{MC}}$	1.04121 ± 0.00045	$r_{\mathrm{drag}} h$	100.5 ± 1.2	$D_{\mathrm{M}}(0.38)$	1522 ± 12
τ	$0.0584^{+0.0074}_{-0.0087}$	$\langle d^2 \rangle^{1/2}$	2.422 ± 0.025	$H(0.51)$	89.91 ± 0.36
$\ln(10^{10} A_{\mathrm{s}})$	3.047 ± 0.016	z_{re}	8.05 ± 0.80	$D_{\mathrm{M}}(0.51)$	1972 ± 14
n_{s}	0.9691 ± 0.0049	$10^9 A_{\mathrm{s}}$	$2.106^{+0.031}_{-0.035}$	$H(0.61)$	95.48 ± 0.29
y_{cal}	1.0008 ± 0.0025	$10^9 A_{\mathrm{s}} e^{-2\tau}$	$1.873^{+0.012}_{-0.011}$	$D_{\mathrm{M}}(0.61)$	2296 ± 15
A_{100}^{PS}	241 ± 25	D_{40}	1221 ± 13	$H(2.33)$	235.34 ± 0.93
A_{143}^{PS}	40 ± 8	D_{220}	5724 ± 40	$D_{\mathrm{M}}(2.33)$	5757 ± 14
A_{217}^{PS}	102 ± 10	D_{810}	2535 ± 14	$f\sigma_8(0.15)$	$0.4510^{+0.0081}_{-0.0074}$
A_{217}^{CIB}	40 ± 7	D_{1420}	816.4 ± 5.0	$\sigma_8(0.15)$	0.7471 ± 0.0059
A_{143}^{tSZ}	$3.8^{+1.7}_{-2.5}$	D_{2000}	230.5 ± 1.8	$f\sigma_8(0.38)$	$0.4707^{+0.0066}_{-0.0059}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.12	$n_{\mathrm{s},0.002}$	0.9691 ± 0.0049	$\sigma_8(0.38)$	0.6630 ± 0.0052
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.57^{+0.41}_{-0.15}$	Y_{P}	$0.245378^{+0.000086}_{-0.000068}$	$f\sigma_8(0.51)$	0.4701 ± 0.0055
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246704^{+0.000086}_{-0.000068}$	$\sigma_8(0.51)$	0.6207 ± 0.0049
A^{kSZ}	—	$10^5 \mathrm{D}/\mathrm{H}$	$2.593^{+0.033}_{-0.039}$	$f\sigma_8(0.61)$	0.4657 ± 0.0050
A_{100}^{dust}	1.02 ± 0.19	$\mathrm{Age}/\mathrm{Gyr}$	13.785 ± 0.031	$\sigma_8(0.61)$	0.5908 ± 0.0047
A_{143}^{dust}	0.97 ± 0.17	z_*	1089.81 ± 0.32	$f\sigma_8(2.33)$	$0.2982^{+0.0023}_{-0.0026}$
A_{217}^{dust}	0.97 ± 0.10	r_*	144.94 ± 0.36	$\sigma_8(2.33)$	$0.3077^{+0.0025}_{-0.0028}$
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04140 ± 0.00045	f_{2000}^{143}	29.9 ± 2.9
c_{100}	0.9976 ± 0.0010	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.918 ± 0.034	f_{2000}^{217}	107.0 ± 2.0
c_{217}	1.0012 ± 0.0015	z_{drag}	1059.72 ± 0.42	$f_{2000}^{143 \times 217}$	32.3 ± 2.1
H_0	68.07 ± 0.69	r_{drag}	147.62 ± 0.38	$\chi_{\mathrm{lensing}}^2$	9.8 ± 1.4
Ω_{Λ}	0.6953 ± 0.0091	k_{D}	0.14028 ± 0.00045	χ_{simall}^2	397.8 ± 2.6
Ω_{m}	0.3047 ± 0.0091	$100\theta_{\mathrm{D}}$	0.16092 ± 0.00024	χ_{lowl}^2	22.68 ± 0.88
$\Omega_{\mathrm{m}} h^2$	0.1411 ± 0.0014	z_{eq}	3357 ± 35	$\chi_{\mathrm{CamSpec}}^2$	7064.4 ± 5.5
$\Omega_{\mathrm{m}} h^3$	0.09607 ± 0.00042	k_{eq}	0.01025 ± 0.00011	$\chi_{\mathrm{H073p45}}^2$	10.7 ± 2.7
σ_8	0.8077 ± 0.0067	$100\theta_{\mathrm{eq}}$	0.8216 ± 0.0066	χ_{prior}^2	7.4 ± 3.4
S_8	$0.814^{+0.016}_{-0.014}$	$100\theta_{\mathrm{s,eq}}$	0.4537 ± 0.0034	χ_{CMB}^2	7494.8 ± 6.3
$\sigma_8 \Omega_{\mathrm{m}}^{0.5}$	$0.4459^{+0.0087}_{-0.0079}$	$H(0.15)$	73.28 ± 0.60		
$\bar{\chi}_{\mathrm{eff}}^2 = 7512.86; R - 1 = 0.03322$					

2.38 base_CamSpecHM_TT_lowl_lowE_lensing_post_BAO_Riess18

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02233 ± 0.00019	$\sigma_8/h^{0.5}$	0.9794 ± 0.0090	$D_{\mathrm{M}}(0.38)$	1522.2 ± 8.1
$\Omega_{\mathrm{c}}h^2$	0.1182 ± 0.0010	$r_{\mathrm{drag}}h$	100.44 ± 0.80	$H(0.51)$	89.90 ± 0.26
$100\theta_{\mathrm{MC}}$	1.04119 ± 0.00041	$\langle d^2 \rangle^{1/2}$	2.423 ± 0.021	$D_{\mathrm{M}}(0.51)$	1972.9 ± 9.5
τ	0.0582 ± 0.0075	z_{re}	8.04 ± 0.74	$H(0.61)$	95.46 ± 0.23
$\ln(10^{10}A_{\mathrm{s}})$	3.047 ± 0.015	$10^9 A_{\mathrm{s}}$	2.106 ± 0.032	$D_{\mathrm{M}}(0.61)$	2297 ± 10
n_{s}	0.9690 ± 0.0040	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.874 ± 0.011	$H(2.33)$	235.37 ± 0.67
y_{cal}	1.0008 ± 0.0025	D_{40}	1222 ± 12	$D_{\mathrm{M}}(2.33)$	5758 ± 11
A_{100}^{PS}	241 ± 25	D_{220}	5725 ± 40	$f\sigma_8(0.15)$	0.4513 ± 0.0060
A_{143}^{PS}	40 ± 8	D_{810}	2535 ± 13	$\sigma_8(0.15)$	0.7472 ± 0.0058
A_{217}^{PS}	102 ± 10	D_{1420}	816.5 ± 5.0	$f\sigma_8(0.38)$	0.4710 ± 0.0051
A_{217}^{CIB}	40 ± 7	D_{2000}	230.5 ± 1.7	$\sigma_8(0.38)$	0.6631 ± 0.0051
A_{143}^{tSZ}	$3.8_{-2.6}^{+1.8}$	$n_{\mathrm{s},0.002}$	0.9690 ± 0.0040	$f\sigma_8(0.51)$	0.4704 ± 0.0046
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	Y_{P}	$0.245377_{-0.000068}^{+0.000081}$	$\sigma_8(0.51)$	0.6208 ± 0.0048
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.57_{-0.16}^{+0.40}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246704_{-0.000068}^{+0.000081}$	$f\sigma_8(0.61)$	0.4659 ± 0.0043
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$10^5 \mathrm{D}/\mathrm{H}$	$2.593_{-0.037}^{+0.033}$	$\sigma_8(0.61)$	0.5909 ± 0.0046
A^{kSZ}	—	Age/Gyr	13.786 ± 0.026	$f\sigma_8(2.33)$	0.2982 ± 0.0024
A_{100}^{dust}	1.02 ± 0.19	z_*	1089.81 ± 0.27	$\sigma_8(2.33)$	0.3077 ± 0.0025
A_{143}^{dust}	0.97 ± 0.17	r_*	144.92 ± 0.27	f_{2000}^{143}	29.9 ± 2.9
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04138 ± 0.00040	f_{2000}^{217}	107.0 ± 2.1
$A_{143 \times 217}^{\mathrm{dust}}$	1.02 ± 0.16	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.917 ± 0.027	$f_{2000}^{143 \times 217}$	32.3 ± 2.1
c_{100}	0.9976 ± 0.0010	z_{drag}	1059.72 ± 0.42	$\chi_{\mathrm{lensing}}^2$	9.6 ± 1.1
c_{217}	1.0012 ± 0.0015	r_{drag}	147.61 ± 0.30	χ_{simall}^2	397.7 ± 2.3
H_0	68.04 ± 0.47	k_{D}	0.14029 ± 0.00041	χ_{lowl}^2	22.69 ± 0.79
Ω_{Λ}	0.6950 ± 0.0061	$100\theta_{\mathrm{D}}$	0.16091 ± 0.00025	$\chi_{\mathrm{CamSpec}}^2$	7064.2 ± 5.4
Ω_{m}	0.3050 ± 0.0061	z_{eq}	3359 ± 24	$\chi_{\mathrm{H073p45}}^2$	10.7 ± 1.8
$\Omega_{\mathrm{m}}h^2$	0.1412 ± 0.0010	k_{eq}	0.010251 ± 0.000074	$\chi_{6\mathrm{DF}}^2$	0.027 ± 0.038
$\Omega_{\mathrm{m}}h^3$	0.09607 ± 0.00043	$100\theta_{\mathrm{eq}}$	0.8213 ± 0.0045	χ_{MGS}^2	1.73 ± 0.49
σ_8	0.8079 ± 0.0064	$100\theta_{\mathrm{s,eq}}$	0.4536 ± 0.0023	$\chi_{\mathrm{DR12BAO}}^2$	3.91 ± 0.78
S_8	0.815 ± 0.012	$H(0.15)$	73.25 ± 0.41	χ_{prior}^2	7.5 ± 3.5
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4462 ± 0.0063	$D_{\mathrm{M}}(0.15)$	637.6 ± 4.0	χ_{CMB}^2	7494.2 ± 5.6
$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6004 ± 0.0062	$H(0.38)$	83.25 ± 0.31	χ_{BAO}^2	5.67 ± 0.68

$\bar{\chi}_{\mathrm{eff}}^2 = 7518.00$; $R - 1 = 0.02714$

2.39 base_CamSpecHM_TT_lowl_lowE_lensing_post_Pantheon18

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_{\text{b}}h^2$	0.022170	0.02218 ± 0.00020	$\sigma_8\Omega_{\text{m}}^{0.25}$	0.6073	0.6068 ± 0.0074	$D_{\text{M}}(0.15)$	644.4	644.2 ± 5.6
$\Omega_{\text{c}}h^2$	0.11983	0.1198 ± 0.0014	$\sigma_8/h^{0.5}$	0.9882	0.987 ± 0.010	$H(0.38)$	82.738	82.76 ± 0.42
$100\theta_{\text{MC}}$	1.040912	1.04092 ± 0.00044	$r_{\text{drag}}h$	99.09	99.1 ± 1.1	$D_{\text{M}}(0.38)$	1535.9	1535 ± 11
τ	0.0541	0.0539 ± 0.0077	$\langle d^2 \rangle^{1/2}$	2.4421	2.441 ± 0.024	$H(0.51)$	89.490	89.51 ± 0.34
$\ln(10^{10}A_{\text{s}})$	3.0416	3.041 ± 0.015	z_{re}	7.70	7.66 ± 0.78	$D_{\text{M}}(0.51)$	1989.0	1988 ± 13
n_{s}	0.96498	0.9651 ± 0.0047	$10^9 A_{\text{s}}$	2.0939	2.093 ± 0.031	$H(0.61)$	95.136	95.16 ± 0.28
y_{cal}	1.00058	1.0005 ± 0.0025	$10^9 A_{\text{s}}e^{-2\tau}$	1.8792	1.879 ± 0.011	$D_{\text{M}}(0.61)$	2314.0	2313 ± 14
A_{100}^{PS}	239.9	243 ± 25	D_{40}	1227.5	1228 ± 12	$H(2.33)$	236.25	236.23 ± 0.88
A_{143}^{PS}	40.1	41 ± 8	D_{220}	5708.8	5710 ± 41	$D_{\text{M}}(2.33)$	5771.9	5771 ± 14
A_{217}^{PS}	100.0	101 ± 10	D_{810}	2534.1	2534 ± 14	$f\sigma_8(0.15)$	0.4594	0.4589 ± 0.0077
A_{217}^{CIB}	45.1	41 ± 7	D_{1420}	814.6	814.5 ± 5.1	$\sigma_8(0.15)$	0.7484	0.7480 ± 0.0057
A_{143}^{tSZ}	5.90	$3.8_{-2.6}^{+1.7}$	D_{2000}	229.69	229.7 ± 1.8	$f\sigma_8(0.38)$	0.4769	0.4764 ± 0.0060
$r_{143 \times 217}^{\text{PS}}$	0.569	0.65 ± 0.13	$n_{\text{s},0.002}$	0.96498	0.9651 ± 0.0047	$\sigma_8(0.38)$	0.66301	0.6627 ± 0.0050
$r_{143 \times 217}^{\text{CIB}}$	0.776	> 0.463	Y_{P}	0.245314	$0.245315_{-0.000075}^{+0.000094}$	$f\sigma_8(0.51)$	0.4750	0.4746 ± 0.0052
$\xi^{\text{tSZ} \times \text{CIB}}$	0.07	—	$Y_{\text{P}}^{\text{BBN}}$	0.246640	$0.246641_{-0.000075}^{+0.000094}$	$\sigma_8(0.51)$	0.62029	0.6200 ± 0.0047
A^{kSZ}	1.3	—	$10^5 \text{D}/\text{H}$	2.6236	2.621 ± 0.038	$f\sigma_8(0.61)$	0.46972	0.4693 ± 0.0047
A_{100}^{dust}	1.012	1.01 ± 0.20	Age/Gyr	13.8172	13.815 ± 0.031	$\sigma_8(0.61)$	0.59011	0.5898 ± 0.0045
A_{143}^{dust}	0.991	0.98 ± 0.18	z_*	1090.158	1090.14 ± 0.33	$f\sigma_8(2.33)$	0.29738	0.2973 ± 0.0023
A_{217}^{dust}	0.967	0.97 ± 0.10	r_*	144.627	144.63 ± 0.34	$\sigma_8(2.33)$	0.30642	0.3063 ± 0.0026
$A_{143 \times 217}^{\text{dust}}$	1.000	1.03 ± 0.16	$100\theta_*$	1.041115	1.04112 ± 0.00044	f_{2000}^{143}	31.15	30.7 ± 3.0
c_{100}	0.99756	0.9975 ± 0.0011	$D_{\text{M}}(z_*)/\text{Gpc}$	13.8915	13.892 ± 0.032	f_{2000}^{217}	107.63	107.5 ± 2.0
c_{217}	1.00139	1.0012 ± 0.0015	z_{drag}	1059.475	1059.48 ± 0.43	$f_{2000}^{143 \times 217}$	32.95	32.9 ± 2.1
H_0	67.24	67.28 ± 0.65	r_{drag}	147.357	147.36 ± 0.36	χ_{lensing}^2	8.879	9.45 ± 0.83
Ω_{Λ}	0.6845	0.6848 ± 0.0089	k_{D}	0.140431	0.14044 ± 0.00044	χ_{small}^2	396.05	397.0 ± 1.7
Ω_{m}	0.3155	0.3152 ± 0.0089	$100\theta_{\text{D}}$	0.161041	0.16103 ± 0.00025	χ_{lowl}^2	23.24	23.30 ± 0.95
$\Omega_{\text{m}}h^2$	0.14265	0.1426 ± 0.0014	z_{eq}	3393.4	3392 ± 33	χ_{CamSpec}^2	7050.35	7062.8 ± 5.2
$\Omega_{\text{m}}h^3$	0.095923	0.09594 ± 0.00044	k_{eq}	0.010357	0.01035 ± 0.00010	χ_{JLA}^2	1035.290	1035.43 ± 0.63
σ_8	0.8104	0.8099 ± 0.0064	$100\theta_{\text{eq}}$	0.8143	0.8146 ± 0.0061	χ_{prior}^2	2.22	7.6 ± 3.5
S_8	0.8310	0.830 ± 0.015	$100\theta_{\text{s,eq}}$	0.45006	0.4502 ± 0.0032	χ_{CMB}^2	7478.5	7492.6 ± 5.4
$\sigma_8\Omega_{\text{m}}^{0.5}$	0.4552	0.4546 ± 0.0083	$H(0.15)$	72.56	72.60 ± 0.56			

Best-fit $\chi_{\text{eff}}^2 = 8516.03$; $\bar{\chi}_{\text{eff}}^2 = 8535.63$; $R - 1 = 0.00582$
 χ_{eff}^2 : CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p.teb.consext8: 8.88 small_100x143_offlike5_EE_Aplanck_B: 396.05 commander_dx12_v3.2.29: 23.24 CamSpec like_10.7HM: 7050.35 SN - JLA Pantheon18: 1035.29

2.40 base_CamSpecHM_TT_lowl_lowE_lensing_post_BAO_JLA_Riess18

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02234 ± 0.00019	$r_{\mathrm{drag}}h$	100.53 ± 0.79	$D_{\mathrm{M}}(0.51)$	1971.9 ± 9.5
$\Omega_{\mathrm{c}}h^2$	0.1181 ± 0.0010	$\langle d^2 \rangle^{1/2}$	2.421 ± 0.022	$H(0.61)$	95.48 ± 0.23
$100\theta_{\mathrm{MC}}$	1.04120 ± 0.00041	z_{re}	8.04 ± 0.75	$D_{\mathrm{M}}(0.61)$	2296 ± 10
τ	0.0583 ± 0.0076	$10^9 A_{\mathrm{s}}$	2.105 ± 0.032	$H(2.33)$	235.30 ± 0.66
$\ln(10^{10} A_{\mathrm{s}})$	3.047 ± 0.015	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.874 ± 0.011	$D_{\mathrm{M}}(2.33)$	5757 ± 11
n_{s}	0.9692 ± 0.0039	D_{40}	1221 ± 12	$f\sigma_8(0.15)$	0.4506 ± 0.0060
y_{cal}	1.0008 ± 0.0026	D_{220}	5726 ± 40	$\sigma_8(0.15)$	0.7469 ± 0.0058
A_{100}^{PS}	242 ± 25	D_{810}	2535 ± 14	$f\sigma_8(0.38)$	0.4704 ± 0.0051
A_{143}^{PS}	40 ± 8	D_{1420}	816.6 ± 5.1	$\sigma_8(0.38)$	0.6628 ± 0.0051
A_{217}^{PS}	102 ± 10	D_{2000}	230.6 ± 1.7	$f\sigma_8(0.51)$	0.4699 ± 0.0046
A_{217}^{CIB}	40 ± 7	$n_{\mathrm{s},0.002}$	0.9692 ± 0.0039	$\sigma_8(0.51)$	0.6206 ± 0.0048
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.6}$	Y_{P}	0.245381 ± 0.000076	$f\sigma_8(0.61)$	0.4655 ± 0.0043
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246707 ± 0.000076	$\sigma_8(0.61)$	0.5908 ± 0.0046
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56^{+0.39}_{-0.18}$	$10^5 \mathrm{D}/\mathrm{H}$	2.592 ± 0.035	$f\sigma_8(2.33)$	0.2982 ± 0.0023
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Age/Gyr	13.784 ± 0.026	$\sigma_8(2.33)$	0.3077 ± 0.0025
A^{kSZ}	—	z_*	1089.79 ± 0.27	f_{2000}^{143}	29.9 ± 2.9
A_{100}^{dust}	1.02 ± 0.19	r_*	144.95 ± 0.27	f_{2000}^{217}	107.0 ± 2.1
A_{143}^{dust}	0.96 ± 0.17	$100\theta_*$	1.04139 ± 0.00040	$f_{2000}^{143 \times 217}$	32.3 ± 2.1
A_{217}^{dust}	0.97 ± 0.10	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.919 ± 0.027	$\chi_{\mathrm{lensing}}^2$	9.7 ± 1.2
$A_{143 \times 217}^{\mathrm{dust}}$	1.02 ± 0.16	z_{drag}	1059.73 ± 0.43	χ_{small}^2	397.7 ± 2.3
c_{100}	0.9976 ± 0.0010	r_{drag}	147.63 ± 0.30	χ_{lowl}^2	22.66 ± 0.76
c_{217}	$1.0012^{+0.0015}_{-0.0017}$	k_{D}	0.14027 ± 0.00041	$\chi_{\mathrm{CamSpec}}^2$	7064.4 ± 5.4
H_0	68.10 ± 0.47	$100\theta_{\mathrm{D}}$	0.16091 ± 0.00025	$\chi_{\mathrm{H073p45}}^2$	10.5 ± 1.8
Ω_{Λ}	0.6957 ± 0.0060	z_{eq}	3356 ± 24	χ_{JLA}^2	706.61 ± 0.11
Ω_{m}	0.3043 ± 0.0060	k_{eq}	0.010243 ± 0.000072	$\chi_{6\mathrm{DF}}^2$	0.026 ± 0.038
$\Omega_{\mathrm{m}}h^2$	0.14108 ± 0.00099	$100\theta_{\mathrm{eq}}$	0.8218 ± 0.0044	χ_{MGS}^2	1.79 ± 0.49
$\Omega_{\mathrm{m}}h^3$	0.09607 ± 0.00043	$100\theta_{\mathrm{s,eq}}$	0.4538 ± 0.0023	$\chi_{\mathrm{DR12BAO}}^2$	3.85 ± 0.72
σ_8	0.8075 ± 0.0065	$H(0.15)$	73.30 ± 0.41	χ_{prior}^2	7.5 ± 3.6
S_8	0.813 ± 0.012	$D_{\mathrm{M}}(0.15)$	637.2 ± 4.0	χ_{CMB}^2	7494.5 ± 5.7
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4454 ± 0.0063	$H(0.38)$	83.28 ± 0.31	χ_{BAO}^2	5.67 ± 0.69
$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.5997 ± 0.0063	$D_{\mathrm{M}}(0.38)$	1521.4 ± 8.0		
$\sigma_8/h^{0.5}$	0.9786 ± 0.0092	$H(0.51)$	89.92 ± 0.26		

$$\bar{\chi}_{\mathrm{eff}}^2 = 8224.73; R - 1 = 0.08459$$

2.41 base_CamSpecHM_TT_lowl_lowE_lensing_post_BAO_Pantheon18

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022236	0.02224 ± 0.00019	$\sigma_8/h^{0.5}$	0.9832	0.9834 ± 0.0089	$D_M(0.38)$	1529.2	1529.2 ± 8.2
$\Omega_c h^2$	0.11903	0.1190 ± 0.0011	$r_{\text{drag}} h$	99.76	99.78 ± 0.81	$H(0.51)$	89.684	89.68 ± 0.26
$100\theta_{\text{MC}}$	1.041075	1.04104 ± 0.00041	$\langle d^2 \rangle^{1/2}$	2.4301	2.432 ± 0.021	$D_M(0.51)$	1981.2	1981.2 ± 9.7
τ	0.0552	0.0559 ± 0.0075	z_{re}	7.79	7.84 ± 0.75	$H(0.61)$	95.290	95.29 ± 0.23
$\ln(10^{10} A_s)$	3.0426	3.044 ± 0.015	$10^9 A_s$	2.0960	2.098 ± 0.031	$D_M(0.61)$	2305.5	2306 ± 11
n_s	0.96715	0.9669 ± 0.0041	$10^9 A_s e^{-2\tau}$	1.8768	1.876 ± 0.011	$H(2.33)$	235.80	235.77 ± 0.67
y_{cal}	1.00072	1.0007 ± 0.0025	D_{40}	1223.7	1224 ± 12	$D_M(2.33)$	5765.2	5765 ± 12
A_{100}^{PS}	237.4	242 ± 25	D_{220}	5715.1	5716 ± 40	$f\sigma_8(0.15)$	0.4551	0.4551 ± 0.0059
A_{143}^{PS}	40.1	41 ± 8	D_{810}	2535.2	2534 ± 13	$\sigma_8(0.15)$	0.7473	0.7475 ± 0.0057
A_{217}^{PS}	100.8	101 ± 10	D_{1420}	815.7	815.3 ± 5.0	$f\sigma_8(0.38)$	0.4736	0.4737 ± 0.0050
A_{217}^{CIB}	45.8	41 ± 7	D_{2000}	230.13	230.0 ± 1.8	$\sigma_8(0.38)$	0.6626	0.6627 ± 0.0051
A_{143}^{tSZ}	6.62	$3.8^{+1.7}_{-2.6}$	$n_{s,0.002}$	0.96715	0.9669 ± 0.0041	$f\sigma_8(0.51)$	0.47240	0.4724 ± 0.0045
$r_{143 \times 217}^{\text{PS}}$	0.572	0.65 ± 0.13	Y_{P}	0.245341	$0.245338^{+0.000085}_{-0.000071}$	$\sigma_8(0.51)$	0.62014	0.6203 ± 0.0048
$r_{143 \times 217}^{\text{CIB}}$	0.802	> 0.456	$Y_{\text{P}}^{\text{BBN}}$	0.246667	$0.246664^{+0.000085}_{-0.000071}$	$f\sigma_8(0.61)$	0.46754	0.4676 ± 0.0042
$\xi^{\text{tSZ} \times \text{CIB}}$	0.04	—	$10^5 D/H$	2.6109	2.612 ± 0.036	$\sigma_8(0.61)$	0.59011	0.5903 ± 0.0045
A^{kSZ}	0.0	—	Age/Gyr	13.8024	13.803 ± 0.026	$f\sigma_8(2.33)$	0.29759	0.2977 ± 0.0023
A_{100}^{dust}	1.007	1.01 ± 0.20	z_*	1090.004	1090.00 ± 0.28	$\sigma_8(2.33)$	0.30686	0.3069 ± 0.0025
A_{143}^{dust}	0.988	0.97 ± 0.17	r_*	144.785	144.80 ± 0.28	f_{2000}^{143}	30.79	30.5 ± 3.0
A_{217}^{dust}	0.965	0.97 ± 0.10	$100\theta_*$	1.041269	1.04124 ± 0.00041	f_{2000}^{217}	107.35	107.3 ± 2.0
$A_{143 \times 217}^{\text{dust}}$	1.000	1.03 ± 0.16	$D_M(z_*)/\text{Gpc}$	13.9047	13.906 ± 0.027	$f_{2000}^{143 \times 217}$	32.66	32.7 ± 2.1
c_{100}	0.99763	0.9975 ± 0.0011	z_{drag}	1059.551	1059.55 ± 0.43	χ_{lensing}^2	9.020	9.41 ± 0.85
c_{217}	1.00136	1.0012 ± 0.0015	r_{drag}	147.499	147.51 ± 0.31	χ_{small}^2	396.23	397.3 ± 1.9
H_0	67.636	67.64 ± 0.48	k_{D}	0.140336	0.14032 ± 0.00041	χ_{lowl}^2	22.86	22.98 ± 0.83
Ω_{Λ}	0.6898	0.6898 ± 0.0063	$100\theta_{\text{D}}$	0.160998	0.16100 ± 0.00025	χ_{CamSpec}^2	7051.17	7063.2 ± 5.2
Ω_{m}	0.3102	0.3102 ± 0.0063	z_{eq}	3375.7	3375 ± 24	χ_{JLA}^2	1034.995	1035.07 ± 0.31
$\Omega_{\text{m}} h^2$	0.14191	0.1419 ± 0.0010	k_{eq}	0.010303	0.010300 ± 0.000074	$\chi_{6\text{DF}}^2$	0.0217	0.048 ± 0.061
$\Omega_{\text{m}} h^3$	0.095981	0.09596 ± 0.00044	$100\theta_{\text{eq}}$	0.81780	0.8180 ± 0.0045	χ_{MGS}^2	1.279	1.35 ± 0.45
σ_8	0.8086	0.8088 ± 0.0063	$100\theta_{s,\text{eq}}$	0.45183	0.4519 ± 0.0023	χ_{DR12BAO}^2	4.18	4.6 ± 1.3
S_8	0.8223	0.822 ± 0.012	$H(0.15)$	72.900	72.90 ± 0.41	χ_{prior}^2	2.12	7.6 ± 3.5
$\sigma_8 \Omega_{\text{m}}^{0.5}$	0.4504	0.4504 ± 0.0063	$D_M(0.15)$	641.06	641.1 ± 4.1	χ_{CMB}^2	7479.3	7492.9 ± 5.4
$\sigma_8 \Omega_{\text{m}}^{0.25}$	0.6035	0.6035 ± 0.0061	$H(0.38)$	82.984	82.98 ± 0.31	χ_{BAO}^2	5.484	6.0 ± 1.1

Best-fit $\chi_{\text{eff}}^2 = 8521.87$; $\bar{\chi}_{\text{eff}}^2 = 8541.50$; $R - 1 = 0.00920$

χ_{eff}^2 : BAO - 6DF: 0.02 MGS: 1.28 DR12BAO: 4.18 CMB - smicadx12_Dec5.ftl_mv2_ndclpp_p.teb_consext8: 9.02 small_100x143.offlike5_EE_Aplanck_B: 396.23 commander_dx12.v3.2.29: 22.86 CamSpec like_10.7HM: 7051.17 SN - JLA Pantheon18: 1034.99

2.42 base_CamSpecHM_TT_lowl_lowE_lensing_post_BAO_Pantheon18_Riess18

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022336	0.02234 ± 0.00018	$r_{\text{drag}} h$	100.44	100.50 ± 0.77	$D_M(0.51)$	1972.8	1972.3 ± 9.2
$\Omega_c h^2$	0.11821	0.1181 ± 0.0010	$\langle d^2 \rangle^{1/2}$	2.4226	2.422 ± 0.021	$H(0.61)$	95.465	95.48 ± 0.22
$100\theta_{\text{MC}}$	1.041192	1.04120 ± 0.00041	z_{re}	8.05	8.05 ± 0.74	$D_M(0.61)$	2296.4	2296 ± 10
τ	0.0582	0.0584 ± 0.0075	$10^9 A_s$	2.1058	2.106 ± 0.032	$H(2.33)$	235.37	235.33 ± 0.65
$\ln(10^{10} A_s)$	3.0473	3.047 ± 0.015	$10^9 A_s e^{-2\tau}$	1.8744	1.874 ± 0.011	$D_M(2.33)$	5757.3	5757 ± 11
n_s	0.96919	0.9692 ± 0.0040	D_{40}	1221.3	1221 ± 12	$f\sigma_8(0.15)$	0.4513	0.4509 ± 0.0058
y_{cal}	1.00087	1.0009 ± 0.0025	D_{220}	5725.7	5726 ± 39	$\sigma_8(0.15)$	0.7473	0.7472 ± 0.0058
A_{100}^{PS}	235.2	241 ± 25	D_{810}	2536.3	2535 ± 13	$f\sigma_8(0.38)$	0.47104	0.4707 ± 0.0050
A_{143}^{PS}	39.5	40 ± 8	D_{1420}	816.9	816.6 ± 5.0	$\sigma_8(0.38)$	0.6632	0.6631 ± 0.0051
A_{217}^{PS}	101.5	102 ± 10	D_{2000}	230.67	230.6 ± 1.7	$f\sigma_8(0.51)$	0.47043	0.4702 ± 0.0045
A_{217}^{CIB}	44.8	40 ± 7	$n_{s,0.002}$	0.96919	0.9692 ± 0.0040	$\sigma_8(0.51)$	0.62092	0.6208 ± 0.0048
A_{143}^{tSZ}	6.49	$3.8_{-2.6}^{+1.8}$	Y_P	0.245382	$0.245379_{-0.000067}^{+0.000080}$	$f\sigma_8(0.61)$	0.46600	0.4658 ± 0.0042
$r_{143 \times 217}^{\text{PS}}$	0.590	0.66 ± 0.13	Y_P^{BBN}	0.246708	$0.246706_{-0.000067}^{+0.000080}$	$\sigma_8(0.61)$	0.59101	0.5909 ± 0.0046
$r_{143 \times 217}^{\text{CIB}}$	0.781	$0.57_{-0.17}^{+0.40}$	$10^5 D/H$	2.5918	$2.592_{-0.037}^{+0.033}$	$f\sigma_8(2.33)$	0.29826	0.2982 ± 0.0024
$\xi^{\text{tSZ} \times \text{CIB}}$	0.09	—	Age/Gyr	13.7851	13.784 ± 0.026	$\sigma_8(2.33)$	0.30778	0.3078 ± 0.0025
A^{kSZ}	0.2	—	z_*	1089.806	1089.80 ± 0.26	f_{2000}^{143}	30.11	29.9 ± 2.9
A_{100}^{dust}	1.007	1.02 ± 0.19	r_*	144.922	144.94 ± 0.27	f_{2000}^{217}	107.00	107.0 ± 2.1
A_{143}^{dust}	0.980	0.97 ± 0.17	$100\theta_*$	1.041380	1.04139 ± 0.00040	$f_{2000}^{143 \times 217}$	32.22	32.2 ± 2.1
A_{217}^{dust}	0.968	0.97 ± 0.10	$D_M(z_*)/\text{Gpc}$	13.9163	13.918 ± 0.027	χ_{lensing}^2	9.17	9.6 ± 1.1
$A_{143 \times 217}^{\text{dust}}$	1.002	1.02 ± 0.16	z_{drag}	1059.742	1059.73 ± 0.42	χ_{small}^2	396.83	397.7 ± 2.3
c_{100}	0.99765	0.9976 ± 0.0010	r_{drag}	147.604	147.62 ± 0.30	χ_{lowl}^2	22.60	22.66 ± 0.78
c_{217}	1.00136	1.0012 ± 0.0015	k_D	0.140301	0.14028 ± 0.00040	χ_{CamSpec}^2	7052.0	7064.2 ± 5.4
H_0	68.050	68.08 ± 0.45	$100\theta_D$	0.160903	0.16091 ± 0.00024	χ_{H073p45}^2	10.58	10.5 ± 1.8
Ω_Λ	0.6951	0.6954 ± 0.0059	z_{eq}	3358.5	3357 ± 23	χ_{JLA}^2	1034.807	1034.87 ± 0.17
Ω_m	0.3049	0.3046 ± 0.0059	k_{eq}	0.010251	0.010246 ± 0.000071	$\chi_{6\text{DF}}^2$	0.0001	0.025 ± 0.035
$\Omega_m h^2$	0.14119	0.14113 ± 0.00098	$100\theta_{\text{eq}}$	0.82130	0.8216 ± 0.0043	χ_{MGS}^2	1.677	1.77 ± 0.47
$\Omega_m h^3$	0.096079	0.09607 ± 0.00043	$100\theta_{s,\text{eq}}$	0.45359	0.4538 ± 0.0022	χ_{DR12BAO}^2	3.487	3.85 ± 0.69
σ_8	0.8080	0.8078 ± 0.0064	$H(0.15)$	73.259	73.28 ± 0.39	χ_{prior}^2	2.13	7.5 ± 3.5
S_8	0.8146	0.814 ± 0.011	$D_M(0.15)$	637.54	637.3 ± 3.8	χ_{CMB}^2	7480.6	7494.3 ± 5.6
$\sigma_8 \Omega_m^{0.5}$	0.4462	0.4458 ± 0.0062	$H(0.38)$	83.251	83.27 ± 0.30	χ_{BAO}^2	5.164	5.64 ± 0.63
$\sigma_8 \Omega_m^{0.25}$	0.6004	0.6001 ± 0.0061	$D_M(0.38)$	1522.1	1521.6 ± 7.8			
$\sigma_8/h^{0.5}$	0.9795	0.9791 ± 0.0090	$H(0.51)$	89.899	89.91 ± 0.25			

Best-fit $\chi_{\text{eff}}^2 = 8533.26$; $\bar{\chi}_{\text{eff}}^2 = 8552.81$; $R - 1 = 0.02978$
 χ_{eff}^2 : BAO - 6DF: 0.00 MGS: 1.68 DR12BAO: 3.49 CMB - smicadx12_Dec5.ftl_mv2_ndclpp_p_teb_consext8: 9.17 small_100x143_offlike5_EE_Aplanck_B: 396.83 commander_dx12_v3_2_29: 22.60 CamSpec like_10.7HM: 7051.98 Hubble - H073p45: 10.58 SN - JLA Pantheon18: 1034.81

2.43 base_CamSpecHM_TT_lowl_lowE_lensing_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02216 ± 0.00020	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6089 ± 0.0078	$D_{\mathrm{M}}(0.15)$	645.6 ± 6.0
$\Omega_{\mathrm{c}}h^2$	0.1201 ± 0.0015	$\sigma_8/h^{0.5}$	0.990 ± 0.011	$H(0.38)$	82.66 ± 0.44
$100\theta_{\mathrm{MC}}$	1.04086 ± 0.00045	$r_{\mathrm{drag}}h$	98.9 ± 1.2	$D_{\mathrm{M}}(0.38)$	1538 ± 12
τ	$0.0541^{+0.0048}_{-0.0083}$	$\langle d^2 \rangle^{1/2}$	2.447 ± 0.025	$H(0.51)$	89.43 ± 0.35
$\ln(10^{10}A_{\mathrm{s}})$	$3.042^{+0.011}_{-0.015}$	z_{re}	$7.69^{+0.54}_{-0.80}$	$D_{\mathrm{M}}(0.51)$	1992 ± 14
n_{s}	0.9643 ± 0.0048	$10^9 A_{\mathrm{s}}$	$2.095^{+0.022}_{-0.032}$	$H(0.61)$	95.09 ± 0.29
y_{cal}	1.0004 ± 0.0025	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.880 ± 0.011	$D_{\mathrm{M}}(0.61)$	2317 ± 15
A_{100}^{PS}	243 ± 25	D_{40}	1229 ± 13	$H(2.33)$	236.44 ± 0.93
A_{143}^{PS}	41 ± 8	D_{220}	5706 ± 41	$D_{\mathrm{M}}(2.33)$	5774 ± 14
A_{217}^{PS}	101 ± 10	D_{810}	2533 ± 14	$f\sigma_8(0.15)$	0.4612 ± 0.0082
A_{217}^{CIB}	41 ± 7	D_{1420}	814.0 ± 5.2	$\sigma_8(0.15)$	$0.7490^{+0.0049}_{-0.0055}$
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.6}$	D_{2000}	229.5 ± 1.8	$f\sigma_8(0.38)$	0.4782 ± 0.0064
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	$n_{\mathrm{s},0.002}$	0.9643 ± 0.0048	$\sigma_8(0.38)$	$0.6633^{+0.0040}_{-0.0049}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.58^{+0.41}_{-0.13}$	Y_{P}	$0.245304^{+0.000096}_{-0.000077}$	$f\sigma_8(0.51)$	0.4760 ± 0.0054
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246630^{+0.000096}_{-0.000078}$	$\sigma_8(0.51)$	$0.6205^{+0.0037}_{-0.0046}$
A^{kSZ}	—	$10^5 D/H$	2.627 ± 0.038	$f\sigma_8(0.61)$	0.4706 ± 0.0048
A_{100}^{dust}	1.01 ± 0.20	Age/Gyr	13.821 ± 0.032	$\sigma_8(0.61)$	$0.5902^{+0.0035}_{-0.0045}$
A_{143}^{dust}	0.98 ± 0.17	z_*	1090.21 ± 0.34	$f\sigma_8(2.33)$	$0.2974^{+0.0017}_{-0.0024}$
A_{217}^{dust}	0.97 ± 0.10	r_*	144.56 ± 0.36	$\sigma_8(2.33)$	$0.3063^{+0.0019}_{-0.0026}$
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04107 ± 0.00045	f_{2000}^{143}	30.8 ± 3.0
c_{100}	0.9975 ± 0.0011	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.886 ± 0.034	f_{2000}^{217}	107.6 ± 2.0
c_{217}	1.0012 ± 0.0016	z_{drag}	1059.45 ± 0.44	$f_{2000}^{143 \times 217}$	33.0 ± 2.1
H_0	67.11 ± 0.69	r_{drag}	147.29 ± 0.37	$\chi_{\mathrm{lensing}}^2$	9.49 ± 0.88
Ω_{Λ}	0.6825 ± 0.0095	k_{D}	0.14049 ± 0.00044	χ_{simall}^2	396.8 ± 1.6
Ω_{m}	0.3175 ± 0.0095	$100\theta_{\mathrm{D}}$	0.16105 ± 0.00025	χ_{lowl}^2	23.5 ± 1.0
$\Omega_{\mathrm{m}}h^2$	0.1429 ± 0.0014	z_{eq}	3401 ± 35	$\chi_{\mathrm{CamSpec}}^2$	7062.6 ± 5.1
$\Omega_{\mathrm{m}}h^3$	0.09593 ± 0.00044	k_{eq}	0.01038 ± 0.00011	χ_{prior}^2	7.6 ± 3.5
σ_8	0.8112 ± 0.0061	$100\theta_{\mathrm{eq}}$	0.8130 ± 0.0065	χ_{CMB}^2	7492.4 ± 5.3
S_8	0.835 ± 0.016	$100\theta_{\mathrm{s,eq}}$	0.4494 ± 0.0033		
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4571 ± 0.0089	$H(0.15)$	72.45 ± 0.59		

$\bar{\chi}_{\mathrm{eff}}^2 = 7500.01$; $R - 1 = 0.00502$

2.44 base_CamSpecHM_TT_lowl_lowE_lensing_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02223 ± 0.00019	$\sigma_8/h^{0.5}$	0.9846 ± 0.0089	$D_{\mathrm{M}}(0.38)$	1530.2 ± 8.5
$\Omega_{\mathrm{c}}h^2$	0.1191 ± 0.0011	$r_{\mathrm{drag}}h$	99.68 ± 0.84	$H(0.51)$	89.66 ± 0.27
$100\theta_{\mathrm{MC}}$	1.04102 ± 0.00042	$\langle d^2 \rangle^{1/2}$	2.434 ± 0.021	$D_{\mathrm{M}}(0.51)$	1982 ± 10
τ	$0.0562^{+0.0058}_{-0.0078}$	z_{re}	$7.87^{+0.63}_{-0.76}$	$H(0.61)$	95.27 ± 0.23
$\ln(10^{10}A_{\mathrm{s}})$	$3.044^{+0.012}_{-0.015}$	$10^9 A_{\mathrm{s}}$	$2.100^{+0.025}_{-0.033}$	$D_{\mathrm{M}}(0.61)$	2307 ± 11
n_{s}	0.9667 ± 0.0041	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.877 ± 0.011	$H(2.33)$	235.84 ± 0.69
y_{cal}	1.0006 ± 0.0025	D_{40}	1225 ± 12	$D_{\mathrm{M}}(2.33)$	5766 ± 12
A_{100}^{PS}	242 ± 25	D_{220}	5714 ± 40	$f\sigma_8(0.15)$	0.4560 ± 0.0061
A_{143}^{PS}	41 ± 8	D_{810}	2534 ± 14	$\sigma_8(0.15)$	0.7480 ± 0.0054
A_{217}^{PS}	101 ± 10	D_{1420}	815.1 ± 5.1	$f\sigma_8(0.38)$	0.4744 ± 0.0051
A_{217}^{CIB}	41 ± 7	D_{2000}	229.9 ± 1.8	$\sigma_8(0.38)$	$0.6631^{+0.0044}_{-0.0051}$
A_{143}^{tSZ}	$3.8^{+1.7}_{-2.6}$	$n_{\mathrm{s},0.002}$	0.9667 ± 0.0041	$f\sigma_8(0.51)$	0.4731 ± 0.0045
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	Y_{P}	$0.245334^{+0.000085}_{-0.000071}$	$\sigma_8(0.51)$	$0.6206^{+0.0040}_{-0.0048}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.58^{+0.42}_{-0.13}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246660^{+0.000086}_{-0.000071}$	$f\sigma_8(0.61)$	0.4681 ± 0.0041
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$10^5 \mathrm{D}/\mathrm{H}$	2.613 ± 0.036	$\sigma_8(0.61)$	$0.5905^{+0.0038}_{-0.0046}$
A^{kSZ}	—	$\mathrm{Age}/\mathrm{Gyr}$	13.805 ± 0.027	$f\sigma_8(2.33)$	$0.2978^{+0.0019}_{-0.0024}$
A_{100}^{dust}	1.01 ± 0.20	z_*	1090.03 ± 0.28	$\sigma_8(2.33)$	$0.3070^{+0.0020}_{-0.0026}$
A_{143}^{dust}	0.97 ± 0.17	r_*	144.77 ± 0.28	f_{2000}^{143}	30.5 ± 3.0
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04122 ± 0.00041	f_{2000}^{217}	107.4 ± 2.0
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.904 ± 0.028	$f_{2000}^{143 \times 217}$	32.7 ± 2.1
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.54 ± 0.43	$\chi_{\mathrm{lensing}}^2$	9.35 ± 0.77
c_{217}	1.0012 ± 0.0015	r_{drag}	147.49 ± 0.31	χ_{simall}^2	397.2 ± 1.9
H_0	67.58 ± 0.49	k_{D}	0.14034 ± 0.00041	χ_{lowl}^2	23.04 ± 0.84
Ω_{Λ}	0.6891 ± 0.0065	$100\theta_{\mathrm{D}}$	0.16101 ± 0.00025	$\chi_{\mathrm{CamSpec}}^2$	7063.0 ± 5.2
Ω_{m}	0.3109 ± 0.0065	z_{eq}	3378 ± 25	$\chi_{6\mathrm{DF}}^2$	0.056 ± 0.070
$\Omega_{\mathrm{m}}h^2$	0.1420 ± 0.0011	k_{eq}	0.010309 ± 0.000077	χ_{MGS}^2	1.29 ± 0.46
$\Omega_{\mathrm{m}}h^3$	0.09595 ± 0.00044	$100\theta_{\mathrm{eq}}$	0.8174 ± 0.0047	$\chi_{\mathrm{DR12BAO}}^2$	4.8 ± 1.5
σ_8	0.8094 ± 0.0060	$100\theta_{\mathrm{s,eq}}$	0.4516 ± 0.0024	χ_{prior}^2	7.6 ± 3.5
S_8	0.824 ± 0.012	$H(0.15)$	72.85 ± 0.43	χ_{CMB}^2	7492.6 ± 5.3
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4513 ± 0.0066	$D_{\mathrm{M}}(0.15)$	641.5 ± 4.2	χ_{BAO}^2	6.1 ± 1.2
$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6044 ± 0.0062	$H(0.38)$	82.95 ± 0.32		

$$\bar{\chi}_{\mathrm{eff}}^2 = 7506.32; R - 1 = 0.00854$$

2.45 base_CamSpecHM_TT_lowl_lowE_lensing_post_Riess18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\text{b}}h^2$	$0.02234^{+0.00020}_{-0.00018}$	$\sigma_8\Omega_{\text{m}}^{0.25}$	0.6001 ± 0.0077	$D_{\text{M}}(0.15)$	637.3 ± 5.8
$\Omega_{\text{c}}h^2$	0.1181 ± 0.0015	$\sigma_8/h^{0.5}$	0.979 ± 0.011	$H(0.38)$	83.28 ± 0.44
$100\theta_{\text{MC}}$	1.04121 ± 0.00045	$r_{\text{drag}}h$	100.5 ± 1.2	$D_{\text{M}}(0.38)$	1521 ± 12
τ	$0.0588^{+0.0066}_{-0.0088}$	$\langle d^2 \rangle^{1/2}$	2.422 ± 0.025	$H(0.51)$	89.92 ± 0.35
$\ln(10^{10}A_{\text{s}})$	$3.048^{+0.013}_{-0.016}$	z_{re}	$8.09^{+0.67}_{-0.85}$	$D_{\text{M}}(0.51)$	1972 ± 14
n_{s}	0.9692 ± 0.0048	$10^9 A_{\text{s}}$	$2.107^{+0.028}_{-0.035}$	$H(0.61)$	95.48 ± 0.29
y_{cal}	1.0008 ± 0.0025	$10^9 A_{\text{s}}e^{-2\tau}$	$1.873^{+0.012}_{-0.011}$	$D_{\text{M}}(0.61)$	2296 ± 15
A_{100}^{PS}	241 ± 25	D_{40}	1221 ± 13	$H(2.33)$	235.32 ± 0.92
A_{143}^{PS}	40 ± 8	D_{220}	5724 ± 40	$D_{\text{M}}(2.33)$	5757 ± 14
A_{217}^{PS}	102 ± 10	D_{810}	2535 ± 14	$f\sigma_8(0.15)$	$0.4509^{+0.0082}_{-0.0074}$
A_{217}^{CIB}	40 ± 7	D_{1420}	816.4 ± 5.0	$\sigma_8(0.15)$	0.7473 ± 0.0058
A_{143}^{tSZ}	$3.9^{+1.7}_{-2.5}$	D_{2000}	230.5 ± 1.8	$f\sigma_8(0.38)$	$0.4708^{+0.0066}_{-0.0059}$
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.12	$n_{\text{s},0.002}$	0.9692 ± 0.0048	$\sigma_8(0.38)$	0.6632 ± 0.0050
$r_{143 \times 217}^{\text{CIB}}$	$0.57^{+0.41}_{-0.15}$	Y_{P}	$0.245379^{+0.000086}_{-0.000068}$	$f\sigma_8(0.51)$	$0.4702^{+0.0057}_{-0.0052}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	$Y_{\text{P}}^{\text{BBN}}$	$0.246705^{+0.000086}_{-0.000068}$	$\sigma_8(0.51)$	$0.6210^{+0.0044}_{-0.0051}$
A^{kSZ}	—	$10^5 \text{D}/\text{H}$	$2.593^{+0.033}_{-0.039}$	$f\sigma_8(0.61)$	0.4658 ± 0.0050
A_{100}^{dust}	1.02 ± 0.20	Age/Gyr	13.784 ± 0.030	$\sigma_8(0.61)$	$0.5911^{+0.0041}_{-0.0049}$
A_{143}^{dust}	0.97 ± 0.17	z_*	1089.80 ± 0.32	$f\sigma_8(2.33)$	$0.2983^{+0.0021}_{-0.0026}$
A_{217}^{dust}	0.97 ± 0.10	r_*	144.95 ± 0.36	$\sigma_8(2.33)$	$0.3079^{+0.0023}_{-0.0028}$
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04140 ± 0.00045	f_{2000}^{143}	29.9 ± 2.9
c_{100}	0.9976 ± 0.0010	$D_{\text{M}}(z_*)/\text{Gpc}$	13.918 ± 0.034	f_{2000}^{217}	107.0 ± 2.0
c_{217}	1.0012 ± 0.0015	z_{drag}	1059.72 ± 0.42	$f_{2000}^{143 \times 217}$	32.3 ± 2.1
H_0	68.09 ± 0.69	r_{drag}	147.63 ± 0.38	χ_{lensing}^2	9.8 ± 1.4
Ω_{Λ}	0.6955 ± 0.0090	k_{D}	$0.14027^{+0.00046}_{-0.00042}$	χ_{simall}^2	397.9 ± 2.6
Ω_{m}	0.3045 ± 0.0090	$100\theta_{\text{D}}$	0.16091 ± 0.00024	χ_{lowl}^2	22.67 ± 0.87
$\Omega_{\text{m}}h^2$	0.1411 ± 0.0014	z_{eq}	3357 ± 34	χ_{CamSpec}^2	7064.4 ± 5.5
$\Omega_{\text{m}}h^3$	0.09607 ± 0.00042	k_{eq}	0.01024 ± 0.00010	χ_{H073p45}^2	10.6 ± 2.6
σ_8	0.8079 ± 0.0066	$100\theta_{\text{eq}}$	0.8217 ± 0.0066	χ_{prior}^2	7.4 ± 3.4
S_8	$0.814^{+0.016}_{-0.014}$	$100\theta_{\text{s,eq}}$	0.4538 ± 0.0034	χ_{CMB}^2	7494.7 ± 6.3
$\sigma_8\Omega_{\text{m}}^{0.5}$	$0.4458^{+0.0088}_{-0.0079}$	$H(0.15)$	73.29 ± 0.59		

$$\bar{\chi}_{\text{eff}}^2 = 7512.76; R - 1 = 0.03489$$

2.46 base_CamSpecHM_TT_lowl_lowE_lensing_post_BAO_Riess18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02233 ± 0.00019	$\sigma_8/h^{0.5}$	0.9796 ± 0.0090	$D_{\mathrm{M}}(0.38)$	1522.1 ± 8.0
$\Omega_{\mathrm{c}}h^2$	0.1182 ± 0.0010	$r_{\mathrm{drag}}h$	100.46 ± 0.80	$H(0.51)$	89.90 ± 0.26
$100\theta_{\mathrm{MC}}$	1.04119 ± 0.00041	$\langle d^2 \rangle^{1/2}$	2.423 ± 0.021	$D_{\mathrm{M}}(0.51)$	1972.8 ± 9.5
τ	$0.0586^{+0.0066}_{-0.0078}$	z_{re}	8.07 ± 0.70	$H(0.61)$	95.47 ± 0.22
$\ln(10^{10}A_{\mathrm{s}})$	$3.048^{+0.013}_{-0.016}$	$10^9 A_{\mathrm{s}}$	$2.107^{+0.028}_{-0.033}$	$D_{\mathrm{M}}(0.61)$	2296 ± 10
n_{s}	0.9690 ± 0.0040	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.874 ± 0.011	$H(2.33)$	235.36 ± 0.66
y_{cal}	1.0008 ± 0.0025	D_{40}	1222 ± 12	$D_{\mathrm{M}}(2.33)$	5757 ± 11
A_{100}^{PS}	241 ± 25	D_{220}	5725 ± 40	$f\sigma_8(0.15)$	0.4513 ± 0.0060
A_{143}^{PS}	40 ± 8	D_{810}	2535 ± 13	$\sigma_8(0.15)$	0.7474 ± 0.0057
A_{217}^{PS}	102 ± 10	D_{1420}	816.5 ± 5.0	$f\sigma_8(0.38)$	0.4711 ± 0.0050
A_{217}^{CIB}	40 ± 7	D_{2000}	230.5 ± 1.7	$\sigma_8(0.38)$	$0.6632^{+0.0047}_{-0.0053}$
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	$n_{\mathrm{s},0.002}$	0.9690 ± 0.0040	$f\sigma_8(0.51)$	0.4705 ± 0.0046
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.12	Y_{P}	$0.245378^{+0.000080}_{-0.000068}$	$\sigma_8(0.51)$	$0.6210^{+0.0044}_{-0.0050}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.57^{+0.40}_{-0.16}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246704^{+0.000081}_{-0.000068}$	$f\sigma_8(0.61)$	0.4660 ± 0.0042
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$10^5 \mathrm{D}/\mathrm{H}$	$2.593^{+0.033}_{-0.037}$	$\sigma_8(0.61)$	$0.5911^{+0.0042}_{-0.0048}$
A^{kSZ}	—	Age/Gyr	13.785 ± 0.026	$f\sigma_8(2.33)$	$0.2983^{+0.0021}_{-0.0024}$
A_{100}^{dust}	1.02 ± 0.19	z_*	1089.81 ± 0.27	$\sigma_8(2.33)$	$0.3078^{+0.0023}_{-0.0026}$
A_{143}^{dust}	0.97 ± 0.17	r_*	144.93 ± 0.27	f_{2000}^{143}	29.9 ± 2.9
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04138 ± 0.00040	f_{2000}^{217}	107.0 ± 2.1
$A_{143 \times 217}^{\mathrm{dust}}$	1.02 ± 0.16	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.917 ± 0.027	$f_{2000}^{143 \times 217}$	32.3 ± 2.1
c_{100}	0.9976 ± 0.0010	z_{drag}	1059.72 ± 0.42	$\chi_{\mathrm{lensing}}^2$	9.6 ± 1.1
c_{217}	1.0012 ± 0.0015	r_{drag}	147.61 ± 0.30	χ_{simall}^2	397.7 ± 2.3
H_0	68.05 ± 0.47	k_{D}	0.14029 ± 0.00041	χ_{lowl}^2	22.69 ± 0.79
Ω_{Λ}	0.6951 ± 0.0061	$100\theta_{\mathrm{D}}$	0.16091 ± 0.00024	$\chi_{\mathrm{CamSpec}}^2$	7064.1 ± 5.4
Ω_{m}	0.3049 ± 0.0061	z_{eq}	3358 ± 24	$\chi_{\mathrm{H073p45}}^2$	10.6 ± 1.8
$\Omega_{\mathrm{m}}h^2$	0.1412 ± 0.0010	k_{eq}	0.010250 ± 0.000073	$\chi_{6\mathrm{DF}}^2$	0.027 ± 0.038
$\Omega_{\mathrm{m}}h^3$	0.09607 ± 0.00043	$100\theta_{\mathrm{eq}}$	0.8214 ± 0.0045	χ_{MGS}^2	1.74 ± 0.49
σ_8	0.8081 ± 0.0063	$100\theta_{\mathrm{s,eq}}$	0.4536 ± 0.0023	$\chi_{\mathrm{DR12BAO}}^2$	3.90 ± 0.76
S_8	0.815 ± 0.012	$H(0.15)$	73.26 ± 0.41	χ_{prior}^2	7.5 ± 3.5
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4462 ± 0.0063	$D_{\mathrm{M}}(0.15)$	637.5 ± 4.0	χ_{CMB}^2	7494.1 ± 5.6
$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6005 ± 0.0062	$H(0.38)$	83.25 ± 0.31	χ_{BAO}^2	5.67 ± 0.67

$\bar{\chi}_{\mathrm{eff}}^2 = 7517.92$; $R - 1 = 0.02825$

2.47 base_CamSpecHM_TT_lowl_lowE_lensing_post_Pantheon18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02219 ± 0.00020	$\sigma_8 \Omega_m^{0.25}$	0.6070 ± 0.0074	$D_M(0.15)$	643.9 ± 5.5
$\Omega_c h^2$	0.1197 ± 0.0014	$\sigma_8/h^{0.5}$	0.988 ± 0.010	$H(0.38)$	82.79 ± 0.41
$100\theta_{MC}$	1.04093 ± 0.00044	$r_{drag}h$	99.2 ± 1.1	$D_M(0.38)$	1535 ± 11
τ	$0.0550^{+0.0053}_{-0.0082}$	$\langle d^2 \rangle^{1/2}$	2.442 ± 0.024	$H(0.51)$	89.53 ± 0.33
$\ln(10^{10} A_s)$	$3.043^{+0.011}_{-0.015}$	z_{re}	$7.77^{+0.58}_{-0.79}$	$D_M(0.51)$	1988 ± 13
n_s	0.9653 ± 0.0046	$10^9 A_s$	$2.097^{+0.023}_{-0.032}$	$H(0.61)$	95.17 ± 0.28
y_{cal}	1.0005 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.878 ± 0.011	$D_M(0.61)$	2312 ± 14
A_{100}^{PS}	242 ± 25	D_{40}	1227 ± 12	$H(2.33)$	236.18 ± 0.87
A_{143}^{PS}	41 ± 8	D_{220}	5710 ± 41	$D_M(2.33)$	5771 ± 13
A_{217}^{PS}	101 ± 10	D_{810}	2534 ± 14	$f\sigma_8(0.15)$	0.4589 ± 0.0077
A_{217}^{CIB}	41 ± 7	D_{1420}	814.5 ± 5.1	$\sigma_8(0.15)$	0.7486 ± 0.0054
A_{143}^{tSZ}	$3.8^{+1.7}_{-2.6}$	D_{2000}	229.7 ± 1.8	$f\sigma_8(0.38)$	0.4765 ± 0.0060
$r_{143 \times 217}^{PS}$	0.65 ± 0.13	$n_{s,0.002}$	0.9653 ± 0.0046	$\sigma_8(0.38)$	$0.6632^{+0.0042}_{-0.0050}$
$r_{143 \times 217}^{CIB}$	> 0.461	Y_P	$0.245318^{+0.000093}_{-0.000074}$	$f\sigma_8(0.51)$	0.4748 ± 0.0052
$\xi^{tSZ \times CIB}$	—	Y_P^{BBN}	$0.246644^{+0.000093}_{-0.000074}$	$\sigma_8(0.51)$	$0.6205^{+0.0038}_{-0.0047}$
A^{kSZ}	—	$10^5 D/H$	2.620 ± 0.038	$f\sigma_8(0.61)$	0.4695 ± 0.0046
A_{100}^{dust}	1.01 ± 0.20	Age/Gyr	13.814 ± 0.030	$\sigma_8(0.61)$	$0.5904^{+0.0036}_{-0.0045}$
A_{143}^{dust}	0.97 ± 0.18	z_*	1090.12 ± 0.32	$f\sigma_8(2.33)$	$0.2975^{+0.0018}_{-0.0024}$
A_{217}^{dust}	0.97 ± 0.10	r_*	144.65 ± 0.34	$\sigma_8(2.33)$	$0.3066^{+0.0019}_{-0.0026}$
$A_{143 \times 217}^{dust}$	1.03 ± 0.16	$100\theta_*$	1.04113 ± 0.00044	f_{2000}^{143}	30.7 ± 3.0
c_{100}	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.893 ± 0.032	f_{2000}^{217}	107.5 ± 2.0
c_{217}	1.0012 ± 0.0015	z_{drag}	1059.49 ± 0.43	$f_{2000}^{143 \times 217}$	32.9 ± 2.1
H_0	67.32 ± 0.64	r_{drag}	147.37 ± 0.36	$\chi_{lensing}^2$	9.41 ± 0.81
Ω_Λ	0.6853 ± 0.0088	k_D	0.14043 ± 0.00043	χ_{simall}^2	397.0 ± 1.8
Ω_m	0.3147 ± 0.0088	$100\theta_D$	0.16102 ± 0.00025	χ_{lowl}^2	23.29 ± 0.95
$\Omega_m h^2$	0.1425 ± 0.0014	z_{eq}	3391 ± 32	$\chi_{CamSpec}^2$	7062.8 ± 5.2
$\Omega_m h^3$	0.09594 ± 0.00044	k_{eq}	0.010349 ± 0.000099	χ_{JLA}^2	1035.39 ± 0.60
σ_8	0.8104 ± 0.0061	$100\theta_{eq}$	0.8149 ± 0.0061	χ_{prior}^2	7.6 ± 3.5
S_8	0.830 ± 0.015	$100\theta_{s,eq}$	0.4504 ± 0.0031	χ_{CMB}^2	7492.5 ± 5.3
$\sigma_8 \Omega_m^{0.5}$	0.4546 ± 0.0083	$H(0.15)$	72.63 ± 0.55		

$\bar{\chi}_{eff}^2 = 8535.44$; $R - 1 = 0.00636$

2.48 base_CamSpecHM_TT_lowl_lowE_lensing_post_BAO_JLA_Riess18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02234 ± 0.00019	$r_{\mathrm{drag}}h$	100.55 ± 0.79	$D_{\mathrm{M}}(0.51)$	1971.8 ± 9.5
$\Omega_{\mathrm{c}}h^2$	0.1181 ± 0.0010	$\langle d^2 \rangle^{1/2}$	2.422 ± 0.021	$H(0.61)$	95.48 ± 0.23
$100\theta_{\mathrm{MC}}$	1.04120 ± 0.00041	z_{re}	8.08 ± 0.70	$D_{\mathrm{M}}(0.61)$	2295 ± 10
τ	$0.0587^{+0.0067}_{-0.0078}$	$10^9 A_{\mathrm{s}}$	2.107 ± 0.030	$H(2.33)$	235.29 ± 0.65
$\ln(10^{10} A_{\mathrm{s}})$	3.048 ± 0.014	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.874 ± 0.011	$D_{\mathrm{M}}(2.33)$	5757 ± 11
n_{s}	0.9692 ± 0.0039	D_{40}	1221 ± 12	$f\sigma_8(0.15)$	0.4507 ± 0.0060
y_{cal}	1.0008 ± 0.0026	D_{220}	5726 ± 40	$\sigma_8(0.15)$	0.7471 ± 0.0056
A_{100}^{PS}	242 ± 25	D_{810}	2535 ± 14	$f\sigma_8(0.38)$	0.4706 ± 0.0051
A_{143}^{PS}	40 ± 8	D_{1420}	816.6 ± 5.1	$\sigma_8(0.38)$	0.6631 ± 0.0049
A_{217}^{PS}	102 ± 10	D_{2000}	230.6 ± 1.7	$f\sigma_8(0.51)$	0.4700 ± 0.0046
A_{217}^{CIB}	40 ± 7	$n_{\mathrm{s},0.002}$	0.9692 ± 0.0039	$\sigma_8(0.51)$	0.6209 ± 0.0046
A_{143}^{tSZ}	$3.8^{+1.7}_{-2.6}$	Y_{P}	0.245381 ± 0.000075	$f\sigma_8(0.61)$	0.4657 ± 0.0042
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246707 ± 0.000075	$\sigma_8(0.61)$	0.5910 ± 0.0044
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.57^{+0.39}_{-0.18}$	$10^5 \mathrm{D}/\mathrm{H}$	2.592 ± 0.035	$f\sigma_8(2.33)$	0.2983 ± 0.0022
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Age/Gyr	13.784 ± 0.026	$\sigma_8(2.33)$	0.3078 ± 0.0023
A^{kSZ}	—	z_*	1089.79 ± 0.27	f_{2000}^{143}	29.9 ± 2.9
A_{100}^{dust}	1.02 ± 0.19	r_*	144.95 ± 0.27	f_{2000}^{217}	107.0 ± 2.1
A_{143}^{dust}	0.96 ± 0.17	$100\theta_*$	1.04139 ± 0.00040	$f_{2000}^{143 \times 217}$	32.3 ± 2.1
A_{217}^{dust}	0.97 ± 0.10	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.919 ± 0.027	$\chi_{\mathrm{lensing}}^2$	9.6 ± 1.1
$A_{143 \times 217}^{\mathrm{dust}}$	1.02 ± 0.16	z_{drag}	1059.73 ± 0.42	χ_{small}^2	397.7 ± 2.3
c_{100}	0.9976 ± 0.0010	r_{drag}	147.64 ± 0.30	χ_{lowl}^2	22.66 ± 0.77
c_{217}	$1.0012^{+0.0015}_{-0.0016}$	k_{D}	0.14027 ± 0.00040	$\chi_{\mathrm{CamSpec}}^2$	7064.4 ± 5.4
H_0	68.10 ± 0.46	$100\theta_{\mathrm{D}}$	0.16091 ± 0.00025	$\chi_{\mathrm{H073p45}}^2$	10.4 ± 1.8
Ω_{Λ}	0.6958 ± 0.0060	z_{eq}	3356 ± 24	χ_{JLA}^2	706.61 ± 0.11
Ω_{m}	0.3042 ± 0.0060	k_{eq}	0.010242 ± 0.000072	$\chi_{6\mathrm{DF}}^2$	0.026 ± 0.038
$\Omega_{\mathrm{m}}h^2$	0.14107 ± 0.00099	$100\theta_{\mathrm{eq}}$	0.8219 ± 0.0044	χ_{MGS}^2	1.80 ± 0.49
$\Omega_{\mathrm{m}}h^3$	0.09607 ± 0.00043	$100\theta_{\mathrm{s,eq}}$	0.4539 ± 0.0023	$\chi_{\mathrm{DR12BAO}}^2$	3.84 ± 0.70
σ_8	0.8077 ± 0.0063	$H(0.15)$	73.31 ± 0.40	χ_{prior}^2	7.5 ± 3.6
S_8	0.813 ± 0.012	$D_{\mathrm{M}}(0.15)$	637.1 ± 3.9	χ_{CMB}^2	7494.4 ± 5.7
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4455 ± 0.0063	$H(0.38)$	83.28 ± 0.31	χ_{BAO}^2	5.67 ± 0.68
$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.5999 ± 0.0062	$D_{\mathrm{M}}(0.38)$	1521.2 ± 8.0		
$\sigma_8/h^{0.5}$	0.9788 ± 0.0090	$H(0.51)$	89.92 ± 0.26		

$$\bar{\chi}_{\mathrm{eff}}^2 = 8224.63; R - 1 = 0.08788$$

2.49 base_CamSpecHM_TT_lowl_lowE_lensing_post_BAO_Pantheon18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02224 ± 0.00019	$\sigma_8/h^{0.5}$	0.9838 ± 0.0088	$D_M(0.38)$	1529.0 ± 8.2
$\Omega_c h^2$	0.1190 ± 0.0010	$r_{\text{drag}} h$	99.80 ± 0.80	$H(0.51)$	89.69 ± 0.26
$100\theta_{\text{MC}}$	1.04104 ± 0.00041	$\langle d^2 \rangle^{1/2}$	2.432 ± 0.021	$D_M(0.51)$	1980.9 ± 9.7
τ	$0.0565^{+0.0059}_{-0.0078}$	z_{re}	$7.90^{+0.63}_{-0.76}$	$H(0.61)$	95.29 ± 0.23
$\ln(10^{10} A_s)$	$3.045^{+0.012}_{-0.015}$	$10^9 A_s$	$2.101^{+0.025}_{-0.033}$	$D_M(0.61)$	2305 ± 10
n_s	0.9670 ± 0.0041	$10^9 A_s e^{-2\tau}$	1.876 ± 0.011	$H(2.33)$	235.75 ± 0.67
y_{cal}	1.0007 ± 0.0025	D_{40}	1224 ± 12	$D_M(2.33)$	5765 ± 11
A_{100}^{PS}	242 ± 25	D_{220}	5715 ± 40	$f\sigma_8(0.15)$	0.4552 ± 0.0059
A_{143}^{PS}	41 ± 8	D_{810}	2534 ± 13	$\sigma_8(0.15)$	0.7479 ± 0.0055
A_{217}^{PS}	101 ± 10	D_{1420}	815.3 ± 5.0	$f\sigma_8(0.38)$	0.4738 ± 0.0050
A_{217}^{CIB}	41 ± 7	D_{2000}	230.0 ± 1.8	$\sigma_8(0.38)$	$0.6631^{+0.0044}_{-0.0052}$
A_{143}^{tSZ}	$3.8^{+1.7}_{-2.6}$	$n_{s,0.002}$	0.9670 ± 0.0041	$f\sigma_8(0.51)$	0.4726 ± 0.0044
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.13	Y_{P}	$0.245339^{+0.000084}_{-0.000070}$	$\sigma_8(0.51)$	$0.6206^{+0.0041}_{-0.0049}$
$r_{143 \times 217}^{\text{CIB}}$	$0.58^{+0.42}_{-0.13}$	$Y_{\text{P}}^{\text{BBN}}$	$0.246665^{+0.000084}_{-0.000071}$	$f\sigma_8(0.61)$	0.4678 ± 0.0041
$\xi^{\text{tSZ} \times \text{CIB}}$	—	$10^5 \text{D}/\text{H}$	2.611 ± 0.035	$\sigma_8(0.61)$	$0.5906^{+0.0039}_{-0.0047}$
A^{kSZ}	—	Age/Gyr	13.803 ± 0.026	$f\sigma_8(2.33)$	$0.2978^{+0.0020}_{-0.0024}$
A_{100}^{dust}	1.01 ± 0.20	z_*	1090.00 ± 0.27	$\sigma_8(2.33)$	$0.3071^{+0.0021}_{-0.0026}$
A_{143}^{dust}	0.97 ± 0.17	r_*	144.80 ± 0.28	f_{2000}^{143}	30.4 ± 3.0
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04124 ± 0.00041	f_{2000}^{217}	107.3 ± 2.0
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$D_M(z_*)/\text{Gpc}$	13.907 ± 0.027	$f_{2000}^{143 \times 217}$	32.7 ± 2.1
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.55 ± 0.42	χ_{lensing}^2	9.36 ± 0.80
c_{217}	1.0012 ± 0.0015	r_{drag}	147.52 ± 0.31	χ_{simall}^2	397.2 ± 2.0
H_0	67.65 ± 0.47	k_{D}	0.14032 ± 0.00041	χ_{lowl}^2	22.98 ± 0.83
Ω_{Λ}	0.6900 ± 0.0062	$100\theta_{\text{D}}$	0.16100 ± 0.00025	χ_{CamSpec}^2	7063.2 ± 5.2
Ω_{m}	0.3100 ± 0.0062	z_{eq}	3374 ± 24	χ_{JLA}^2	1035.06 ± 0.30
$\Omega_{\text{m}} h^2$	0.1418 ± 0.0010	k_{eq}	0.010298 ± 0.000074	$\chi_{6\text{DF}}^2$	0.046 ± 0.059
$\Omega_{\text{m}} h^3$	0.09596 ± 0.00044	$100\theta_{\text{eq}}$	0.8181 ± 0.0045	χ_{MGS}^2	1.36 ± 0.45
σ_8	0.8092 ± 0.0061	$100\theta_{\text{s,eq}}$	0.4520 ± 0.0023	χ_{DR12BAO}^2	4.6 ± 1.3
S_8	0.822 ± 0.012	$H(0.15)$	72.91 ± 0.41	χ_{prior}^2	7.6 ± 3.5
$\sigma_8 \Omega_{\text{m}}^{0.5}$	0.4505 ± 0.0063	$D_M(0.15)$	640.9 ± 4.0	χ_{CMB}^2	7492.8 ± 5.3
$\sigma_8 \Omega_{\text{m}}^{0.25}$	0.6038 ± 0.0061	$H(0.38)$	82.99 ± 0.31	χ_{BAO}^2	6.0 ± 1.0

$$\bar{\chi}_{\text{eff}}^2 = 8541.35; R - 1 = 0.00983$$

2.50 base_CamSpecHM_TT_lowl_lowE_lensing_post_BAO_Pantheon18_Riess18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02234 ± 0.00018	$r_{\text{drag}} h$	100.51 ± 0.77	$D_{\text{M}}(0.51)$	1972.1 ± 9.2
$\Omega_c h^2$	0.11813 ± 0.00099	$\langle d^2 \rangle^{1/2}$	2.423 ± 0.021	$H(0.61)$	95.48 ± 0.22
$100\theta_{\text{MC}}$	1.04120 ± 0.00041	z_{re}	8.09 ± 0.70	$D_{\text{M}}(0.61)$	2296 ± 10
τ	$0.0587^{+0.0066}_{-0.0078}$	$10^9 A_{\text{s}}$	$2.107^{+0.028}_{-0.033}$	$H(2.33)$	235.32 ± 0.65
$\ln(10^{10} A_{\text{s}})$	$3.048^{+0.014}_{-0.016}$	$10^9 A_{\text{s}} e^{-2\tau}$	1.874 ± 0.011	$D_{\text{M}}(2.33)$	5757 ± 11
n_{s}	0.9692 ± 0.0040	D_{40}	1221 ± 12	$f\sigma_8(0.15)$	0.4510 ± 0.0058
y_{cal}	1.0009 ± 0.0025	D_{220}	5726 ± 40	$\sigma_8(0.15)$	0.7473 ± 0.0057
A_{100}^{PS}	241 ± 25	D_{810}	2535 ± 13	$f\sigma_8(0.38)$	0.4708 ± 0.0050
A_{143}^{PS}	40 ± 8	D_{1420}	816.6 ± 5.0	$\sigma_8(0.38)$	$0.6632^{+0.0048}_{-0.0053}$
A_{217}^{PS}	102 ± 10	D_{2000}	230.6 ± 1.7	$f\sigma_8(0.51)$	0.4703 ± 0.0045
A_{217}^{CIB}	40 ± 7	$n_{\text{s},0.002}$	0.9692 ± 0.0040	$\sigma_8(0.51)$	$0.6210^{+0.0044}_{-0.0050}$
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	Y_{P}	$0.245380^{+0.000080}_{-0.000067}$	$f\sigma_8(0.61)$	0.4659 ± 0.0042
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.12	$Y_{\text{P}}^{\text{BBN}}$	$0.246706^{+0.000080}_{-0.000067}$	$\sigma_8(0.61)$	$0.5911^{+0.0042}_{-0.0048}$
$r_{143 \times 217}^{\text{CIB}}$	$0.57^{+0.40}_{-0.17}$	$10^5 \text{D}/\text{H}$	$2.592^{+0.033}_{-0.037}$	$f\sigma_8(2.33)$	$0.2983^{+0.0021}_{-0.0024}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Age/Gyr	13.784 ± 0.025	$\sigma_8(2.33)$	$0.3079^{+0.0023}_{-0.0026}$
A^{kSZ}	—	z_*	1089.80 ± 0.26	f_{2000}^{143}	29.9 ± 2.9
A_{100}^{dust}	1.02 ± 0.19	r_*	144.94 ± 0.27	f_{2000}^{217}	107.0 ± 2.1
A_{143}^{dust}	0.97 ± 0.17	$100\theta_*$	1.04139 ± 0.00040	$f_{2000}^{143 \times 217}$	32.2 ± 2.1
A_{217}^{dust}	0.97 ± 0.10	$D_{\text{M}}(z_*)/\text{Gpc}$	13.918 ± 0.027	χ_{lensing}^2	9.6 ± 1.1
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	z_{drag}	1059.73 ± 0.42	χ_{small}^2	397.7 ± 2.3
c_{100}	0.9976 ± 0.0010	r_{drag}	147.63 ± 0.30	χ_{lowl}^2	22.66 ± 0.78
c_{217}	1.0012 ± 0.0015	k_{D}	0.14028 ± 0.00040	χ_{CamSpec}^2	7064.2 ± 5.4
H_0	68.09 ± 0.45	$100\theta_{\text{D}}$	0.16091 ± 0.00024	χ_{H073p45}^2	10.5 ± 1.8
Ω_{Λ}	0.6955 ± 0.0058	z_{eq}	3357 ± 23	χ_{JLA}^2	1034.87 ± 0.17
Ω_{m}	0.3045 ± 0.0058	k_{eq}	0.010245 ± 0.000071	$\chi_{6\text{DF}}^2$	0.025 ± 0.035
$\Omega_{\text{m}} h^2$	0.14111 ± 0.00097	$100\theta_{\text{eq}}$	0.8217 ± 0.0043	χ_{MGS}^2	1.77 ± 0.47
$\Omega_{\text{m}} h^3$	0.09607 ± 0.00043	$100\theta_{\text{s,eq}}$	0.4538 ± 0.0022	χ_{DR12BAO}^2	3.84 ± 0.68
σ_8	0.8080 ± 0.0063	$H(0.15)$	73.29 ± 0.39	χ_{prior}^2	7.5 ± 3.5
S_8	0.814 ± 0.011	$D_{\text{M}}(0.15)$	637.3 ± 3.8	χ_{CMB}^2	7494.2 ± 5.6
$\sigma_8 \Omega_{\text{m}}^{0.5}$	0.4458 ± 0.0062	$H(0.38)$	83.27 ± 0.30	χ_{BAO}^2	5.64 ± 0.62
$\sigma_8 \Omega_{\text{m}}^{0.25}$	0.6002 ± 0.0061	$D_{\text{M}}(0.38)$	1521.5 ± 7.8		
$\sigma_8/h^{0.5}$	0.9793 ± 0.0089	$H(0.51)$	89.92 ± 0.25		

$$\bar{\chi}_{\text{eff}}^2 = 8552.73; R - 1 = 0.03088$$

2.51 base_CamSpecHM_TTTEEE_lowl_lowE_lensing

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022277	0.02229 ± 0.00015	S_8	0.8292	0.828 ± 0.013	$100\theta_{s,eq}$	0.44992	0.4502 ± 0.0026
$\Omega_c h^2$	0.11981	0.1197 ± 0.0012	$\sigma_8 \Omega_m^{0.5}$	0.4542	0.4535 ± 0.0070	$H(0.15)$	72.638	72.70 ± 0.47
$100\theta_{MC}$	1.040847	1.04087 ± 0.00031	$\sigma_8 \Omega_m^{0.25}$	0.6063	0.6058 ± 0.0064	$D_M(0.15)$	643.73	643.2 ± 4.7
τ	0.0529	$0.0536^{+0.0069}_{-0.0077}$	$\sigma_8/h^{0.5}$	0.9864	0.9857 ± 0.0091	$H(0.38)$	82.808	82.85 ± 0.34
$\ln(10^{10} A_s)$	3.0402	3.041 ± 0.015	$r_{drag} h$	99.13	99.24 ± 0.94	$D_M(0.38)$	1534.4	1533.3 ± 9.3
n_s	0.96531	0.9656 ± 0.0042	$\langle d^2 \rangle^{1/2}$	2.4388	2.438 ± 0.022	$H(0.51)$	89.559	89.60 ± 0.27
y_{cal}	1.00062	1.0005 ± 0.0025	z_{re}	7.56	7.61 ± 0.75	$D_M(0.51)$	1987.1	1986 ± 11
A_{100}^{PS}	234.9	239 ± 25	$10^9 A_s$	2.0910	$2.092^{+0.028}_{-0.031}$	$H(0.61)$	95.204	95.23 ± 0.22
A_{143}^{PS}	46.5	39 ± 8	$10^9 A_s e^{-2\tau}$	1.8810	1.879 ± 0.011	$D_M(0.61)$	2311.9	2310 ± 12
A_{217}^{PS}	103.1	102 ± 10	D_{40}	1228.3	1227 ± 12	$H(2.33)$	236.34	236.27 ± 0.73
A_{217}^{CIB}	43.3	40 ± 7	D_{220}	5722.0	5720 ± 39	$D_M(2.33)$	5768.1	5767 ± 10
A_{143}^{tSZ}	6.16	$3.9^{+1.9}_{-2.5}$	D_{810}	2537.0	2535 ± 13	$f\sigma_8(0.15)$	0.4585	0.4579 ± 0.0065
$r_{143 \times 217}^{PS}$	0.667	0.66 ± 0.13	D_{1420}	816.14	815.7 ± 4.9	$\sigma_8(0.15)$	0.7475	0.7474 ± 0.0054
$r_{143 \times 217}^{CIB}$	0.849	$0.55^{+0.39}_{-0.18}$	D_{2000}	230.34	230.3 ± 1.6	$f\sigma_8(0.38)$	0.4760	0.4756 ± 0.0053
$\xi^{tSZ \times CIB}$	0.52	—	$n_{s,0.002}$	0.96531	0.9656 ± 0.0042	$\sigma_8(0.38)$	0.66226	0.6622 ± 0.0048
A^{kSZ}	0.78	$4.7^{+2.4}_{-3.8}$	Y_P	0.245358	$0.245363^{+0.000066}_{-0.000057}$	$f\sigma_8(0.51)$	0.47423	0.4738 ± 0.0046
A_{100}^{dust}	1.003	1.01 ± 0.20	Y_P^{BBN}	0.246684	$0.246690^{+0.000066}_{-0.000058}$	$\sigma_8(0.51)$	0.61961	0.6196 ± 0.0045
A_{143}^{dust}	0.978	0.96 ± 0.18	$10^5 D/H$	2.6031	2.600 ± 0.029	$f\sigma_8(0.61)$	0.46899	0.4687 ± 0.0042
A_{217}^{dust}	0.975	0.97 ± 0.11	Age/Gyr	13.8081	13.805 ± 0.023	$\sigma_8(0.61)$	0.58948	0.5895 ± 0.0043
$A_{143 \times 217}^{dust}$	0.996	1.03 ± 0.16	z_*	1090.021	1089.99 ± 0.26	$f\sigma_8(2.33)$	0.29708	$0.2971^{+0.0021}_{-0.0023}$
c_{100}	0.99777	0.9975 ± 0.0011	r_*	144.551	144.57 ± 0.28	$\sigma_8(2.33)$	0.30613	$0.3062^{+0.0022}_{-0.0025}$
c_{217}	1.00133	1.0011 ± 0.0016	$100\theta_*$	1.041044	1.04106 ± 0.00031	f_{2000}^{143}	30.38	29.7 ± 2.8
c_{TE}	0.99671	0.9966 ± 0.0049	$D_M(z_*)/\text{Gpc}$	13.8852	13.887 ± 0.026	f_{2000}^{217}	106.92	106.9 ± 1.9
c_{EE}	0.99246	0.9921 ± 0.0049	z_{drag}	1059.704	1059.74 ± 0.32	$f_{2000}^{143 \times 217}$	32.31	32.2 ± 2.0
H_0	67.32	67.39 ± 0.54	r_{drag}	147.246	147.26 ± 0.28	$\chi^2_{lensing}$	8.831	9.30 ± 0.69
Ω_Λ	0.6851	0.6858 ± 0.0074	k_D	0.140634	0.14063 ± 0.00033	χ^2_{small}	395.87	396.9 ± 1.6
Ω_m	0.3149	0.3142 ± 0.0074	$100\theta_D$	0.160882	0.16087 ± 0.00019	χ^2_{lowl}	23.22	23.22 ± 0.86
$\Omega_m h^2$	0.14273	0.1426 ± 0.0011	z_{eq}	3395.4	3393 ± 27	$\chi^2_{CamSpec}$	11499.6	11514.1 ± 5.5
$\Omega_m h^3$	0.096088	0.09610 ± 0.00031	k_{eq}	0.010363	0.010355 ± 0.000083	χ^2_{prior}	2.08	7.9 ± 3.5
σ_8	0.8093	0.8091 ± 0.0060	$100\theta_{eq}$	0.8142	0.8148 ± 0.0051	χ^2_{CMB}	11927.6	11943.6 ± 5.7

Best-fit $\chi^2_{eff} = 11929.66$; $\bar{\chi}^2_{eff} = 11951.44$; $R - 1 = 0.00801$
 χ^2_{eff} : CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p_teb_consext8: 8.83 small_100x143_offlike5_EE_Aplanck_B: 395.87 commander_dx12_v3.2_29: 23.22 CamSpec like_10.7HM_1400_unified: 11499.65

2.52 base_CamSpecHM_TTTEEE_lowl_lowE_lensing_post_BAO

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02234 ± 0.00014	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6033 ± 0.0057	$D_{\mathrm{M}}(0.38)$	1528.6 ± 7.3
$\Omega_{\mathrm{c}}h^2$	0.11907 ± 0.00094	$\sigma_8/h^{0.5}$	0.9827 ± 0.0083	$H(0.51)$	89.73 ± 0.22
$100\theta_{\mathrm{MC}}$	1.04095 ± 0.00030	$r_{\mathrm{drag}}h$	99.72 ± 0.73	$D_{\mathrm{M}}(0.51)$	1980.3 ± 8.6
τ	$0.0552^{+0.0067}_{-0.0076}$	$\langle d^2 \rangle^{1/2}$	2.431 ± 0.020	$H(0.61)$	95.33 ± 0.19
$\ln(10^{10}A_{\mathrm{s}})$	$3.043^{+0.013}_{-0.015}$	z_{re}	7.75 ± 0.73	$D_{\mathrm{M}}(0.61)$	2304.5 ± 9.3
n_{s}	0.9671 ± 0.0038	$10^9 A_{\mathrm{s}}$	$2.097^{+0.028}_{-0.032}$	$H(2.33)$	235.92 ± 0.59
y_{cal}	1.0007 ± 0.0025	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.877 ± 0.011	$D_{\mathrm{M}}(2.33)$	5762.5 ± 9.0
A_{100}^{PS}	239 ± 25	D_{40}	1225 ± 11	$f\sigma_8(0.15)$	0.4549 ± 0.0054
A_{143}^{PS}	39 ± 8	D_{220}	5725 ± 39	$\sigma_8(0.15)$	$0.7470^{+0.0051}_{-0.0057}$
A_{217}^{PS}	103 ± 10	D_{810}	2536 ± 14	$f\sigma_8(0.38)$	0.4735 ± 0.0046
A_{217}^{CIB}	40 ± 7	D_{1420}	816.3 ± 4.8	$\sigma_8(0.38)$	$0.6623^{+0.0044}_{-0.0050}$
A_{143}^{tSZ}	$3.9^{+2.0}_{-2.5}$	D_{2000}	230.5 ± 1.6	$f\sigma_8(0.51)$	0.4722 ± 0.0042
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$n_{\mathrm{s},0.002}$	0.9671 ± 0.0038	$\sigma_8(0.51)$	$0.6199^{+0.0042}_{-0.0047}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.55^{+0.39}_{-0.18}$	Y_{P}	$0.245380^{+0.000061}_{-0.000052}$	$f\sigma_8(0.61)$	0.4674 ± 0.0039
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246706^{+0.000061}_{-0.000052}$	$\sigma_8(0.61)$	$0.5899^{+0.0040}_{-0.0045}$
A^{kSZ}	$4.6^{+1.8}_{-4.4}$	$10^5 \mathrm{D}/\mathrm{H}$	$2.592^{+0.025}_{-0.028}$	$f\sigma_8(2.33)$	$0.2975^{+0.0020}_{-0.0023}$
A_{100}^{dust}	1.01 ± 0.19	$\mathrm{Age}/\mathrm{Gyr}$	13.796 ± 0.020	$\sigma_8(2.33)$	$0.3067^{+0.0022}_{-0.0025}$
A_{143}^{dust}	0.96 ± 0.17	z_*	1089.88 ± 0.22	f_{2000}^{143}	29.5 ± 2.8
A_{217}^{dust}	0.97 ± 0.11	r_*	144.70 ± 0.23	f_{2000}^{217}	106.8 ± 1.9
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04114 ± 0.00030	$f_{2000}^{143 \times 217}$	32.0 ± 2.0
c_{100}	0.9976 ± 0.0010	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.898 ± 0.022	$\chi_{\mathrm{lensing}}^2$	9.31 ± 0.76
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.79 ± 0.32	χ_{simall}^2	397.1 ± 1.8
c_{TE}	0.9966 ± 0.0050	r_{drag}	147.38 ± 0.25	χ_{lowl}^2	22.98 ± 0.78
c_{EE}	0.9923 ± 0.0049	k_{D}	0.14054 ± 0.00031	$\chi_{\mathrm{CamSpec}}^2$	11514.2 ± 5.6
H_0	67.66 ± 0.42	$100\theta_{\mathrm{D}}$	0.16084 ± 0.00019	$\chi_{6\mathrm{DF}}^2$	0.047 ± 0.057
Ω_{Λ}	0.6897 ± 0.0057	z_{eq}	3379 ± 22	χ_{MGS}^2	1.31 ± 0.40
Ω_{m}	0.3103 ± 0.0057	k_{eq}	0.010314 ± 0.000066	$\chi_{\mathrm{DR12BAO}}^2$	4.6 ± 1.3
$\Omega_{\mathrm{m}}h^2$	0.14205 ± 0.00090	$100\theta_{\mathrm{eq}}$	0.8174 ± 0.0040	χ_{prior}^2	7.8 ± 3.5
$\Omega_{\mathrm{m}}h^3$	0.09611 ± 0.00031	$100\theta_{\mathrm{s,eq}}$	0.4515 ± 0.0021	χ_{CMB}^2	11943.6 ± 5.8
σ_8	0.8083 ± 0.0060	$H(0.15)$	72.93 ± 0.37	χ_{BAO}^2	6.00 ± 0.99
S_8	0.822 ± 0.011	$D_{\mathrm{M}}(0.15)$	640.8 ± 3.6		
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4503 ± 0.0058	$H(0.38)$	83.02 ± 0.27		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11957.40; R - 1 = 0.01372$$

2.53 base_CamSpecHM_TTTEEE_lowl_lowE_lensing_post_Riess18

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02240 ± 0.00014	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4471 ± 0.0066	$D_{\mathrm{M}}(0.15)$	638.3 ± 4.3
$\Omega_{\mathrm{c}}h^2$	0.1185 ± 0.0011	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6009 ± 0.0061	$H(0.38)$	83.21 ± 0.32
$100\theta_{\mathrm{MC}}$	1.04105 ± 0.00032	$\sigma_8/h^{0.5}$	0.9798 ± 0.0088	$D_{\mathrm{M}}(0.38)$	1523.5 ± 8.7
τ	$0.0571^{+0.0070}_{-0.0081}$	$r_{\mathrm{drag}}h$	100.22 ± 0.89	$H(0.51)$	89.88 ± 0.26
$\ln(10^{10}A_{\mathrm{s}})$	3.046 ± 0.015	$\langle d^2 \rangle^{1/2}$	2.425 ± 0.021	$D_{\mathrm{M}}(0.51)$	1974 ± 10
n_{s}	0.9685 ± 0.0040	z_{re}	7.92 ± 0.75	$H(0.61)$	95.46 ± 0.21
y_{cal}	1.0009 ± 0.0025	$10^9 A_{\mathrm{s}}$	$2.103^{+0.029}_{-0.033}$	$D_{\mathrm{M}}(0.61)$	2298 ± 11
A_{100}^{PS}	238 ± 24	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.876 ± 0.010	$H(2.33)$	235.59 ± 0.69
A_{143}^{PS}	39 ± 8	D_{40}	1223 ± 11	$D_{\mathrm{M}}(2.33)$	5757.1 ± 9.9
A_{217}^{PS}	103 ± 10	D_{220}	5732 ± 39	$f\sigma_8(0.15)$	0.4521 ± 0.0061
A_{217}^{CIB}	39 ± 7	D_{810}	2537 ± 13	$\sigma_8(0.15)$	$0.7469^{+0.0051}_{-0.0057}$
A_{143}^{tSZ}	$4.0^{+2.0}_{-2.5}$	D_{1420}	817.2 ± 4.7	$f\sigma_8(0.38)$	0.4715 ± 0.0050
$r_{143 \times 217}^{\mathrm{PS}}$	0.67 ± 0.13	D_{2000}	230.9 ± 1.6	$\sigma_8(0.38)$	$0.6626^{+0.0045}_{-0.0050}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.55^{+0.40}_{-0.19}$	$n_{\mathrm{s},0.002}$	0.9685 ± 0.0040	$f\sigma_8(0.51)$	0.4707 ± 0.0045
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Y_{P}	$0.245405^{+0.000060}_{-0.000051}$	$\sigma_8(0.51)$	$0.6203^{+0.0043}_{-0.0048}$
A^{kSZ}	< 6.13	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246731^{+0.000060}_{-0.000051}$	$f\sigma_8(0.61)$	0.4661 ± 0.0041
A_{100}^{dust}	1.01 ± 0.19	$10^5 \mathrm{D}/\mathrm{H}$	$2.581^{+0.025}_{-0.028}$	$\sigma_8(0.61)$	0.5904 ± 0.0044
A_{143}^{dust}	0.95 ± 0.17	$\mathrm{Age}/\mathrm{Gyr}$	13.784 ± 0.022	$f\sigma_8(2.33)$	0.2979 ± 0.0023
A_{217}^{dust}	0.97 ± 0.11	z_*	1089.75 ± 0.24	$\sigma_8(2.33)$	$0.3073^{+0.0023}_{-0.0026}$
$A_{143 \times 217}^{\mathrm{dust}}$	1.02 ± 0.17	r_*	144.81 ± 0.27	f_{2000}^{143}	29.2 ± 2.8
c_{100}	0.9976 ± 0.0010	$100\theta_*$	1.04123 ± 0.00032	f_{2000}^{217}	106.6 ± 1.9
c_{217}	1.0011 ± 0.0016	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.907 ± 0.025	$f_{2000}^{143 \times 217}$	31.8 ± 2.0
c_{TE}	0.9965 ± 0.0050	z_{drag}	1059.89 ± 0.31	$\chi_{\mathrm{lensing}}^2$	9.46 ± 0.93
c_{EE}	0.9922 ± 0.0049	r_{drag}	147.47 ± 0.28	χ_{simall}^2	397.4 ± 2.1
H_0	67.96 ± 0.51	k_{D}	0.14049 ± 0.00033	χ_{lowl}^2	22.78 ± 0.78
Ω_{Λ}	$0.6935^{+0.0069}_{-0.0062}$	$100\theta_{\mathrm{D}}$	0.16079 ± 0.00018	$\chi_{\mathrm{CamSpec}}^2$	11515.1 ± 5.8
Ω_{m}	0.3065 ± 0.0068	z_{eq}	3366 ± 26	$\chi_{\mathrm{H073p45}}^2$	11.0 ± 2.0
$\Omega_{\mathrm{m}}h^2$	0.1415 ± 0.0011	k_{eq}	0.010274 ± 0.000079	χ_{prior}^2	7.8 ± 3.4
$\Omega_{\mathrm{m}}h^3$	0.09617 ± 0.00031	$100\theta_{\mathrm{eq}}$	0.8200 ± 0.0049	χ_{CMB}^2	11944.8 ± 6.3
σ_8	0.8077 ± 0.0061	$100\theta_{\mathrm{s},\mathrm{eq}}$	0.4529 ± 0.0025		
S_8	0.816 ± 0.012	$H(0.15)$	73.19 ± 0.44		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11963.63; R - 1 = 0.02452$$

2.54 base_CamSpecHM_TTTEEE_lowl_lowE_lensing_post_BAO_Riess18

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02240 ± 0.00014	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6005 ± 0.0056	$D_{\mathrm{M}}(0.38)$	1522.7 ± 6.8
$\Omega_{\mathrm{c}}h^2$	0.11836 ± 0.00089	$\sigma_8/h^{0.5}$	0.9792 ± 0.0082	$H(0.51)$	89.90 ± 0.21
$100\theta_{\mathrm{MC}}$	1.04106 ± 0.00030	$r_{\mathrm{drag}}h$	100.30 ± 0.69	$D_{\mathrm{M}}(0.51)$	1973.4 ± 8.0
τ	0.0573 ± 0.0074	$\langle d^2 \rangle^{1/2}$	2.423 ± 0.020	$H(0.61)$	95.47 ± 0.18
$\ln(10^{10}A_{\mathrm{s}})$	3.046 ± 0.015	z_{re}	7.93 ± 0.73	$D_{\mathrm{M}}(0.61)$	2297.1 ± 8.6
n_{s}	0.9688 ± 0.0037	$10^9 A_{\mathrm{s}}$	$2.103^{+0.029}_{-0.032}$	$H(2.33)$	235.53 ± 0.56
y_{cal}	1.0009 ± 0.0025	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.875 ± 0.010	$D_{\mathrm{M}}(2.33)$	5756.4 ± 8.6
A_{100}^{PS}	238 ± 24	D_{40}	1223 ± 11	$f\sigma_8(0.15)$	0.4516 ± 0.0052
A_{143}^{PS}	39 ± 8	D_{220}	5733 ± 39	$\sigma_8(0.15)$	$0.7468^{+0.0052}_{-0.0057}$
A_{217}^{PS}	103 ± 10	D_{810}	2537 ± 13	$f\sigma_8(0.38)$	0.4711 ± 0.0045
A_{217}^{CIB}	39 ± 7	D_{1420}	817.3 ± 4.7	$\sigma_8(0.38)$	$0.6626^{+0.0046}_{-0.0051}$
A_{143}^{tSZ}	$4.0^{+2.0}_{-2.5}$	D_{2000}	230.9 ± 1.6	$f\sigma_8(0.51)$	0.4704 ± 0.0041
$r_{143 \times 217}^{\mathrm{PS}}$	0.67 ± 0.13	$n_{\mathrm{s},0.002}$	0.9688 ± 0.0037	$\sigma_8(0.51)$	$0.6203^{+0.0043}_{-0.0048}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.55^{+0.40}_{-0.18}$	Y_{P}	$0.245407^{+0.000056}_{-0.000048}$	$f\sigma_8(0.61)$	0.4659 ± 0.0039
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246734^{+0.000056}_{-0.000049}$	$\sigma_8(0.61)$	$0.5904^{+0.0041}_{-0.0046}$
A^{kSZ}	< 6.07	$10^5 \mathrm{D}/\mathrm{H}$	2.580 ± 0.025	$f\sigma_8(2.33)$	$0.2979^{+0.0021}_{-0.0023}$
A_{100}^{dust}	1.01 ± 0.19	$\mathrm{Age}/\mathrm{Gyr}$	13.783 ± 0.019	$\sigma_8(2.33)$	$0.3074^{+0.0022}_{-0.0025}$
A_{143}^{dust}	0.95 ± 0.17	z_*	1089.73 ± 0.21	f_{2000}^{143}	29.1 ± 2.8
A_{217}^{dust}	0.98 ± 0.11	r_*	144.83 ± 0.22	f_{2000}^{217}	106.5 ± 1.9
$A_{143 \times 217}^{\mathrm{dust}}$	1.02 ± 0.17	$100\theta_*$	1.04124 ± 0.00030	$f_{2000}^{143 \times 217}$	31.7 ± 2.0
c_{100}	0.9976 ± 0.0010	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.909 ± 0.021	$\chi_{\mathrm{lensing}}^2$	9.45 ± 0.92
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.90 ± 0.30	χ_{simall}^2	397.4 ± 2.1
c_{TE}	0.9965 ± 0.0050	r_{drag}	147.49 ± 0.24	χ_{lowl}^2	22.72 ± 0.74
c_{EE}	0.9923 ± 0.0049	k_{D}	0.14048 ± 0.00030	$\chi_{\mathrm{CamSpec}}^2$	11515.0 ± 5.7
H_0	68.01 ± 0.40	$100\theta_{\mathrm{D}}$	0.16079 ± 0.00018	$\chi_{\mathrm{H073p45}}^2$	10.8 ± 1.6
Ω_{Λ}	0.6942 ± 0.0053	z_{eq}	3364 ± 20	$\chi_{6\mathrm{DF}}^2$	0.021 ± 0.031
Ω_{m}	0.3058 ± 0.0053	k_{eq}	0.010267 ± 0.000062	χ_{MGS}^2	1.64 ± 0.41
$\Omega_{\mathrm{m}}h^2$	0.14141 ± 0.00085	$100\theta_{\mathrm{eq}}$	0.8204 ± 0.0038	$\chi_{\mathrm{DR12BAO}}^2$	3.92 ± 0.73
$\Omega_{\mathrm{m}}h^3$	0.09617 ± 0.00030	$100\theta_{\mathrm{s,eq}}$	0.4531 ± 0.0020	χ_{prior}^2	7.8 ± 3.4
σ_8	0.8075 ± 0.0060	$H(0.15)$	73.23 ± 0.34	χ_{CMB}^2	11944.6 ± 6.0
S_8	0.815 ± 0.010	$D_{\mathrm{M}}(0.15)$	637.9 ± 3.4	χ_{BAO}^2	5.58 ± 0.54
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4465 ± 0.0055	$H(0.38)$	83.24 ± 0.26		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11968.81; R - 1 = 0.02105$$

2.55 base_CamSpecHM_TTTEEE_lowl_lowE_lensing_post_Pantheon18

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022311	0.02231 ± 0.00015	$\sigma_8 \Omega_m^{0.5}$	0.4521	0.4522 ± 0.0067	$D_M(0.15)$	642.16	642.3 ± 4.4
$\Omega_c h^2$	0.11940	0.1194 ± 0.0011	$\sigma_8 \Omega_m^{0.25}$	0.6047	0.6048 ± 0.0062	$H(0.38)$	82.920	82.92 ± 0.32
$100\theta_{MC}$	1.040884	1.04090 ± 0.00031	$\sigma_8/h^{0.5}$	0.9844	0.9845 ± 0.0089	$D_M(0.38)$	1531.3	1531.4 ± 8.8
τ	0.0544	$0.0543^{+0.0068}_{-0.0077}$	$r_{drag}h$	99.45	99.43 ± 0.89	$H(0.51)$	89.646	89.65 ± 0.26
$\ln(10^{10} A_s)$	3.0418	$3.042^{+0.013}_{-0.015}$	$\langle d^2 \rangle^{1/2}$	2.4343	2.435 ± 0.021	$D_M(0.51)$	1983.5	1984 ± 10
n_s	0.96639	0.9662 ± 0.0041	z_{re}	7.69	7.66 ± 0.74	$H(0.61)$	95.271	95.27 ± 0.21
y_{cal}	1.00056	1.0006 ± 0.0025	$10^9 A_s$	2.0944	$2.094^{+0.028}_{-0.032}$	$D_M(0.61)$	2308.0	2308 ± 11
A_{100}^{PS}	234.0	239 ± 24	$10^9 A_s e^{-2\tau}$	1.8785	1.878 ± 0.011	$H(2.33)$	236.10	236.13 ± 0.69
A_{143}^{PS}	41.2	39 ± 8	D_{40}	1225.9	1226 ± 12	$D_M(2.33)$	5765.3	5765 ± 10
A_{217}^{PS}	102.2	103 ± 10	D_{220}	5721.9	5722 ± 40	$f\sigma_8(0.15)$	0.4566	0.4567 ± 0.0062
A_{217}^{CIB}	44.3	40 ± 7	D_{810}	2535.9	2535 ± 14	$\sigma_8(0.15)$	0.7473	0.7472 ± 0.0054
A_{143}^{tSZ}	6.54	$3.9^{+2.0}_{-2.5}$	D_{1420}	816.17	816.0 ± 4.9	$f\sigma_8(0.38)$	0.4747	0.4747 ± 0.0051
$r_{143 \times 217}^{PS}$	0.612	0.66 ± 0.13	D_{2000}	230.41	230.3 ± 1.6	$\sigma_8(0.38)$	0.66234	$0.6623^{+0.0044}_{-0.0050}$
$r_{143 \times 217}^{CIB}$	0.792	$0.55^{+0.40}_{-0.18}$	$n_{s,0.002}$	0.96639	0.9662 ± 0.0041	$f\sigma_8(0.51)$	0.47318	0.4732 ± 0.0045
$\xi^{tSZ \times CIB}$	0.18	—	Y_P	0.245372	$0.245370^{+0.000065}_{-0.000055}$	$\sigma_8(0.51)$	0.61980	$0.6197^{+0.0041}_{-0.0047}$
A^{kSZ}	0.05	$4.7^{+2.1}_{-4.1}$	Y_P^{BBN}	0.246698	$0.246697^{+0.000065}_{-0.000055}$	$f\sigma_8(0.61)$	0.46814	0.4681 ± 0.0041
A_{100}^{dust}	1.004	1.01 ± 0.20	$10^5 D/H$	2.5966	$2.597^{+0.027}_{-0.030}$	$\sigma_8(0.61)$	0.58973	$0.5896^{+0.0040}_{-0.0045}$
A_{143}^{dust}	0.969	0.96 ± 0.17	Age/Gyr	13.8020	13.802 ± 0.023	$f\sigma_8(2.33)$	0.29731	$0.2973^{+0.0020}_{-0.0023}$
A_{217}^{dust}	0.972	0.97 ± 0.11	z_*	1089.941	1089.95 ± 0.25	$\sigma_8(2.33)$	0.30647	$0.3064^{+0.0022}_{-0.0025}$
$A_{143 \times 217}^{dust}$	1.006	1.03 ± 0.16	r_*	144.632	144.62 ± 0.27	f_{2000}^{143}	30.04	29.6 ± 2.8
c_{100}	0.99767	0.9976 ± 0.0010	$100\theta_*$	1.041072	1.04109 ± 0.00031	f_{2000}^{217}	106.79	106.8 ± 1.9
c_{217}	1.00131	1.0011 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.8926	13.891 ± 0.025	$f_{2000}^{143 \times 217}$	32.12	32.1 ± 2.0
c_{TE}	0.99666	0.9966 ± 0.0049	z_{drag}	1059.742	1059.76 ± 0.32	$\chi^2_{lensing}$	8.858	9.30 ± 0.71
c_{EE}	0.99231	0.9921 ± 0.0049	r_{drag}	147.318	147.31 ± 0.27	χ^2_{small}	396.07	397.0 ± 1.7
H_0	67.50	67.50 ± 0.51	k_D	0.140585	0.14060 ± 0.00032	χ^2_{lowl}	23.03	23.13 ± 0.83
Ω_Λ	0.6876	0.6873 ± 0.0070	$100\theta_D$	0.160852	0.16086 ± 0.00019	$\chi^2_{CamSpec}$	11499.5	11514.2 ± 5.6
Ω_m	0.3124	0.3127 ± 0.0070	z_{eq}	3386.4	3387 ± 26	χ^2_{JLA}	1035.104	1035.21 ± 0.42
$\Omega_m h^2$	0.14235	0.1424 ± 0.0011	k_{eq}	0.010336	0.010339 ± 0.000079	χ^2_{prior}	2.17	7.8 ± 3.5
$\Omega_m h^3$	0.096094	0.09611 ± 0.00031	$100\theta_{eq}$	0.81594	0.8158 ± 0.0049	χ^2_{CMB}	11927.5	11943.6 ± 5.8
σ_8	0.8088	0.8088 ± 0.0060	$100\theta_{s,eq}$	0.45080	0.4507 ± 0.0025			
S_8	0.8254	0.826 ± 0.012	$H(0.15)$	72.794	72.79 ± 0.44			

Best-fit $\chi^2_{eff} = 12964.78$; $\bar{\chi}^2_{eff} = 12986.66$; $R - 1 = 0.01285$

χ^2_{eff} : CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p_teb_consext8: 8.86 small_100x143_offlike5_EE_Aplanck_B: 396.07 commander_dx12_v3.2_29: 23.03 CamSpec like_10.7HM_1400_unified: 11499.55 SN - JLA Pantheon18: 1035.10

2.56 base_CamSpecHM_TTTEEE_lowl_lowE_lensing_post_BAO_JLA_Riess18

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02241 ± 0.00014	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6005 ± 0.0056	$D_{\mathrm{M}}(0.38)$	1522.4 ± 6.7
$\Omega_{\mathrm{c}}h^2$	0.11833 ± 0.00089	$\sigma_8/h^{0.5}$	0.9792 ± 0.0083	$H(0.51)$	89.91 ± 0.21
$100\theta_{\mathrm{MC}}$	$1.04107^{+0.00031}_{-0.00028}$	$r_{\mathrm{drag}}h$	100.34 ± 0.68	$D_{\mathrm{M}}(0.51)$	1973.1 ± 7.9
τ	$0.0576^{+0.0069}_{-0.0078}$	$\langle d^2 \rangle^{1/2}$	2.423 ± 0.020	$H(0.61)$	95.48 ± 0.18
$\ln(10^{10}A_{\mathrm{s}})$	3.046 ± 0.015	z_{re}	7.96 ± 0.73	$D_{\mathrm{M}}(0.61)$	2296.7 ± 8.6
n_{s}	0.9690 ± 0.0037	$10^9 A_{\mathrm{s}}$	2.104 ± 0.031	$H(2.33)$	235.51 ± 0.56
y_{cal}	1.0009 ± 0.0025	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.875 ± 0.010	$D_{\mathrm{M}}(2.33)$	5756.2 ± 8.6
A_{100}^{PS}	237 ± 25	D_{40}	1222 ± 11	$f\sigma_8(0.15)$	0.4515 ± 0.0053
A_{143}^{PS}	39 ± 8	D_{220}	5732 ± 38	$\sigma_8(0.15)$	$0.7469^{+0.0052}_{-0.0058}$
A_{217}^{PS}	103 ± 10	D_{810}	2537 ± 13	$f\sigma_8(0.38)$	0.4711 ± 0.0045
A_{217}^{CIB}	39 ± 7	D_{1420}	817.5 ± 4.7	$\sigma_8(0.38)$	0.6627 ± 0.0049
A_{143}^{tSZ}	$4.0^{+2.1}_{-2.6}$	D_{2000}	231.0 ± 1.6	$f\sigma_8(0.51)$	0.4704 ± 0.0042
$r_{143 \times 217}^{\mathrm{PS}}$	0.67 ± 0.13	$n_{\mathrm{s},0.002}$	0.9690 ± 0.0037	$\sigma_8(0.51)$	0.6205 ± 0.0046
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.55^{+0.41}_{-0.18}$	Y_{P}	0.245407 ± 0.000054	$f\sigma_8(0.61)$	0.4659 ± 0.0039
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246734 ± 0.000054	$\sigma_8(0.61)$	0.5906 ± 0.0044
A^{kSZ}	< 5.91	$10^5 \mathrm{D}/\mathrm{H}$	2.579 ± 0.026	$f\sigma_8(2.33)$	0.2980 ± 0.0023
A_{100}^{dust}	1.01 ± 0.19	$\mathrm{Age}/\mathrm{Gyr}$	13.782 ± 0.020	$\sigma_8(2.33)$	0.3075 ± 0.0024
A_{143}^{dust}	0.95 ± 0.17	z_*	1089.73 ± 0.21	f_{2000}^{143}	29.1 ± 2.8
A_{217}^{dust}	0.98 ± 0.10	r_*	144.84 ± 0.23	f_{2000}^{217}	106.5 ± 1.9
$A_{143 \times 217}^{\mathrm{dust}}$	1.02 ± 0.16	$100\theta_*$	$1.04125^{+0.00031}_{-0.00027}$	$f_{2000}^{143 \times 217}$	31.7 ± 1.9
c_{100}	0.9976 ± 0.0010	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.910 ± 0.022	$\chi_{\mathrm{lensing}}^2$	9.46 ± 0.91
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.90 ± 0.31	χ_{simall}^2	397.5 ± 2.1
c_{TE}	0.9964 ± 0.0051	r_{drag}	147.50 ± 0.25	χ_{lowl}^2	22.68 ± 0.74
c_{EE}	0.9923 ± 0.0050	k_{D}	0.14047 ± 0.00031	$\chi_{\mathrm{CamSpec}}^2$	11515.3 ± 6.0
H_0	68.03 ± 0.39	$100\theta_{\mathrm{D}}$	0.16079 ± 0.00018	$\chi_{\mathrm{H073p45}}^2$	10.7 ± 1.6
Ω_{Λ}	0.6944 ± 0.0052	z_{eq}	3363 ± 21	χ_{JLA}^2	706.63 ± 0.11
Ω_{m}	0.3056 ± 0.0052	k_{eq}	0.010264 ± 0.000063	$\chi_{6\mathrm{DF}}^2$	0.021 ± 0.030
$\Omega_{\mathrm{m}}h^2$	0.14138 ± 0.00086	$100\theta_{\mathrm{eq}}$	0.8206 ± 0.0038	χ_{MGS}^2	1.66 ± 0.42
$\Omega_{\mathrm{m}}h^3$	0.09617 ± 0.00032	$100\theta_{\mathrm{s,eq}}$	0.4532 ± 0.0020	$\chi_{\mathrm{DR12BAO}}^2$	3.89 ± 0.69
σ_8	0.8076 ± 0.0061	$H(0.15)$	73.24 ± 0.34	χ_{prior}^2	7.7 ± 3.4
S_8	0.815 ± 0.010	$D_{\mathrm{M}}(0.15)$	637.7 ± 3.3	χ_{CMB}^2	11944.9 ± 6.3
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4464 ± 0.0055	$H(0.38)$	83.25 ± 0.26	χ_{BAO}^2	5.57 ± 0.52

$$\bar{\chi}_{\mathrm{eff}}^2 = 12675.57; R - 1 = 0.05190$$

2.57 base_CamSpecHM_TTTEEE_lowl_lowE_lensing_post_BAO_Pantheon18

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022352	0.02234 ± 0.00014	$\sigma_8 \Omega_m^{0.25}$	0.6027	0.6028 ± 0.0056	$D_M(0.38)$	1528.0	1527.7 ± 7.0
$\Omega_c h^2$	0.11901	0.11895 ± 0.00091	$\sigma_8/h^{0.5}$	0.9818	0.9821 ± 0.0083	$H(0.51)$	89.742	89.75 ± 0.22
$100\theta_{MC}$	1.040940	1.04096 ± 0.00030	$r_{drag}h$	99.76	99.81 ± 0.70	$D_M(0.51)$	1979.7	1979.3 ± 8.3
τ	0.0546	$0.0555^{+0.0067}_{-0.0076}$	$\langle d^2 \rangle^{1/2}$	2.4271	2.429 ± 0.020	$H(0.61)$	95.348	95.35 ± 0.18
$\ln(10^{10} A_s)$	3.0417	$3.043^{+0.013}_{-0.015}$	z_{re}	7.70	7.78 ± 0.72	$D_M(0.61)$	2303.8	2303.4 ± 9.0
n_s	0.96781	0.9673 ± 0.0038	$10^9 A_s$	2.0942	$2.098^{+0.028}_{-0.032}$	$H(2.33)$	235.89	235.85 ± 0.57
y_{cal}	1.00063	1.0007 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.8776	1.877 ± 0.011	$D_M(2.33)$	5761.8	5761.7 ± 8.8
A_{100}^{PS}	231.5	239 ± 25	D_{40}	1223.2	1225 ± 11	$f\sigma_8(0.15)$	0.4544	0.4544 ± 0.0053
A_{143}^{PS}	47.8	39 ± 8	D_{220}	5724.2	5726 ± 39	$\sigma_8(0.15)$	0.7466	$0.7470^{+0.0051}_{-0.0057}$
A_{217}^{PS}	104.1	103 ± 10	D_{810}	2537.0	2536 ± 14	$f\sigma_8(0.38)$	0.47304	0.4731 ± 0.0046
A_{217}^{CIB}	42.7	40 ± 7	D_{1420}	817.13	816.5 ± 4.8	$\sigma_8(0.38)$	0.66200	$0.6623^{+0.0045}_{-0.0050}$
A_{143}^{tSZ}	6.37	$3.9^{+2.0}_{-2.5}$	D_{2000}	230.78	230.5 ± 1.6	$f\sigma_8(0.51)$	0.47183	0.4719 ± 0.0041
$r_{143 \times 217}^{PS}$	0.695	0.66 ± 0.13	$n_{s,0.002}$	0.96781	0.9673 ± 0.0038	$\sigma_8(0.51)$	0.61959	$0.6199^{+0.0042}_{-0.0047}$
$r_{143 \times 217}^{CIB}$	0.875	$0.55^{+0.39}_{-0.18}$	Y_P	0.245389	$0.245383^{+0.000060}_{-0.000051}$	$f\sigma_8(0.61)$	0.46700	0.4671 ± 0.0039
$\xi^{tSZ \times CIB}$	0.64	—	Y_P^{BBN}	0.246715	$0.246710^{+0.000060}_{-0.000051}$	$\sigma_8(0.61)$	0.58960	$0.5899^{+0.0040}_{-0.0045}$
A^{kSZ}	0.27	$4.6^{+1.6}_{-4.6}$	$10^5 D/H$	2.5888	$2.591^{+0.025}_{-0.028}$	$f\sigma_8(2.33)$	0.29735	$0.2975^{+0.0020}_{-0.0023}$
A_{100}^{dust}	1.013	1.01 ± 0.19	Age/Gyr	13.7944	13.794 ± 0.020	$\sigma_8(2.33)$	0.30662	$0.3068^{+0.0022}_{-0.0025}$
A_{143}^{dust}	0.980	0.95 ± 0.17	z_*	1089.855	1089.86 ± 0.22	f_{2000}^{143}	29.79	29.4 ± 2.8
A_{217}^{dust}	0.979	0.97 ± 0.11	r_*	144.701	144.72 ± 0.23	f_{2000}^{217}	106.48	106.7 ± 1.9
$A_{143 \times 217}^{dust}$	0.995	1.03 ± 0.16	$100\theta_*$	1.041131	1.04115 ± 0.00029	$f_{2000}^{143 \times 217}$	31.90	32.0 ± 2.0
c_{100}	0.99779	0.9976 ± 0.0010	$D_M(z_*)/\text{Gpc}$	13.8984	13.900 ± 0.022	$\chi_{lensing}^2$	8.966	9.32 ± 0.78
c_{217}	1.00131	1.0011 ± 0.0016	z_{drag}	1059.818	1059.80 ± 0.31	χ_{small}^2	396.05	397.1 ± 1.8
c_{TE}	0.99664	0.9966 ± 0.0050	r_{drag}	147.374	147.40 ± 0.24	χ_{lowl}^2	22.77	22.94 ± 0.77
c_{EE}	0.99239	0.9923 ± 0.0049	k_D	0.140556	0.14052 ± 0.00031	$\chi_{CamSpec}^2$	11500.2	11514.3 ± 5.6
H_0	67.695	67.72 ± 0.41	$100\theta_D$	0.160819	0.16084 ± 0.00019	χ_{JLA}^2	1034.980	1035.03 ± 0.26
Ω_Λ	0.6901	0.6904 ± 0.0055	z_{eq}	3378.1	3377 ± 21	χ_{6DF}^2	0.0218	0.040 ± 0.050
Ω_m	0.3099	0.3096 ± 0.0055	k_{eq}	0.010310	0.010306 ± 0.000064	χ_{MGS}^2	1.279	1.36 ± 0.40
$\Omega_m h^2$	0.14201	0.14194 ± 0.00088	$100\theta_{eq}$	0.81759	0.8179 ± 0.0039	$\chi_{DR12BAO}^2$	4.23	4.5 ± 1.1
$\Omega_m h^3$	0.096132	0.09612 ± 0.00031	$100\theta_{s,eq}$	0.45163	0.4518 ± 0.0020	χ_{prior}^2	2.02	7.8 ± 3.4
σ_8	0.8078	0.8082 ± 0.0060	$H(0.15)$	72.958	72.98 ± 0.35	χ_{CMB}^2	11928.0	11943.7 ± 5.8
S_8	0.8210	0.821 ± 0.010	$D_M(0.15)$	640.53	640.4 ± 3.5	χ_{BAO}^2	5.530	5.88 ± 0.87
$\sigma_8 \Omega_m^{0.5}$	0.4497	0.4497 ± 0.0057	$H(0.38)$	83.041	83.05 ± 0.26			

Best-fit $\chi_{eff}^2 = 12970.49$; $\bar{\chi}_{eff}^2 = 12992.39$; $R - 1 = 0.01438$
 χ_{eff}^2 : BAO - 6DF: 0.02 MGS: 1.28 DR12BAO: 4.23 CMB - smicadx12_Dec5.ftl_mv2_ndclpp_p_teb_consext8: 8.97 small_100x143_offlike5_EE_Aplanck_B: 396.05 comman-
der_dx12_v3_2_29: 22.77 CamSpec like_10.7HM_1400_unified: 11500.17 SN - JLA Pantheon18: 1034.98

2.58 base_CamSpecHM_TTTEEE_lowl_lowE_lensing_post_BAO_Pantheon18_Riess18

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\text{b}}h^2$	0.02241 ± 0.00014	$\sigma_8\Omega_{\text{m}}^{0.25}$	0.6002 ± 0.0055	$D_{\text{M}}(0.38)$	1522.2 ± 6.6
$\Omega_{\text{c}}h^2$	0.11830 ± 0.00086	$\sigma_8/h^{0.5}$	0.9789 ± 0.0082	$H(0.51)$	89.91 ± 0.20
$100\theta_{\text{MC}}$	1.04107 ± 0.00030	$r_{\text{drag}}h$	100.35 ± 0.67	$D_{\text{M}}(0.51)$	1972.9 ± 7.8
τ	0.0575 ± 0.0074	$\langle d^2 \rangle^{1/2}$	2.423 ± 0.020	$H(0.61)$	95.48 ± 0.17
$\ln(10^{10}A_{\text{s}})$	3.046 ± 0.015	z_{re}	7.95 ± 0.72	$D_{\text{M}}(0.61)$	2296.5 ± 8.4
n_{s}	0.9689 ± 0.0037	$10^9 A_{\text{s}}$	$2.104^{+0.029}_{-0.032}$	$H(2.33)$	235.49 ± 0.54
y_{cal}	1.0009 ± 0.0025	$10^9 A_{\text{s}}e^{-2\tau}$	1.875 ± 0.010	$D_{\text{M}}(2.33)$	5756.0 ± 8.4
A_{100}^{PS}	237 ± 24	D_{40}	1223 ± 11	$f\sigma_8(0.15)$	0.4513 ± 0.0051
A_{143}^{PS}	39 ± 8	D_{220}	5733 ± 38	$\sigma_8(0.15)$	0.7467 ± 0.0055
A_{217}^{PS}	103 ± 10	D_{810}	2537 ± 13	$f\sigma_8(0.38)$	0.4709 ± 0.0044
A_{217}^{CIB}	39 ± 7	D_{1420}	817.4 ± 4.7	$\sigma_8(0.38)$	$0.6626^{+0.0046}_{-0.0051}$
A_{143}^{tSZ}	$4.0^{+2.0}_{-2.5}$	D_{2000}	230.9 ± 1.6	$f\sigma_8(0.51)$	0.4702 ± 0.0041
$r_{143 \times 217}^{\text{PS}}$	0.67 ± 0.13	$n_{\text{s},0.002}$	0.9689 ± 0.0037	$\sigma_8(0.51)$	$0.6203^{+0.0043}_{-0.0048}$
$r_{143 \times 217}^{\text{CIB}}$	$0.55^{+0.40}_{-0.18}$	Y_{P}	$0.245409^{+0.000055}_{-0.000048}$	$f\sigma_8(0.61)$	0.4658 ± 0.0039
$\xi^{\text{tSZ} \times \text{CIB}}$	—	$Y_{\text{P}}^{\text{BBN}}$	$0.246736^{+0.000056}_{-0.000048}$	$\sigma_8(0.61)$	$0.5904^{+0.0041}_{-0.0046}$
A^{kSZ}	< 6.06	$10^5 \text{D}/\text{H}$	2.579 ± 0.025	$f\sigma_8(2.33)$	$0.2980^{+0.0021}_{-0.0023}$
A_{100}^{dust}	1.01 ± 0.19	Age/Gyr	13.782 ± 0.019	$\sigma_8(2.33)$	$0.3074^{+0.0022}_{-0.0025}$
A_{143}^{dust}	0.95 ± 0.17	z_*	1089.72 ± 0.20	f_{2000}^{143}	29.1 ± 2.8
A_{217}^{dust}	0.98 ± 0.11	r_*	144.84 ± 0.22	f_{2000}^{217}	106.5 ± 1.9
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.17	$100\theta_*$	1.04125 ± 0.00030	$f_{2000}^{143 \times 217}$	31.7 ± 2.0
c_{100}	0.9976 ± 0.0010	$D_{\text{M}}(z_*)/\text{Gpc}$	13.910 ± 0.021	χ_{lensing}^2	9.47 ± 0.93
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.90 ± 0.30	χ_{simall}^2	397.5 ± 2.1
c_{TE}	0.9965 ± 0.0050	r_{drag}	147.50 ± 0.24	χ_{lowl}^2	22.70 ± 0.73
c_{EE}	0.9923 ± 0.0049	k_{D}	0.14047 ± 0.00030	χ_{CamSpec}^2	11515.1 ± 5.7
H_0	68.04 ± 0.39	$100\theta_{\text{D}}$	0.16078 ± 0.00018	χ_{H073p45}^2	10.7 ± 1.5
Ω_{Λ}	0.6946 ± 0.0051	z_{eq}	3363 ± 20	χ_{JLA}^2	1034.87 ± 0.16
Ω_{m}	0.3054 ± 0.0051	k_{eq}	0.010263 ± 0.000061	$\chi_{6\text{DF}}^2$	0.019 ± 0.028
$\Omega_{\text{m}}h^2$	0.14136 ± 0.00083	$100\theta_{\text{eq}}$	0.8207 ± 0.0037	χ_{MGS}^2	1.67 ± 0.40
$\Omega_{\text{m}}h^3$	0.09617 ± 0.00030	$100\theta_{\text{s,eq}}$	0.4532 ± 0.0019	χ_{DR12BAO}^2	3.87 ± 0.66
σ_8	0.8074 ± 0.0061	$H(0.15)$	73.25 ± 0.33	χ_{prior}^2	7.8 ± 3.4
S_8	0.8147 ± 0.0099	$D_{\text{M}}(0.15)$	637.7 ± 3.3	χ_{CMB}^2	11944.7 ± 6.0
$\sigma_8\Omega_{\text{m}}^{0.5}$	0.4462 ± 0.0054	$H(0.38)$	83.26 ± 0.25	χ_{BAO}^2	5.56 ± 0.49

$$\bar{\chi}_{\text{eff}}^2 = 13003.64; R - 1 = 0.02217$$

2.59 base_CamSpecHM_TTTEEE_lowl_lowE_lensing_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02230 ± 0.00015	S_8	0.828 ± 0.013	$100\theta_{s,eq}$	0.4503 ± 0.0026
$\Omega_c h^2$	0.1196 ± 0.0012	$\sigma_8 \Omega_m^{0.5}$	0.4535 ± 0.0070	$H(0.15)$	72.72 ± 0.46
$100\theta_{MC}$	1.04087 ± 0.00031	$\sigma_8 \Omega_m^{0.25}$	0.6060 ± 0.0064	$D_M(0.15)$	642.9 ± 4.6
τ	$0.0547^{+0.0050}_{-0.0080}$	$\sigma_8/h^{0.5}$	0.9862 ± 0.0090	$H(0.38)$	82.87 ± 0.34
$\ln(10^{10} A_s)$	$3.043^{+0.011}_{-0.015}$	$r_{drag} h$	99.29 ± 0.92	$D_M(0.38)$	1532.8 ± 9.2
n_s	0.9658 ± 0.0042	$\langle d^2 \rangle^{1/2}$	2.439 ± 0.021	$H(0.51)$	89.61 ± 0.27
y_{cal}	1.0005 ± 0.0025	z_{re}	$7.71^{+0.55}_{-0.78}$	$D_M(0.51)$	1985 ± 11
A_{100}^{PS}	239 ± 24	$10^9 A_s$	$2.096^{+0.023}_{-0.031}$	$H(0.61)$	95.24 ± 0.22
A_{143}^{PS}	39 ± 8	$10^9 A_s e^{-2\tau}$	1.879 ± 0.011	$D_M(0.61)$	2310 ± 12
A_{217}^{PS}	102 ± 10	D_{40}	1227 ± 12	$H(2.33)$	236.23 ± 0.72
A_{217}^{CIB}	40 ± 7	D_{220}	5720 ± 40	$D_M(2.33)$	5766 ± 10
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	D_{810}	2535 ± 13	$f\sigma_8(0.15)$	0.4579 ± 0.0065
$r_{143 \times 217}^{PS}$	0.66 ± 0.13	D_{1420}	815.7 ± 4.9	$\sigma_8(0.15)$	$0.7480^{+0.0047}_{-0.0055}$
$r_{143 \times 217}^{CIB}$	$0.55^{+0.39}_{-0.18}$	D_{2000}	230.3 ± 1.6	$f\sigma_8(0.38)$	0.4757 ± 0.0052
$\xi^{tSZ \times CIB}$	—	$n_{s,0.002}$	0.9658 ± 0.0042	$\sigma_8(0.38)$	$0.6628^{+0.0039}_{-0.0049}$
A^{kSZ}	$4.7^{+2.3}_{-3.9}$	Y_P	$0.245365^{+0.000066}_{-0.000057}$	$f\sigma_8(0.51)$	0.4741 ± 0.0046
A_{100}^{dust}	1.01 ± 0.20	Y_P^{BBN}	$0.246691^{+0.000066}_{-0.000057}$	$\sigma_8(0.51)$	$0.6202^{+0.0036}_{-0.0046}$
A_{143}^{dust}	0.96 ± 0.18	$10^5 D/H$	2.599 ± 0.029	$f\sigma_8(0.61)$	0.4689 ± 0.0041
A_{217}^{dust}	0.97 ± 0.11	Age/Gyr	13.804 ± 0.023	$\sigma_8(0.61)$	$0.5900^{+0.0034}_{-0.0044}$
$A_{143 \times 217}^{dust}$	1.03 ± 0.16	z_*	1089.98 ± 0.26	$f\sigma_8(2.33)$	$0.2974^{+0.0017}_{-0.0023}$
c_{100}	0.9975 ± 0.0011	r_*	144.58 ± 0.27	$\sigma_8(2.33)$	$0.3065^{+0.0018}_{-0.0025}$
c_{217}	1.0011 ± 0.0016	$100\theta_*$	1.04107 ± 0.00031	f_{2000}^{143}	29.7 ± 2.8
c_{TE}	0.9965 ± 0.0049	$D_M(z_*)/Gpc$	13.888 ± 0.026	f_{2000}^{217}	106.9 ± 1.9
c_{EE}	0.9921 ± 0.0049	z_{drag}	1059.74 ± 0.32	$f_{2000}^{143 \times 217}$	32.1 ± 2.0
H_0	67.42 ± 0.53	r_{drag}	147.27 ± 0.28	$\chi_{lensing}^2$	9.26 ± 0.65
Ω_Λ	0.6862 ± 0.0073	k_D	0.14062 ± 0.00033	χ_{small}^2	396.9 ± 1.7
Ω_m	0.3138 ± 0.0073	$100\theta_D$	0.16086 ± 0.00019	χ_{lowl}^2	23.21 ± 0.86
$\Omega_m h^2$	0.1426 ± 0.0011	z_{eq}	3391 ± 27	$\chi_{CamSpec}^2$	11514.0 ± 5.5
$\Omega_m h^3$	0.09611 ± 0.00031	k_{eq}	0.010351 ± 0.000082	χ_{prior}^2	7.9 ± 3.5
σ_8	$0.8097^{+0.0054}_{-0.0060}$	$100\theta_{eq}$	0.8150 ± 0.0051	χ_{CMB}^2	11943.4 ± 5.7
$\bar{\chi}_{eff}^2 = 11951.25; R - 1 = 0.00847$					

2.60 base_CamSpecHM_TTTEEE_lowl_lowE_lensing_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02234 ± 0.00014	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6035 ± 0.0056	$D_{\mathrm{M}}(0.38)$	1528.4 ± 7.2
$\Omega_{\mathrm{c}}h^2$	0.11904 ± 0.00093	$\sigma_8/h^{0.5}$	0.9831 ± 0.0081	$H(0.51)$	89.73 ± 0.22
$100\theta_{\mathrm{MC}}$	1.04095 ± 0.00030	$r_{\mathrm{drag}}h$	99.74 ± 0.72	$D_{\mathrm{M}}(0.51)$	1980.1 ± 8.5
τ	$0.0559^{+0.0055}_{-0.0077}$	$\langle d^2 \rangle^{1/2}$	2.432 ± 0.020	$H(0.61)$	95.34 ± 0.18
$\ln(10^{10}A_{\mathrm{s}})$	$3.044^{+0.012}_{-0.015}$	z_{re}	$7.82^{+0.58}_{-0.76}$	$D_{\mathrm{M}}(0.61)$	2304.3 ± 9.2
n_{s}	0.9671 ± 0.0038	$10^9 A_{\mathrm{s}}$	$2.099^{+0.024}_{-0.032}$	$H(2.33)$	235.90 ± 0.58
y_{cal}	1.0007 ± 0.0025	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.877 ± 0.011	$D_{\mathrm{M}}(2.33)$	5762.4 ± 9.0
A_{100}^{PS}	239 ± 24	D_{40}	1225 ± 11	$f\sigma_8(0.15)$	0.4551 ± 0.0054
A_{143}^{PS}	39 ± 8	D_{220}	5725 ± 40	$\sigma_8(0.15)$	$0.7474^{+0.0046}_{-0.0056}$
A_{217}^{PS}	103 ± 10	D_{810}	2536 ± 14	$f\sigma_8(0.38)$	0.4737 ± 0.0045
A_{217}^{CIB}	40 ± 7	D_{1420}	816.3 ± 4.9	$\sigma_8(0.38)$	$0.6627^{+0.0039}_{-0.0050}$
A_{143}^{tSZ}	$3.9^{+2.0}_{-2.5}$	D_{2000}	230.5 ± 1.6	$f\sigma_8(0.51)$	0.4724 ± 0.0041
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$n_{\mathrm{s},0.002}$	0.9671 ± 0.0038	$\sigma_8(0.51)$	$0.6202^{+0.0037}_{-0.0047}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.55^{+0.39}_{-0.19}$	Y_{P}	$0.245381^{+0.000061}_{-0.000052}$	$f\sigma_8(0.61)$	0.4676 ± 0.0038
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246707^{+0.000061}_{-0.000052}$	$\sigma_8(0.61)$	$0.5902^{+0.0035}_{-0.0045}$
A^{kSZ}	$4.6^{+1.7}_{-4.5}$	$10^5 \mathrm{D}/\mathrm{H}$	$2.592^{+0.025}_{-0.028}$	$f\sigma_8(2.33)$	$0.2976^{+0.0018}_{-0.0023}$
A_{100}^{dust}	1.01 ± 0.19	$\mathrm{Age}/\mathrm{Gyr}$	13.796 ± 0.020	$\sigma_8(2.33)$	$0.3069^{+0.0019}_{-0.0025}$
A_{143}^{dust}	0.96 ± 0.17	z_*	1089.88 ± 0.22	f_{2000}^{143}	29.5 ± 2.8
A_{217}^{dust}	0.97 ± 0.11	r_*	144.70 ± 0.23	f_{2000}^{217}	106.7 ± 1.9
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04114 ± 0.00030	$f_{2000}^{143 \times 217}$	32.0 ± 2.0
c_{100}	0.9976 ± 0.0010	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.899 ± 0.022	$\chi_{\mathrm{lensing}}^2$	9.26 ± 0.68
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.79 ± 0.32	χ_{simall}^2	397.1 ± 1.8
c_{TE}	0.9966 ± 0.0050	r_{drag}	147.38 ± 0.24	χ_{lowl}^2	22.98 ± 0.78
c_{EE}	0.9923 ± 0.0049	k_{D}	0.14054 ± 0.00031	$\chi_{\mathrm{CamSpec}}^2$	11514.2 ± 5.5
H_0	67.68 ± 0.42	$100\theta_{\mathrm{D}}$	0.16084 ± 0.00019	$\chi_{6\mathrm{DF}}^2$	0.045 ± 0.055
Ω_{Λ}	0.6898 ± 0.0056	z_{eq}	3379 ± 21	χ_{MGS}^2	1.32 ± 0.40
Ω_{m}	0.3102 ± 0.0056	k_{eq}	0.010312 ± 0.000065	$\chi_{\mathrm{DR12BAO}}^2$	4.6 ± 1.2
$\Omega_{\mathrm{m}}h^2$	0.14203 ± 0.00089	$100\theta_{\mathrm{eq}}$	0.8175 ± 0.0040	χ_{prior}^2	7.8 ± 3.5
$\Omega_{\mathrm{m}}h^3$	0.09611 ± 0.00031	$100\theta_{\mathrm{s,eq}}$	0.4516 ± 0.0021	χ_{CMB}^2	11943.5 ± 5.7
σ_8	$0.8087^{+0.0052}_{-0.0062}$	$H(0.15)$	72.94 ± 0.36	χ_{BAO}^2	5.97 ± 0.95
S_8	0.822 ± 0.010	$D_{\mathrm{M}}(0.15)$	640.7 ± 3.6		
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4504 ± 0.0057	$H(0.38)$	83.03 ± 0.27		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11957.26; R - 1 = 0.01434$$

2.61 base_CamSpecHM_TTTEEE_lowl_lowE_lensing_post_Riess18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02240 ± 0.00014	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4472 ± 0.0065	$D_{\mathrm{M}}(0.15)$	638.2 ± 4.3
$\Omega_{\mathrm{c}}h^2$	0.1184 ± 0.0011	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6011 ± 0.0061	$H(0.38)$	83.22 ± 0.32
$100\theta_{\mathrm{MC}}$	1.04105 ± 0.00032	$\sigma_8/h^{0.5}$	0.9801 ± 0.0086	$D_{\mathrm{M}}(0.38)$	1523.3 ± 8.6
τ	$0.0576^{+0.0061}_{-0.0082}$	$r_{\mathrm{drag}}h$	100.24 ± 0.88	$H(0.51)$	89.88 ± 0.26
$\ln(10^{10}A_{\mathrm{s}})$	$3.047^{+0.013}_{-0.016}$	$\langle d^2 \rangle^{1/2}$	$2.425^{+0.019}_{-0.022}$	$D_{\mathrm{M}}(0.51)$	1974 ± 10
n_{s}	0.9686 ± 0.0040	z_{re}	$7.97^{+0.63}_{-0.79}$	$H(0.61)$	95.46 ± 0.21
y_{cal}	1.0009 ± 0.0025	$10^9 A_{\mathrm{s}}$	$2.105^{+0.026}_{-0.033}$	$D_{\mathrm{M}}(0.61)$	2298 ± 11
A_{100}^{PS}	238 ± 24	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.876 ± 0.010	$H(2.33)$	235.58 ± 0.69
A_{143}^{PS}	39 ± 8	D_{40}	1223 ± 11	$D_{\mathrm{M}}(2.33)$	5756.9 ± 9.9
A_{217}^{PS}	103 ± 10	D_{220}	5732 ± 39	$f\sigma_8(0.15)$	0.4522 ± 0.0061
A_{217}^{CIB}	39 ± 7	D_{810}	2537 ± 13	$\sigma_8(0.15)$	$0.7472^{+0.0047}_{-0.0057}$
A_{143}^{tSZ}	$4.0^{+2.0}_{-2.5}$	D_{1420}	817.2 ± 4.8	$f\sigma_8(0.38)$	0.4716 ± 0.0050
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	D_{2000}	230.9 ± 1.6	$\sigma_8(0.38)$	$0.6629^{+0.0041}_{-0.0051}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.55^{+0.40}_{-0.19}$	$n_{\mathrm{s},0.002}$	0.9686 ± 0.0040	$f\sigma_8(0.51)$	0.4708 ± 0.0044
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Y_{P}	$0.245405^{+0.000059}_{-0.000050}$	$\sigma_8(0.51)$	$0.6206^{+0.0038}_{-0.0048}$
A^{kSZ}	< 6.14	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246732^{+0.000060}_{-0.000051}$	$f\sigma_8(0.61)$	0.4663 ± 0.0040
A_{100}^{dust}	1.01 ± 0.19	$10^5 \mathrm{D}/\mathrm{H}$	$2.580^{+0.025}_{-0.028}$	$\sigma_8(0.61)$	$0.5906^{+0.0037}_{-0.0046}$
A_{143}^{dust}	0.95 ± 0.17	$\mathrm{Age}/\mathrm{Gyr}$	13.784 ± 0.022	$f\sigma_8(2.33)$	$0.2980^{+0.0019}_{-0.0024}$
A_{217}^{dust}	0.97 ± 0.11	z_*	1089.75 ± 0.24	$\sigma_8(2.33)$	$0.3075^{+0.0020}_{-0.0026}$
$A_{143 \times 217}^{\mathrm{dust}}$	1.02 ± 0.17	r_*	144.81 ± 0.27	f_{2000}^{143}	29.2 ± 2.8
c_{100}	0.9976 ± 0.0010	$100\theta_*$	1.04123 ± 0.00032	f_{2000}^{217}	106.5 ± 1.9
c_{217}	1.0011 ± 0.0016	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.908 ± 0.025	$f_{2000}^{143 \times 217}$	31.8 ± 2.0
c_{TE}	0.9965 ± 0.0051	z_{drag}	1059.89 ± 0.31	$\chi_{\mathrm{lensing}}^2$	9.41 ± 0.85
c_{EE}	0.9922 ± 0.0049	r_{drag}	147.47 ± 0.28	χ_{simall}^2	397.5 ± 2.2
H_0	67.97 ± 0.51	k_{D}	0.14049 ± 0.00032	χ_{lowl}^2	22.78 ± 0.78
Ω_{Λ}	0.6937 ± 0.0067	$100\theta_{\mathrm{D}}$	0.16079 ± 0.00018	$\chi_{\mathrm{CamSpec}}^2$	11515.1 ± 5.8
Ω_{m}	0.3063 ± 0.0067	z_{eq}	3366 ± 26	$\chi_{\mathrm{H073p45}}^2$	11.0 ± 2.0
$\Omega_{\mathrm{m}}h^2$	0.1415 ± 0.0011	k_{eq}	0.010273 ± 0.000078	χ_{prior}^2	7.8 ± 3.4
$\Omega_{\mathrm{m}}h^3$	0.09617 ± 0.00031	$100\theta_{\mathrm{eq}}$	0.8201 ± 0.0049	χ_{CMB}^2	11944.7 ± 6.2
σ_8	$0.8080^{+0.0053}_{-0.0063}$	$100\theta_{\mathrm{s,eq}}$	0.4529 ± 0.0025		
S_8	0.816 ± 0.012	$H(0.15)$	73.20 ± 0.44		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11963.51; R - 1 = 0.02593$$

2.62 base_CamSpecHM_TTTEEE_lowl_lowE_lensing_post_BAO_Riess18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02241 ± 0.00014	$\sigma_8 \Omega_m^{0.25}$	$0.6007^{+0.0051}_{-0.0058}$	$D_M(0.38)$	1522.6 ± 6.8
$\Omega_c h^2$	0.11835 ± 0.00088	$\sigma_8/h^{0.5}$	$0.9795^{+0.0075}_{-0.0085}$	$H(0.51)$	89.90 ± 0.21
$100\theta_{MC}$	1.04106 ± 0.00030	$r_{drag}h$	100.31 ± 0.68	$D_M(0.51)$	1973.3 ± 8.0
τ	$0.0577^{+0.0060}_{-0.0078}$	$\langle d^2 \rangle^{1/2}$	2.424 ± 0.019	$H(0.61)$	95.48 ± 0.18
$\ln(10^{10} A_s)$	$3.047^{+0.012}_{-0.015}$	z_{re}	$7.98^{+0.63}_{-0.75}$	$D_M(0.61)$	2297.0 ± 8.6
n_s	0.9688 ± 0.0037	$10^9 A_s$	$2.105^{+0.026}_{-0.032}$	$H(2.33)$	235.52 ± 0.55
y_{cal}	1.0009 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.875 ± 0.010	$D_M(2.33)$	5756.3 ± 8.6
A_{100}^{PS}	237 ± 24	D_{40}	1223 ± 11	$f\sigma_8(0.15)$	0.4517 ± 0.0051
A_{143}^{PS}	39 ± 8	D_{220}	5733 ± 39	$\sigma_8(0.15)$	$0.7470^{+0.0047}_{-0.0058}$
A_{217}^{PS}	103 ± 10	D_{810}	2537 ± 13	$f\sigma_8(0.38)$	$0.4712^{+0.0042}_{-0.0047}$
A_{217}^{CIB}	39 ± 7	D_{1420}	817.3 ± 4.7	$\sigma_8(0.38)$	$0.6628^{+0.0042}_{-0.0051}$
A_{143}^{tSZ}	$4.0^{+2.0}_{-2.5}$	D_{2000}	230.9 ± 1.6	$f\sigma_8(0.51)$	$0.4705^{+0.0038}_{-0.0043}$
$r_{143 \times 217}^{PS}$	0.67 ± 0.13	$n_{s,0.002}$	0.9688 ± 0.0037	$\sigma_8(0.51)$	$0.6206^{+0.0039}_{-0.0048}$
$r_{143 \times 217}^{CIB}$	$0.55^{+0.40}_{-0.18}$	Y_P	$0.245408^{+0.000056}_{-0.000048}$	$f\sigma_8(0.61)$	$0.4660^{+0.0035}_{-0.0040}$
$\xi^{tSZ \times CIB}$	—	Y_P^{BBN}	$0.246734^{+0.000056}_{-0.000048}$	$\sigma_8(0.61)$	$0.5906^{+0.0037}_{-0.0046}$
A^{kSZ}	< 6.07	$10^5 D/H$	2.579 ± 0.025	$f\sigma_8(2.33)$	$0.2980^{+0.0019}_{-0.0024}$
A_{100}^{dust}	1.01 ± 0.19	Age/Gyr	13.783 ± 0.019	$\sigma_8(2.33)$	$0.3075^{+0.0020}_{-0.0025}$
A_{143}^{dust}	0.95 ± 0.17	z_*	$1089.73^{+0.19}_{-0.22}$	f_{2000}^{143}	29.1 ± 2.8
A_{217}^{dust}	0.97 ± 0.11	r_*	144.83 ± 0.22	f_{2000}^{217}	106.5 ± 1.9
$A_{143 \times 217}^{dust}$	1.02 ± 0.17	$100\theta_*$	1.04124 ± 0.00030	$f_{2000}^{143 \times 217}$	31.7 ± 2.0
c_{100}	0.9976 ± 0.0010	$D_M(z_*)/\text{Gpc}$	13.909 ± 0.021	$\chi_{lensing}^2$	9.40 ± 0.83
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.90 ± 0.30	χ_{simall}^2	397.4 ± 2.1
c_{TE}	0.9965 ± 0.0050	r_{drag}	147.49 ± 0.24	χ_{lowl}^2	22.73 ± 0.74
c_{EE}	0.9922 ± 0.0049	k_D	0.14048 ± 0.00030	$\chi_{CamSpec}^2$	11515.0 ± 5.7
H_0	68.01 ± 0.40	$100\theta_D$	0.16078 ± 0.00018	$\chi_{H073p45}^2$	10.8 ± 1.6
Ω_Λ	0.6943 ± 0.0052	z_{eq}	3364 ± 20	χ_{6DF}^2	0.021 ± 0.030
Ω_m	0.3057 ± 0.0052	k_{eq}	0.010266 ± 0.000062	χ_{MGS}^2	1.65 ± 0.41
$\Omega_m h^2$	0.14140 ± 0.00085	$100\theta_{eq}$	0.8205 ± 0.0038	$\chi_{DR12BAO}^2$	3.91 ± 0.71
$\Omega_m h^3$	0.09617 ± 0.00030	$100\theta_{s,eq}$	0.4531 ± 0.0020	χ_{prior}^2	7.8 ± 3.4
σ_8	$0.8078^{+0.0053}_{-0.0063}$	$H(0.15)$	73.23 ± 0.34	χ_{CMB}^2	11944.5 ± 5.9
S_8	0.815 ± 0.010	$D_M(0.15)$	637.8 ± 3.3	χ_{BAO}^2	5.58 ± 0.53
$\sigma_8 \Omega_m^{0.5}$	0.4466 ± 0.0055	$H(0.38)$	83.24 ± 0.26		

$$\bar{\chi}_{\text{eff}}^2 = 11968.71; R - 1 = 0.02252$$

2.63 base_CamSpecHM_TTTEEE_lowl_lowE_lensing_post_Pantheon18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\text{b}}h^2$	0.02232 ± 0.00015	$\sigma_8\Omega_{\text{m}}^{0.5}$	0.4523 ± 0.0067	$D_{\text{M}}(0.15)$	642.1 ± 4.3
$\Omega_{\text{c}}h^2$	0.1194 ± 0.0011	$\sigma_8\Omega_{\text{m}}^{0.25}$	0.6050 ± 0.0062	$H(0.38)$	82.93 ± 0.32
$100\theta_{\text{MC}}$	1.04090 ± 0.00031	$\sigma_8/h^{0.5}$	0.9849 ± 0.0087	$D_{\text{M}}(0.38)$	1531.1 ± 8.7
τ	$0.0551^{+0.0052}_{-0.0079}$	$r_{\text{drag}}h$	99.46 ± 0.88	$H(0.51)$	89.66 ± 0.26
$\ln(10^{10}A_{\text{s}})$	$3.043^{+0.011}_{-0.015}$	$\langle d^2 \rangle^{1/2}$	2.436 ± 0.021	$D_{\text{M}}(0.51)$	1983 ± 10
n_{s}	0.9663 ± 0.0041	z_{re}	$7.75^{+0.56}_{-0.78}$	$H(0.61)$	95.28 ± 0.21
y_{cal}	1.0006 ± 0.0025	$10^9 A_{\text{s}}$	$2.097^{+0.023}_{-0.032}$	$D_{\text{M}}(0.61)$	2308 ± 11
A_{100}^{PS}	239 ± 24	$10^9 A_{\text{s}}e^{-2\tau}$	1.878 ± 0.011	$H(2.33)$	236.10 ± 0.68
A_{143}^{PS}	39 ± 8	D_{40}	1226 ± 12	$D_{\text{M}}(2.33)$	5765 ± 10
A_{217}^{PS}	102 ± 10	D_{220}	5722 ± 40	$f\sigma_8(0.15)$	0.4568 ± 0.0062
A_{217}^{CIB}	40 ± 7	D_{810}	2535 ± 14	$\sigma_8(0.15)$	$0.7478^{+0.0046}_{-0.0055}$
A_{143}^{tSZ}	$3.9^{+2.0}_{-2.5}$	D_{1420}	816.0 ± 4.9	$f\sigma_8(0.38)$	0.4749 ± 0.0050
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	D_{2000}	230.4 ± 1.6	$\sigma_8(0.38)$	$0.6627^{+0.0038}_{-0.0049}$
$r_{143 \times 217}^{\text{CIB}}$	$0.55^{+0.39}_{-0.18}$	$n_{\text{s},0.002}$	0.9663 ± 0.0041	$f\sigma_8(0.51)$	0.4734 ± 0.0044
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_{P}	$0.245372^{+0.000065}_{-0.000055}$	$\sigma_8(0.51)$	$0.6202^{+0.0036}_{-0.0046}$
A^{kSZ}	$4.7^{+1.9}_{-4.3}$	$Y_{\text{P}}^{\text{BBN}}$	$0.246698^{+0.000065}_{-0.000055}$	$f\sigma_8(0.61)$	0.4684 ± 0.0040
A_{100}^{dust}	1.01 ± 0.20	10^5D/H	$2.596^{+0.027}_{-0.030}$	$\sigma_8(0.61)$	$0.5901^{+0.0034}_{-0.0044}$
A_{143}^{dust}	0.96 ± 0.17	Age/Gyr	13.801 ± 0.023	$f\sigma_8(2.33)$	$0.2975^{+0.0017}_{-0.0023}$
A_{217}^{dust}	0.97 ± 0.11	z_*	1089.94 ± 0.25	$\sigma_8(2.33)$	$0.3067^{+0.0018}_{-0.0025}$
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	r_*	144.63 ± 0.26	f_{2000}^{143}	29.6 ± 2.8
c_{100}	0.9975 ± 0.0010	$100\theta_*$	1.04109 ± 0.00031	f_{2000}^{217}	106.8 ± 1.9
c_{217}	1.0011 ± 0.0016	$D_{\text{M}}(z_*)/\text{Gpc}$	13.892 ± 0.025	$f_{2000}^{143 \times 217}$	32.1 ± 2.0
c_{TE}	0.9966 ± 0.0050	z_{drag}	1059.76 ± 0.32	χ_{lensing}^2	9.25 ± 0.65
c_{EE}	0.9921 ± 0.0049	r_{drag}	147.31 ± 0.27	χ_{simall}^2	396.9 ± 1.7
H_0	67.52 ± 0.51	k_{D}	0.14059 ± 0.00032	χ_{lowl}^2	23.12 ± 0.84
Ω_{Λ}	0.6876 ± 0.0069	$100\theta_{\text{D}}$	0.16085 ± 0.00019	χ_{CamSpec}^2	11514.1 ± 5.5
Ω_{m}	0.3124 ± 0.0069	z_{eq}	3386 ± 26	χ_{JLA}^2	1035.20 ± 0.40
$\Omega_{\text{m}}h^2$	0.1424 ± 0.0011	k_{eq}	0.010336 ± 0.000078	χ_{prior}^2	7.8 ± 3.5
$\Omega_{\text{m}}h^3$	0.09611 ± 0.00031	$100\theta_{\text{eq}}$	0.8160 ± 0.0048	χ_{CMB}^2	11943.5 ± 5.7
σ_8	$0.8093^{+0.0052}_{-0.0061}$	$100\theta_{\text{s,eq}}$	0.4508 ± 0.0025		
S_8	0.826 ± 0.012	$H(0.15)$	72.81 ± 0.44		

$$\bar{\chi}_{\text{eff}}^2 = 12986.49; R - 1 = 0.01335$$

2.64 base_CamSpecHM_TTTEEE_lowl_lowE_lensing_post_BAO_JLA_Riess18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02241 ± 0.00014	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6007 ± 0.0055	$D_{\mathrm{M}}(0.38)$	1522.3 ± 6.7
$\Omega_{\mathrm{c}}h^2$	0.11832 ± 0.00088	$\sigma_8/h^{0.5}$	0.9796 ± 0.0081	$H(0.51)$	89.91 ± 0.21
$100\theta_{\mathrm{MC}}$	$1.04107^{+0.00031}_{-0.00028}$	$r_{\mathrm{drag}}h$	100.34 ± 0.68	$D_{\mathrm{M}}(0.51)$	1973.0 ± 7.9
τ	$0.0580^{+0.0062}_{-0.0079}$	$\langle d^2 \rangle^{1/2}$	2.424 ± 0.019	$H(0.61)$	95.48 ± 0.18
$\ln(10^{10}A_{\mathrm{s}})$	$3.047^{+0.013}_{-0.015}$	z_{re}	$8.00^{+0.63}_{-0.77}$	$D_{\mathrm{M}}(0.61)$	2296.6 ± 8.6
n_{s}	0.9691 ± 0.0037	$10^9 A_{\mathrm{s}}$	$2.106^{+0.026}_{-0.032}$	$H(2.33)$	235.50 ± 0.56
y_{cal}	1.0009 ± 0.0025	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.875 ± 0.010	$D_{\mathrm{M}}(2.33)$	5756.1 ± 8.6
A_{100}^{PS}	237 ± 25	D_{40}	1222 ± 11	$f\sigma_8(0.15)$	0.4516 ± 0.0052
A_{143}^{PS}	39 ± 8	D_{220}	5732 ± 38	$\sigma_8(0.15)$	$0.7472^{+0.0048}_{-0.0059}$
A_{217}^{PS}	103 ± 10	D_{810}	2537 ± 13	$f\sigma_8(0.38)$	0.4712 ± 0.0044
A_{217}^{CIB}	39 ± 7	D_{1420}	817.5 ± 4.7	$\sigma_8(0.38)$	$0.6630^{+0.0042}_{-0.0052}$
A_{143}^{tSZ}	$4.0^{+2.1}_{-2.6}$	D_{2000}	231.0 ± 1.6	$f\sigma_8(0.51)$	0.4705 ± 0.0041
$r_{143 \times 217}^{\mathrm{PS}}$	0.67 ± 0.13	$n_{\mathrm{s},0.002}$	0.9691 ± 0.0037	$\sigma_8(0.51)$	$0.6207^{+0.0040}_{-0.0049}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.55^{+0.42}_{-0.17}$	Y_{P}	0.245408 ± 0.000054	$f\sigma_8(0.61)$	0.4661 ± 0.0038
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246734 ± 0.000054	$\sigma_8(0.61)$	$0.5908^{+0.0038}_{-0.0046}$
A^{kSZ}	< 5.91	$10^5 D/H$	2.579 ± 0.026	$f\sigma_8(2.33)$	$0.2981^{+0.0020}_{-0.0024}$
A_{100}^{dust}	1.01 ± 0.19	Age/Gyr	13.782 ± 0.020	$\sigma_8(2.33)$	$0.3076^{+0.0021}_{-0.0025}$
A_{143}^{dust}	0.95 ± 0.17	z_*	1089.73 ± 0.21	f_{2000}^{143}	29.1 ± 2.8
A_{217}^{dust}	0.97 ± 0.10	r_*	144.84 ± 0.23	f_{2000}^{217}	106.5 ± 1.9
$A_{143 \times 217}^{\mathrm{dust}}$	1.02 ± 0.16	$100\theta_*$	$1.04125^{+0.00031}_{-0.00028}$	$f_{2000}^{143 \times 217}$	31.7 ± 1.9
c_{100}	0.9976 ± 0.0010	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.910 ± 0.022	$\chi_{\mathrm{lensing}}^2$	9.41 ± 0.83
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.90 ± 0.31	χ_{simall}^2	397.5 ± 2.1
c_{TE}	0.9964 ± 0.0051	r_{drag}	147.50 ± 0.25	χ_{lowl}^2	22.69 ± 0.74
c_{EE}	0.9922 ± 0.0050	k_{D}	0.14047 ± 0.00031	$\chi_{\mathrm{CamSpec}}^2$	11515.3 ± 6.0
H_0	68.03 ± 0.39	$100\theta_{\mathrm{D}}$	0.16079 ± 0.00018	$\chi_{\mathrm{H073p45}}^2$	10.7 ± 1.6
Ω_{Λ}	0.6945 ± 0.0052	z_{eq}	3363 ± 20	χ_{JLA}^2	706.63 ± 0.11
Ω_{m}	0.3055 ± 0.0052	k_{eq}	0.010264 ± 0.000062	$\chi_{6\mathrm{DF}}^2$	0.020 ± 0.029
$\Omega_{\mathrm{m}}h^2$	0.14137 ± 0.00086	$100\theta_{\mathrm{eq}}$	0.8206 ± 0.0038	χ_{MGS}^2	1.66 ± 0.41
$\Omega_{\mathrm{m}}h^3$	0.09617 ± 0.00032	$100\theta_{\mathrm{s,eq}}$	0.4532 ± 0.0020	$\chi_{\mathrm{DR12BAO}}^2$	3.89 ± 0.67
σ_8	$0.8079^{+0.0053}_{-0.0065}$	$H(0.15)$	73.25 ± 0.34	χ_{prior}^2	7.7 ± 3.4
S_8	0.815 ± 0.010	$D_{\mathrm{M}}(0.15)$	637.7 ± 3.3	χ_{CMB}^2	11944.9 ± 6.3
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4466 ± 0.0055	$H(0.38)$	83.25 ± 0.25	χ_{BAO}^2	5.57 ± 0.51

$$\bar{\chi}_{\mathrm{eff}}^2 = 12675.50; R - 1 = 0.05354$$

2.65 base_CamSpecHM_TTTEEE_lowl_lowE_lensing_post_BAO_Pantheon18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02235 ± 0.00014	$\sigma_8 \Omega_m^{0.25}$	0.6030 ± 0.0055	$D_M(0.38)$	1527.5 ± 7.0
$\Omega_c h^2$	0.11893 ± 0.00090	$\sigma_8/h^{0.5}$	0.9825 ± 0.0080	$H(0.51)$	89.75 ± 0.21
$100\theta_{MC}$	1.04096 ± 0.00030	$r_{drag}h$	99.83 ± 0.70	$D_M(0.51)$	1979.1 ± 8.2
τ	$0.0561^{+0.0056}_{-0.0077}$	$\langle d^2 \rangle^{1/2}$	2.430 ± 0.019	$H(0.61)$	95.36 ± 0.18
$\ln(10^{10} A_s)$	$3.044^{+0.012}_{-0.015}$	z_{re}	$7.84^{+0.59}_{-0.76}$	$D_M(0.61)$	2303.2 ± 8.9
n_s	0.9674 ± 0.0038	$10^9 A_s$	$2.100^{+0.024}_{-0.032}$	$H(2.33)$	235.84 ± 0.56
y_{cal}	1.0007 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.877 ± 0.011	$D_M(2.33)$	5761.6 ± 8.8
A_{100}^{PS}	239 ± 24	D_{40}	1225 ± 11	$f\sigma_8(0.15)$	0.4545 ± 0.0053
A_{143}^{PS}	39 ± 8	D_{220}	5726 ± 39	$\sigma_8(0.15)$	$0.7473^{+0.0046}_{-0.0057}$
A_{217}^{PS}	103 ± 10	D_{810}	2536 ± 14	$f\sigma_8(0.38)$	0.4733 ± 0.0045
A_{217}^{CIB}	40 ± 7	D_{1420}	816.4 ± 4.8	$\sigma_8(0.38)$	$0.6627^{+0.0040}_{-0.0050}$
A_{143}^{tSZ}	$3.9^{+2.0}_{-2.5}$	D_{2000}	230.6 ± 1.6	$f\sigma_8(0.51)$	0.4721 ± 0.0040
$r_{143 \times 217}^{PS}$	0.66 ± 0.13	$n_{s,0.002}$	0.9674 ± 0.0038	$\sigma_8(0.51)$	$0.6203^{+0.0037}_{-0.0047}$
$r_{143 \times 217}^{CIB}$	$0.55^{+0.39}_{-0.19}$	Y_P	$0.245384^{+0.000060}_{-0.000051}$	$f\sigma_8(0.61)$	$0.4673^{+0.0036}_{-0.0040}$
$\xi^{tSZ \times CIB}$	—	Y_P^{BBN}	$0.246711^{+0.000060}_{-0.000051}$	$\sigma_8(0.61)$	$0.5902^{+0.0035}_{-0.0045}$
A^{kSZ}	< 6.21	$10^5 D/H$	$2.590^{+0.025}_{-0.028}$	$f\sigma_8(2.33)$	$0.2977^{+0.0018}_{-0.0023}$
A_{100}^{dust}	1.01 ± 0.19	Age/Gyr	13.794 ± 0.020	$\sigma_8(2.33)$	$0.3070^{+0.0019}_{-0.0025}$
A_{143}^{dust}	0.96 ± 0.17	z_*	1089.86 ± 0.22	f_{2000}^{143}	29.4 ± 2.8
A_{217}^{dust}	0.97 ± 0.11	r_*	144.73 ± 0.22	f_{2000}^{217}	106.7 ± 1.9
$A_{143 \times 217}^{dust}$	1.02 ± 0.16	$100\theta_*$	1.04115 ± 0.00029	$f_{2000}^{143 \times 217}$	32.0 ± 2.0
c_{100}	0.9976 ± 0.0010	$D_M(z_*)/\text{Gpc}$	13.901 ± 0.022	$\chi_{lensing}^2$	9.27 ± 0.70
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.80 ± 0.31	χ_{small}^2	397.1 ± 1.9
c_{TE}	0.9966 ± 0.0050	r_{drag}	147.40 ± 0.24	χ_{lowl}^2	22.94 ± 0.77
c_{EE}	0.9923 ± 0.0049	k_D	0.14052 ± 0.00031	$\chi_{CamSpec}^2$	11514.3 ± 5.5
H_0	67.73 ± 0.41	$100\theta_D$	0.16083 ± 0.00019	χ_{JLA}^2	1035.02 ± 0.25
Ω_Λ	0.6905 ± 0.0054	z_{eq}	3376 ± 21	χ_{6DF}^2	0.038 ± 0.049
Ω_m	0.3095 ± 0.0054	k_{eq}	0.010304 ± 0.000063	χ_{MGS}^2	1.37 ± 0.39
$\Omega_m h^2$	0.14192 ± 0.00087	$100\theta_{eq}$	0.8180 ± 0.0039	$\chi_{DR12BAO}^2$	4.5 ± 1.1
$\Omega_m h^3$	0.09612 ± 0.00031	$100\theta_{s,eq}$	0.4518 ± 0.0020	χ_{prior}^2	7.8 ± 3.4
σ_8	$0.8085^{+0.0052}_{-0.0062}$	$H(0.15)$	72.98 ± 0.35	χ_{CMB}^2	11943.6 ± 5.7
S_8	0.821 ± 0.010	$D_M(0.15)$	640.3 ± 3.5	χ_{BAO}^2	5.86 ± 0.84
$\sigma_8 \Omega_m^{0.5}$	0.4498 ± 0.0056	$H(0.38)$	83.06 ± 0.26		

$$\bar{\chi}_{\text{eff}}^2 = 12992.25; R - 1 = 0.01504$$

2.66 base_CamSpecHM_TTTEEE_lowl_lowE_lensing_post_BAO_Pantheon18_Riess18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02241 ± 0.00014	$\sigma_8 \Omega_m^{0.25}$	$0.6004^{+0.0050}_{-0.0057}$	$D_M(0.38)$	1522.1 ± 6.6
$\Omega_c h^2$	0.11829 ± 0.00085	$\sigma_8/h^{0.5}$	$0.9792^{+0.0074}_{-0.0084}$	$H(0.51)$	89.91 ± 0.20
$100\theta_{MC}$	1.04107 ± 0.00030	$r_{drag}h$	100.36 ± 0.66	$D_M(0.51)$	1972.8 ± 7.7
τ	$0.0579^{+0.0060}_{-0.0077}$	$\langle d^2 \rangle^{1/2}$	$2.423^{+0.018}_{-0.020}$	$H(0.61)$	95.49 ± 0.17
$\ln(10^{10} A_s)$	$3.047^{+0.013}_{-0.015}$	z_{re}	$7.99^{+0.63}_{-0.75}$	$D_M(0.61)$	2296.4 ± 8.4
n_s	0.9690 ± 0.0037	$10^9 A_s$	$2.106^{+0.026}_{-0.032}$	$H(2.33)$	235.49 ± 0.54
y_{cal}	1.0009 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.875 ± 0.010	$D_M(2.33)$	5755.9 ± 8.4
A_{100}^{PS}	237 ± 24	D_{40}	1223 ± 11	$f\sigma_8(0.15)$	0.4514 ± 0.0050
A_{143}^{PS}	38 ± 8	D_{220}	5733 ± 38	$\sigma_8(0.15)$	$0.7470^{+0.0048}_{-0.0058}$
A_{217}^{PS}	103 ± 10	D_{810}	2537 ± 13	$f\sigma_8(0.38)$	$0.4710^{+0.0041}_{-0.0046}$
A_{217}^{CIB}	39 ± 7	D_{1420}	817.4 ± 4.7	$\sigma_8(0.38)$	$0.6628^{+0.0042}_{-0.0051}$
A_{143}^{tSZ}	$4.0^{+2.0}_{-2.5}$	D_{2000}	230.9 ± 1.6	$f\sigma_8(0.51)$	$0.4704^{+0.0037}_{-0.0042}$
$r_{143 \times 217}^{PS}$	0.67 ± 0.13	$n_{s,0.002}$	0.9690 ± 0.0037	$\sigma_8(0.51)$	$0.6206^{+0.0039}_{-0.0048}$
$r_{143 \times 217}^{CIB}$	$0.55^{+0.41}_{-0.18}$	Y_P	$0.245409^{+0.000055}_{-0.000048}$	$f\sigma_8(0.61)$	$0.4659^{+0.0035}_{-0.0040}$
$\xi^{tSZ \times CIB}$	—	Y_P^{BBN}	$0.246736^{+0.000055}_{-0.000048}$	$\sigma_8(0.61)$	$0.5907^{+0.0037}_{-0.0046}$
A^{kSZ}	< 6.06	$10^5 D/H$	2.578 ± 0.025	$f\sigma_8(2.33)$	$0.2981^{+0.0019}_{-0.0024}$
A_{100}^{dust}	1.01 ± 0.19	Age/Gyr	13.782 ± 0.019	$\sigma_8(2.33)$	$0.3076^{+0.0020}_{-0.0025}$
A_{143}^{dust}	0.95 ± 0.17	z_*	1089.72 ± 0.20	f_{2000}^{143}	29.1 ± 2.8
A_{217}^{dust}	0.98 ± 0.11	r_*	144.84 ± 0.22	f_{2000}^{217}	106.5 ± 1.9
$A_{143 \times 217}^{dust}$	1.02 ± 0.17	$100\theta_*$	1.04125 ± 0.00030	$f_{2000}^{143 \times 217}$	31.7 ± 2.0
c_{100}	0.9976 ± 0.0010	$D_M(z_*)/\text{Gpc}$	13.911 ± 0.021	$\chi_{lensing}^2$	9.42 ± 0.85
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.91 ± 0.30	χ_{simall}^2	397.5 ± 2.2
c_{TE}	0.9965 ± 0.0050	r_{drag}	147.50 ± 0.24	χ_{lowl}^2	22.71 ± 0.74
c_{EE}	0.9923 ± 0.0049	k_D	0.14047 ± 0.00030	$\chi_{CamSpec}^2$	11515.0 ± 5.7
H_0	68.04 ± 0.38	$100\theta_D$	0.16078 ± 0.00018	$\chi_{H073p45}^2$	10.7 ± 1.5
Ω_Λ	0.6946 ± 0.0051	z_{eq}	3362 ± 20	χ_{JLA}^2	1034.87 ± 0.16
Ω_m	0.3054 ± 0.0051	k_{eq}	0.010262 ± 0.000060	χ_{6DF}^2	0.019 ± 0.028
$\Omega_m h^2$	0.14135 ± 0.00083	$100\theta_{eq}$	0.8207 ± 0.0037	χ_{MGS}^2	1.67 ± 0.40
$\Omega_m h^3$	0.09617 ± 0.00030	$100\theta_{s,eq}$	0.4532 ± 0.0019	$\chi_{DR12BAO}^2$	3.86 ± 0.65
σ_8	$0.8077^{+0.0053}_{-0.0063}$	$H(0.15)$	73.26 ± 0.33	χ_{prior}^2	7.8 ± 3.4
S_8	0.8149 ± 0.0097	$D_M(0.15)$	637.6 ± 3.2	χ_{CMB}^2	11944.6 ± 5.9
$\sigma_8 \Omega_m^{0.5}$	0.4463 ± 0.0053	$H(0.38)$	83.26 ± 0.25	χ_{BAO}^2	5.55 ± 0.48

$$\bar{\chi}_{\text{eff}}^2 = 13003.54; R - 1 = 0.02380$$

2.67 base_CamSpecHM_TT

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022571	0.02248 ± 0.00029	S_8	0.8750	0.871 ± 0.026	k_{eq}	0.010181	0.01023 ± 0.00019
$\Omega_c h^2$	0.11702	0.1178 ± 0.0027	$\sigma_8 \Omega_m^{0.5}$	0.4793	0.477 ± 0.014	$100\theta_{\text{eq}}$	0.8263	0.823 ± 0.012
$100\theta_{\text{MC}}$	1.04136	1.04126 ± 0.00055	$\sigma_8 \Omega_m^{0.25}$	0.6493	0.644 ± 0.017	$100\theta_{\text{s,eq}}$	0.4560	0.4545 ± 0.0061
τ	0.1485	$0.134^{+0.040}_{-0.034}$	$\sigma_8/h^{0.5}$	1.0610	1.051 ± 0.028	$H(0.15)$	73.86	73.5 ± 1.1
$\ln(10^{10} A_s)$	3.224	$3.196^{+0.074}_{-0.063}$	$r_{\text{drag}} h$	101.48	100.9 ± 2.2	$D_M(0.15)$	631.8	635 ± 11
n_s	0.9767	0.9731 ± 0.0088	$\langle d^2 \rangle^{1/2}$	2.615	$2.596^{+0.069}_{-0.061}$	$H(0.38)$	83.71	83.48 ± 0.82
A_{100}^{PS}	218.3	232 ± 26	z_{re}	15.47	$14.3^{+3.1}_{-2.1}$	$D_M(0.38)$	1510.3	1517 ± 22
A_{143}^{PS}	45.5	35 ± 9	$10^9 A_s$	2.512	2.45 ± 0.17	$H(0.51)$	90.29	90.10 ± 0.65
A_{217}^{PS}	108.9	104 ± 10	$10^9 A_s e^{-2\tau}$	1.8666	1.869 ± 0.016	$D_M(0.51)$	1958.8	1966 ± 26
A_{217}^{CIB}	37.5	37^{+7}_{-8}	D_{40}	1251.9	1253^{+17}_{-19}	$H(0.61)$	95.79	95.64 ± 0.53
A_{143}^{tSZ}	6.29	4.1 ± 2.1	D_{220}	5716.6	5717 ± 41	$D_M(0.61)$	2281.2	2289 ± 28
$r_{143 \times 217}^{\text{PS}}$	0.787	0.68 ± 0.13	D_{810}	2527.8	2527 ± 14	$H(2.33)$	234.84	235.2 ± 1.6
$r_{143 \times 217}^{\text{CIB}}$	0.777	$0.51^{+0.33}_{-0.27}$	D_{1420}	816.1	814.4 ± 5.2	$D_M(2.33)$	5742.0	5749 ± 23
$\xi^{\text{tSZ} \times \text{CIB}}$	0.99	—	D_{2000}	232.89	231.9 ± 2.2	$f\sigma_8(0.15)$	0.4855	0.483 ± 0.014
A^{kSZ}	0.01	< 5.46	$n_{\text{s},0.002}$	0.9767	0.9731 ± 0.0088	$\sigma_8(0.15)$	0.8144	$0.804^{+0.026}_{-0.023}$
A_{100}^{dust}	0.992	0.998 ± 0.20	Y_{P}	0.245470	0.24543 ± 0.00012	$f\sigma_8(0.38)$	0.5089	0.505 ± 0.013
A_{143}^{dust}	0.958	0.95 ± 0.18	$Y_{\text{P}}^{\text{BBN}}$	0.246797	0.24676 ± 0.00012	$\sigma_8(0.38)$	0.7236	$0.714^{+0.024}_{-0.022}$
A_{217}^{dust}	0.992	0.98 ± 0.10	$10^5 \text{D}/\text{H}$	2.549	2.567 ± 0.053	$f\sigma_8(0.51)$	0.5093	0.505 ± 0.013
$A_{143 \times 217}^{\text{dust}}$	1.017	1.02 ± 0.16	Age/Gyr	13.751	13.767 ± 0.051	$\sigma_8(0.51)$	0.6779	$0.669^{+0.023}_{-0.021}$
y_{cal}	1.00009	1.0002 ± 0.0025	z_*	1089.41	1089.60 ± 0.56	$f\sigma_8(0.61)$	0.5052	0.500 ± 0.013
c_{100}	0.99785	0.9975 ± 0.0011	r_*	145.05	144.93 ± 0.58	$\sigma_8(0.61)$	0.6455	$0.637^{+0.022}_{-0.020}$
c_{217}	1.00088	1.0009 ± 0.0016	$100\theta_*$	1.04153	1.04143 ± 0.00053	$f\sigma_8(2.33)$	0.3261	$0.322^{+0.012}_{-0.011}$
H_0	68.73	68.4 ± 1.3	$D_M(z_*)/\text{Gpc}$	13.927	13.917 ± 0.052	$\sigma_8(2.33)$	0.3370	0.332 ± 0.012
Ω_Λ	0.7031	$0.698^{+0.018}_{-0.016}$	z_{drag}	1060.20	1060.02 ± 0.55	f_{2000}^{143}	25.87	27 ± 4
Ω_m	0.2969	$0.302^{+0.016}_{-0.018}$	r_{drag}	147.66	147.57 ± 0.55	f_{2000}^{217}	103.71	104.9 ± 2.5
$\Omega_m h^2$	0.14024	0.1409 ± 0.0025	k_{D}	0.14042	0.14044 ± 0.00054	$f_{2000}^{143 \times 217}$	28.96	29.9 ± 2.8
$\Omega_m h^3$	0.096384	0.09628 ± 0.00049	$100\theta_{\text{D}}$	0.160649	0.16074 ± 0.00030	χ_{CamSpec}^2	7045.25	7059.6 ± 5.3
σ_8	0.8796	$0.869^{+0.027}_{-0.024}$	z_{eq}	3336	3351 ± 61	χ_{prior}^2	1.44	7.3 ± 3.4

Best-fit $\chi_{\text{eff}}^2 = 7046.70$; $\bar{\chi}_{\text{eff}}^2 = 7066.87$; $R - 1 = 0.00646$
 χ_{eff}^2 : CMB - CamSpec like_10.7HM: 7045.25

2.68 base_CamSpecHM_TT_lowl

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022525	0.02242 ± 0.00028	$\sigma_8 \Omega_m^{0.5}$	0.4693	0.468 ± 0.014	$100\theta_{s,eq}$	0.4563	0.4547 ± 0.0058
$\Omega_c h^2$	0.11691	0.1177 ± 0.0026	$\sigma_8 \Omega_m^{0.25}$	0.6359	0.631 ± 0.016	$H(0.15)$	73.84	73.5 ± 1.0
$100\theta_{MC}$	1.04132	1.04122 ± 0.00053	$\sigma_8/h^{0.5}$	1.0394	1.030 ± 0.026	$D_M(0.15)$	631.9	635 ± 10
τ	0.1282	$0.113^{+0.036}_{-0.032}$	$r_{drag}h$	101.52	100.9 ± 2.1	$H(0.38)$	83.69	83.44 ± 0.77
$\ln(10^{10} A_s)$	3.183	$3.154^{+0.068}_{-0.060}$	$\langle d^2 \rangle^{1/2}$	2.560	2.542 ± 0.061	$D_M(0.38)$	1510.7	1518 ± 20
n_s	0.9775	0.9734 ± 0.0081	z_{re}	13.98	$12.7^{+3.0}_{-2.1}$	$H(0.51)$	90.26	90.05 ± 0.61
y_{cal}	1.00018	1.0003 ± 0.0025	$10^9 A_s$	2.411	2.35 ± 0.15	$D_M(0.51)$	1959.3	1967 ± 24
A_{100}^{PS}	219.3	233 ± 25	$10^9 A_s e^{-2\tau}$	1.8656	1.868 ± 0.015	$H(0.61)$	95.758	95.60 ± 0.49
A_{143}^{PS}	45.0	36 ± 9	D_{40}	1234.6	1237 ± 16	$D_M(0.61)$	2281.8	2291 ± 26
A_{217}^{PS}	109.7	104 ± 10	D_{220}	5706.2	5708 ± 41	$H(2.33)$	234.71	235.1 ± 1.5
A_{217}^{CIB}	37.6	38^{+7}_{-8}	D_{810}	2529.3	2528 ± 14	$D_M(2.33)$	5744.2	5752 ± 22
A_{143}^{tSZ}	6.20	$4.0^{+2.0}_{-2.4}$	D_{1420}	817.0	815.1 ± 5.2	$f\sigma_8(0.15)$	0.4754	0.473 ± 0.013
$r_{143 \times 217}^{PS}$	0.807	0.67 ± 0.13	D_{2000}	232.68	231.6 ± 2.2	$\sigma_8(0.15)$	0.7978	0.788 ± 0.022
$r_{143 \times 217}^{CIB}$	0.700	$0.52^{+0.35}_{-0.25}$	$n_{s,0.002}$	0.9775	0.9734 ± 0.0081	$f\sigma_8(0.38)$	0.4984	0.495 ± 0.013
$\xi^{tSZ \times CIB}$	0.96	—	Y_P	0.245453	0.24541 ± 0.00011	$\sigma_8(0.38)$	0.7089	0.700 ± 0.021
A^{kSZ}	0.06	< 5.56	Y_P^{BBN}	0.246780	0.24674 ± 0.00011	$f\sigma_8(0.51)$	0.4988	0.495 ± 0.013
A_{100}^{dust}	1.006	1.01 ± 0.20	$10^5 D/H$	2.557	2.577 ± 0.051	$\sigma_8(0.51)$	0.6642	0.655 ± 0.020
A_{143}^{dust}	0.962	0.96 ± 0.18	Age/Gyr	13.7563	13.773 ± 0.048	$f\sigma_8(0.61)$	0.4948	0.490 ± 0.013
A_{217}^{dust}	0.978	0.98 ± 0.10	z_*	1089.46	1089.66 ± 0.52	$\sigma_8(0.61)$	0.6324	0.624 ± 0.019
$A_{143 \times 217}^{dust}$	1.030	1.02 ± 0.16	r_*	145.12	144.99 ± 0.55	$f\sigma_8(2.33)$	0.3195	0.315 ± 0.010
c_{100}	0.99783	0.9975 ± 0.0011	$100\theta_*$	1.04150	1.04140 ± 0.00051	$\sigma_8(2.33)$	0.3302	0.325 ± 0.011
c_{217}	1.00070	1.0009 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.9335	13.922 ± 0.050	f_{2000}^{143}	25.95	27 ± 4
H_0	68.72	68.3 ± 1.2	z_{drag}	1060.09	1059.89 ± 0.53	f_{2000}^{217}	103.94	105.3 ± 2.4
Ω_Λ	0.7034	$0.698^{+0.016}_{-0.015}$	r_{drag}	147.74	147.65 ± 0.53	$f_{2000}^{143 \times 217}$	29.32	30.3 ± 2.6
Ω_m	0.2966	$0.302^{+0.015}_{-0.016}$	k_D	0.14030	0.14032 ± 0.00053	χ_{lowl}^2	24.50	24.8 ± 1.7
$\Omega_m h^2$	0.14008	0.1408 ± 0.0024	$100\theta_D$	0.160707	0.16081 ± 0.00029	$\chi_{CamSpec}^2$	7046.4	7060.1 ± 5.5
$\Omega_m h^3$	0.096258	0.09616 ± 0.00048	z_{eq}	3332	3349 ± 57	χ_{prior}^2	1.41	7.4 ± 3.3
σ_8	0.8616	0.851 ± 0.023	k_{eq}	0.010170	0.01022 ± 0.00018	χ_{CMB}^2	7070.9	7084.8 ± 5.4
S_8	0.8568	0.854 ± 0.025	$100\theta_{eq}$	0.8268	0.824 ± 0.011			

Best-fit $\chi_{eff}^2 = 7072.29$; $\bar{\chi}_{eff}^2 = 7092.24$; $R - 1 = 0.00797$

χ_{eff}^2 : CMB - commander_dx12.v3.2.29: 24.50 CamSpec like_10.7HM: 7046.38

2.69 base_CamSpecHM_TT_lowl_post_BAO

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}} h^2$	0.02239 ± 0.00022	$\sigma_8 \Omega_{\mathrm{m}}^{0.25}$	0.631 ± 0.016	$D_{\mathrm{M}}(0.15)$	636.9 ± 5.1
$\Omega_{\mathrm{c}} h^2$	0.1181 ± 0.0013	$\sigma_8 / h^{0.5}$	1.030 ± 0.026	$H(0.38)$	83.31 ± 0.40
$100\theta_{\mathrm{MC}}$	1.04117 ± 0.00043	$r_{\mathrm{drag}} h$	100.6 ± 1.0	$D_{\mathrm{M}}(0.38)$	1521 ± 10
τ	$0.109^{+0.029}_{-0.026}$	$\langle d^2 \rangle^{1/2}$	2.540 ± 0.061	$H(0.51)$	89.96 ± 0.33
$\ln(10^{10} A_{\mathrm{s}})$	$3.147^{+0.057}_{-0.051}$	z_{re}	$12.5^{+2.5}_{-1.8}$	$D_{\mathrm{M}}(0.51)$	1971 ± 12
n_{s}	0.9721 ± 0.0050	$10^9 A_{\mathrm{s}}$	2.33 ± 0.12	$H(0.61)$	95.52 ± 0.28
y_{cal}	1.0003 ± 0.0025	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.870 ± 0.012	$D_{\mathrm{M}}(0.61)$	2294 ± 13
A_{100}^{PS}	234 ± 25	D_{40}	1237 ± 16	$H(2.33)$	235.34 ± 0.80
A_{143}^{PS}	36 ± 9	D_{220}	5707 ± 40	$D_{\mathrm{M}}(2.33)$	5755 ± 14
A_{217}^{PS}	104^{+10}_{-10}	D_{810}	2529 ± 14	$f\sigma_8(0.15)$	0.474 ± 0.012
A_{217}^{CIB}	38^{+7}_{-8}	D_{1420}	814.9 ± 5.0	$\sigma_8(0.15)$	0.786 ± 0.021
A_{143}^{tSZ}	$4.0^{+1.9}_{-2.5}$	D_{2000}	231.4 ± 1.9	$f\sigma_8(0.38)$	0.495 ± 0.013
$r_{143 \times 217}^{\mathrm{PS}}$	0.67 ± 0.13	$n_{\mathrm{s},0.002}$	0.9721 ± 0.0050	$\sigma_8(0.38)$	0.698 ± 0.019
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.53^{+0.37}_{-0.23}$	Y_{P}	0.245400 ± 0.000086	$f\sigma_8(0.51)$	0.494 ± 0.013
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246726 ± 0.000086	$\sigma_8(0.51)$	0.653 ± 0.018
A^{kSZ}	< 5.72	$10^5 \mathrm{D}/\mathrm{H}$	2.583 ± 0.040	$f\sigma_8(0.61)$	0.490 ± 0.013
A_{100}^{dust}	1.01 ± 0.20	$\mathrm{Age}/\mathrm{Gyr}$	13.780 ± 0.031	$\sigma_8(0.61)$	0.622 ± 0.017
A_{143}^{dust}	0.96 ± 0.18	z_*	1089.73 ± 0.33	$f\sigma_8(2.33)$	0.3139 ± 0.0086
A_{217}^{dust}	0.98 ± 0.10	r_*	144.91 ± 0.32	$\sigma_8(2.33)$	0.3240 ± 0.0090
$A_{143 \times 217}^{\mathrm{dust}}$	1.02 ± 0.16	$100\theta_*$	1.04136 ± 0.00043	f_{2000}^{143}	28 ± 3
c_{100}	0.9975 ± 0.0011	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.916 ± 0.031	f_{2000}^{217}	105.5 ± 2.2
c_{217}	1.0010 ± 0.0015	z_{drag}	1059.84 ± 0.47	$f_{2000}^{143 \times 217}$	30.6 ± 2.4
H_0	68.13 ± 0.60	r_{drag}	147.58 ± 0.35	χ_{lowl}^2	24.7 ± 1.6
Ω_{Λ}	0.6959 ± 0.0077	k_{D}	0.14037 ± 0.00045	$\chi_{\mathrm{CamSpec}}^2$	7059.6 ± 5.4
Ω_{m}	0.3041 ± 0.0077	$100\theta_{\mathrm{D}}$	0.16083 ± 0.00027	$\chi_{6\mathrm{DF}}^2$	0.044 ± 0.061
$\Omega_{\mathrm{m}} h^2$	0.1411 ± 0.0012	z_{eq}	3357 ± 30	χ_{MGS}^2	1.82 ± 0.63
$\Omega_{\mathrm{m}} h^3$	0.09615 ± 0.00048	k_{eq}	0.010246 ± 0.000090	$\chi_{\mathrm{DR12BAO}}^2$	4.1 ± 1.1
σ_8	0.850 ± 0.022	$100\theta_{\mathrm{eq}}$	0.8218 ± 0.0056	χ_{prior}^2	7.4 ± 3.3
S_8	0.856 ± 0.023	$100\theta_{\mathrm{s,eq}}$	0.4538 ± 0.0029	χ_{BAO}^2	6.0 ± 1.1
$\sigma_8 \Omega_{\mathrm{m}}^{0.5}$	0.469 ± 0.012	$H(0.15)$	73.34 ± 0.52	χ_{CMB}^2	7084.3 ± 5.3
$\bar{\chi}_{\mathrm{eff}}^2 = 7097.63; R - 1 = 0.01179$					

2.70 base_CamSpecHM_TT_lowl_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02243 ± 0.00027	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.468 ± 0.014	$100\theta_{\mathrm{s,eq}}$	0.4549 ± 0.0057
$\Omega_{\mathrm{c}}h^2$	0.1176 ± 0.0025	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.632 ± 0.016	$H(0.15)$	73.5 ± 1.0
$100\theta_{\mathrm{MC}}$	1.04123 ± 0.00052	$\sigma_8/h^{0.5}$	1.031 ± 0.025	$D_{\mathrm{M}}(0.15)$	635.1 ± 9.9
τ	0.115 ± 0.032	$r_{\mathrm{drag}}h$	100.9 ± 2.0	$H(0.38)$	83.46 ± 0.75
$\ln(10^{10}A_{\mathrm{s}})$	3.157 ± 0.060	$\langle d^2 \rangle^{1/2}$	2.544 ± 0.058	$D_{\mathrm{M}}(0.38)$	1517 ± 20
n_{s}	0.9737 ± 0.0079	z_{re}	$12.9^{+2.8}_{-2.2}$	$H(0.51)$	90.08 ± 0.60
y_{cal}	1.0003 ± 0.0025	$10^9 A_{\mathrm{s}}$	2.36 ± 0.14	$D_{\mathrm{M}}(0.51)$	1967 ± 23
A_{100}^{PS}	232 ± 25	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.868 ± 0.015	$H(0.61)$	$95.61^{+0.45}_{-0.51}$
A_{143}^{PS}	35 ± 9	D_{40}	1237 ± 16	$D_{\mathrm{M}}(0.61)$	2290 ± 25
A_{217}^{PS}	104 ± 10	D_{220}	5708 ± 41	$H(2.33)$	235.1 ± 1.5
A_{217}^{CIB}	38 ± 7	D_{810}	2528 ± 14	$D_{\mathrm{M}}(2.33)$	5751 ± 21
A_{143}^{tSZ}	$4.0^{+2.0}_{-2.4}$	D_{1420}	815.2 ± 5.2	$f\sigma_8(0.15)$	0.474 ± 0.013
$r_{143 \times 217}^{\mathrm{PS}}$	0.67 ± 0.13	D_{2000}	231.6 ± 2.1	$\sigma_8(0.15)$	0.789 ± 0.021
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.52^{+0.35}_{-0.25}$	$n_{\mathrm{s},0.002}$	0.9737 ± 0.0079	$f\sigma_8(0.38)$	0.495 ± 0.012
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Y_{P}	0.24542 ± 0.00011	$\sigma_8(0.38)$	0.701 ± 0.020
A^{kSZ}	< 5.53	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.24674 ± 0.00011	$f\sigma_8(0.51)$	0.495 ± 0.012
A_{100}^{dust}	1.01 ± 0.20	$10^5 \mathrm{D}/\mathrm{H}$	2.576 ± 0.050	$\sigma_8(0.51)$	0.656 ± 0.019
A_{143}^{dust}	0.96 ± 0.18	$\mathrm{Age}/\mathrm{Gyr}$	13.771 ± 0.047	$f\sigma_8(0.61)$	0.491 ± 0.012
A_{217}^{dust}	0.98 ± 0.10	z_*	1089.64 ± 0.51	$\sigma_8(0.61)$	0.625 ± 0.018
$A_{143 \times 217}^{\mathrm{dust}}$	1.02 ± 0.16	r_*	145.00 ± 0.54	$f\sigma_8(2.33)$	0.3154 ± 0.0095
c_{100}	0.9975 ± 0.0011	$100\theta_*$	1.04141 ± 0.00051	$\sigma_8(2.33)$	0.326 ± 0.010
c_{217}	1.0009 ± 0.0016	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.924 ± 0.050	f_{2000}^{143}	27 ± 4
H_0	68.4 ± 1.2	z_{drag}	1059.90 ± 0.52	f_{2000}^{217}	105.2 ± 2.4
Ω_{Λ}	0.698 ± 0.015	r_{drag}	147.66 ± 0.53	$f_{2000}^{143 \times 217}$	30.2 ± 2.6
Ω_{m}	0.302 ± 0.015	k_{D}	0.14031 ± 0.00053	χ_{lowl}^2	24.8 ± 1.7
$\Omega_{\mathrm{m}}h^2$	0.1407 ± 0.0024	$100\theta_{\mathrm{D}}$	0.16081 ± 0.00029	$\chi_{\mathrm{CamSpec}}^2$	7060.0 ± 5.4
$\Omega_{\mathrm{m}}h^3$	0.09616 ± 0.00047	z_{eq}	3347 ± 56	χ_{prior}^2	7.4 ± 3.3
σ_8	0.853 ± 0.022	k_{eq}	0.01022 ± 0.00017	χ_{CMB}^2	7084.8 ± 5.3
S_8	0.854 ± 0.025	$100\theta_{\mathrm{eq}}$	0.824 ± 0.011		

$\bar{\chi}_{\mathrm{eff}}^2 = 7092.14$; $R - 1 = 0.00760$

2.71 base_CamSpecHM_TT_lowl_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02239 ± 0.00021	$\sigma_8 \Omega_m^{0.25}$	0.632 ± 0.016	$D_M(0.15)$	636.8 ± 5.1
$\Omega_c h^2$	0.1181 ± 0.0013	$\sigma_8/h^{0.5}$	1.030 ± 0.025	$H(0.38)$	83.32 ± 0.39
$100\theta_{MC}$	1.04117 ± 0.00043	$r_{drag}h$	100.6 ± 1.0	$D_M(0.38)$	1521 ± 10
τ	0.110 ± 0.026	$\langle d^2 \rangle^{1/2}$	2.542 ± 0.059	$H(0.51)$	89.96 ± 0.33
$\ln(10^{10} A_s)$	3.149 ± 0.052	z_{re}	$12.6^{+2.4}_{-1.9}$	$D_M(0.51)$	1971 ± 12
n_s	0.9722 ± 0.0050	$10^9 A_s$	2.33 ± 0.12	$H(0.61)$	95.52 ± 0.28
y_{cal}	1.0003 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.870 ± 0.012	$D_M(0.61)$	2294 ± 13
A_{100}^{PS}	233 ± 25	D_{40}	1237 ± 15	$H(2.33)$	235.34 ± 0.80
A_{143}^{PS}	36 ± 9	D_{220}	5707 ± 40	$D_M(2.33)$	5755 ± 14
A_{217}^{PS}	104^{+10}_{-10}	D_{810}	2529 ± 14	$f\sigma_8(0.15)$	0.474 ± 0.012
A_{217}^{CIB}	38^{+7}_{-8}	D_{1420}	814.9 ± 5.0	$\sigma_8(0.15)$	0.787 ± 0.020
A_{143}^{tSZ}	$4.0^{+1.9}_{-2.5}$	D_{2000}	231.4 ± 1.9	$f\sigma_8(0.38)$	0.495 ± 0.012
$r_{143 \times 217}^{PS}$	0.67 ± 0.13	$n_{s,0.002}$	0.9722 ± 0.0050	$\sigma_8(0.38)$	0.698 ± 0.018
$r_{143 \times 217}^{CIB}$	$0.52^{+0.37}_{-0.24}$	Y_P	0.245401 ± 0.000085	$f\sigma_8(0.51)$	0.495 ± 0.012
$\xi^{tSZ \times CIB}$	—	Y_P^{BBN}	0.246727 ± 0.000085	$\sigma_8(0.51)$	0.654 ± 0.017
A^{kSZ}	< 5.69	$10^5 D/H$	2.582 ± 0.040	$f\sigma_8(0.61)$	0.490 ± 0.012
A_{100}^{dust}	1.01 ± 0.20	Age/Gyr	13.779 ± 0.031	$\sigma_8(0.61)$	0.622 ± 0.016
A_{143}^{dust}	0.96 ± 0.18	z_*	1089.73 ± 0.32	$f\sigma_8(2.33)$	0.3141 ± 0.0083
A_{217}^{dust}	0.98 ± 0.10	r_*	144.91 ± 0.32	$\sigma_8(2.33)$	0.3242 ± 0.0087
$A_{143 \times 217}^{dust}$	1.02 ± 0.16	$100\theta_*$	1.04136 ± 0.00043	f_{2000}^{143}	28 ± 3
c_{100}	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.916 ± 0.031	f_{2000}^{217}	105.5 ± 2.2
c_{217}	1.0010 ± 0.0016	z_{drag}	1059.85 ± 0.47	$f_{2000}^{143 \times 217}$	30.5 ± 2.4
H_0	68.14 ± 0.60	r_{drag}	147.58 ± 0.35	χ_{lowl}^2	24.7 ± 1.6
Ω_Λ	0.6960 ± 0.0077	k_D	0.14037 ± 0.00045	$\chi_{CamSpec}^2$	7059.5 ± 5.3
Ω_m	0.3040 ± 0.0077	$100\theta_D$	0.16083 ± 0.00027	χ_{6DF}^2	0.043 ± 0.061
$\Omega_m h^2$	0.1411 ± 0.0012	z_{eq}	3357 ± 29	χ_{MGS}^2	1.82 ± 0.63
$\Omega_m h^3$	0.09615 ± 0.00048	k_{eq}	0.010245 ± 0.000090	$\chi_{DR12BAO}^2$	4.1 ± 1.0
σ_8	0.851 ± 0.021	$100\theta_{eq}$	0.8218 ± 0.0056	χ_{prior}^2	7.4 ± 3.3
S_8	0.856 ± 0.022	$100\theta_{s,eq}$	0.4538 ± 0.0029	χ_{BAO}^2	6.0 ± 1.1
$\sigma_8 \Omega_m^{0.5}$	0.469 ± 0.012	$H(0.15)$	73.34 ± 0.52	χ_{CMB}^2	7084.2 ± 5.3
$\bar{\chi}_{eff}^2 = 7097.56; R - 1 = 0.01150$					

2.72 base_CamSpecHM_TT_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_{\text{b}}h^2$	0.022053	0.02207 ± 0.00021	$\sigma_8\Omega_{\text{m}}^{0.5}$	0.4653	0.465 ± 0.014	$100\theta_{\text{s,eq}}$	0.44618	0.4464 ± 0.0046
$\Omega_{\text{c}}h^2$	0.12163	0.1216 ± 0.0022	$\sigma_8\Omega_{\text{m}}^{0.25}$	0.6154	0.615 ± 0.012	$H(0.15)$	71.90	71.95 ± 0.79
$100\theta_{\text{MC}}$	1.040725	1.04073 ± 0.00048	$\sigma_8/h^{0.5}$	0.9985	0.998 ± 0.016	$D_{\text{M}}(0.15)$	651.2	650.8 ± 8.1
τ	0.0513	0.0517 ± 0.0080	$r_{\text{drag}}h$	97.71	97.8 ± 1.6	$H(0.38)$	82.27	82.31 ± 0.56
$\ln(10^{10}A_{\text{s}})$	3.0400	3.041 ± 0.016	$\langle d^2 \rangle^{1/2}$	2.4710	2.469 ± 0.039	$D_{\text{M}}(0.38)$	1549.3	1549 ± 16
n_{s}	0.9590	0.9599 ± 0.0060	z_{re}	7.47	7.48 ± 0.83	$H(0.51)$	89.134	89.17 ± 0.44
y_{cal}	1.00029	1.0004 ± 0.0025	$10^9 A_{\text{s}}$	2.0905	2.092 ± 0.034	$D_{\text{M}}(0.51)$	2004.6	2004 ± 19
A_{100}^{PS}	248.9	245 ± 25	$10^9 A_{\text{s}}e^{-2\tau}$	1.8866	1.887 ± 0.014	$H(0.61)$	94.866	94.90 ± 0.35
A_{143}^{PS}	39.9	42 ± 8	D_{40}	1240.5	1239 ± 16	$D_{\text{M}}(0.61)$	2330.7	2330 ± 20
A_{217}^{PS}	97.9	100 ± 10	D_{220}	5709.7	5709 ± 42	$H(2.33)$	237.30	237.3 ± 1.3
A_{217}^{CIB}	44.6	42 ± 7	D_{810}	2533.3	2534 ± 14	$D_{\text{M}}(2.33)$	5783.3	5782 ± 16
A_{143}^{tSZ}	4.22	$3.6_{-2.6}^{+1.7}$	D_{1420}	812.1	812.9 ± 5.2	$f\sigma_8(0.15)$	0.4686	0.468 ± 0.012
$r_{143 \times 217}^{\text{PS}}$	0.539	0.64 ± 0.13	D_{2000}	228.72	229.0 ± 1.8	$\sigma_8(0.15)$	0.7507	0.7509 ± 0.0076
$r_{143 \times 217}^{\text{CIB}}$	0.693	> 0.473	$n_{\text{s},0.002}$	0.9590	0.9599 ± 0.0060	$f\sigma_8(0.38)$	0.4836	0.4834 ± 0.0097
$\xi^{\text{tSZ} \times \text{CIB}}$	0.01	—	Y_{P}	0.245264	$0.24526_{-0.000089}^{+0.00010}$	$\sigma_8(0.38)$	0.6638	0.6640 ± 0.0060
A^{kSZ}	3.92	$5.2_{-2.2}^{+4.0}$	$Y_{\text{P}}^{\text{BBN}}$	0.246590	$0.24659_{-0.000089}^{+0.00011}$	$f\sigma_8(0.51)$	0.4804	0.4803 ± 0.0083
A_{100}^{dust}	1.005	1.01 ± 0.20	$10^5 D/\text{H}$	2.6461	2.643 ± 0.041	$\sigma_8(0.51)$	0.6206	0.6208 ± 0.0055
A_{143}^{dust}	0.986	0.97 ± 0.18	Age/Gyr	13.8419	13.839 ± 0.036	$f\sigma_8(0.61)$	0.4742	0.4741 ± 0.0073
A_{217}^{dust}	0.958	0.97 ± 0.10	z_*	1090.466	1090.44 ± 0.41	$\sigma_8(0.61)$	0.59006	0.5903 ± 0.0051
$A_{143 \times 217}^{\text{dust}}$	1.001	1.03 ± 0.16	r_*	144.254	144.26 ± 0.49	$f\sigma_8(2.33)$	0.29692	0.2971 ± 0.0025
c_{100}	0.99748	0.9975 ± 0.0011	$100\theta_*$	1.040937	1.04094 ± 0.00047	$\sigma_8(2.33)$	0.30548	0.3056 ± 0.0027
c_{217}	1.00140	1.0013 ± 0.0016	$D_{\text{M}}(z_*)/\text{Gpc}$	13.8581	13.859 ± 0.045	f_{2000}^{143}	32.33	31.6 ± 3.0
H_0	66.46	66.51 ± 0.93	z_{drag}	1059.322	1059.35 ± 0.44	f_{2000}^{217}	108.39	108.0 ± 2.0
Ω_{Λ}	0.6733	$0.674_{-0.013}^{+0.014}$	r_{drag}	147.016	147.02 ± 0.49	$f_{2000}^{143 \times 217}$	33.80	33.6 ± 2.2
Ω_{m}	0.3267	$0.326_{-0.014}^{+0.013}$	k_{D}	0.14070	0.14071 ± 0.00052	χ_{small}^2	395.83	397.0 ± 1.7
$\Omega_{\text{m}}h^2$	0.14433	0.1443 ± 0.0021	$100\theta_{\text{D}}$	0.161123	0.16111 ± 0.00026	χ_{CamSpec}^2	7049.7	7062.9 ± 5.3
$\Omega_{\text{m}}h^3$	0.095922	0.09594 ± 0.00045	z_{eq}	3433.5	3432 ± 49	χ_{prior}^2	2.29	7.7 ± 3.5
σ_8	0.8140	0.8142 ± 0.0090	k_{eq}	0.010479	0.01048 ± 0.00015	χ_{CMB}^2	7445.5	7459.8 ± 5.5
S_8	0.8495	0.849 ± 0.025	$100\theta_{\text{eq}}$	0.8067	0.8071 ± 0.0090			

Best-fit $\chi_{\text{eff}}^2 = 7447.83$; $\bar{\chi}_{\text{eff}}^2 = 7467.49$; $R - 1 = 0.00861$

χ_{eff}^2 : CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.83 CamSpec like_10.7HM: 7049.71

2.73 base_CamSpecHM_TTTEE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022485	0.02246 ± 0.00019	σ_8	0.8525	$0.850^{+0.021}_{-0.026}$	k_{eq}	0.010269	0.01027 ± 0.00011
$\Omega_c h^2$	0.11831	0.1183 ± 0.0017	S_8	0.8597	0.858 ± 0.022	$100\theta_{\text{eq}}$	0.8205	0.8206 ± 0.0073
$100\theta_{\text{MC}}$	1.041043	1.04104 ± 0.00034	$\sigma_8 \Omega_m^{0.5}$	0.4709	0.470 ± 0.012	$100\theta_{\text{s,eq}}$	0.45306	0.4531 ± 0.0037
τ	0.1119	$0.110^{+0.029}_{-0.034}$	$\sigma_8 \Omega_m^{0.25}$	0.6336	$0.632^{+0.015}_{-0.017}$	$H(0.15)$	73.30	73.29 ± 0.68
$\ln(10^{10} A_s)$	3.154	$3.149^{+0.056}_{-0.065}$	$\sigma_8/h^{0.5}$	1.0331	$1.031^{+0.025}_{-0.028}$	$D_M(0.15)$	637.2	637.4 ± 6.6
n_s	0.9714	0.9705 ± 0.0060	$r_{\text{drag}} h$	100.37	100.4 ± 1.3	$H(0.38)$	83.307	83.29 ± 0.50
A_{100}^{PS}	221.2	233 ± 25	$\langle d^2 \rangle^{1/2}$	2.551	$2.548^{+0.060}_{-0.066}$	$D_M(0.38)$	1521.1	1522 ± 13
A_{143}^{PS}	48.6	36 ± 8	z_{re}	12.76	12.4 ± 2.6	$H(0.51)$	89.962	89.95 ± 0.40
A_{217}^{PS}	107.7	104 ± 10	$10^9 A_s$	2.343	$2.34^{+0.12}_{-0.16}$	$D_M(0.51)$	1971.5	1972 ± 16
A_{217}^{CIB}	39.2	37 ± 7	$10^9 A_s e^{-2\tau}$	1.8728	1.872 ± 0.013	$H(0.61)$	95.534	$95.52^{+0.30}_{-0.33}$
A_{143}^{tSZ}	6.49	$4.0^{+2.0}_{-2.4}$	D_{40}	1240.1	1243^{+14}_{-17}	$D_M(0.61)$	2295.0	2295 ± 17
$r_{143 \times 217}^{\text{PS}}$	0.774	0.68 ± 0.13	D_{220}	5721.4	5722 ± 39	$H(2.33)$	235.57	235.55 ± 0.98
$r_{143 \times 217}^{\text{CIB}}$	0.866	$0.51^{+0.34}_{-0.26}$	D_{810}	2531.0	2529 ± 14	$D_M(2.33)$	5753.1	5754 ± 14
$\xi^{\text{tSZ} \times \text{CIB}}$	0.999	—	D_{1420}	815.85	814.7 ± 4.8	$f\sigma_8(0.15)$	0.4762	0.475 ± 0.012
A^{kSZ}	0.00	< 5.48	D_{2000}	231.86	231.4 ± 1.8	$\sigma_8(0.15)$	0.7884	$0.786^{+0.020}_{-0.024}$
A_{100}^{dust}	0.995	1.00 ± 0.19	$n_{\text{s},0.002}$	0.9714	0.9705 ± 0.0060	$f\sigma_8(0.38)$	0.4971	0.496 ± 0.013
A_{143}^{dust}	0.963	0.95 ± 0.17	Y_{P}	0.245439	0.245429 ± 0.000075	$\sigma_8(0.38)$	0.6996	$0.698^{+0.018}_{-0.022}$
A_{217}^{dust}	0.987	0.98 ± 0.10	$Y_{\text{P}}^{\text{BBN}}$	0.246766	0.246756 ± 0.000075	$f\sigma_8(0.51)$	0.4964	$0.495^{+0.012}_{-0.013}$
$A_{143 \times 217}^{\text{dust}}$	0.998	1.02 ± 0.16	$10^5 \text{D}/\text{H}$	2.5645	2.569 ± 0.035	$\sigma_8(0.51)$	0.6550	$0.653^{+0.017}_{-0.021}$
y_{cal}	1.00001	1.0001 ± 0.0025	Age/Gyr	13.7749	13.777 ± 0.031	$f\sigma_8(0.61)$	0.4917	$0.490^{+0.012}_{-0.014}$
c_{100}	0.99792	0.9976 ± 0.0011	z_*	1089.628	1089.66 ± 0.36	$\sigma_8(0.61)$	0.6235	$0.622^{+0.017}_{-0.020}$
c_{217}	1.00103	1.0009 ± 0.0016	r_*	144.782	144.80 ± 0.36	$f\sigma_8(2.33)$	0.3146	$0.3138^{+0.0085}_{-0.011}$
c_{TE}	0.9925	0.9924 ± 0.0055	$100\theta_*$	1.041219	1.04122 ± 0.00033	$\sigma_8(2.33)$	0.3247	$0.3239^{+0.0091}_{-0.011}$
c_{EE}	0.99028	0.9903 ± 0.0050	$D_M(z_*)/\text{Gpc}$	13.9050	13.907 ± 0.033	f_{2000}^{143}	27.34	27 ± 3
H_0	68.09	68.07 ± 0.78	z_{drag}	1060.085	1060.03 ± 0.37	f_{2000}^{217}	104.70	105.3 ± 2.2
Ω_Λ	0.6949	0.695 ± 0.010	r_{drag}	147.412	147.44 ± 0.34	$f_{2000}^{143 \times 217}$	30.06	30.3 ± 2.4
Ω_m	0.3051	0.305 ± 0.010	k_{D}	0.140616	0.14057 ± 0.00035	χ_{CamSpec}^2	11495.8	11512.0 ± 5.6
$\Omega_m h^2$	0.14144	0.1414 ± 0.0016	$100\theta_{\text{D}}$	0.160674	0.16071 ± 0.00021	χ_{prior}^2	1.86	7.7 ± 3.3
$\Omega_m h^3$	0.096302	0.09626 ± 0.00032	z_{eq}	3364.5	3364 ± 38			

Best-fit $\chi_{\text{eff}}^2 = 11497.65$; $\bar{\chi}_{\text{eff}}^2 = 11519.77$; $R - 1 = 0.00880$
 χ_{eff}^2 : CMB - CamSpec like_10.7HM_1400_unified: 11495.79

2.74 base_CamSpecHM_TTTEE_lowl

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022467	0.02243 ± 0.00018	S_8	0.8498	0.846 ± 0.020	$100\theta_{s,eq}$	0.45334	0.4530 ± 0.0034
$\Omega_c h^2$	0.11820	0.1184 ± 0.0016	$\sigma_8 \Omega_m^{0.5}$	0.4655	0.463 ± 0.011	$H(0.15)$	73.32	73.23 ± 0.62
$100\theta_{MC}$	1.041045	1.04102 ± 0.00033	$\sigma_8 \Omega_m^{0.25}$	0.6265	0.623 ± 0.015	$D_M(0.15)$	637.0	637.9 ± 6.1
τ	0.1012	0.094 ± 0.028	$\sigma_8/h^{0.5}$	1.0219	1.015 ± 0.024	$H(0.38)$	83.314	83.25 ± 0.46
$\ln(10^{10} A_s)$	3.132	3.117 ± 0.054	$r_{drag} h$	100.44	100.3 ± 1.2	$D_M(0.38)$	1520.8	1523 ± 12
n_s	0.9723	0.9707 ± 0.0055	$\langle d^2 \rangle^{1/2}$	2.521	2.508 ± 0.056	$H(0.51)$	89.963	89.91 ± 0.37
y_{cal}	1.00023	1.0002 ± 0.0024	z_{re}	11.89	$11.2^{+2.6}_{-2.0}$	$D_M(0.51)$	1971.2	1973 ± 14
A_{100}^{PS}	221.6	234 ± 25	$10^9 A_s$	2.293	2.26 ± 0.12	$H(0.61)$	95.530	$95.48^{+0.28}_{-0.31}$
A_{143}^{PS}	48.3	37 ± 9	$10^9 A_s e^{-2\tau}$	1.8726	1.872 ± 0.012	$D_M(0.61)$	2294.6	2297 ± 16
A_{217}^{PS}	108.5	104 ± 10	D_{40}	1231.7	1233 ± 14	$H(2.33)$	235.48	235.56 ± 0.91
A_{217}^{CIB}	38.8	38 ± 7	D_{220}	5716.2	5716 ± 38	$D_M(2.33)$	5753.6	5756 ± 13
A_{143}^{tSZ}	6.38	$4.0^{+2.0}_{-2.4}$	D_{810}	2532.6	2531 ± 13	$f\sigma_8(0.15)$	0.4708	0.468 ± 0.011
$r_{143 \times 217}^{PS}$	0.768	0.67 ± 0.13	D_{1420}	816.86	815.5 ± 4.7	$\sigma_8(0.15)$	0.7800	0.774 ± 0.020
$r_{143 \times 217}^{CIB}$	0.842	$0.52^{+0.36}_{-0.24}$	D_{2000}	231.94	231.3 ± 1.8	$f\sigma_8(0.38)$	0.4915	0.489 ± 0.011
$\xi^{tSZ \times CIB}$	0.96	—	$n_{s,0.002}$	0.9723	0.9707 ± 0.0055	$\sigma_8(0.38)$	0.6922	0.687 ± 0.018
A^{kSZ}	0.01	< 5.50	Y_P	0.245433	0.245416 ± 0.000071	$f\sigma_8(0.51)$	0.4909	0.488 ± 0.011
A_{100}^{dust}	1.000	1.00 ± 0.20	Y_P^{BBN}	0.246759	0.246743 ± 0.000072	$\sigma_8(0.51)$	0.6481	0.643 ± 0.017
A_{143}^{dust}	0.960	0.95 ± 0.18	$10^5 D/H$	2.5677	2.575 ± 0.034	$f\sigma_8(0.61)$	0.4863	0.483 ± 0.011
A_{217}^{dust}	0.993	0.98 ± 0.10	Age/Gyr	13.7762	13.781 ± 0.029	$\sigma_8(0.61)$	0.6169	0.612 ± 0.016
$A_{143 \times 217}^{dust}$	1.008	1.01 ± 0.16	z_*	1089.641	1089.70 ± 0.33	$f\sigma_8(2.33)$	0.3114	0.3090 ± 0.0084
c_{100}	0.99782	0.9975 ± 0.0011	r_*	144.824	144.81 ± 0.33	$\sigma_8(2.33)$	0.3213	0.3188 ± 0.0089
c_{217}	1.00104	1.0009 ± 0.0016	$100\theta_*$	1.041222	1.04120 ± 0.00032	f_{2000}^{143}	27.38	28 ± 3
c_{TE}	0.9932	0.9938 ± 0.0053	$D_M(z_*)/\text{Gpc}$	13.9091	13.908 ± 0.031	f_{2000}^{217}	104.79	105.5 ± 2.1
c_{EE}	0.9906	0.9907 ± 0.0050	z_{drag}	1060.047	1059.96 ± 0.36	$f_{2000}^{143 \times 217}$	30.07	30.6 ± 2.3
H_0	68.11	68.01 ± 0.72	r_{drag}	147.460	147.46 ± 0.33	χ_{lowl}^2	23.92	24.1 ± 1.4
Ω_Λ	0.6954	0.6940 ± 0.0095	k_D	0.140550	0.14053 ± 0.00034	$\chi_{CamSpec}^2$	11496.2	11512.2 ± 5.7
Ω_m	0.3046	0.3060 ± 0.0095	$100\theta_D$	0.160702	0.16075 ± 0.00021	χ_{prior}^2	1.90	7.8 ± 3.4
$\Omega_m h^2$	0.14131	0.1415 ± 0.0015	z_{eq}	3361.4	3365 ± 35	χ_{CMB}^2	11520.1	11536.3 ± 5.6
$\Omega_m h^3$	0.096250	0.09620 ± 0.00032	k_{eq}	0.010259	0.01027 ± 0.00011			
σ_8	0.8434	0.837 ± 0.021	$100\theta_{eq}$	0.8210	0.8203 ± 0.0067			

Best-fit $\chi_{eff}^2 = 11522.05$; $\bar{\chi}_{eff}^2 = 11544.10$; $R - 1 = 0.00836$

χ_{eff}^2 : CMB - commander_dx12_v3_2_29: 23.92 CamSpec like_10.7HM_1400_unified: 11496.23

2.75 base_CamSpecHM_TTTEEE_lowl_post_BAO

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02244 ± 0.00016	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.463 ± 0.011	$D_{\mathrm{M}}(0.15)$	637.4 ± 4.2
$\Omega_{\mathrm{c}}h^2$	0.1183 ± 0.0011	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.623 ± 0.014	$H(0.38)$	83.28 ± 0.32
$100\theta_{\mathrm{MC}}$	1.04103 ± 0.00030	$\sigma_8/h^{0.5}$	1.015 ± 0.023	$D_{\mathrm{M}}(0.38)$	1521.8 ± 8.5
τ	$0.095^{+0.026}_{-0.023}$	$r_{\mathrm{drag}}h$	100.38 ± 0.85	$H(0.51)$	89.93 ± 0.26
$\ln(10^{10}A_{\mathrm{s}})$	$3.119^{+0.051}_{-0.045}$	$\langle d^2 \rangle^{1/2}$	$2.508^{+0.057}_{-0.052}$	$D_{\mathrm{M}}(0.51)$	1972 ± 10
n_{s}	0.9709 ± 0.0044	z_{re}	$11.3^{+2.4}_{-1.8}$	$H(0.61)$	95.50 ± 0.22
y_{cal}	1.0002 ± 0.0024	$10^9 A_{\mathrm{s}}$	2.26 ± 0.11	$D_{\mathrm{M}}(0.61)$	2296 ± 11
A_{100}^{PS}	233 ± 25	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.872 ± 0.011	$H(2.33)$	235.49 ± 0.64
A_{143}^{PS}	36 ± 9	D_{40}	1232 ± 14	$D_{\mathrm{M}}(2.33)$	5755 ± 10
A_{217}^{PS}	104 ± 10	D_{220}	5717 ± 38	$f\sigma_8(0.15)$	0.468 ± 0.011
A_{217}^{CIB}	38 ± 7	D_{810}	2530 ± 13	$\sigma_8(0.15)$	0.775 ± 0.019
A_{143}^{tSZ}	$4.0^{+2.0}_{-2.4}$	D_{1420}	815.6 ± 4.7	$f\sigma_8(0.38)$	0.488 ± 0.011
$r_{143 \times 217}^{\mathrm{PS}}$	0.67 ± 0.13	D_{2000}	231.3 ± 1.7	$\sigma_8(0.38)$	0.688 ± 0.017
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.52^{+0.35}_{-0.25}$	$n_{\mathrm{s},0.002}$	0.9709 ± 0.0044	$f\sigma_8(0.51)$	0.488 ± 0.011
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Y_{P}	0.245419 ± 0.000061	$\sigma_8(0.51)$	0.644 ± 0.016
A^{kSZ}	< 5.54	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246746 ± 0.000061	$f\sigma_8(0.61)$	0.483 ± 0.011
A_{100}^{dust}	1.00 ± 0.20	$10^5 \mathrm{D}/\mathrm{H}$	2.574 ± 0.029	$\sigma_8(0.61)$	0.613 ± 0.015
A_{143}^{dust}	0.95 ± 0.17	$\mathrm{Age}/\mathrm{Gyr}$	13.780 ± 0.023	$f\sigma_8(2.33)$	0.3092 ± 0.0077
A_{217}^{dust}	0.98 ± 0.10	z_*	1089.68 ± 0.26	$\sigma_8(2.33)$	0.3191 ± 0.0081
$A_{143 \times 217}^{\mathrm{dust}}$	1.01 ± 0.16	r_*	144.83 ± 0.25	f_{2000}^{143}	27.7 ± 3.1
c_{100}	0.9975 ± 0.0010	$100\theta_*$	1.04121 ± 0.00030	f_{2000}^{217}	105.5 ± 2.1
c_{217}	1.0009 ± 0.0016	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.910 ± 0.024	$f_{2000}^{143 \times 217}$	30.6 ± 2.2
c_{TE}	0.9937 ± 0.0052	z_{drag}	1059.97 ± 0.34	χ_{lowl}^2	24.1 ± 1.3
c_{EE}	0.9907 ± 0.0049	r_{drag}	147.48 ± 0.26	$\chi_{\mathrm{CamSpec}}^2$	11511.7 ± 5.5
H_0	68.06 ± 0.50	k_{D}	0.14051 ± 0.00031	$\chi_{6\mathrm{DF}}^2$	0.030 ± 0.043
Ω_{Λ}	0.6948 ± 0.0065	$100\theta_{\mathrm{D}}$	0.16074 ± 0.00020	χ_{MGS}^2	1.69 ± 0.51
Ω_{m}	0.3052 ± 0.0065	z_{eq}	3362 ± 24	$\chi_{\mathrm{DR12BAO}}^2$	4.03 ± 0.89
$\Omega_{\mathrm{m}}h^2$	0.1413 ± 0.0010	k_{eq}	0.010262 ± 0.000074	χ_{prior}^2	7.7 ± 3.4
$\Omega_{\mathrm{m}}h^3$	0.09620 ± 0.00032	$100\theta_{\mathrm{eq}}$	0.8208 ± 0.0046	χ_{BAO}^2	5.76 ± 0.76
σ_8	0.838 ± 0.020	$100\theta_{\mathrm{s,eq}}$	0.4532 ± 0.0024	χ_{CMB}^2	11535.7 ± 5.4
S_8	0.845 ± 0.020	$H(0.15)$	73.28 ± 0.43		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11549.23; R - 1 = 0.01419$$

2.76 base_CamSpecHM_TTTEEE_lowl_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02244 ± 0.00018	S_8	0.847 ± 0.020	$100\theta_{s,eq}$	0.4532 ± 0.0034
$\Omega_c h^2$	0.1183 ± 0.0015	$\sigma_8 \Omega_m^{0.5}$	0.464 ± 0.011	$H(0.15)$	73.26 ± 0.61
$100\theta_{MC}$	1.04102 ± 0.00033	$\sigma_8 \Omega_m^{0.25}$	0.624 ± 0.013	$D_M(0.15)$	637.6 ± 6.0
τ	0.097 ± 0.025	$\sigma_8/h^{0.5}$	$1.018^{+0.021}_{-0.023}$	$H(0.38)$	83.27 ± 0.45
$\ln(10^{10} A_s)$	3.122 ± 0.049	$r_{drag} h$	100.3 ± 1.2	$D_M(0.38)$	1522 ± 12
n_s	0.9710 ± 0.0053	$\langle d^2 \rangle^{1/2}$	$2.513^{+0.049}_{-0.055}$	$H(0.51)$	$89.93^{+0.33}_{-0.37}$
y_{cal}	1.0002 ± 0.0024	z_{re}	11.4 ± 2.1	$D_M(0.51)$	1973 ± 14
A_{100}^{PS}	233 ± 25	$10^9 A_s$	$2.273^{+0.099}_{-0.12}$	$H(0.61)$	$95.50^{+0.27}_{-0.31}$
A_{143}^{PS}	36 ± 9	$10^9 A_s e^{-2\tau}$	1.872 ± 0.012	$D_M(0.61)$	2296 ± 15
A_{217}^{PS}	104 ± 10	D_{40}	1233 ± 14	$H(2.33)$	235.52 ± 0.89
A_{217}^{CIB}	38 ± 7	D_{220}	5716 ± 38	$D_M(2.33)$	5755^{+14}_{-12}
A_{143}^{tSZ}	$4.0^{+2.0}_{-2.4}$	D_{810}	2530 ± 13	$f\sigma_8(0.15)$	0.469 ± 0.011
$r_{143 \times 217}^{PS}$	0.68 ± 0.13	D_{1420}	815.5 ± 4.7	$\sigma_8(0.15)$	$0.776^{+0.017}_{-0.019}$
$r_{143 \times 217}^{CIB}$	$0.52^{+0.36}_{-0.25}$	D_{2000}	231.3 ± 1.7	$f\sigma_8(0.38)$	0.489 ± 0.011
$\xi^{tSZ \times CIB}$	—	$n_{s,0.002}$	0.9710 ± 0.0053	$\sigma_8(0.38)$	$0.689^{+0.015}_{-0.018}$
A^{kSZ}	< 5.45	Y_P	0.245419 ± 0.000070	$f\sigma_8(0.51)$	$0.4888^{+0.0099}_{-0.011}$
A_{100}^{dust}	1.00 ± 0.20	Y_P^{BBN}	0.246746 ± 0.000070	$\sigma_8(0.51)$	$0.645^{+0.014}_{-0.017}$
A_{143}^{dust}	0.95 ± 0.18	$10^5 D/H$	2.574 ± 0.033	$f\sigma_8(0.61)$	$0.4841^{+0.0098}_{-0.011}$
A_{217}^{dust}	0.98 ± 0.10	Age/Gyr	13.780 ± 0.029	$\sigma_8(0.61)$	$0.614^{+0.014}_{-0.016}$
$A_{143 \times 217}^{dust}$	1.01 ± 0.16	z_*	1089.69 ± 0.33	$f\sigma_8(2.33)$	$0.3098^{+0.0070}_{-0.0083}$
c_{100}	0.9975 ± 0.0011	r_*	144.82 ± 0.33	$\sigma_8(2.33)$	$0.3196^{+0.0074}_{-0.0088}$
c_{217}	1.0009 ± 0.0016	$100\theta_*$	1.04120 ± 0.00032	f_{2000}^{143}	28 ± 3
c_{TE}	0.9936 ± 0.0052	$D_M(z_*)/Gpc$	13.909 ± 0.030	f_{2000}^{217}	105.4 ± 2.1
c_{EE}	0.9906 ± 0.0050	z_{drag}	1059.97 ± 0.36	$f_{2000}^{143 \times 217}$	30.5 ± 2.3
H_0	68.05 ± 0.71	r_{drag}	147.47 ± 0.32	χ_{lowl}^2	24.2 ± 1.4
Ω_Λ	0.6945 ± 0.0093	k_D	0.14052 ± 0.00034	$\chi_{CamSpec}^2$	11512.0 ± 5.6
Ω_m	0.3055 ± 0.0093	$100\theta_D$	0.16074 ± 0.00021	χ_{prior}^2	7.7 ± 3.4
$\Omega_m h^2$	0.1414 ± 0.0014	z_{eq}	3363 ± 34	χ_{CMB}^2	11536.2 ± 5.6
$\Omega_m h^3$	0.09620 ± 0.00032	k_{eq}	0.01027 ± 0.00010		
σ_8	$0.839^{+0.018}_{-0.020}$	$100\theta_{eq}$	0.8206 ± 0.0066		

$\bar{\chi}_{eff}^2 = 11543.93$; $R - 1 = 0.00900$

2.77 base_CamSpecHM_TTTEEE_lowl_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}} h^2$	0.02244 ± 0.00016	$\sigma_8 \Omega_{\mathrm{m}}^{0.5}$	0.463 ± 0.010	$D_{\mathrm{M}}(0.15)$	637.3 ± 4.2
$\Omega_{\mathrm{c}} h^2$	0.1182 ± 0.0011	$\sigma_8 \Omega_{\mathrm{m}}^{0.25}$	0.624 ± 0.013	$H(0.38)$	83.29 ± 0.32
$100\theta_{\mathrm{MC}}$	1.04104 ± 0.00030	$\sigma_8/h^{0.5}$	1.017 ± 0.022	$D_{\mathrm{M}}(0.38)$	1521.5 ± 8.4
τ	0.097 ± 0.023	$r_{\mathrm{drag}} h$	100.40 ± 0.84	$H(0.51)$	89.94 ± 0.26
$\ln(10^{10} A_{\mathrm{s}})$	3.122 ± 0.046	$\langle d^2 \rangle^{1/2}$	2.512 ± 0.052	$D_{\mathrm{M}}(0.51)$	1972.0 ± 9.9
n_{s}	0.9711 ± 0.0043	z_{re}	$11.4^{+2.1}_{-1.8}$	$H(0.61)$	95.51 ± 0.22
y_{cal}	1.0002 ± 0.0024	$10^9 A_{\mathrm{s}}$	2.27 ± 0.10	$D_{\mathrm{M}}(0.61)$	2296 ± 11
A_{100}^{PS}	233 ± 25	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.871 ± 0.011	$H(2.33)$	235.48 ± 0.64
A_{143}^{PS}	36 ± 8	D_{40}	1233 ± 14	$D_{\mathrm{M}}(2.33)$	5755 ± 10
A_{217}^{PS}	105 ± 10	D_{220}	5717 ± 38	$f\sigma_8(0.15)$	0.469 ± 0.010
A_{217}^{CIB}	38 ± 7	D_{810}	2530 ± 13	$\sigma_8(0.15)$	0.776 ± 0.017
A_{143}^{tSZ}	$4.0^{+2.0}_{-2.4}$	D_{1420}	815.5 ± 4.7	$f\sigma_8(0.38)$	0.489 ± 0.011
$r_{143 \times 217}^{\mathrm{PS}}$	0.67 ± 0.13	D_{2000}	231.3 ± 1.7	$\sigma_8(0.38)$	0.689 ± 0.016
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.52^{+0.35}_{-0.25}$	$n_{\mathrm{s},0.002}$	0.9711 ± 0.0043	$f\sigma_8(0.51)$	0.489 ± 0.011
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Y_{P}	0.245421 ± 0.000060	$\sigma_8(0.51)$	0.645 ± 0.015
A^{kSZ}	< 5.50	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246748 ± 0.000061	$f\sigma_8(0.61)$	0.484 ± 0.010
A_{100}^{dust}	1.00 ± 0.19	$10^5 \mathrm{D}/\mathrm{H}$	2.573 ± 0.029	$\sigma_8(0.61)$	0.614 ± 0.014
A_{143}^{dust}	0.95 ± 0.17	$\mathrm{Age}/\mathrm{Gyr}$	13.779 ± 0.023	$f\sigma_8(2.33)$	0.3097 ± 0.0072
A_{217}^{dust}	0.98 ± 0.10	z_*	1089.68 ± 0.25	$\sigma_8(2.33)$	0.3196 ± 0.0075
$A_{143 \times 217}^{\mathrm{dust}}$	1.01 ± 0.16	r_*	144.83 ± 0.25	f_{2000}^{143}	27.6 ± 3.0
c_{100}	0.9975 ± 0.0010	$100\theta_*$	1.04121 ± 0.00030	f_{2000}^{217}	105.5 ± 2.0
c_{217}	1.0009 ± 0.0016	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.910 ± 0.023	$f_{2000}^{143 \times 217}$	30.5 ± 2.2
c_{TE}	0.9936 ± 0.0052	z_{drag}	1059.98 ± 0.33	χ_{lowl}^2	24.1 ± 1.3
c_{EE}	0.9906 ± 0.0049	r_{drag}	147.48 ± 0.26	$\chi_{\mathrm{CamSpec}}^2$	11511.5 ± 5.4
H_0	68.08 ± 0.49	k_{D}	0.14051 ± 0.00031	$\chi_{6\mathrm{DF}}^2$	0.030 ± 0.042
Ω_{Λ}	0.6950 ± 0.0064	$100\theta_{\mathrm{D}}$	0.16073 ± 0.00019	χ_{MGS}^2	1.71 ± 0.51
Ω_{m}	0.3050 ± 0.0064	z_{eq}	3362 ± 24	$\chi_{\mathrm{DR12BAO}}^2$	4.01 ± 0.86
$\Omega_{\mathrm{m}} h^2$	0.1413 ± 0.0010	k_{eq}	0.010261 ± 0.000073	χ_{prior}^2	7.7 ± 3.4
$\Omega_{\mathrm{m}} h^3$	0.09621 ± 0.00032	$100\theta_{\mathrm{eq}}$	0.8209 ± 0.0046	χ_{BAO}^2	5.75 ± 0.74
σ_8	0.839 ± 0.018	$100\theta_{\mathrm{s,eq}}$	0.4533 ± 0.0023	χ_{CMB}^2	11535.6 ± 5.3
S_8	0.846 ± 0.019	$H(0.15)$	73.29 ± 0.43		

$\bar{\chi}_{\mathrm{eff}}^2 = 11549.09$; $R - 1 = 0.01512$

2.78 base_CamSpecHM_TTTEE_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022266	0.02227 ± 0.00016	S_8	0.8311	0.831 ± 0.016	$100\theta_{s,eq}$	0.44945	0.4495 ± 0.0030
$\Omega_c h^2$	0.12002	0.1200 ± 0.0014	$\sigma_8 \Omega_m^{0.5}$	0.4552	0.4552 ± 0.0090	$H(0.15)$	72.56	72.57 ± 0.53
$100\theta_{MC}$	1.040829	1.04084 ± 0.00032	$\sigma_8 \Omega_m^{0.25}$	0.6070	0.6069 ± 0.0084	$D_M(0.15)$	644.5	644.5 ± 5.3
τ	0.0527	0.0527 ± 0.0078	$\sigma_8/h^{0.5}$	0.9872	0.987 ± 0.012	$H(0.38)$	82.753	82.76 ± 0.38
$\ln(10^{10} A_s)$	3.0397	3.040 ± 0.016	$r_{drag} h$	98.96	99.0 ± 1.1	$D_M(0.38)$	1536.0	1536 ± 11
n_s	0.96396	0.9639 ± 0.0045	$\langle d^2 \rangle^{1/2}$	2.4431	2.443 ± 0.029	$H(0.51)$	89.518	89.53 ± 0.30
y_{cal}	1.00037	1.0005 ± 0.0025	z_{re}	7.54	7.52 ± 0.80	$D_M(0.51)$	1989.0	1989 ± 12
A_{100}^{PS}	238.7	242 ± 25	$10^9 A_s$	2.0899	2.090 ± 0.033	$H(0.61)$	95.173	95.18 ± 0.24
A_{143}^{PS}	43.9	40 ± 8	$10^9 A_s e^{-2\tau}$	1.8808	1.881 ± 0.012	$D_M(0.61)$	2313.8	2314 ± 13
A_{217}^{PS}	101.4	102 ± 10	D_{40}	1230.7	1231 ± 13	$H(2.33)$	236.46	236.46 ± 0.84
A_{217}^{CIB}	43.3	40 ± 7	D_{220}	5723.0	5724 ± 39	$D_M(2.33)$	5769.4	5769 ± 11
A_{143}^{tSZ}	5.45	$3.8_{-2.5}^{+1.9}$	D_{810}	2535.1	2535 ± 14	$f\sigma_8(0.15)$	0.4594	0.4593 ± 0.0084
$r_{143 \times 217}^{PS}$	0.637	0.65 ± 0.13	D_{1420}	815.02	815.0 ± 4.9	$\sigma_8(0.15)$	0.7475	0.7475 ± 0.0066
$r_{143 \times 217}^{CIB}$	0.780	$0.57_{-0.16}^{+0.39}$	D_{2000}	229.94	229.9 ± 1.6	$f\sigma_8(0.38)$	0.4766	0.4766 ± 0.0069
$\xi^{tSZ \times CIB}$	0.39	—	$n_{s,0.002}$	0.96396	0.9639 ± 0.0045	$\sigma_8(0.38)$	0.6621	0.6621 ± 0.0056
A^{kSZ}	1.92	$4.8_{-3.7}^{+2.6}$	Y_P	0.245353	$0.245352_{-0.000061}^{+0.000068}$	$f\sigma_8(0.51)$	0.4747	0.4746 ± 0.0060
A_{100}^{dust}	1.006	1.01 ± 0.19	Y_P^{BBN}	0.246680	$0.246678_{-0.000061}^{+0.000068}$	$\sigma_8(0.51)$	0.6194	0.6194 ± 0.0051
A_{143}^{dust}	0.977	0.96 ± 0.18	$10^5 D/H$	2.6052	2.606 ± 0.030	$f\sigma_8(0.61)$	0.4693	0.4693 ± 0.0055
A_{217}^{dust}	0.968	0.97 ± 0.10	Age/Gyr	13.8109	13.810 ± 0.025	$\sigma_8(0.61)$	0.58923	0.5892 ± 0.0048
$A_{143 \times 217}^{dust}$	0.996	1.03 ± 0.16	z_*	1090.053	1090.05 ± 0.29	$f\sigma_8(2.33)$	0.29691	0.2969 ± 0.0024
c_{100}	0.99769	0.9976 ± 0.0011	r_*	144.505	144.51 ± 0.32	$\sigma_8(2.33)$	0.30590	0.3059 ± 0.0025
c_{217}	1.00131	1.0011 ± 0.0016	$100\theta_*$	1.041020	1.04103 ± 0.00031	f_{2000}^{143}	30.67	30.3 ± 2.8
c_{TE}	0.99656	0.9966 ± 0.0049	$D_M(z_*)/\text{Gpc}$	13.8811	13.881 ± 0.029	f_{2000}^{217}	107.15	107.2 ± 1.9
c_{EE}	0.99247	0.9924 ± 0.0049	z_{drag}	1059.704	1059.70 ± 0.33	$f_{2000}^{143 \times 217}$	32.59	32.5 ± 2.0
H_0	67.23	67.24 ± 0.62	r_{drag}	147.201	147.21 ± 0.32	χ_{small}^2	395.86	396.9 ± 1.7
Ω_Λ	0.6838	0.6837 ± 0.0086	k_D	0.140671	0.14067 ± 0.00035	$\chi_{CamSpec}^2$	11499.5	11514.4 ± 5.6
Ω_m	0.3162	0.3163 ± 0.0086	$100\theta_D$	0.160888	0.16089 ± 0.00019	χ_{prior}^2	2.14	7.8 ± 3.4
$\Omega_m h^2$	0.14293	0.1429 ± 0.0013	z_{eq}	3400.2	3400 ± 32	χ_{CMB}^2	11895.4	11911.3 ± 5.7
$\Omega_m h^3$	0.096092	0.09609 ± 0.00032	k_{eq}	0.010378	0.010377 ± 0.000096			
σ_8	0.8094	0.8094 ± 0.0075	$100\theta_{eq}$	0.8133	0.8134 ± 0.0059			

Best-fit $\chi_{eff}^2 = 11897.49$; $\bar{\chi}_{eff}^2 = 11919.09$; $R - 1 = 0.00575$

χ_{eff}^2 : CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.86 CamSpec like_10.7HM_1400_unified: 11499.49

3 Alens

3.1 base_Alens_CamSpecHM_TT_lowl_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022700	0.02263 ± 0.00029	$\sigma_8 \Omega_m^{0.5}$	0.4286	0.430 ± 0.016	$H(0.15)$	74.25	74.1 ± 1.1
$\Omega_c h^2$	0.11620	0.1164 ± 0.0025	$\sigma_8 \Omega_m^{0.25}$	0.5833	0.584 ± 0.015	$D_M(0.15)$	628.1	629 ± 10
$100\theta_{MC}$	1.04149	1.04144 ± 0.00054	$\sigma_8/h^{0.5}$	0.9543	0.956 ± 0.021	$H(0.38)$	84.02	83.92 ± 0.79
τ	0.0502	$0.0503^{+0.0087}_{-0.0076}$	$r_{drag}h$	102.20	102.0 ± 2.1	$D_M(0.38)$	1502.7	1505 ± 20
A_L	1.270	$1.246^{+0.092}_{-0.10}$	$\langle d^2 \rangle^{1/2}$	2.656	2.636 ± 0.079	$H(0.51)$	90.53	90.45 ± 0.64
$\ln(10^{10} A_s)$	3.0260	$3.026^{+0.019}_{-0.016}$	z_{re}	7.14	$7.13^{+0.93}_{-0.72}$	$D_M(0.51)$	1949.8	1953 ± 24
n_s	0.9776	0.9756 ± 0.0073	$10^9 A_s$	2.0614	$2.062^{+0.038}_{-0.034}$	$H(0.61)$	96.00	95.93 ± 0.52
y_{cal}	0.99990	1.0001 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.8643	1.864 ± 0.014	$D_M(0.61)$	2271.4	2275 ± 26
A_{100}^{PS}	217.0	229 ± 25	D_{40}	1200.1	1204 ± 17	$H(2.33)$	234.44	234.5 ± 1.4
A_{143}^{PS}	44.2	33 ± 9	D_{220}	5727.4	5728 ± 43	$D_M(2.33)$	5732.6	5737 ± 23
A_{217}^{PS}	109.9	104 ± 10	D_{810}	2526.2	2525 ± 14	$f\sigma_8(0.15)$	0.4346	0.436 ± 0.015
A_{217}^{CIB}	36.7	37 ± 7	D_{1420}	815.6	814.3 ± 5.2	$\sigma_8(0.15)$	0.7354	0.7354 ± 0.0093
A_{143}^{tSZ}	6.24	4.2 ± 2.1	D_{2000}	233.18	232.3 ± 2.1	$f\sigma_8(0.38)$	0.4569	0.458 ± 0.012
$r_{143 \times 217}^{PS}$	0.796	0.68 ± 0.14	$n_{s,0.002}$	0.9776	0.9756 ± 0.0073	$\sigma_8(0.38)$	0.6541	0.6539 ± 0.0072
$r_{143 \times 217}^{CIB}$	0.739	0.50 ± 0.27	Y_P	0.245516	$0.24549^{+0.00011}_{-0.00012}$	$f\sigma_8(0.51)$	0.4579	0.458 ± 0.011
$\xi^{tSZ \times CIB}$	0.996	—	Y_P^{BBN}	0.246843	$0.24682^{+0.00011}_{-0.00013}$	$\sigma_8(0.51)$	0.6130	0.6128 ± 0.0064
A^{kSZ}	0.00	< 5.18	$10^5 D/H$	2.527	2.540 ± 0.053	$f\sigma_8(0.61)$	0.4546	0.4550 ± 0.0095
A_{100}^{dust}	1.010	1.01 ± 0.19	Age/Gyr	13.730	13.740 ± 0.050	$\sigma_8(0.61)$	0.5839	$0.5836^{+0.0060}_{-0.0055}$
A_{143}^{dust}	0.948	0.95 ± 0.18	z_*	1089.18	1089.29 ± 0.53	$f\sigma_8(2.33)$	0.29521	$0.2950^{+0.0028}_{-0.0025}$
A_{217}^{dust}	0.990	0.98 ± 0.10	r_*	145.17	145.18 ± 0.53	$\sigma_8(2.33)$	0.30527	0.3050 ± 0.0028
$A_{143 \times 217}^{dust}$	1.016	1.02 ± 0.16	$100\theta_*$	1.04165	1.04161 ± 0.00052	f_{2000}^{143}	25.22	26 ± 3
c_{100}	0.99788	0.9975 ± 0.0010	$D_M(z_*)/\text{Gpc}$	13.9362	13.938 ± 0.048	f_{2000}^{217}	103.32	104.3 ± 2.4
c_{217}	1.00076	1.0008 ± 0.0016	z_{drag}	1060.43	1060.27 ± 0.56	$f_{2000}^{143 \times 217}$	28.50	29.2 ± 2.6
H_0	69.18	69.0 ± 1.2	r_{drag}	147.74	147.77 ± 0.50	χ_{small}^2	395.71	396.8 ± 1.6
Ω_Λ	0.7084	$0.707^{+0.016}_{-0.014}$	k_D	0.14043	0.14034 ± 0.00051	χ_{lowl}^2	21.18	21.6 ± 1.0
Ω_m	0.2916	$0.293^{+0.014}_{-0.016}$	$100\theta_D$	0.160522	0.16061 ± 0.00030	$\chi_{CamSpec}^2$	7046.0	7059.9 ± 5.3
$\Omega_m h^2$	0.13955	0.1397 ± 0.0023	z_{eq}	3319	3322 ± 55	χ_{prior}^2	1.37	7.2 ± 3.3
$\Omega_m h^3$	0.09654	0.09640 ± 0.00050	k_{eq}	0.010131	0.01014 ± 0.00017	χ_{CMB}^2	7462.8	7478.3 ± 5.5
σ_8	0.7937	0.794 ± 0.011	$100\theta_{eq}$	0.8298	0.829 ± 0.011			
S_8	0.7825	0.785 ± 0.029	$100\theta_{s,eq}$	0.4578	0.4575 ± 0.0056			

Best-fit $\chi_{eff}^2 = 7464.21$; $\Delta\chi_{eff}^2 = -7.53$; $\bar{\chi}_{eff}^2 = 7485.53$; $\Delta\bar{\chi}_{eff}^2 = -6.01$; $R - 1 = 0.00653$

χ_{eff}^2 : CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.71 (Δ -0.12) commander_dx12_v3_2_29: 21.18 (Δ -2.22) CamSpec like_10.7HM: 7045.95 (Δ -4.38)

3.2 base_Alens_CamSpecHM_TT_lowl_lowE_post_BAO

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02250 ± 0.00022	$\sigma_8 \Omega_m^{0.25}$	0.5921 ± 0.0088	$H(0.38)$	83.47 ± 0.41
$\Omega_c h^2$	0.1178 ± 0.0013	$\sigma_8 / h^{0.5}$	0.966 ± 0.013	$D_M(0.38)$	1517 ± 10
$100\theta_{MC}$	1.04124 ± 0.00043	$r_{\text{drag}} h$	100.8 ± 1.0	$H(0.51)$	90.10 ± 0.34
τ	$0.0495^{+0.0089}_{-0.0072}$	$\langle d^2 \rangle^{1/2}$	2.624 ± 0.077	$D_M(0.51)$	1966 ± 12
A_L	1.209 ± 0.079	z_{re}	$7.10^{+0.96}_{-0.70}$	$H(0.61)$	95.64 ± 0.29
$\ln(10^{10} A_s)$	$3.028^{+0.019}_{-0.016}$	$10^9 A_s$	$2.065^{+0.039}_{-0.033}$	$D_M(0.61)$	2289 ± 13
n_s	0.9719 ± 0.0047	$10^9 A_s e^{-2\tau}$	1.870 ± 0.012	$H(2.33)$	235.27 ± 0.79
y_{cal}	1.0001 ± 0.0026	D_{40}	1212 ± 13	$D_M(2.33)$	5749 ± 14
A_{100}^{PS}	230 ± 25	D_{220}	5720 ± 42	$f\sigma_8(0.15)$	0.4441 ± 0.0085
A_{143}^{PS}	35 ± 8	D_{810}	2526 ± 14	$\sigma_8(0.15)$	$0.7392^{+0.0078}_{-0.0069}$
A_{217}^{PS}	104 ± 10	D_{1420}	813.7 ± 5.2	$f\sigma_8(0.38)$	0.4643 ± 0.0072
A_{217}^{CIB}	37 ± 7	D_{2000}	231.8 ± 2.0	$\sigma_8(0.38)$	$0.6563^{+0.0066}_{-0.0058}$
A_{143}^{tSZ}	4.1 ± 2.0	$n_{s,0.002}$	0.9719 ± 0.0047	$f\sigma_8(0.51)$	0.4641 ± 0.0065
$r_{143 \times 217}^{\text{PS}}$	0.68 ± 0.13	Y_P	0.245443 ± 0.000088	$\sigma_8(0.51)$	$0.6146^{+0.0061}_{-0.0053}$
$r_{143 \times 217}^{\text{CIB}}$	$0.52^{+0.35}_{-0.27}$	Y_P^{BBN}	0.246770 ± 0.000088	$f\sigma_8(0.61)$	0.4600 ± 0.0060
$\xi^{\text{tSZ} \times \text{CIB}}$	—	$10^5 D/H$	2.563 ± 0.041	$\sigma_8(0.61)$	$0.5851^{+0.0057}_{-0.0050}$
A^{kSZ}	< 5.21	Age/Gyr	13.765 ± 0.032	$f\sigma_8(2.33)$	$0.2954^{+0.0028}_{-0.0025}$
A_{100}^{dust}	1.01 ± 0.20	z_*	1089.57 ± 0.34	$\sigma_8(2.33)$	$0.3050^{+0.0029}_{-0.0025}$
A_{143}^{dust}	0.96 ± 0.18	r_*	144.90 ± 0.32	f_{2000}^{143}	27 ± 3
A_{217}^{dust}	0.98 ± 0.10	$100\theta_*$	1.04141 ± 0.00043	f_{2000}^{217}	104.8 ± 2.2
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	$D_M(z_*)/\text{Gpc}$	13.914 ± 0.031	$f_{2000}^{143 \times 217}$	29.9 ± 2.4
c_{100}	0.9975 ± 0.0010	z_{drag}	1060.08 ± 0.49	χ_{simall}^2	396.9 ± 1.6
c_{217}	1.0008 ± 0.0016	r_{drag}	147.53 ± 0.34	χ_{lowl}^2	22.00 ± 0.80
H_0	68.35 ± 0.61	k_D	0.14050 ± 0.00045	χ_{CamSpec}^2	7058.9 ± 5.2
Ω_Λ	0.6982 ± 0.0077	$100\theta_D$	0.16070 ± 0.00027	$\chi_{6\text{DF}}^2$	0.049 ± 0.069
Ω_m	0.3018 ± 0.0077	z_{eq}	3353 ± 29	χ_{MGS}^2	1.99 ± 0.65
$\Omega_m h^2$	0.1409 ± 0.0012	k_{eq}	0.010233 ± 0.000089	χ_{DR12BAO}^2	4.06 ± 0.98
$\Omega_m h^3$	0.09633 ± 0.00050	$100\theta_{\text{eq}}$	0.8229 ± 0.0056	χ_{prior}^2	7.3 ± 3.4
σ_8	$0.7989^{+0.0088}_{-0.0079}$	$100\theta_{s,\text{eq}}$	0.4543 ± 0.0029	χ_{BAO}^2	6.1 ± 1.2
S_8	0.801 ± 0.016	$H(0.15)$	73.53 ± 0.53	χ_{CMB}^2	7477.8 ± 5.4
$\sigma_8 \Omega_m^{0.5}$	0.4389 ± 0.0089	$D_M(0.15)$	635.0 ± 5.2		

$\bar{\chi}_{\text{eff}}^2 = 7491.23$; $\Delta\bar{\chi}_{\text{eff}}^2 = -6.32$; $R - 1 = 0.01433$

3.3 base_Alens_CamSpecHM_TT_lowl_lowE_post_Riess18

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02293 ± 0.00025	$\sigma_8 \Omega_m^{0.5}$	$0.411^{+0.012}_{-0.013}$	$H(0.15)$	75.48 ± 0.85
$\Omega_c h^2$	0.1133 ± 0.0020	$\sigma_8 \Omega_m^{0.25}$	0.567 ± 0.012	$D_M(0.15)$	$616.7^{+7.4}_{-8.3}$
$100\theta_{MC}$	1.04192 ± 0.00048	$\sigma_8/h^{0.5}$	0.932 ± 0.017	$H(0.38)$	84.94 ± 0.65
τ	0.0524 ± 0.0089	$r_{\text{drag}} h$	104.7 ± 1.7	$D_M(0.38)$	1480 ± 16
A_L	1.334 ± 0.097	$\langle d^2 \rangle^{1/2}$	2.667 ± 0.077	$H(0.51)$	91.27 ± 0.53
$\ln(10^{10} A_s)$	3.023 ± 0.018	z_{re}	$7.24^{+0.91}_{-0.81}$	$D_M(0.51)$	1922 ± 19
n_s	0.9839 ± 0.0061	$10^9 A_s$	2.056 ± 0.037	$H(0.61)$	96.60 ± 0.44
y_{cal}	1.0001 ± 0.0024	$10^9 A_s e^{-2\tau}$	1.852 ± 0.013	$D_M(0.61)$	2242 ± 20
A_{100}^{PS}	225 ± 25	D_{40}	1188^{+14}_{-16}	$H(2.33)$	232.8 ± 1.1
A_{143}^{PS}	30 ± 8	D_{220}	5746 ± 41	$D_M(2.33)$	5709 ± 19
A_{217}^{PS}	105 ± 10	D_{810}	2521 ± 14	$f\sigma_8(0.15)$	0.418 ± 0.012
A_{217}^{CIB}	35^{+7}_{-7}	D_{1420}	815.5 ± 5.0	$\sigma_8(0.15)$	0.7274 ± 0.0084
A_{143}^{tSZ}	4.4 ± 2.1	D_{2000}	233.8 ± 2.0	$f\sigma_8(0.38)$	0.443 ± 0.010
$r_{143 \times 217}^{\text{PS}}$	0.69 ± 0.14	$n_{s,0.002}$	0.9839 ± 0.0061	$\sigma_8(0.38)$	0.6489 ± 0.0068
$r_{143 \times 217}^{\text{CIB}}$	$0.47^{+0.26}_{-0.35}$	Y_P	0.24562 ± 0.00011	$f\sigma_8(0.51)$	0.4461 ± 0.0088
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	0.24695 ± 0.00011	$\sigma_8(0.51)$	0.6090 ± 0.0061
A^{kSZ}	< 4.70	$10^5 D/H$	2.486 ± 0.044	$f\sigma_8(0.61)$	0.4442 ± 0.0080
A_{100}^{dust}	1.01 ± 0.19	Age/Gyr	13.680 ± 0.041	$\sigma_8(0.61)$	0.5805 ± 0.0057
A_{143}^{dust}	0.95 ± 0.17	z_*	$1088.65^{+0.40}_{-0.45}$	$f\sigma_8(2.33)$	0.2943 ± 0.0027
A_{217}^{dust}	0.98 ± 0.10	r_*	145.76 ± 0.44	$\sigma_8(2.33)$	0.3052 ± 0.0028
$A_{143 \times 217}^{\text{dust}}$	1.01 ± 0.16	$100\theta_*$	1.04206 ± 0.00047	f_{2000}^{143}	24 ± 3
c_{100}	0.9976 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.987 ± 0.041	f_{2000}^{217}	102.9 ± 2.3
c_{217}	1.0006 ± 0.0016	z_{drag}	1060.74 ± 0.51	$f_{2000}^{143 \times 217}$	27.6 ± 2.4
H_0	70.60 ± 0.97	r_{drag}	148.26 ± 0.44	χ_{simall}^2	396.8 ± 1.5
Ω_Λ	$0.725^{+0.012}_{-0.010}$	k_D	0.14004 ± 0.00048	χ_{lowl}^2	20.64 ± 0.59
Ω_m	$0.275^{+0.010}_{-0.012}$	$100\theta_D$	0.16039 ± 0.00027	χ_{CamSpec}^2	7062.5 ± 5.7
$\Omega_m h^2$	0.1369 ± 0.0018	z_{eq}	3256 ± 44	χ_{H073p45}^2	3.3 ± 2.1
$\Omega_m h^3$	0.09662 ± 0.00048	k_{eq}	0.00994 ± 0.00013	χ_{prior}^2	6.9 ± 3.1
σ_8	0.7832 ± 0.0098	$100\theta_{\text{eq}}$	0.8430 ± 0.0091	χ_{CMB}^2	7479.9 ± 5.8
S_8	$0.750^{+0.021}_{-0.024}$	$100\theta_{s,\text{eq}}$	0.4645 ± 0.0046		

$$\bar{\chi}_{\text{eff}}^2 = 7490.17; \Delta\bar{\chi}_{\text{eff}}^2 = -12.71; R - 1 = 0.03353$$

3.4 base_Alens_CamSpecHM_TT_lowl_lowE_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02263 ± 0.00029	$\sigma_8 \Omega_m^{0.5}$	0.431 ± 0.016	$H(0.15)$	74.1 ± 1.1
$\Omega_c h^2$	0.1164 ± 0.0025	$\sigma_8 \Omega_m^{0.25}$	0.586 ± 0.015	$D_M(0.15)$	629 ± 10
$100\theta_{MC}$	1.04144 ± 0.00053	$\sigma_8/h^{0.5}$	0.958 ± 0.020	$H(0.38)$	83.93 ± 0.79
τ	$0.0535^{+0.0039}_{-0.0079}$	$r_{\text{drag}} h$	102.1 ± 2.1	$D_M(0.38)$	1505 ± 20
A_L	1.239 ± 0.097	$\langle d^2 \rangle^{1/2}$	2.635 ± 0.078	$H(0.51)$	90.46 ± 0.64
$\ln(10^{10} A_s)$	$3.032^{+0.012}_{-0.015}$	z_{re}	$7.47^{+0.37}_{-0.83}$	$D_M(0.51)$	1953 ± 24
n_s	0.9758 ± 0.0073	$10^9 A_s$	$2.075^{+0.024}_{-0.032}$	$H(0.61)$	95.93 ± 0.52
y_{cal}	1.0001 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.864 ± 0.015	$D_M(0.61)$	2274 ± 26
A_{100}^{PS}	228 ± 25	D_{40}	1205 ± 17	$H(2.33)$	234.5 ± 1.4
A_{143}^{PS}	33 ± 9	D_{220}	5727 ± 43	$D_M(2.33)$	5736 ± 23
A_{217}^{PS}	104 ± 10	D_{810}	2525 ± 14	$f\sigma_8(0.15)$	0.437 ± 0.015
A_{217}^{CIB}	37 ± 7	D_{1420}	814.3 ± 5.2	$\sigma_8(0.15)$	0.7376 ± 0.0083
A_{143}^{tSZ}	4.2 ± 2.1	D_{2000}	232.4 ± 2.1	$f\sigma_8(0.38)$	0.459 ± 0.012
$r_{143 \times 217}^{\text{PS}}$	0.68 ± 0.14	$n_{s,0.002}$	0.9758 ± 0.0073	$\sigma_8(0.38)$	0.6559 ± 0.0061
$r_{143 \times 217}^{\text{CIB}}$	0.50 ± 0.27	Y_P	$0.24549^{+0.00011}_{-0.00012}$	$f\sigma_8(0.51)$	0.460 ± 0.010
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	$0.24682^{+0.00011}_{-0.00012}$	$\sigma_8(0.51)$	0.6147 ± 0.0053
A^{kSZ}	< 5.15	$10^5 D/H$	2.540 ± 0.053	$f\sigma_8(0.61)$	0.4563 ± 0.0092
A_{100}^{dust}	1.01 ± 0.19	Age/Gyr	13.739 ± 0.050	$\sigma_8(0.61)$	$0.5854^{+0.0045}_{-0.0051}$
A_{143}^{dust}	0.95 ± 0.17	z_*	1089.29 ± 0.53	$f\sigma_8(2.33)$	$0.2959^{+0.0019}_{-0.0024}$
A_{217}^{dust}	0.98 ± 0.10	r_*	145.19 ± 0.53	$\sigma_8(2.33)$	$0.3060^{+0.0018}_{-0.0024}$
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	$100\theta_*$	1.04161 ± 0.00052	f_{2000}^{143}	26 ± 3
c_{100}	0.9975 ± 0.0010	$D_M(z_*)/\text{Gpc}$	13.939 ± 0.048	f_{2000}^{217}	104.3 ± 2.4
c_{217}	1.0008 ± 0.0016	z_{drag}	1060.27 ± 0.56	$f_{2000}^{143 \times 217}$	29.1 ± 2.6
H_0	69.1 ± 1.2	r_{drag}	147.78 ± 0.50	χ_{simall}^2	396.4 ± 1.1
Ω_Λ	$0.707^{+0.016}_{-0.014}$	k_D	0.14033 ± 0.00051	χ_{lowl}^2	21.6 ± 1.1
Ω_m	$0.293^{+0.014}_{-0.016}$	$100\theta_D$	0.16061 ± 0.00030	χ_{CamSpec}^2	7059.9 ± 5.3
$\Omega_m h^2$	0.1396 ± 0.0023	z_{eq}	3321 ± 55	χ_{prior}^2	7.2 ± 3.3
$\Omega_m h^3$	0.09640 ± 0.00050	k_{eq}	0.01014 ± 0.00017	χ_{CMB}^2	7477.9 ± 5.4
σ_8	0.796 ± 0.010	$100\theta_{\text{eq}}$	0.829 ± 0.011		
S_8	0.787 ± 0.029	$100\theta_{s,\text{eq}}$	0.4576 ± 0.0056		

$$\bar{\chi}_{\text{eff}}^2 = 7485.10; \Delta\bar{\chi}_{\text{eff}}^2 = -6.16; R - 1 = 0.00928$$

3.5 base_Alens_CamSpecHM_TT_lowl_lowE_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02250 ± 0.00022	$\sigma_8 \Omega_m^{0.25}$	0.5940 ± 0.0081	$H(0.38)$	83.48 ± 0.41
$\Omega_c h^2$	0.1178 ± 0.0013	$\sigma_8/h^{0.5}$	0.969 ± 0.011	$D_M(0.38)$	1517 ± 10
$100\theta_{MC}$	1.04123 ± 0.00043	$r_{drag}h$	100.8 ± 1.0	$H(0.51)$	90.10 ± 0.34
τ	$0.0528^{+0.0040}_{-0.0074}$	$\langle d^2 \rangle^{1/2}$	2.624 ± 0.076	$D_M(0.51)$	1966 ± 12
A_L	1.201 ± 0.077	z_{re}	$7.45^{+0.34}_{-0.86}$	$H(0.61)$	95.64 ± 0.29
$\ln(10^{10} A_s)$	$3.034^{+0.011}_{-0.015}$	$10^9 A_s$	$2.078^{+0.023}_{-0.031}$	$D_M(0.61)$	2289 ± 13
n_s	0.9721 ± 0.0046	$10^9 A_s e^{-2\tau}$	1.870 ± 0.012	$H(2.33)$	235.26 ± 0.79
y_{cal}	1.0001 ± 0.0026	D_{40}	1212 ± 13	$D_M(2.33)$	5749 ± 14
A_{100}^{PS}	230 ± 25	D_{220}	5719 ± 42	$f\sigma_8(0.15)$	0.4455 ± 0.0080
A_{143}^{PS}	35 ± 8	D_{810}	2526 ± 14	$\sigma_8(0.15)$	$0.7416^{+0.0057}_{-0.0064}$
A_{217}^{PS}	104 ± 10	D_{1420}	813.8 ± 5.2	$f\sigma_8(0.38)$	0.4658 ± 0.0066
A_{217}^{CIB}	37 ± 7	D_{2000}	231.8 ± 2.0	$\sigma_8(0.38)$	$0.6584^{+0.0046}_{-0.0053}$
A_{143}^{tSZ}	4.1 ± 2.0	$n_{s,0.002}$	0.9721 ± 0.0046	$f\sigma_8(0.51)$	0.4656 ± 0.0059
$r_{143 \times 217}^{PS}$	0.68 ± 0.13	Y_P	0.245442 ± 0.000087	$\sigma_8(0.51)$	$0.6166^{+0.0041}_{-0.0049}$
$r_{143 \times 217}^{CIB}$	$0.51^{+0.34}_{-0.27}$	Y_P^{BBN}	0.246769 ± 0.000088	$f\sigma_8(0.61)$	0.4614 ± 0.0053
$\xi^{tSZ \times CIB}$	—	$10^5 D/H$	2.563 ± 0.041	$\sigma_8(0.61)$	$0.5870^{+0.0038}_{-0.0046}$
A^{kSZ}	< 5.20	Age/Gyr	13.765 ± 0.032	$f\sigma_8(2.33)$	$0.2964^{+0.0018}_{-0.0023}$
A_{100}^{dust}	1.01 ± 0.19	z_*	1089.57 ± 0.33	$\sigma_8(2.33)$	$0.3060^{+0.0018}_{-0.0024}$
A_{143}^{dust}	0.96 ± 0.18	r_*	144.91 ± 0.32	f_{2000}^{143}	27 ± 3
A_{217}^{dust}	0.98 ± 0.10	$100\theta_*$	1.04141 ± 0.00042	f_{2000}^{217}	104.8 ± 2.2
$A_{143 \times 217}^{dust}$	1.02 ± 0.16	$D_M(z_*)/\text{Gpc}$	13.915 ± 0.031	$f_{2000}^{143 \times 217}$	29.9 ± 2.4
c_{100}	0.9975 ± 0.0010	z_{drag}	1060.07 ± 0.49	χ_{simall}^2	396.4 ± 1.1
c_{217}	1.0008 ± 0.0016	r_{drag}	147.54 ± 0.34	χ_{lowl}^2	22.05 ± 0.80
H_0	68.35 ± 0.61	k_D	0.14049 ± 0.00045	$\chi_{CamSpec}^2$	7058.9 ± 5.2
Ω_Λ	0.6983 ± 0.0077	$100\theta_D$	0.16071 ± 0.00027	χ_{6DF}^2	0.049 ± 0.070
Ω_m	0.3017 ± 0.0077	z_{eq}	3352 ± 29	χ_{MGS}^2	2.00 ± 0.65
$\Omega_m h^2$	0.1409 ± 0.0012	k_{eq}	0.010232 ± 0.000089	$\chi_{DR12BAO}^2$	4.06 ± 0.98
$\Omega_m h^3$	0.09632 ± 0.00049	$100\theta_{eq}$	0.8230 ± 0.0056	χ_{prior}^2	7.3 ± 3.4
σ_8	0.8015 ± 0.0070	$100\theta_{s,eq}$	0.4543 ± 0.0028	χ_{BAO}^2	6.1 ± 1.2
S_8	0.804 ± 0.016	$H(0.15)$	73.53 ± 0.53	χ_{CMB}^2	7477.4 ± 5.3
$\sigma_8 \Omega_m^{0.5}$	0.4402 ± 0.0085	$D_M(0.15)$	635.0 ± 5.1		

$$\bar{\chi}_{\text{eff}}^2 = 7490.78; \Delta\bar{\chi}_{\text{eff}}^2 = -6.53; R - 1 = 0.01851$$

3.6 base_Alens_CamSpecHM_TT_lowl_lowE_post_Riess18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02293 ± 0.00025	$\sigma_8 \Omega_m^{0.5}$	$0.412^{+0.011}_{-0.013}$	$H(0.15)$	75.49 ± 0.84
$\Omega_c h^2$	0.1133 ± 0.0020	$\sigma_8 \Omega_m^{0.25}$	0.569 ± 0.011	$D_M(0.15)$	$616.6^{+7.2}_{-8.2}$
$100\theta_{MC}$	1.04192 ± 0.00048	$\sigma_8/h^{0.5}$	0.935 ± 0.016	$H(0.38)$	84.94 ± 0.64
τ	$0.0553^{+0.0045}_{-0.0083}$	$r_{\text{drag}} h$	104.7 ± 1.7	$D_M(0.38)$	1479^{+15}_{-17}
A_L	1.326 ± 0.095	$\langle d^2 \rangle^{1/2}$	2.666 ± 0.077	$H(0.51)$	91.27 ± 0.52
$\ln(10^{10} A_s)$	$3.029^{+0.012}_{-0.016}$	z_{re}	$7.54^{+0.37}_{-0.92}$	$D_M(0.51)$	1922^{+18}_{-20}
n_s	$0.9840^{+0.0064}_{-0.0058}$	$10^9 A_s$	$2.068^{+0.024}_{-0.034}$	$H(0.61)$	96.60 ± 0.44
y_{cal}	1.0000 ± 0.0024	$10^9 A_s e^{-2\tau}$	1.851 ± 0.013	$D_M(0.61)$	2242 ± 20
A_{100}^{PS}	225 ± 25	D_{40}	1188^{+14}_{-16}	$H(2.33)$	232.8 ± 1.1
A_{143}^{PS}	30 ± 8	D_{220}	5744 ± 41	$D_M(2.33)$	5709 ± 19
A_{217}^{PS}	105 ± 10	D_{810}	2520 ± 14	$f\sigma_8(0.15)$	$0.419^{+0.011}_{-0.012}$
A_{217}^{CIB}	35^{+6}_{-7}	D_{1420}	$815.4^{+5.3}_{-4.8}$	$\sigma_8(0.15)$	0.7294 ± 0.0075
A_{143}^{tSZ}	4.4 ± 2.1	D_{2000}	$233.7^{+2.0}_{-1.9}$	$f\sigma_8(0.38)$	0.4443 ± 0.0097
$r_{143 \times 217}^{\text{PS}}$	0.69 ± 0.14	$n_{s,0.002}$	$0.9840^{+0.0064}_{-0.0058}$	$\sigma_8(0.38)$	$0.6507^{+0.0054}_{-0.0062}$
$r_{143 \times 217}^{\text{CIB}}$	0.48 ± 0.27	Y_P	0.24562 ± 0.00011	$f\sigma_8(0.51)$	0.4472 ± 0.0085
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	0.24695 ± 0.00011	$\sigma_8(0.51)$	$0.6107^{+0.0048}_{-0.0055}$
A^{kSZ}	< 4.62	10^5D/H	2.486 ± 0.044	$f\sigma_8(0.61)$	0.4454 ± 0.0076
A_{100}^{dust}	1.01 ± 0.19	Age/Gyr	13.680 ± 0.041	$\sigma_8(0.61)$	$0.5822^{+0.0043}_{-0.0051}$
A_{143}^{dust}	0.95 ± 0.17	z_*	$1088.65^{+0.39}_{-0.45}$	$f\sigma_8(2.33)$	$0.2951^{+0.0020}_{-0.0025}$
A_{217}^{dust}	0.98 ± 0.10	r_*	145.77 ± 0.44	$\sigma_8(2.33)$	$0.3060^{+0.0019}_{-0.0025}$
$A_{143 \times 217}^{\text{dust}}$	1.00 ± 0.17	$100\theta_*$	1.04206 ± 0.00047	f_{2000}^{143}	24 ± 3
c_{100}	0.9976 ± 0.0010	$D_M(z_*)/\text{Gpc}$	13.988 ± 0.041	f_{2000}^{217}	102.9 ± 2.3
c_{217}	1.0005 ± 0.0016	z_{drag}	1060.74 ± 0.51	$f_{2000}^{143 \times 217}$	27.5 ± 2.4
H_0	70.61 ± 0.96	r_{drag}	148.27 ± 0.44	χ_{simall}^2	396.5 ± 1.3
Ω_Λ	$0.725^{+0.012}_{-0.010}$	k_D	0.14003 ± 0.00048	χ_{lowl}^2	20.65 ± 0.61
Ω_m	$0.275^{+0.010}_{-0.012}$	$100\theta_D$	0.16039 ± 0.00027	χ_{CamSpec}^2	7062.6 ± 5.8
$\Omega_m h^2$	0.1369 ± 0.0018	z_{eq}	3255 ± 44	χ_{H073p45}^2	3.3 ± 2.1
$\Omega_m h^3$	0.09661 ± 0.00048	k_{eq}	0.00993 ± 0.00013	χ_{prior}^2	6.9 ± 3.1
σ_8	0.7854 ± 0.0090	$100\theta_{\text{eq}}$	0.8432 ± 0.0090	χ_{CMB}^2	7479.7 ± 5.9
S_8	$0.752^{+0.021}_{-0.024}$	$100\theta_{s,\text{eq}}$	0.4645 ± 0.0046		

$$\bar{\chi}_{\text{eff}}^2 = 7489.90; \Delta\bar{\chi}_{\text{eff}}^2 = -12.74; R - 1 = 0.05184$$

3.7 base_Alens_CamSpecHM_TTTEEE_lowl_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022542	0.02251 ± 0.00019	σ_8	0.8000	0.7988 ± 0.0085	$100\theta_{\text{eq}}$	0.8228	0.8224 ± 0.0067
$\Omega_c h^2$	0.11776	0.1179 ± 0.0016	S_8	0.8023	0.802 ± 0.019	$100\theta_{\text{s,eq}}$	0.45424	0.4540 ± 0.0034
$100\theta_{\text{MC}}$	1.041089	1.04108 ± 0.00033	$\sigma_8 \Omega_{\text{m}}^{0.5}$	0.4394	0.439 ± 0.010	$H(0.15)$	73.53	73.46 ± 0.63
τ	0.0508	$0.0496^{+0.0083}_{-0.0073}$	$\sigma_8 \Omega_{\text{m}}^{0.25}$	0.5929	0.5925 ± 0.0098	$D_{\text{M}}(0.15)$	635.0	635.6 ± 6.2
A_{L}	1.155	1.149 ± 0.072	$\sigma_8/h^{0.5}$	0.9676	0.967 ± 0.014	$H(0.38)$	83.471	83.42 ± 0.47
$\ln(10^{10} A_{\text{s}})$	3.0309	$3.028^{+0.017}_{-0.015}$	$r_{\text{drag}} h$	100.81	100.7 ± 1.2	$D_{\text{M}}(0.38)$	1516.8	1518 ± 12
n_{s}	0.9725	0.9713 ± 0.0051	$\langle d^2 \rangle^{1/2}$	2.570	2.561 ± 0.065	$H(0.51)$	90.092	90.05 ± 0.38
y_{cal}	1.00007	1.0000 ± 0.0025	z_{re}	7.25	$7.11^{+0.89}_{-0.71}$	$D_{\text{M}}(0.51)$	1966.4	1968 ± 15
A_{100}^{PS}	223.5	232 ± 25	$10^9 A_{\text{s}}$	2.0716	2.065 ± 0.035	$H(0.61)$	95.637	95.60 ± 0.31
A_{143}^{PS}	46.5	36 ± 8	$10^9 A_{\text{s}} e^{-2\tau}$	1.8715	1.870 ± 0.012	$D_{\text{M}}(0.61)$	2289.4	2291 ± 16
A_{217}^{PS}	109.5	105^{+10}_{-10}	D_{40}	1211.5	1213 ± 14	$H(2.33)$	235.27	235.32 ± 0.90
A_{217}^{CIB}	37.8	37^{+7}_{-8}	D_{220}	5726.1	5723 ± 39	$D_{\text{M}}(2.33)$	5748.6	5750 ± 14
A_{143}^{tSZ}	6.07	$4.1^{+2.0}_{-2.4}$	D_{810}	2531.0	2528 ± 14	$f\sigma_8(0.15)$	0.4447	0.4447 ± 0.0097
$r_{143 \times 217}^{\text{PS}}$	0.792	0.68 ± 0.13	D_{1420}	816.09	814.6 ± 4.8	$\sigma_8(0.15)$	0.7402	0.7390 ± 0.0074
$r_{143 \times 217}^{\text{CIB}}$	0.703	$0.51^{+0.34}_{-0.27}$	D_{2000}	232.14	231.5 ± 1.7	$f\sigma_8(0.38)$	0.4650	0.4647 ± 0.0080
$\xi^{\text{tSZ} \times \text{CIB}}$	0.94	—	$n_{\text{s},0.002}$	0.9725	0.9713 ± 0.0051	$\sigma_8(0.38)$	0.6572	0.6560 ± 0.0061
A^{kSZ}	0.17	< 5.28	Y_{P}	0.245459	0.245447 ± 0.000075	$f\sigma_8(0.51)$	0.4647	0.4643 ± 0.0071
A_{100}^{dust}	1.021	1.01 ± 0.20	$Y_{\text{P}}^{\text{BBN}}$	0.246786	0.246773 ± 0.000075	$\sigma_8(0.51)$	0.6155	0.6143 ± 0.0056
A_{143}^{dust}	0.946	0.95 ± 0.17	$10^5 \text{D}/\text{H}$	2.5545	2.561 ± 0.035	$f\sigma_8(0.61)$	0.4606	0.4601 ± 0.0064
A_{217}^{dust}	0.993	0.98 ± 0.10	Age/Gyr	13.7653	13.769 ± 0.031	$\sigma_8(0.61)$	0.5859	0.5848 ± 0.0052
$A_{143 \times 217}^{\text{dust}}$	1.050	1.02 ± 0.16	z_*	1089.509	1089.56 ± 0.34	$f\sigma_8(2.33)$	0.29580	0.2952 ± 0.0026
c_{100}	0.99794	0.9975 ± 0.0011	r_*	144.881	144.88 ± 0.33	$\sigma_8(2.33)$	0.30540	0.3048 ± 0.0026
c_{217}	1.00093	1.0009 ± 0.0016	$100\theta_*$	1.041265	1.04125 ± 0.00033	f_{2000}^{143}	26.72	27 ± 3
c_{TE}	0.9917	0.9924 ± 0.0053	$D_{\text{M}}(z_*)/\text{Gpc}$	13.9139	13.914 ± 0.030	f_{2000}^{217}	104.43	105.1 ± 2.1
c_{EE}	0.99020	0.9903 ± 0.0049	z_{drag}	1060.162	1060.10 ± 0.38	$f_{2000}^{143 \times 217}$	29.81	30.0 ± 2.2
H_0	68.35	68.28 ± 0.73	r_{drag}	147.495	147.50 ± 0.32	χ_{small}^2	395.68	396.8 ± 1.5
Ω_{Λ}	0.6983	0.6973 ± 0.0095	k_{D}	0.140571	0.14054 ± 0.00034	χ_{lowl}^2	21.90	22.12 ± 0.89
Ω_{m}	0.3017	0.3027 ± 0.0095	$100\theta_{\text{D}}$	0.160623	0.16066 ± 0.00022	χ_{CamSpec}^2	11496.5	11512.3 ± 5.7
$\Omega_{\text{m}} h^2$	0.14095	0.1410 ± 0.0014	z_{eq}	3352.8	3355 ± 34	χ_{prior}^2	1.85	7.7 ± 3.3
$\Omega_{\text{m}} h^3$	0.096334	0.09629 ± 0.00034	k_{eq}	0.010233	0.01024 ± 0.00010	χ_{CMB}^2	11914.1	11931.2 ± 5.8

Best-fit $\chi_{\text{eff}}^2 = 11915.94$; $\Delta\chi_{\text{eff}}^2 = -4.82$; $\bar{\chi}_{\text{eff}}^2 = 11938.97$; $\Delta\bar{\chi}_{\text{eff}}^2 = -3.49$; $R - 1 = 0.01096$

χ_{eff}^2 : CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.68 (Δ -0.22) commander_dx12_v3.2.29: 21.90 (Δ -1.10) CamSpec like_10.7HM_1400_unified: 11496.51 (Δ -3.14)

3.8 base_Alens_CamSpecHM_TTTEEE_lowl_lowE_post_BAO

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02249 ± 0.00017	$\sigma_8 \Omega_m^{0.5}$	0.4405 ± 0.0076	$H(0.38)$	83.37 ± 0.33
$\Omega_c h^2$	0.1181 ± 0.0011	$\sigma_8 \Omega_m^{0.25}$	0.5934 ± 0.0077	$D_M(0.38)$	1519.5 ± 8.5
$100\theta_{MC}$	1.04106 ± 0.00030	$\sigma_8/h^{0.5}$	0.968 ± 0.011	$H(0.51)$	90.01 ± 0.27
τ	$0.0494^{+0.0084}_{-0.0073}$	$r_{\text{drag}} h$	100.56 ± 0.85	$D_M(0.51)$	1970 ± 10
A_L	1.145 ± 0.065	$\langle d^2 \rangle^{1/2}$	2.560 ± 0.064	$H(0.61)$	95.57 ± 0.22
$\ln(10^{10} A_s)$	$3.028^{+0.017}_{-0.016}$	z_{re}	$7.09^{+0.91}_{-0.71}$	$D_M(0.61)$	2293 ± 11
n_s	0.9708 ± 0.0042	$10^9 A_s$	2.065 ± 0.036	$H(2.33)$	235.42 ± 0.64
y_{cal}	1.0000 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.871 ± 0.011	$D_M(2.33)$	5752 ± 11
A_{100}^{PS}	232 ± 25	D_{40}	1214 ± 12	$f\sigma_8(0.15)$	0.4456 ± 0.0072
A_{143}^{PS}	36 ± 8	D_{220}	5722 ± 38	$\sigma_8(0.15)$	0.7394 ± 0.0069
A_{217}^{PS}	105^{+10}_{-10}	D_{810}	2528 ± 14	$f\sigma_8(0.38)$	0.4655 ± 0.0062
A_{217}^{CIB}	37 ± 7	D_{1420}	814.6 ± 4.8	$\sigma_8(0.38)$	0.6563 ± 0.0060
A_{143}^{tSZ}	$4.1^{+2.0}_{-2.4}$	D_{2000}	231.4 ± 1.7	$f\sigma_8(0.51)$	0.4650 ± 0.0057
$r_{143 \times 217}^{\text{PS}}$	0.68 ± 0.13	$n_{s,0.002}$	0.9708 ± 0.0042	$\sigma_8(0.51)$	0.6145 ± 0.0055
$r_{143 \times 217}^{\text{CIB}}$	$0.52^{+0.35}_{-0.27}$	Y_P	$0.245441^{+0.000063}_{-0.000057}$	$f\sigma_8(0.61)$	0.4607 ± 0.0053
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	$0.246768^{+0.000063}_{-0.000057}$	$\sigma_8(0.61)$	0.5850 ± 0.0052
A^{kSZ}	< 5.37	10^5D/H	2.563 ± 0.030	$f\sigma_8(2.33)$	0.2953 ± 0.0026
A_{100}^{dust}	1.00 ± 0.20	Age/Gyr	13.772 ± 0.024	$\sigma_8(2.33)$	$0.3047^{+0.0027}_{-0.0024}$
A_{143}^{dust}	0.95 ± 0.17	z_*	1089.60 ± 0.26	f_{2000}^{143}	27.2 ± 2.9
A_{217}^{dust}	0.98 ± 0.10	r_*	144.84 ± 0.25	f_{2000}^{217}	105.1 ± 2.0
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	$100\theta_*$	1.04123 ± 0.00030	$f_{2000}^{143 \times 217}$	30.1 ± 2.1
c_{100}	0.9975 ± 0.0010	$D_M(z_*)/\text{Gpc}$	13.910 ± 0.024	χ_{simall}^2	396.8 ± 1.5
c_{217}	1.0009 ± 0.0016	z_{drag}	1060.08 ± 0.35	χ_{lowl}^2	22.17 ± 0.76
c_{TE}	0.9925 ± 0.0053	r_{drag}	147.47 ± 0.26	χ_{CamSpec}^2	11511.8 ± 5.5
c_{EE}	0.9903 ± 0.0050	k_D	0.14056 ± 0.00032	$\chi_{6\text{DF}}^2$	0.030 ± 0.044
H_0	68.19 ± 0.50	$100\theta_D$	0.16067 ± 0.00020	χ_{MGS}^2	1.81 ± 0.53
Ω_Λ	0.6963 ± 0.0065	z_{eq}	3359 ± 24	χ_{DR12BAO}^2	3.93 ± 0.78
Ω_m	0.3037 ± 0.0065	k_{eq}	0.010251 ± 0.000073	χ_{prior}^2	7.8 ± 3.4
$\Omega_m h^2$	0.1412 ± 0.0010	$100\theta_{\text{eq}}$	0.8216 ± 0.0046	χ_{BAO}^2	5.77 ± 0.77
$\Omega_m h^3$	0.09628 ± 0.00033	$100\theta_{s,\text{eq}}$	0.4536 ± 0.0024	χ_{CMB}^2	11930.7 ± 5.7
σ_8	0.7994 ± 0.0078	$H(0.15)$	73.39 ± 0.43		
S_8	0.804 ± 0.014	$D_M(0.15)$	636.3 ± 4.2		

$$\bar{\chi}_{\text{eff}}^2 = 11944.29; \Delta\bar{\chi}_{\text{eff}}^2 = -3.99; R - 1 = 0.01598$$

3.9 base_Alens_CamSpecHM_TTTEEE_lowl_lowE_post_Riess18

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02268 ± 0.00018	S_8	0.783 ± 0.017	$H(0.15)$	74.20 ± 0.59
$\Omega_c h^2$	0.1161 ± 0.0014	$\sigma_8 \Omega_m^{0.5}$	0.4286 ± 0.0094	$D_M(0.15)$	628.6 ± 5.6
$100\theta_{MC}$	1.04132 ± 0.00034	$\sigma_8 \Omega_m^{0.25}$	0.5830 ± 0.0091	$H(0.38)$	83.97 ± 0.44
τ	0.0508 ± 0.0081	$\sigma_8/h^{0.5}$	0.954 ± 0.013	$D_M(0.38)$	1504 ± 11
A_L	1.195 ± 0.074	$r_{\text{drag}} h$	102.1 ± 1.2	$H(0.51)$	90.49 ± 0.36
$\ln(10^{10} A_s)$	$3.026^{+0.017}_{-0.015}$	$\langle d^2 \rangle^{1/2}$	2.579 ± 0.067	$D_M(0.51)$	1951 ± 13
n_s	0.9760 ± 0.0048	z_{re}	$7.18^{+0.85}_{-0.74}$	$H(0.61)$	95.95 ± 0.30
y_{cal}	1.0000 ± 0.0025	$10^9 A_s$	2.063 ± 0.035	$D_M(0.61)$	2273 ± 15
A_{100}^{PS}	228 ± 24	$10^9 A_s e^{-2\tau}$	1.863 ± 0.011	$H(2.33)$	234.37 ± 0.83
A_{143}^{PS}	33 ± 8	D_{40}	1204 ± 13	$D_M(2.33)$	5735 ± 13
A_{217}^{PS}	105^{+10}_{-10}	D_{220}	5733 ± 39	$f\sigma_8(0.15)$	0.4345 ± 0.0089
A_{217}^{CIB}	36^{+7}_{-8}	D_{810}	2526 ± 13	$\sigma_8(0.15)$	$0.7348^{+0.0073}_{-0.0066}$
A_{143}^{tSZ}	4.2 ± 2.1	D_{1420}	815.5 ± 4.7	$f\sigma_8(0.38)$	0.4567 ± 0.0075
$r_{143 \times 217}^{\text{PS}}$	0.68 ± 0.13	D_{2000}	232.4 ± 1.6	$\sigma_8(0.38)$	$0.6535^{+0.0061}_{-0.0055}$
$r_{143 \times 217}^{\text{CIB}}$	0.50 ± 0.27	$n_{s,0.002}$	0.9760 ± 0.0048	$f\sigma_8(0.51)$	0.4576 ± 0.0067
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P	$0.245513^{+0.000063}_{-0.000076}$	$\sigma_8(0.51)$	$0.6125^{+0.0056}_{-0.0050}$
A^{kSZ}	< 4.89	Y_P^{BBN}	$0.246840^{+0.000063}_{-0.000077}$	$f\sigma_8(0.61)$	0.4543 ± 0.0061
A_{100}^{dust}	1.01 ± 0.20	10^5D/H	2.530 ± 0.032	$\sigma_8(0.61)$	$0.5834^{+0.0053}_{-0.0047}$
A_{143}^{dust}	0.94 ± 0.18	Age/Gyr	13.737 ± 0.029	$f\sigma_8(2.33)$	$0.2949^{+0.0026}_{-0.0023}$
A_{217}^{dust}	0.99 ± 0.10	z_*	1089.20 ± 0.31	$\sigma_8(2.33)$	$0.3050^{+0.0027}_{-0.0024}$
$A_{143 \times 217}^{\text{dust}}$	1.01 ± 0.16	r_*	145.20 ± 0.31	f_{2000}^{143}	25.9 ± 2.8
c_{100}	0.9976 ± 0.0011	$100\theta_*$	1.04147 ± 0.00033	f_{2000}^{217}	104.2 ± 2.0
c_{217}	1.0009 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.941 ± 0.029	$f_{2000}^{143 \times 217}$	29.0 ± 2.1
c_{TE}	0.9913 ± 0.0052	z_{drag}	1060.38 ± 0.37	χ_{small}^2	396.7 ± 1.5
c_{EE}	0.9899 ± 0.0050	r_{drag}	147.77 ± 0.31	χ_{lowl}^2	21.45 ± 0.71
H_0	69.13 ± 0.68	k_D	0.14038 ± 0.00034	χ_{CamSpec}^2	11514.4 ± 6.3
Ω_Λ	0.7080 ± 0.0084	$100\theta_D$	0.16053 ± 0.00020	χ_{H073p45}^2	7.0 ± 2.1
Ω_m	0.2920 ± 0.0084	z_{eq}	3318 ± 32	χ_{prior}^2	7.8 ± 3.4
$\Omega_m h^2$	0.1395 ± 0.0013	k_{eq}	0.010126 ± 0.000096	χ_{CMB}^2	11932.6 ± 6.3
$\Omega_m h^3$	0.09640 ± 0.00034	$100\theta_{\text{eq}}$	0.8300 ± 0.0063		
σ_8	0.7931 ± 0.0083	$100\theta_{s,\text{eq}}$	0.4579 ± 0.0032		

$$\bar{\chi}_{\text{eff}}^2 = 11947.36; \Delta\bar{\chi}_{\text{eff}}^2 = -6.91; R - 1 = 0.04484$$

3.10 base_Alens_CamSpecHM_TTTEEE_lowl_lowE_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02251 ± 0.00019	σ_8	$0.8011^{+0.0069}_{-0.0077}$	$100\theta_{\text{eq}}$	0.8226 ± 0.0068
$\Omega_c h^2$	0.1178 ± 0.0016	S_8	0.804 ± 0.019	$100\theta_{\text{s,eq}}$	0.4541 ± 0.0034
$100\theta_{\text{MC}}$	1.04108 ± 0.00034	$\sigma_8 \Omega_{\text{m}}^{0.5}$	0.441 ± 0.010	$H(0.15)$	73.48 ± 0.64
τ	$0.0526^{+0.0035}_{-0.0076}$	$\sigma_8 \Omega_{\text{m}}^{0.25}$	0.5941 ± 0.0094	$D_{\text{M}}(0.15)$	635.5 ± 6.2
A_{L}	1.144 ± 0.070	$\sigma_8/h^{0.5}$	0.970 ± 0.013	$H(0.38)$	83.43 ± 0.47
$\ln(10^{10} A_{\text{s}})$	$3.034^{+0.010}_{-0.015}$	$r_{\text{drag}} h$	100.7 ± 1.3	$D_{\text{M}}(0.38)$	1518 ± 13
n_{s}	0.9715 ± 0.0052	$\langle d^2 \rangle^{1/2}$	2.562 ± 0.065	$H(0.51)$	90.06 ± 0.38
y_{cal}	1.0000 ± 0.0025	z_{re}	$7.43^{+0.34}_{-0.82}$	$D_{\text{M}}(0.51)$	1968 ± 15
A_{100}^{PS}	231 ± 25	$10^9 A_{\text{s}}$	$2.078^{+0.020}_{-0.031}$	$H(0.61)$	95.61 ± 0.31
A_{143}^{PS}	35 ± 8	$10^9 A_{\text{s}} e^{-2\tau}$	1.870 ± 0.012	$D_{\text{M}}(0.61)$	2291 ± 16
A_{217}^{PS}	105^{+10}_{-10}	D_{40}	1213 ± 14	$H(2.33)$	235.29 ± 0.90
A_{217}^{CIB}	37^{+7}_{-8}	D_{220}	5723 ± 39	$D_{\text{M}}(2.33)$	5750 ± 14
A_{143}^{tSZ}	$4.1^{+2.0}_{-2.4}$	D_{810}	2528 ± 14	$f\sigma_8(0.15)$	0.4458 ± 0.0095
$r_{143 \times 217}^{\text{PS}}$	0.68 ± 0.13	D_{1420}	814.7 ± 4.9	$\sigma_8(0.15)$	$0.7412^{+0.0056}_{-0.0066}$
$r_{143 \times 217}^{\text{CIB}}$	$0.51^{+0.33}_{-0.28}$	D_{2000}	231.5 ± 1.8	$f\sigma_8(0.38)$	0.4659 ± 0.0077
$\xi^{\text{tSZ} \times \text{CIB}}$	—	$n_{\text{s},0.002}$	0.9715 ± 0.0052	$\sigma_8(0.38)$	$0.6580^{+0.0042}_{-0.0054}$
A^{kSZ}	< 5.25	Y_{P}	0.245447 ± 0.000075	$f\sigma_8(0.51)$	0.4656 ± 0.0067
A_{100}^{dust}	1.01 ± 0.19	$Y_{\text{P}}^{\text{BBN}}$	0.246773 ± 0.000075	$\sigma_8(0.51)$	$0.6162^{+0.0037}_{-0.0049}$
A_{143}^{dust}	0.95 ± 0.18	10^5D/H	2.561 ± 0.035	$f\sigma_8(0.61)$	0.4614 ± 0.0060
A_{217}^{dust}	0.98 ± 0.10	Age/Gyr	13.769 ± 0.031	$\sigma_8(0.61)$	$0.5866^{+0.0034}_{-0.0046}$
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	z_*	1089.56 ± 0.35	$f\sigma_8(2.33)$	$0.2961^{+0.0015}_{-0.0023}$
c_{100}	0.9975 ± 0.0011	r_*	144.89 ± 0.33	$\sigma_8(2.33)$	$0.3057^{+0.0016}_{-0.0023}$
c_{217}	1.0009 ± 0.0016	$100\theta_*$	1.04125 ± 0.00033	f_{2000}^{143}	27 ± 3
c_{TE}	0.9924 ± 0.0053	$D_{\text{M}}(z_*)/\text{Gpc}$	13.914 ± 0.030	f_{2000}^{217}	105.0 ± 2.1
c_{EE}	0.9903 ± 0.0049	z_{drag}	1060.10 ± 0.38	$f_{2000}^{143 \times 217}$	30.0 ± 2.2
H_0	68.29 ± 0.74	r_{drag}	147.51 ± 0.32	χ_{small}^2	396.4 ± 1.1
Ω_{Λ}	0.6975 ± 0.0095	k_{D}	0.14053 ± 0.00034	χ_{lowl}^2	22.16 ± 0.90
Ω_{m}	0.3025 ± 0.0095	$100\theta_{\text{D}}$	0.16066 ± 0.00022	χ_{CamSpec}^2	11512.3 ± 5.7
$\Omega_{\text{m}} h^2$	0.1410 ± 0.0014	z_{eq}	3354 ± 35	χ_{prior}^2	7.7 ± 3.4
$\Omega_{\text{m}} h^3$	0.09628 ± 0.00034	k_{eq}	0.01024 ± 0.00011	χ_{CMB}^2	11930.9 ± 5.7
$\bar{\chi}_{\text{eff}}^2 = 11938.62; \Delta\bar{\chi}_{\text{eff}}^2 = -3.57; R - 1 = 0.01153$					

3.11 base_Alens_CamSpecHM_TTTEEE_lowl_lowE_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02249 ± 0.00017	$\sigma_8 \Omega_m^{0.5}$	0.4418 ± 0.0073	$H(0.38)$	83.37 ± 0.33
$\Omega_c h^2$	0.1180 ± 0.0011	$\sigma_8 \Omega_m^{0.25}$	0.5952 ± 0.0070	$D_M(0.38)$	1519.3 ± 8.6
$100\theta_{MC}$	1.04106 ± 0.00030	$\sigma_8/h^{0.5}$	0.971 ± 0.010	$H(0.51)$	90.01 ± 0.27
τ	$0.0526^{+0.0036}_{-0.0074}$	$r_{\text{drag}} h$	100.58 ± 0.85	$D_M(0.51)$	1969 ± 10
A_L	1.138 ± 0.063	$\langle d^2 \rangle^{1/2}$	2.560 ± 0.064	$H(0.61)$	95.57 ± 0.23
$\ln(10^{10} A_s)$	$3.0341^{+0.0098}_{-0.015}$	z_{re}	$7.44^{+0.34}_{-0.81}$	$D_M(0.61)$	2293 ± 11
n_s	0.9710 ± 0.0042	$10^9 A_s$	$2.078^{+0.020}_{-0.031}$	$H(2.33)$	235.40 ± 0.64
y_{cal}	1.0000 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.871 ± 0.011	$D_M(2.33)$	5752 ± 11
A_{100}^{PS}	232 ± 24	D_{40}	1214 ± 12	$f\sigma_8(0.15)$	0.4470 ± 0.0069
A_{143}^{PS}	36 ± 8	D_{220}	5722 ± 38	$\sigma_8(0.15)$	$0.7418^{+0.0047}_{-0.0061}$
A_{217}^{PS}	105^{+10}_{-10}	D_{810}	2528 ± 14	$f\sigma_8(0.38)$	0.4669 ± 0.0058
A_{217}^{CIB}	37^{+7}_{-8}	D_{1420}	814.6 ± 4.8	$\sigma_8(0.38)$	$0.6584^{+0.0037}_{-0.0052}$
A_{143}^{tSZ}	$4.1^{+2.0}_{-2.4}$	D_{2000}	231.5 ± 1.7	$f\sigma_8(0.51)$	0.4664 ± 0.0051
$r_{143 \times 217}^{\text{PS}}$	0.68 ± 0.13	$n_{s,0.002}$	0.9710 ± 0.0042	$\sigma_8(0.51)$	$0.6165^{+0.0034}_{-0.0048}$
$r_{143 \times 217}^{\text{CIB}}$	$0.52^{+0.35}_{-0.27}$	Y_P	$0.245441^{+0.000064}_{-0.000057}$	$f\sigma_8(0.61)$	0.4621 ± 0.0047
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	$0.246767^{+0.000064}_{-0.000057}$	$\sigma_8(0.61)$	$0.5868^{+0.0031}_{-0.0045}$
A^{kSZ}	< 5.35	$10^5 D/H$	2.564 ± 0.030	$f\sigma_8(2.33)$	$0.2962^{+0.0015}_{-0.0022}$
A_{100}^{dust}	1.01 ± 0.19	Age/Gyr	13.772 ± 0.024	$\sigma_8(2.33)$	$0.3057^{+0.0015}_{-0.0023}$
A_{143}^{dust}	0.95 ± 0.18	z_*	1089.60 ± 0.26	f_{2000}^{143}	27.2 ± 2.9
A_{217}^{dust}	0.98 ± 0.10	r_*	144.85 ± 0.25	f_{2000}^{217}	105.1 ± 2.0
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	$100\theta_*$	1.04124 ± 0.00029	$f_{2000}^{143 \times 217}$	30.1 ± 2.1
c_{100}	0.9975 ± 0.0010	$D_M(z_*)/\text{Gpc}$	13.911 ± 0.024	χ_{simall}^2	396.4 ± 1.1
c_{217}	1.0009 ± 0.0016	z_{drag}	1060.08 ± 0.35	χ_{lowl}^2	22.22 ± 0.77
c_{TE}	0.9925 ± 0.0052	r_{drag}	147.48 ± 0.26	χ_{CamSpec}^2	11511.7 ± 5.5
c_{EE}	0.9904 ± 0.0049	k_D	0.14055 ± 0.00032	$\chi_{6\text{DF}}^2$	0.031 ± 0.044
H_0	68.20 ± 0.51	$100\theta_D$	0.16068 ± 0.00020	χ_{MGS}^2	1.82 ± 0.53
Ω_Λ	0.6964 ± 0.0065	z_{eq}	3358 ± 24	χ_{DR12BAO}^2	3.93 ± 0.78
Ω_m	0.3036 ± 0.0065	k_{eq}	0.010249 ± 0.000074	χ_{prior}^2	7.8 ± 3.4
$\Omega_m h^2$	0.1412 ± 0.0010	$100\theta_{\text{eq}}$	0.8217 ± 0.0047	χ_{BAO}^2	5.78 ± 0.79
$\Omega_m h^3$	0.09628 ± 0.00033	$100\theta_{s,\text{eq}}$	0.4537 ± 0.0024	χ_{CMB}^2	11930.3 ± 5.6
σ_8	$0.8019^{+0.0055}_{-0.0069}$	$H(0.15)$	73.40 ± 0.44		
S_8	0.807 ± 0.013	$D_M(0.15)$	636.3 ± 4.3		

$$\bar{\chi}_{\text{eff}}^2 = 11943.89; \Delta\bar{\chi}_{\text{eff}}^2 = -4.10; R - 1 = 0.01823$$

3.12 base_Alens_CamSpecHM_TTTEEE_lowl_lowE_post_Riess18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02268 ± 0.00018	S_8	$0.785^{+0.015}_{-0.018}$	$H(0.15)$	$74.20^{+0.60}_{-0.54}$
$\Omega_c h^2$	0.1161 ± 0.0014	$\sigma_8 \Omega_m^{0.5}$	$0.4297^{+0.0083}_{-0.0096}$	$D_M(0.15)$	$628.6^{+5.1}_{-5.8}$
$100\theta_{MC}$	1.04132 ± 0.00033	$\sigma_8 \Omega_m^{0.25}$	$0.5846^{+0.0078}_{-0.0090}$	$H(0.38)$	83.97 ± 0.42
τ	$0.0536^{+0.0042}_{-0.0073}$	$\sigma_8/h^{0.5}$	$0.957^{+0.011}_{-0.013}$	$D_M(0.38)$	1504^{+10}_{-12}
A_L	1.188 ± 0.071	$r_{\text{drag}} h$	102.2 ± 1.1	$H(0.51)$	90.49 ± 0.34
$\ln(10^{10} A_s)$	$3.032^{+0.011}_{-0.014}$	$\langle d^2 \rangle^{1/2}$	2.579 ± 0.066	$D_M(0.51)$	1951^{+12}_{-14}
n_s	0.9761 ± 0.0048	z_{re}	$7.47^{+0.37}_{-0.82}$	$H(0.61)$	95.95 ± 0.28
y_{cal}	1.0000 ± 0.0025	$10^9 A_s$	$2.074^{+0.022}_{-0.030}$	$D_M(0.61)$	2273^{+13}_{-15}
A_{100}^{PS}	228 ± 24	$10^9 A_s e^{-2\tau}$	1.863 ± 0.011	$H(2.33)$	234.36 ± 0.81
A_{143}^{PS}	33 ± 8	D_{40}	1204 ± 13	$D_M(2.33)$	5736 ± 13
A_{217}^{PS}	105^{+10}_{-10}	D_{220}	5733 ± 39	$f\sigma_8(0.15)$	$0.4357^{+0.0078}_{-0.0090}$
A_{217}^{CIB}	36 ± 7	D_{810}	2526 ± 13	$\sigma_8(0.15)$	$0.7369^{+0.0053}_{-0.0064}$
A_{143}^{tSZ}	$4.2^{+2.1}_{-2.3}$	D_{1420}	815.6 ± 4.7	$f\sigma_8(0.38)$	$0.4580^{+0.0065}_{-0.0074}$
$r_{143 \times 217}^{\text{PS}}$	0.68 ± 0.13	D_{2000}	232.4 ± 1.6	$\sigma_8(0.38)$	$0.6553^{+0.0042}_{-0.0052}$
$r_{143 \times 217}^{\text{CIB}}$	0.49 ± 0.27	$n_{s,0.002}$	0.9761 ± 0.0048	$f\sigma_8(0.51)$	$0.4589^{+0.0057}_{-0.0065}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P	$0.245512^{+0.000064}_{-0.000072}$	$\sigma_8(0.51)$	$0.6142^{+0.0038}_{-0.0047}$
A^{kSZ}	< 4.93	Y_P^{BBN}	$0.246839^{+0.000064}_{-0.000072}$	$f\sigma_8(0.61)$	$0.4556^{+0.0052}_{-0.0058}$
A_{100}^{dust}	1.01 ± 0.20	$10^5 D/H$	2.530 ± 0.031	$\sigma_8(0.61)$	$0.5850^{+0.0035}_{-0.0044}$
A_{143}^{dust}	0.94 ± 0.18	Age/Gyr	13.737 ± 0.028	$f\sigma_8(2.33)$	$0.2958^{+0.0017}_{-0.0022}$
A_{217}^{dust}	0.98 ± 0.10	z_*	$1089.20^{+0.28}_{-0.32}$	$\sigma_8(2.33)$	$0.3058^{+0.0017}_{-0.0022}$
$A_{143 \times 217}^{\text{dust}}$	1.01 ± 0.16	r_*	145.20 ± 0.31	f_{2000}^{143}	25.8 ± 2.8
c_{100}	0.9976 ± 0.0011	$100\theta_*$	1.04147 ± 0.00032	f_{2000}^{217}	104.2 ± 2.0
c_{217}	1.0008 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.942 ± 0.028	$f_{2000}^{143 \times 217}$	29.0 ± 2.1
c_{TE}	0.9913 ± 0.0052	z_{drag}	1060.37 ± 0.36	χ_{small}^2	396.4 ± 1.2
c_{EE}	0.9900 ± 0.0049	r_{drag}	147.78 ± 0.30	χ_{lowl}^2	21.48 ± 0.72
H_0	$69.13^{+0.69}_{-0.62}$	k_D	0.14037 ± 0.00034	χ_{CamSpec}^2	11514.2 ± 5.9
Ω_Λ	$0.7080^{+0.0087}_{-0.0075}$	$100\theta_D$	0.16053 ± 0.00020	$\chi_{H073p45}^2$	6.9 ± 2.1
Ω_m	$0.2920^{+0.0075}_{-0.0087}$	z_{eq}	3317 ± 31	χ_{prior}^2	7.8 ± 3.4
$\Omega_m h^2$	0.1395 ± 0.0013	k_{eq}	0.010125 ± 0.000094	χ_{CMB}^2	11932.1 ± 5.9
$\Omega_m h^3$	0.09640 ± 0.00033	$100\theta_{\text{eq}}$	0.8301 ± 0.0061		
σ_8	$0.7953^{+0.0063}_{-0.0074}$	$100\theta_{s,\text{eq}}$	0.4579 ± 0.0031		

$$\bar{\chi}_{\text{eff}}^2 = 11946.84; \Delta\bar{\chi}_{\text{eff}}^2 = -7.17; R - 1 = 0.04629$$

3.13 base_Alens_CamSpecHM_TE_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022329	0.02238 ± 0.00039	D_{40}	1216.0	1209 ± 38	$D_M(0.15)$	635.9	634 ± 11
$\Omega_c h^2$	0.11774	0.1174 ± 0.0026	D_{220}	5715	5710 ± 63	$H(0.38)$	83.37	83.51 ± 0.82
$100\theta_{MC}$	1.04130	1.04137 ± 0.00053	D_{810}	2532.4	2536 ± 40	$D_M(0.38)$	1518.8	1516 ± 21
τ	0.0504	0.0500 ± 0.0090	D_{1420}	816.5	819 ± 20	$H(0.51)$	89.99	90.10 ± 0.67
A_L	0.890	$0.93^{+0.21}_{-0.24}$	D_{2000}	229.3	230.7 ± 9.1	$D_M(0.51)$	1968.9	1965 ± 25
$\ln(10^{10} A_s)$	3.0276	3.027 ± 0.023	$n_{s,0.002}$	0.9689	0.973 ± 0.021	$H(0.61)$	95.53	95.63 ± 0.56
n_s	0.9689	0.973 ± 0.021	Y_P	0.245379	0.24539 ± 0.00017	$D_M(0.61)$	2292.3	2288 ± 27
y_{cal}	1.00006	0.99997 ± 0.0025	Y_P^{BBN}	0.246705	0.24672 ± 0.00017	$H(2.33)$	235.07	234.9 ± 1.4
H_0	68.25	68.4 ± 1.3	$10^5 D/H$	2.593	2.586 ± 0.073	$D_M(2.33)$	5755.0	5751 ± 25
Ω_Λ	0.6979	$0.700^{+0.016}_{-0.015}$	Age/Gyr	13.780	13.771 ± 0.057	$f\sigma_8(0.15)$	0.4442	0.443 ± 0.014
Ω_m	0.3021	0.300 ± 0.016	z_*	1089.77	1089.69 ± 0.66	$\sigma_8(0.15)$	0.7388	0.739 ± 0.011
$\Omega_m h^2$	0.14072	0.1404 ± 0.0023	r_*	145.05	145.10 ± 0.52	$f\sigma_8(0.38)$	0.4643	0.463 ± 0.011
$\Omega_m h^3$	0.09604	0.09610 ± 0.00064	$100\theta_*$	1.04150	1.04155 ± 0.00052	$\sigma_8(0.38)$	0.6560	0.6559 ± 0.0095
σ_8	0.7986	0.798 ± 0.012	$D_M(z_*)/\text{Gpc}$	13.9269	13.931 ± 0.049	$f\sigma_8(0.51)$	0.4640	0.4630 ± 0.0096
S_8	0.8013	0.798 ± 0.027	z_{drag}	1059.67	1059.77 ± 0.80	$\sigma_8(0.51)$	0.6143	0.6144 ± 0.0090
$\sigma_8 \Omega_m^{0.5}$	0.4389	0.437 ± 0.015	r_{drag}	147.74	147.77 ± 0.52	$f\sigma_8(0.61)$	0.4599	0.4590 ± 0.0087
$\sigma_8 \Omega_m^{0.25}$	0.5920	0.591 ± 0.013	k_D	0.14016	0.14015 ± 0.00061	$\sigma_8(0.61)$	0.5848	0.5849 ± 0.0086
$\sigma_8/h^{0.5}$	0.9666	0.965 ± 0.018	$100\theta_D$	0.160947	0.16091 ± 0.00047	$f\sigma_8(2.33)$	0.29522	0.2954 ± 0.0045
$r_{drag} h$	100.83	101.1 ± 2.1	z_{eq}	3347	3341 ± 56	$\sigma_8(2.33)$	0.30478	0.3051 ± 0.0050
$\langle d^2 \rangle^{1/2}$	2.259	$2.28^{+0.27}_{-0.22}$	k_{eq}	0.010216	0.01020 ± 0.00017	χ^2_{small}	395.66	396.9 ± 1.7
z_{re}	7.25	$7.17^{+0.94}_{-0.78}$	$100\theta_{eq}$	0.8234	0.825 ± 0.011	$\chi^2_{CamSpec}$	2575.80	2581.9 ± 3.5
$10^9 A_s$	2.0647	2.064 ± 0.048	$100\theta_{s,eq}$	0.4547	0.4555 ± 0.0056	χ^2_{prior}	10.03	11.0 ± 1.4
$10^9 A_s e^{-2\tau}$	1.8667	1.867 ± 0.025	$H(0.15)$	73.43	73.6 ± 1.1	χ^2_{CMB}	2971.46	2978.8 ± 3.9

Best-fit $\chi^2_{eff} = 2981.49$; $\Delta\chi^2_{eff} = -0.15$; $\bar{\chi}^2_{eff} = 2989.81$; $\Delta\bar{\chi}^2_{eff} = 0.90$; $R - 1 = 0.00461$

χ^2_{eff} : CMB - small_100x143_offlike5_EE_Aplanck_B: 395.66 (Δ -0.01) CamSpec like_10.7HM_1400_unified: 2575.80 (Δ -0.15)

3.14 base_Alens_CamSpecHM_TE_lowE_post_BAO

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02230 ± 0.00031	D_{810}	2530 ± 37	$D_{\mathrm{M}}(0.51)$	1972 ± 13
$\Omega_{\mathrm{c}}h^2$	0.1181 ± 0.0013	D_{1420}	816 ± 17	$H(0.61)$	95.48 ± 0.33
$100\theta_{\mathrm{MC}}$	1.04130 ± 0.00048	D_{2000}	$229.0^{+7.3}_{-8.2}$	$D_{\mathrm{M}}(0.61)$	2295 ± 14
τ	0.0496 ± 0.0087	$n_{\mathrm{s},0.002}$	0.968 ± 0.016	$H(2.33)$	235.25 ± 0.82
A_{L}	0.89 ± 0.19	Y_{P}	$0.24536^{+0.00013}_{-0.00011}$	$D_{\mathrm{M}}(2.33)$	5757 ± 17
$\ln(10^{10}A_{\mathrm{s}})$	3.026 ± 0.023	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.24669^{+0.00013}_{-0.00011}$	$f\sigma_8(0.15)$	0.4456 ± 0.0086
n_{s}	0.968 ± 0.016	$10^5\mathrm{D}/\mathrm{H}$	2.600 ± 0.058	$\sigma_8(0.15)$	0.739 ± 0.011
y_{cal}	1.0000 ± 0.0025	Age/Gyr	13.785 ± 0.038	$f\sigma_8(0.38)$	0.4653 ± 0.0078
H_0	68.11 ± 0.64	z_*	1089.85 ± 0.44	$\sigma_8(0.38)$	0.6558 ± 0.0095
Ω_{Λ}	0.6959 ± 0.0079	r_*	144.99 ± 0.35	$f\sigma_8(0.51)$	0.4648 ± 0.0074
Ω_{m}	0.3041 ± 0.0079	$100\theta_*$	1.04149 ± 0.00047	$\sigma_8(0.51)$	0.6141 ± 0.0089
$\Omega_{\mathrm{m}}h^2$	0.1410 ± 0.0012	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.921 ± 0.034	$f\sigma_8(0.61)$	0.4605 ± 0.0071
$\Omega_{\mathrm{m}}h^3$	0.09604 ± 0.00062	z_{drag}	1059.63 ± 0.69	$\sigma_8(0.61)$	0.5845 ± 0.0085
σ_8	0.799 ± 0.012	r_{drag}	147.69 ± 0.40	$f\sigma_8(2.33)$	0.2950 ± 0.0043
S_8	0.804 ± 0.016	k_{D}	0.14018 ± 0.00059	$\sigma_8(2.33)$	0.3045 ± 0.0046
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4405 ± 0.0089	$100\theta_{\mathrm{D}}$	0.16098 ± 0.00041	χ_{small}^2	396.9 ± 1.7
$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.5932 ± 0.0097	z_{eq}	3354 ± 30	$\chi_{\mathrm{CamSpec}}^2$	2581.1 ± 3.3
$\sigma_8/h^{0.5}$	0.968 ± 0.015	k_{eq}	0.010238 ± 0.000091	$\chi_{6\mathrm{DF}}^2$	0.044 ± 0.063
$r_{\mathrm{drag}}h$	100.6 ± 1.0	$100\theta_{\mathrm{eq}}$	0.8221 ± 0.0056	χ_{MGS}^2	1.84 ± 0.63
$\langle d^2 \rangle^{1/2}$	$2.24^{+0.25}_{-0.20}$	$100\theta_{\mathrm{s,eq}}$	0.4540 ± 0.0029	$\chi_{\mathrm{DR12BAO}}^2$	4.1 ± 1.0
z_{re}	$7.16^{+0.90}_{-0.81}$	$H(0.15)$	73.31 ± 0.56	χ_{prior}^2	11.0 ± 1.4
$10^9 A_{\mathrm{s}}$	2.061 ± 0.047	$D_{\mathrm{M}}(0.15)$	637.1 ± 5.4	χ_{BAO}^2	6.0 ± 1.1
$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.866 ± 0.025	$H(0.38)$	83.28 ± 0.44	χ_{CMB}^2	2978.0 ± 3.7
D_{40}	1217 ± 31	$D_{\mathrm{M}}(0.38)$	1521 ± 11		
D_{220}	5707 ± 62	$H(0.51)$	89.92 ± 0.37		

$\bar{\chi}_{\mathrm{eff}}^2 = 2995.04$; $\Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.94$; $R - 1 = 0.00758$

3.15 base_Alens_CamSpecHM_TE_lowE_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02239 ± 0.00040	D_{40}	1209 ± 38	$D_{\mathrm{M}}(0.15)$	634 ± 10
$\Omega_{\mathrm{c}}h^2$	0.1173 ± 0.0026	D_{220}	5709 ± 63	$H(0.38)$	83.52 ± 0.82
$100\theta_{\mathrm{MC}}$	1.04137 ± 0.00053	D_{810}	2536 ± 40	$D_{\mathrm{M}}(0.38)$	1515 ± 21
τ	$0.0533^{+0.0041}_{-0.0081}$	D_{1420}	819 ± 20	$H(0.51)$	90.12 ± 0.67
A_{L}	$0.93^{+0.21}_{-0.24}$	D_{2000}	230.9 ± 9.2	$D_{\mathrm{M}}(0.51)$	1965 ± 25
$\ln(10^{10}A_{\mathrm{s}})$	$3.034^{+0.018}_{-0.021}$	$n_{\mathrm{s},0.002}$	0.973 ± 0.021	$H(0.61)$	95.64 ± 0.56
n_{s}	0.973 ± 0.021	Y_{P}	0.24539 ± 0.00017	$D_{\mathrm{M}}(0.61)$	2288 ± 27
y_{cal}	0.99995 ± 0.0025	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.24672 ± 0.00017	$H(2.33)$	234.9 ± 1.4
H_0	68.5 ± 1.3	$10^5\mathrm{D}/\mathrm{H}$	2.585 ± 0.073	$D_{\mathrm{M}}(2.33)$	5750 ± 26
Ω_{Λ}	$0.700^{+0.016}_{-0.015}$	Age/Gyr	13.770 ± 0.057	$f\sigma_8(0.15)$	0.444 ± 0.013
Ω_{m}	$0.300^{+0.015}_{-0.016}$	z_*	1089.68 ± 0.66	$\sigma_8(0.15)$	0.7409 ± 0.0099
$\Omega_{\mathrm{m}}h^2$	0.1404 ± 0.0023	r_*	145.11 ± 0.52	$f\sigma_8(0.38)$	0.464 ± 0.011
$\Omega_{\mathrm{m}}h^3$	0.09610 ± 0.00064	$100\theta_*$	1.04156 ± 0.00052	$\sigma_8(0.38)$	$0.6581^{+0.0082}_{-0.0092}$
σ_8	0.801 ± 0.011	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.932 ± 0.049	$f\sigma_8(0.51)$	0.4643 ± 0.0092
S_8	0.800 ± 0.026	z_{drag}	1059.78 ± 0.80	$\sigma_8(0.51)$	$0.6164^{+0.0078}_{-0.0087}$
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.438 ± 0.014	r_{drag}	147.78 ± 0.51	$f\sigma_8(0.61)$	0.4604 ± 0.0083
$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.592 ± 0.013	k_{D}	0.14014 ± 0.00061	$\sigma_8(0.61)$	$0.5869^{+0.0075}_{-0.0084}$
$\sigma_8/h^{0.5}$	0.968 ± 0.018	$100\theta_{\mathrm{D}}$	0.16090 ± 0.00047	$f\sigma_8(2.33)$	$0.2964^{+0.0040}_{-0.0044}$
$r_{\mathrm{drag}}h$	101.2 ± 2.1	z_{eq}	3339 ± 55	$\sigma_8(2.33)$	$0.3061^{+0.0044}_{-0.0049}$
$\langle d^2 \rangle^{1/2}$	$2.28^{+0.27}_{-0.22}$	k_{eq}	0.01019 ± 0.00017	χ_{simall}^2	396.5 ± 1.3
z_{re}	$7.52^{+0.38}_{-0.87}$	$100\theta_{\mathrm{eq}}$	0.825 ± 0.011	$\chi_{\mathrm{CamSpec}}^2$	2581.9 ± 3.5
$10^9 A_{\mathrm{s}}$	$2.078^{+0.036}_{-0.045}$	$100\theta_{\mathrm{s,eq}}$	0.4556 ± 0.0056	χ_{prior}^2	11.0 ± 1.4
$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.868 ± 0.025	$H(0.15)$	73.6 ± 1.1	χ_{CMB}^2	2978.4 ± 3.8

$\bar{\chi}_{\mathrm{eff}}^2 = 2989.43$; $\Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.91$; $R - 1 = 0.00501$

3.16 base_Alens_CamSpecHM_TE_lowE_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02230 ± 0.00031	D_{810}	2531 ± 37	$D_{\mathrm{M}}(0.51)$	1972 ± 13
$\Omega_{\mathrm{c}}h^2$	0.1180 ± 0.0013	D_{1420}	816 ± 18	$H(0.61)$	95.48 ± 0.33
$100\theta_{\mathrm{MC}}$	1.04130 ± 0.00048	D_{2000}	229.2 ± 7.9	$D_{\mathrm{M}}(0.61)$	2295 ± 14
τ	$0.0528^{+0.0038}_{-0.0079}$	$n_{\mathrm{s},0.002}$	0.969 ± 0.016	$H(2.33)$	235.24 ± 0.82
A_{L}	0.88 ± 0.19	Y_{P}	$0.24536^{+0.00014}_{-0.00011}$	$D_{\mathrm{M}}(2.33)$	5757 ± 17
$\ln(10^{10}A_{\mathrm{s}})$	$3.032^{+0.018}_{-0.021}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.24669^{+0.00014}_{-0.00011}$	$f\sigma_8(0.15)$	0.4470 ± 0.0082
n_{s}	0.969 ± 0.016	$10^5\mathrm{D}/\mathrm{H}$	2.600 ± 0.058	$\sigma_8(0.15)$	0.7414 ± 0.0098
y_{cal}	1.0000 ± 0.0025	$\mathrm{Age}/\mathrm{Gyr}$	13.785 ± 0.039	$f\sigma_8(0.38)$	0.4668 ± 0.0074
H_0	68.12 ± 0.64	z_*	1089.84 ± 0.45	$\sigma_8(0.38)$	$0.6580^{+0.0083}_{-0.0092}$
Ω_{Λ}	0.6960 ± 0.0079	r_*	144.99 ± 0.34	$f\sigma_8(0.51)$	0.4663 ± 0.0069
Ω_{m}	0.3040 ± 0.0079	$100\theta_*$	1.04149 ± 0.00048	$\sigma_8(0.51)$	0.6161 ± 0.0082
$\Omega_{\mathrm{m}}h^2$	0.1410 ± 0.0012	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.922 ± 0.034	$f\sigma_8(0.61)$	0.4620 ± 0.0066
$\Omega_{\mathrm{m}}h^3$	0.09603 ± 0.00062	z_{drag}	1059.63 ± 0.70	$\sigma_8(0.61)$	$0.5865^{+0.0074}_{-0.0083}$
σ_8	0.802 ± 0.011	r_{drag}	147.69 ± 0.40	$f\sigma_8(2.33)$	0.2960 ± 0.0040
S_8	0.807 ± 0.016	k_{D}	0.14018 ± 0.00059	$\sigma_8(2.33)$	0.3055 ± 0.0043
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4419 ± 0.0086	$100\theta_{\mathrm{D}}$	0.16098 ± 0.00042	χ_{simall}^2	396.5 ± 1.4
$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.5951 ± 0.0092	z_{eq}	3354 ± 30	$\chi_{\mathrm{CamSpec}}^2$	2581.2 ± 3.3
$\sigma_8/h^{0.5}$	0.971 ± 0.014	k_{eq}	0.010236 ± 0.000090	$\chi_{6\mathrm{DF}}^2$	0.044 ± 0.063
$r_{\mathrm{drag}}h$	100.6 ± 1.0	$100\theta_{\mathrm{eq}}$	0.8222 ± 0.0056	χ_{MGS}^2	1.85 ± 0.63
$\langle d^2 \rangle^{1/2}$	$2.24^{+0.25}_{-0.20}$	$100\theta_{\mathrm{s,eq}}$	0.4541 ± 0.0029	$\chi_{\mathrm{DR12BAO}}^2$	4.1 ± 1.0
z_{re}	$7.50^{+0.34}_{-0.89}$	$H(0.15)$	73.31 ± 0.56	χ_{prior}^2	11.0 ± 1.5
$10^9 A_{\mathrm{s}}$	$2.075^{+0.036}_{-0.044}$	$D_{\mathrm{M}}(0.15)$	637.0 ± 5.4	χ_{BAO}^2	6.0 ± 1.1
$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.866 ± 0.025	$H(0.38)$	83.29 ± 0.44	χ_{CMB}^2	2977.7 ± 3.6
D_{40}	1217 ± 31	$D_{\mathrm{M}}(0.38)$	1521 ± 11		
D_{220}	5707 ± 62	$H(0.51)$	89.92 ± 0.37		

$\bar{\chi}_{\mathrm{eff}}^2 = 2994.70$; $\Delta\bar{\chi}_{\mathrm{eff}}^2 = 1.00$; $R - 1 = 0.00997$

3.17 base_Alens_CamSpecHM_EE_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.02349	0.0236 ± 0.0013	D_{40}	1258.1	1257 ± 31	$D_M(0.15)$	633.9	632^{+22}_{-25}
$\Omega_c h^2$	0.11795	$0.1177^{+0.0046}_{-0.0052}$	D_{220}	5982	5998 ± 200	$H(0.38)$	83.67	83.9 ± 2.0
$100\theta_{MC}$	1.03926	1.03932 ± 0.00086	D_{810}	2599.9	2601 ± 39	$D_M(0.38)$	1513.9	1510 ± 49
τ	0.0509	0.0505 ± 0.0089	D_{1420}	841.1	842 ± 19	$H(0.51)$	90.32	$90.6^{+1.6}_{-1.8}$
A_L	1.136	$1.16^{+0.22}_{-0.25}$	D_{2000}	240.9	241.6 ± 8.0	$D_M(0.51)$	1962	1957 ± 59
$\ln(10^{10} A_s)$	3.0595	3.059 ± 0.022	$n_{s,0.002}$	0.9702	0.972 ± 0.015	$H(0.61)$	95.90	$96.1^{+1.3}_{-1.6}$
n_s	0.9702	0.972 ± 0.015	Y_P	0.245862	$0.24589^{+0.00045}_{-0.00054}$	$D_M(0.61)$	2285	2279 ± 64
y_{cal}	1.00002	0.9999 ± 0.0025	Y_P^{BBN}	0.247190	$0.24722^{+0.00045}_{-0.00054}$	$H(2.33)$	236.17	$236.2^{+2.0}_{-2.4}$
H_0	68.45	68.7 ± 2.9	$10^5 D/H$	2.390	$2.38^{+0.18}_{-0.22}$	$D_M(2.33)$	5732	5723 ± 69
Ω_Λ	0.6967	$0.697^{+0.037}_{-0.028}$	Age/Gyr	13.725	13.71 ± 0.16	$f\sigma_8(0.15)$	0.4489	$0.447^{+0.029}_{-0.032}$
Ω_m	0.3033	$0.303^{+0.028}_{-0.037}$	z_*	1088.40	$1088.3^{+1.6}_{-2.0}$	$\sigma_8(0.15)$	0.7453	$0.743^{+0.015}_{-0.014}$
$\Omega_m h^2$	0.14209	$0.1420^{+0.0036}_{-0.0042}$	r_*	144.10	144.06 ± 0.67	$f\sigma_8(0.38)$	0.4690	0.467 ± 0.024
$\Omega_m h^3$	0.09726	$0.0975^{+0.0017}_{-0.0019}$	$100\theta_*$	1.03933	1.03938 ± 0.00083	$\sigma_8(0.38)$	0.6616	$0.660^{+0.011}_{-0.0094}$
σ_8	0.8057	0.804 ± 0.019	$D_M(z_*)/\text{Gpc}$	13.865	13.861 ± 0.064	$f\sigma_8(0.51)$	0.4685	0.466 ± 0.021
S_8	0.810	$0.807^{+0.056}_{-0.065}$	z_{drag}	1062.34	1062.6 ± 2.5	$\sigma_8(0.51)$	0.6195	$0.6182^{+0.0091}_{-0.0080}$
$\sigma_8 \Omega_m^{0.5}$	0.4437	$0.442^{+0.031}_{-0.036}$	r_{drag}	146.40	146.32 ± 0.71	$f\sigma_8(0.61)$	0.4643	0.462 ± 0.018
$\sigma_8 \Omega_m^{0.25}$	0.5979	0.596 ± 0.029	k_D	0.14241	0.1425 ± 0.0013	$\sigma_8(0.61)$	0.5897	$0.5886^{+0.0081}_{-0.0073}$
$\sigma_8/h^{0.5}$	0.9738	0.970 ± 0.041	$100\theta_D$	0.15911	$0.1590^{+0.0012}_{-0.0015}$	$f\sigma_8(2.33)$	0.29765	0.2972 ± 0.0035
$r_{drag} h$	100.21	100.6 ± 4.2	z_{eq}	3380	3377^{+86}_{-100}	$\sigma_8(2.33)$	0.30724	0.3070 ± 0.0038
$\langle d^2 \rangle^{1/2}$	2.590	$2.60^{+0.26}_{-0.23}$	k_{eq}	0.010316	$0.01031^{+0.00026}_{-0.00031}$	χ^2_{small}	395.60	396.8 ± 1.6
z_{re}	7.07	6.97 ± 0.88	$100\theta_{eq}$	0.8191	0.821 ± 0.020	$\chi^2_{CamSpec}$	1886.12	1892.2 ± 3.5
$10^9 A_s$	2.1316	2.132 ± 0.047	$100\theta_{s,eq}$	0.4515	0.4521 ± 0.0097	χ^2_{prior}	10.03	11.0 ± 1.4
$10^9 A_s e^{-2\tau}$	1.9254	1.927 ± 0.025	$H(0.15)$	73.66	73.9 ± 2.5	χ^2_{CMB}	2281.72	2289.0 ± 3.9

Best-fit $\chi^2_{eff} = 2291.75$; $\Delta\chi^2_{eff} = -0.42$; $\bar{\chi}^2_{eff} = 2300.05$; $\Delta\bar{\chi}^2_{eff} = 0.70$; $R - 1 = 0.00814$

χ^2_{eff} : CMB - small_100x143_offlike5_EE_Aplanck_B: 395.60 (Δ -0.02) CamSpec like_10.7HM_1400_unified: 1886.12 (Δ -0.39)

3.18 base_Alens_CamSpecHM_EE_lowE_post_BAO

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02361 ± 0.00066	D_{810}	2601 ± 34	$D_{\mathrm{M}}(0.51)$	1956 ± 18
$\Omega_{\mathrm{c}}h^2$	0.1175 ± 0.0015	D_{1420}	842 ± 14	$H(0.61)$	96.06 ± 0.56
$100\theta_{\mathrm{MC}}$	1.03935 ± 0.00078	D_{2000}	241.6 ± 5.8	$D_{\mathrm{M}}(0.61)$	2278 ± 20
τ	0.0507 ± 0.0087	$n_{\mathrm{s},0.002}$	0.972 ± 0.010	$H(2.33)$	236.0 ± 1.0
A_{L}	$1.16^{+0.21}_{-0.24}$	Y_{P}	$0.24589^{+0.00027}_{-0.00023}$	$D_{\mathrm{M}}(2.33)$	5725 ± 30
$\ln(10^{10}A_{\mathrm{s}})$	3.059 ± 0.022	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.24722^{+0.00027}_{-0.00023}$	$f\sigma_8(0.15)$	0.4457 ± 0.0099
n_{s}	0.972 ± 0.010	$10^5\mathrm{D}/\mathrm{H}$	2.37 ± 0.11	$\sigma_8(0.15)$	0.7440 ± 0.0092
y_{cal}	0.99996 ± 0.0025	$\mathrm{Age}/\mathrm{Gyr}$	13.709 ± 0.069	$f\sigma_8(0.38)$	0.4664 ± 0.0085
H_0	68.75 ± 0.86	z_*	1088.25 ± 0.79	$\sigma_8(0.38)$	0.6607 ± 0.0079
Ω_{Λ}	0.7000 ± 0.0092	r_*	144.14 ± 0.54	$f\sigma_8(0.51)$	0.4664 ± 0.0077
Ω_{m}	0.3000 ± 0.0092	$100\theta_*$	1.03941 ± 0.00079	$\sigma_8(0.51)$	0.6189 ± 0.0073
$\Omega_{\mathrm{m}}h^2$	0.1417 ± 0.0015	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.867 ± 0.053	$f\sigma_8(0.61)$	0.4624 ± 0.0071
$\Omega_{\mathrm{m}}h^3$	0.0974 ± 0.0012	z_{drag}	1062.5 ± 1.4	$\sigma_8(0.61)$	0.5892 ± 0.0069
σ_8	0.804 ± 0.010	r_{drag}	146.40 ± 0.71	$f\sigma_8(2.33)$	0.2975 ± 0.0035
S_8	0.804 ± 0.019	k_{D}	0.1425 ± 0.0012	$\sigma_8(2.33)$	0.3073 ± 0.0036
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.440 ± 0.010	$100\theta_{\mathrm{D}}$	0.15902 ± 0.00081	χ_{simall}^2	396.8 ± 1.7
$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.595 ± 0.010	z_{eq}	3371 ± 35	$\chi_{\mathrm{CamSpec}}^2$	1891.3 ± 3.2
$\sigma_8/h^{0.5}$	0.970 ± 0.015	k_{eq}	0.01029 ± 0.00011	$\chi_{6\mathrm{DF}}^2$	0.057 ± 0.079
$r_{\mathrm{drag}}h$	100.7 ± 1.2	$100\theta_{\mathrm{eq}}$	0.8211 ± 0.0062	χ_{MGS}^2	1.85 ± 0.71
$\langle d^2 \rangle^{1/2}$	2.59 ± 0.25	$100\theta_{\mathrm{s,eq}}$	0.4525 ± 0.0032	$\chi_{\mathrm{DR12BAO}}^2$	4.6 ± 1.4
z_{re}	$6.99^{+0.89}_{-0.76}$	$H(0.15)$	73.93 ± 0.78	χ_{prior}^2	11.0 ± 1.4
$10^9 A_{\mathrm{s}}$	2.131 ± 0.046	$D_{\mathrm{M}}(0.15)$	631.5 ± 7.3	χ_{BAO}^2	6.5 ± 1.3
$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.925 ± 0.025	$H(0.38)$	83.88 ± 0.66	χ_{CMB}^2	2288.1 ± 3.6
D_{40}	1256 ± 31	$D_{\mathrm{M}}(0.38)$	1509 ± 15		
D_{220}	5995 ± 140	$H(0.51)$	90.51 ± 0.60		

$$\bar{\chi}_{\mathrm{eff}}^2 = 2305.61; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.72; R - 1 = 0.01338$$

3.19 base_Alens_CamSpecHM_EE_lowE_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.0236 ± 0.0013	D_{40}	1256 ± 31	$D_M(0.15)$	633^{+22}_{-26}
$\Omega_c h^2$	$0.1177^{+0.0046}_{-0.0053}$	D_{220}	5990 ± 200	$H(0.38)$	83.9 ± 2.0
$100\theta_{MC}$	1.03932 ± 0.00086	D_{810}	2600 ± 39	$D_M(0.38)$	1511^{+46}_{-52}
τ	$0.0543^{+0.0047}_{-0.0077}$	D_{1420}	842 ± 19	$H(0.51)$	90.5 ± 1.7
A_L	$1.16^{+0.22}_{-0.25}$	D_{2000}	241.5 ± 8.0	$D_M(0.51)$	1958 ± 59
$\ln(10^{10} A_s)$	3.066 ± 0.019	$n_{s,0.002}$	0.972 ± 0.015	$H(0.61)$	$96.1^{+1.3}_{-1.5}$
n_s	0.972 ± 0.015	Y_P	$0.24588^{+0.00046}_{-0.00052}$	$D_M(0.61)$	2280 ± 64
y_{cal}	0.99996 ± 0.0025	Y_P^{BBN}	$0.24721^{+0.00047}_{-0.00052}$	$H(2.33)$	$236.2^{+2.0}_{-2.4}$
H_0	68.7 ± 2.8	$10^5 D/H$	$2.38^{+0.18}_{-0.23}$	$D_M(2.33)$	5725 ± 69
Ω_Λ	$0.697^{+0.037}_{-0.027}$	Age/Gyr	13.71 ± 0.16	$f\sigma_8(0.15)$	$0.449^{+0.029}_{-0.033}$
Ω_m	$0.303^{+0.027}_{-0.037}$	z_*	$1088.3^{+1.6}_{-2.0}$	$\sigma_8(0.15)$	$0.746^{+0.014}_{-0.013}$
$\Omega_m h^2$	$0.1420^{+0.0036}_{-0.0042}$	r_*	144.09 ± 0.67	$f\sigma_8(0.38)$	0.469 ± 0.024
$\Omega_m h^3$	0.0974 ± 0.0018	$100\theta_*$	1.03938 ± 0.00083	$\sigma_8(0.38)$	$0.6627^{+0.0099}_{-0.0088}$
σ_8	0.807 ± 0.018	$D_M(z_*)/\text{Gpc}$	13.863 ± 0.064	$f\sigma_8(0.51)$	0.468 ± 0.020
S_8	$0.810^{+0.055}_{-0.066}$	z_{drag}	1062.5 ± 2.5	$\sigma_8(0.51)$	0.6206 ± 0.0079
$\sigma_8 \Omega_m^{0.5}$	$0.444^{+0.030}_{-0.036}$	r_{drag}	146.36 ± 0.71	$f\sigma_8(0.61)$	0.464 ± 0.018
$\sigma_8 \Omega_m^{0.25}$	0.598 ± 0.029	k_D	0.1425 ± 0.0013	$\sigma_8(0.61)$	0.5908 ± 0.0070
$\sigma_8/h^{0.5}$	0.974 ± 0.041	$100\theta_D$	$0.1591^{+0.0012}_{-0.0015}$	$f\sigma_8(2.33)$	0.2983 ± 0.0031
$r_{drag} h$	100.6 ± 4.2	z_{eq}	3377^{+85}_{-100}	$\sigma_8(2.33)$	0.3081 ± 0.0033
$\langle d^2 \rangle^{1/2}$	$2.60^{+0.26}_{-0.22}$	k_{eq}	$0.01031^{+0.00026}_{-0.00031}$	χ_{simall}^2	396.5 ± 1.4
z_{re}	< 7.59	$100\theta_{eq}$	0.821 ± 0.020	$\chi_{CamSpec}^2$	1892.2 ± 3.5
$10^9 A_s$	$2.147^{+0.038}_{-0.043}$	$100\theta_{s,eq}$	0.4522 ± 0.0098	χ_{prior}^2	11.0 ± 1.4
$10^9 A_s e^{-2\tau}$	1.926 ± 0.025	$H(0.15)$	73.9 ± 2.5	χ_{CMB}^2	2288.7 ± 3.8

$$\bar{\chi}_{\text{eff}}^2 = 2299.69; \Delta\bar{\chi}_{\text{eff}}^2 = 0.72; R - 1 = 0.00845$$

3.20 base_Alens_CamSpecHM_EE_lowE_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02357 ± 0.00065	D_{810}	2601 ± 33	$D_M(0.51)$	1957 ± 18
$\Omega_c h^2$	0.1175 ± 0.0015	D_{1420}	842 ± 14	$H(0.61)$	96.03 ± 0.55
$100\theta_{MC}$	1.03934 ± 0.00077	D_{2000}	241.5 ± 5.7	$D_M(0.61)$	2279 ± 20
τ	$0.0544^{+0.0039}_{-0.0074}$	$n_{s,0.002}$	0.972 ± 0.010	$H(2.33)$	235.9 ± 1.0
A_L	$1.15^{+0.20}_{-0.23}$	Y_P	$0.24588^{+0.00027}_{-0.00023}$	$D_M(2.33)$	5726 ± 29
$\ln(10^{10} A_s)$	3.066 ± 0.019	Y_P^{BBN}	$0.24721^{+0.00027}_{-0.00023}$	$f\sigma_8(0.15)$	0.4475 ± 0.0094
n_s	0.972 ± 0.010	$10^5 D/H$	2.38 ± 0.11	$\sigma_8(0.15)$	$0.7467^{+0.0073}_{-0.0083}$
y_{cal}	0.99997 ± 0.0025	Age/Gyr	13.712 ± 0.068	$f\sigma_8(0.38)$	0.4682 ± 0.0079
H_0	68.73 ± 0.85	z_*	1088.29 ± 0.79	$\sigma_8(0.38)$	$0.6632^{+0.0062}_{-0.0071}$
Ω_Λ	0.6999 ± 0.0091	r_*	144.17 ± 0.53	$f\sigma_8(0.51)$	0.4682 ± 0.0070
Ω_m	0.3001 ± 0.0091	$100\theta_*$	1.03940 ± 0.00079	$\sigma_8(0.51)$	$0.6212^{+0.0057}_{-0.0065}$
$\Omega_m h^2$	0.1417 ± 0.0014	$D_M(z_*)/\text{Gpc}$	13.870 ± 0.052	$f\sigma_8(0.61)$	0.4642 ± 0.0065
$\Omega_m h^3$	0.0974 ± 0.0012	z_{drag}	1062.5 ± 1.4	$\sigma_8(0.61)$	$0.5914^{+0.0054}_{-0.0062}$
σ_8	$0.8069^{+0.0084}_{-0.0094}$	r_{drag}	146.44 ± 0.70	$f\sigma_8(2.33)$	$0.2986^{+0.0027}_{-0.0031}$
S_8	0.807 ± 0.018	k_D	0.1424 ± 0.0012	$\sigma_8(2.33)$	$0.3084^{+0.0028}_{-0.0032}$
$\sigma_8 \Omega_m^{0.5}$	0.442 ± 0.010	$100\theta_D$	0.15906 ± 0.00081	χ_{simall}^2	396.5 ± 1.4
$\sigma_8 \Omega_m^{0.25}$	0.5972 ± 0.0096	z_{eq}	3370 ± 34	$\chi_{CamSpec}^2$	1891.3 ± 3.2
$\sigma_8/h^{0.5}$	0.973 ± 0.014	k_{eq}	0.01029 ± 0.00011	χ_{6DF}^2	0.055 ± 0.078
$r_{drag} h$	100.6 ± 1.1	$100\theta_{eq}$	0.8212 ± 0.0061	χ_{MGS}^2	1.85 ± 0.71
$\langle d^2 \rangle^{1/2}$	2.59 ± 0.25	$100\theta_{s,eq}$	0.4526 ± 0.0032	$\chi_{DR12BAO}^2$	4.6 ± 1.3
z_{re}	$7.38^{+0.21}_{-0.88}$	$H(0.15)$	73.91 ± 0.77	χ_{prior}^2	11.0 ± 1.4
$10^9 A_s$	$2.146^{+0.037}_{-0.042}$	$D_M(0.15)$	631.7 ± 7.2	χ_{BAO}^2	6.5 ± 1.3
$10^9 A_s e^{-2\tau}$	1.924 ± 0.025	$H(0.38)$	83.86 ± 0.65	χ_{CMB}^2	2287.7 ± 3.5
D_{40}	1255^{+33}_{-30}	$D_M(0.38)$	1509 ± 15		
D_{220}	5988 ± 140	$H(0.51)$	90.48 ± 0.59		

$\bar{\chi}_{eff}^2 = 2305.22$; $\Delta\bar{\chi}_{eff}^2 = 0.71$; $R - 1 = 0.01446$

3.21 base_Alens_CamSpecHM_TTTEEE_lowl_lowE_lensing

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022439	0.02243 ± 0.00018	S_8	0.8055	0.805 ± 0.019	$H(0.15)$	73.34	73.30 ± 0.62
$\Omega_c h^2$	0.11807	0.1182 ± 0.0016	$\sigma_8 \Omega_m^{0.5}$	0.4412	0.441 ± 0.010	$D_M(0.15)$	636.8	637.2 ± 6.1
$100\theta_{MC}$	1.041051	1.04104 ± 0.00032	$\sigma_8 \Omega_m^{0.25}$	0.5941	0.5937 ± 0.0099	$H(0.38)$	83.319	83.29 ± 0.46
τ	0.0504	$0.0490^{+0.0082}_{-0.0072}$	$\sigma_8/h^{0.5}$	0.9693	0.969 ± 0.014	$D_M(0.38)$	1520.5	1521 ± 12
A_L	1.0624	1.064 ± 0.042	$r_{drag}h$	100.52	100.5 ± 1.2	$H(0.51)$	89.961	89.94 ± 0.36
$\ln(10^{10} A_s)$	3.0296	$3.027^{+0.017}_{-0.015}$	$\langle d^2 \rangle^{1/2}$	2.4717	2.471 ± 0.031	$D_M(0.51)$	1970.8	1972 ± 14
n_s	0.9700	0.9695 ± 0.0051	z_{re}	7.24	$7.07^{+0.90}_{-0.70}$	$H(0.61)$	95.521	95.51 ± 0.29
y_{cal}	1.00004	1.0000 ± 0.0024	$10^9 A_s$	2.0690	$2.063^{+0.035}_{-0.031}$	$D_M(0.61)$	2294.3	2295 ± 16
A_{100}^{PS}	240.0	237 ± 25	$10^9 A_s e^{-2\tau}$	1.8704	1.871 ± 0.012	$H(2.33)$	235.37	235.42 ± 0.92
A_{143}^{PS}	36.7	38 ± 8	D_{40}	1215.4	1216 ± 14	$D_M(2.33)$	5754.4	5755 ± 13
A_{217}^{PS}	105.3	103 ± 10	D_{220}	5720.6	5721 ± 39	$f\sigma_8(0.15)$	0.4463	0.4462 ± 0.0099
A_{217}^{CIB}	37.5	39^{+7}_{-7}	D_{810}	2530.1	2530 ± 14	$\sigma_8(0.15)$	0.7401	0.7391 ± 0.0074
A_{143}^{tSZ}	3.47	$3.9^{+1.9}_{-2.5}$	D_{1420}	815.25	815.0 ± 4.8	$f\sigma_8(0.38)$	0.4661	0.4657 ± 0.0082
$r_{143 \times 217}^{PS}$	0.676	0.66 ± 0.13	D_{2000}	230.79	230.6 ± 1.6	$\sigma_8(0.38)$	0.6569	$0.6559^{+0.0062}_{-0.0056}$
$r_{143 \times 217}^{CIB}$	0.410	$0.54^{+0.36}_{-0.22}$	$n_{s,0.002}$	0.9700	0.9695 ± 0.0051	$f\sigma_8(0.51)$	0.4656	0.4652 ± 0.0072
$\xi^{tSZ \times CIB}$	0.36	—	Y_P	0.245422	0.245415 ± 0.000070	$\sigma_8(0.51)$	0.6150	$0.6141^{+0.0057}_{-0.0050}$
A^{kSZ}	4.66	$4.6^{+1.8}_{-4.2}$	Y_P^{BBN}	0.246749	0.246742 ± 0.000070	$f\sigma_8(0.61)$	0.4612	0.4608 ± 0.0065
A_{100}^{dust}	1.019	1.02 ± 0.19	$10^5 D/H$	2.5727	2.576 ± 0.033	$\sigma_8(0.61)$	0.5854	$0.5846^{+0.0053}_{-0.0047}$
A_{143}^{dust}	0.957	0.96 ± 0.18	Age/Gyr	13.7783	13.780 ± 0.029	$f\sigma_8(2.33)$	0.29548	$0.2950^{+0.0026}_{-0.0023}$
A_{217}^{dust}	0.971	0.98 ± 0.10	z_*	1089.664	1089.69 ± 0.33	$\sigma_8(2.33)$	0.30496	$0.3045^{+0.0026}_{-0.0023}$
$A_{143 \times 217}^{dust}$	1.052	1.02 ± 0.16	r_*	144.879	144.87 ± 0.34	f_{2000}^{143}	28.53	28.7 ± 2.9
c_{100}	0.99749	0.9975 ± 0.0010	$100\theta_*$	1.041230	1.04122 ± 0.00032	f_{2000}^{217}	105.95	106.1 ± 2.0
c_{217}	1.00069	1.0010 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.9142	13.913 ± 0.031	$f_{2000}^{143 \times 217}$	31.29	31.3 ± 2.1
c_{TE}	0.9949	0.9951 ± 0.0050	z_{drag}	1059.971	1059.94 ± 0.35	$\chi^2_{lensing}$	9.02	9.8 ± 1.7
c_{EE}	0.99147	0.9917 ± 0.0049	r_{drag}	147.526	147.52 ± 0.33	χ^2_{small}	395.66	396.8 ± 1.5
H_0	68.14	68.10 ± 0.72	k_D	0.140460	0.14046 ± 0.00035	χ^2_{lowl}	22.23	22.37 ± 0.94
Ω_Λ	0.6960	0.6953 ± 0.0095	$100\theta_D$	0.160745	0.16076 ± 0.00020	$\chi^2_{CamSpec}$	11498.6	11513.3 ± 5.7
Ω_m	0.3040	0.3047 ± 0.0095	z_{eq}	3357.7	3360 ± 35	χ^2_{prior}	2.14	7.7 ± 3.3
$\Omega_m h^2$	0.14115	0.1412 ± 0.0015	k_{eq}	0.010248	0.01025 ± 0.00011	χ^2_{CMB}	11925.5	11942.2 ± 5.8
$\Omega_m h^3$	0.096178	0.09616 ± 0.00032	$100\theta_{eq}$	0.8216	0.8213 ± 0.0068			
σ_8	0.8001	0.7991 ± 0.0086	$100\theta_{s,eq}$	0.45368	0.4535 ± 0.0035			

Best-fit $\chi^2_{eff} = 11927.65$; $\Delta\chi^2_{eff} = -2.01$; $\bar{\chi}^2_{eff} = 11949.88$; $\Delta\bar{\chi}^2_{eff} = -1.56$; $R - 1 = 0.01480$
 χ^2_{eff} : CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p.teb_consext8: 9.02 (Δ 0.19) simall_100x143_offlike5_EE_Aplanck_B: 395.66 (Δ -0.21) commander_dx12_v3.2.29: 22.23 (Δ -0.99) CamSpec like_10.7HM_1400_unified: 11498.60 (Δ -1.05)

3.22 base_Alens_CamSpecHM_TTTEEE_lowl_lowE_lensing_post_BAO

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02242 ± 0.00016	$\sigma_8 \Omega_m^{0.5}$	0.4411 ± 0.0078	$H(0.38)$	83.29 ± 0.32
$\Omega_c h^2$	0.1182 ± 0.0011	$\sigma_8 \Omega_m^{0.25}$	0.5937 ± 0.0078	$D_M(0.38)$	1521.4 ± 8.5
$100\theta_{MC}$	1.04104 ± 0.00029	$\sigma_8/h^{0.5}$	0.969 ± 0.012	$H(0.51)$	$89.94^{+0.24}_{-0.27}$
τ	$0.0489^{+0.0081}_{-0.0072}$	$r_{\text{drag}} h$	100.44 ± 0.85	$D_M(0.51)$	1972 ± 10
A_L	1.064 ± 0.037	$\langle d^2 \rangle^{1/2}$	2.471 ± 0.031	$H(0.61)$	$95.50^{+0.20}_{-0.23}$
$\ln(10^{10} A_s)$	$3.027^{+0.017}_{-0.015}$	z_{re}	$7.06^{+0.88}_{-0.71}$	$D_M(0.61)$	2295 ± 11
n_s	0.9695 ± 0.0042	$10^9 A_s$	2.063 ± 0.035	$H(2.33)$	235.42 ± 0.66
y_{cal}	1.0000 ± 0.0024	$10^9 A_s e^{-2\tau}$	1.871 ± 0.011	$D_M(2.33)$	$5755^{+11}_{-9.6}$
A_{100}^{PS}	237 ± 24	D_{40}	1216 ± 13	$f\sigma_8(0.15)$	0.4462 ± 0.0074
A_{143}^{PS}	38 ± 8	D_{220}	5720 ± 39	$\sigma_8(0.15)$	0.7391 ± 0.0069
A_{217}^{PS}	103 ± 10	D_{810}	2530 ± 14	$f\sigma_8(0.38)$	0.4658 ± 0.0064
A_{217}^{CIB}	39 ± 7	D_{1420}	814.9 ± 4.8	$\sigma_8(0.38)$	0.6559 ± 0.0059
A_{143}^{tSZ}	$3.9^{+2.0}_{-2.5}$	D_{2000}	230.6 ± 1.6	$f\sigma_8(0.51)$	0.4652 ± 0.0058
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	$n_{s,0.002}$	0.9695 ± 0.0042	$\sigma_8(0.51)$	0.6141 ± 0.0054
$r_{143 \times 217}^{\text{CIB}}$	$0.54^{+0.38}_{-0.20}$	Y_P	0.245414 ± 0.000060	$f\sigma_8(0.61)$	0.4608 ± 0.0054
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	0.246741 ± 0.000060	$\sigma_8(0.61)$	0.5846 ± 0.0051
A^{kSZ}	$4.6^{+2.0}_{-4.1}$	10^5D/H	2.576 ± 0.028	$f\sigma_8(2.33)$	0.2950 ± 0.0025
A_{100}^{dust}	1.01 ± 0.20	Age/Gyr	13.781 ± 0.023	$\sigma_8(2.33)$	0.3045 ± 0.0026
A_{143}^{dust}	0.96 ± 0.17	z_*	1089.69 ± 0.25	f_{2000}^{143}	28.8 ± 2.8
A_{217}^{dust}	0.98 ± 0.10	r_*	144.87 ± 0.25	f_{2000}^{217}	106.1 ± 2.0
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	$100\theta_*$	1.04122 ± 0.00029	$f_{2000}^{143 \times 217}$	31.3 ± 2.0
c_{100}	0.9975 ± 0.0010	$D_M(z_*)/\text{Gpc}$	13.913 ± 0.024	χ_{lensing}^2	9.8 ± 1.7
c_{217}	1.0010 ± 0.0015	z_{drag}	1059.93 ± 0.33	χ_{small}^2	396.8 ± 1.5
c_{TE}	0.9952 ± 0.0050	r_{drag}	147.52 ± 0.26	χ_{lowl}^2	22.35 ± 0.81
c_{EE}	0.9917 ± 0.0049	k_D	0.14046 ± 0.00031	χ_{CamSpec}^2	11512.7 ± 5.5
H_0	68.09 ± 0.50	$100\theta_D$	0.16076 ± 0.00019	$\chi_{6\text{DF}}^2$	0.031 ± 0.043
Ω_Λ	0.6953 ± 0.0065	z_{eq}	3360 ± 25	χ_{MGS}^2	1.74 ± 0.52
Ω_m	0.3047 ± 0.0065	k_{eq}	0.010254 ± 0.000075	χ_{DR12BAO}^2	3.99 ± 0.85
$\Omega_m h^2$	0.1412 ± 0.0010	$100\theta_{\text{eq}}$	0.8213 ± 0.0047	χ_{prior}^2	7.7 ± 3.3
$\Omega_m h^3$	0.09616 ± 0.00031	$100\theta_{s,\text{eq}}$	0.4535 ± 0.0024	χ_{CMB}^2	11941.7 ± 5.8
σ_8	0.7992 ± 0.0078	$H(0.15)$	73.30 ± 0.43	χ_{BAO}^2	5.76 ± 0.76
S_8	0.805 ± 0.014	$D_M(0.15)$	637.2 ± 4.2		

$$\bar{\chi}_{\text{eff}}^2 = 11955.09; \Delta\bar{\chi}_{\text{eff}}^2 = -2.31; R - 1 = 0.01872$$

3.23 base_Alens_CamSpecHM_TTTEEE_lowl_lowE_lensing_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02243 ± 0.00018	S_8	0.808 ± 0.019	$H(0.15)$	73.31 ± 0.62
$\Omega_c h^2$	0.1181 ± 0.0016	$\sigma_8 \Omega_m^{0.5}$	0.442 ± 0.010	$D_M(0.15)$	637.1 ± 6.1
$100\theta_{MC}$	1.04104 ± 0.00033	$\sigma_8 \Omega_m^{0.25}$	0.5955 ± 0.0094	$H(0.38)$	83.30 ± 0.46
τ	$0.0522^{+0.0035}_{-0.0073}$	$\sigma_8/h^{0.5}$	0.971 ± 0.013	$D_M(0.38)$	1521 ± 12
A_L	1.058 ± 0.040	$r_{\text{drag}} h$	100.5 ± 1.3	$H(0.51)$	89.95 ± 0.37
$\ln(10^{10} A_s)$	$3.033^{+0.010}_{-0.014}$	$\langle d^2 \rangle^{1/2}$	2.471 ± 0.031	$D_M(0.51)$	1972 ± 14
n_s	0.9697 ± 0.0051	z_{re}	$7.41^{+0.32}_{-0.81}$	$H(0.61)$	95.51 ± 0.30
y_{cal}	0.99998 ± 0.0024	$10^9 A_s$	$2.076^{+0.021}_{-0.029}$	$D_M(0.61)$	2295 ± 16
A_{100}^{PS}	237 ± 25	$10^9 A_s e^{-2\tau}$	1.870 ± 0.012	$H(2.33)$	235.40 ± 0.92
A_{143}^{PS}	38 ± 8	D_{40}	1217 ± 14	$D_M(2.33)$	5755 ± 13
A_{217}^{PS}	103 ± 10	D_{220}	5720 ± 39	$f\sigma_8(0.15)$	0.4474 ± 0.0096
A_{217}^{CIB}	39^{+7}_{-7}	D_{810}	2530 ± 14	$\sigma_8(0.15)$	0.7414 ± 0.0062
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	D_{1420}	814.9 ± 4.8	$f\sigma_8(0.38)$	0.4671 ± 0.0078
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	D_{2000}	230.7 ± 1.6	$\sigma_8(0.38)$	$0.6579^{+0.0044}_{-0.0052}$
$r_{143 \times 217}^{\text{CIB}}$	$0.54^{+0.36}_{-0.22}$	$n_{s,0.002}$	0.9697 ± 0.0051	$f\sigma_8(0.51)$	0.4665 ± 0.0068
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P	0.245415 ± 0.000070	$\sigma_8(0.51)$	$0.6160^{+0.0038}_{-0.0047}$
A^{kSZ}	$4.6^{+1.7}_{-4.2}$	Y_P^{BBN}	0.246742 ± 0.000071	$f\sigma_8(0.61)$	0.4622 ± 0.0060
A_{100}^{dust}	1.02 ± 0.19	10^5D/H	2.576 ± 0.033	$\sigma_8(0.61)$	$0.5864^{+0.0035}_{-0.0044}$
A_{143}^{dust}	0.96 ± 0.17	Age/Gyr	13.780 ± 0.029	$f\sigma_8(2.33)$	$0.2959^{+0.0016}_{-0.0021}$
A_{217}^{dust}	0.98 ± 0.10	z_*	1089.69 ± 0.33	$\sigma_8(2.33)$	$0.3054^{+0.0016}_{-0.0022}$
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	r_*	144.87 ± 0.34	f_{2000}^{143}	28.7 ± 2.9
c_{100}	0.9975 ± 0.0010	$100\theta_*$	1.04122 ± 0.00032	f_{2000}^{217}	106.1 ± 2.0
c_{217}	1.0010 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.914 ± 0.031	$f_{2000}^{143 \times 217}$	31.3 ± 2.1
c_{TE}	0.9951 ± 0.0050	z_{drag}	1059.93 ± 0.36	χ_{lensing}^2	9.8 ± 1.7
c_{EE}	0.9917 ± 0.0049	r_{drag}	147.52 ± 0.33	χ_{simall}^2	396.31 ± 0.98
H_0	68.11 ± 0.73	k_D	0.14045 ± 0.00035	χ_{lowl}^2	22.43 ± 0.95
Ω_Λ	0.6954 ± 0.0095	$100\theta_D$	0.16076 ± 0.00020	χ_{CamSpec}^2	11513.3 ± 5.7
Ω_m	0.3046 ± 0.0095	z_{eq}	3359 ± 35	χ_{prior}^2	7.7 ± 3.3
$\Omega_m h^2$	0.1412 ± 0.0015	k_{eq}	0.01025 ± 0.00011	χ_{CMB}^2	11941.9 ± 5.8
$\Omega_m h^3$	0.09616 ± 0.00032	$100\theta_{\text{eq}}$	0.8214 ± 0.0068		
σ_8	0.8016 ± 0.0074	$100\theta_{s,\text{eq}}$	0.4536 ± 0.0035		

$$\bar{\chi}_{\text{eff}}^2 = 11949.57; \Delta\bar{\chi}_{\text{eff}}^2 = -1.67; R - 1 = 0.01602$$

3.24 base_Alens_CamSpecHM_TTTEEE_lowl_lowE_lensing_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02242 ± 0.00016	$\sigma_8 \Omega_m^{0.5}$	0.4425 ± 0.0074	$H(0.38)$	83.29 ± 0.32
$\Omega_c h^2$	0.1182 ± 0.0011	$\sigma_8 \Omega_m^{0.25}$	0.5956 ± 0.0071	$D_M(0.38)$	1521.3 ± 8.5
$100\theta_{MC}$	1.04104 ± 0.00030	$\sigma_8/h^{0.5}$	$0.9715^{+0.0095}_{-0.011}$	$H(0.51)$	89.94 ± 0.26
τ	$0.0521^{+0.0035}_{-0.0071}$	$r_{\text{drag}} h$	100.45 ± 0.85	$D_M(0.51)$	1972 ± 10
A_L	1.057 ± 0.035	$\langle d^2 \rangle^{1/2}$	2.471 ± 0.031	$H(0.61)$	$95.50^{+0.20}_{-0.23}$
$\ln(10^{10} A_s)$	$3.0329^{+0.0098}_{-0.014}$	z_{re}	$7.40^{+0.31}_{-0.81}$	$D_M(0.61)$	2295 ± 11
n_s	0.9696 ± 0.0042	$10^9 A_s$	$2.076^{+0.020}_{-0.030}$	$H(2.33)$	235.41 ± 0.66
y_{cal}	1.0000 ± 0.0024	$10^9 A_s e^{-2\tau}$	1.871 ± 0.011	$D_M(2.33)$	5755 ± 10
A_{100}^{PS}	237 ± 25	D_{40}	1217 ± 13	$f\sigma_8(0.15)$	0.4476 ± 0.0069
A_{143}^{PS}	38 ± 8	D_{220}	5720 ± 39	$\sigma_8(0.15)$	$0.7415^{+0.0048}_{-0.0061}$
A_{217}^{PS}	103 ± 10	D_{810}	2530 ± 14	$f\sigma_8(0.38)$	0.4672 ± 0.0058
A_{217}^{CIB}	39^{+7}_{-7}	D_{1420}	814.9 ± 4.8	$\sigma_8(0.38)$	$0.6580^{+0.0039}_{-0.0051}$
A_{143}^{tSZ}	$3.9^{+2.0}_{-2.5}$	D_{2000}	230.6 ± 1.6	$f\sigma_8(0.51)$	$0.4666^{+0.0049}_{-0.0054}$
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	$n_{s,0.002}$	0.9696 ± 0.0042	$\sigma_8(0.51)$	$0.6161^{+0.0035}_{-0.0047}$
$r_{143 \times 217}^{\text{CIB}}$	$0.54^{+0.38}_{-0.20}$	Y_P	0.245414 ± 0.000060	$f\sigma_8(0.61)$	$0.4623^{+0.0044}_{-0.0050}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	0.246741 ± 0.000060	$\sigma_8(0.61)$	$0.5864^{+0.0032}_{-0.0044}$
A^{kSZ}	$4.6^{+1.9}_{-4.1}$	$10^5 D/H$	2.576 ± 0.029	$f\sigma_8(2.33)$	$0.2959^{+0.0015}_{-0.0022}$
A_{100}^{dust}	1.01 ± 0.20	Age/Gyr	13.781 ± 0.023	$\sigma_8(2.33)$	$0.3054^{+0.0015}_{-0.0023}$
A_{143}^{dust}	0.96 ± 0.17	z_*	1089.69 ± 0.25	f_{2000}^{143}	28.7 ± 2.8
A_{217}^{dust}	0.98 ± 0.10	r_*	144.87 ± 0.25	f_{2000}^{217}	106.1 ± 2.0
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	$100\theta_*$	1.04122 ± 0.00029	$f_{2000}^{143 \times 217}$	31.3 ± 2.0
c_{100}	0.9975 ± 0.0010	$D_M(z_*)/\text{Gpc}$	13.913 ± 0.024	χ_{lensing}^2	9.8 ± 1.7
c_{217}	1.0011 ± 0.0015	z_{drag}	1059.93 ± 0.33	χ_{small}^2	396.31 ± 0.99
c_{TE}	0.9951 ± 0.0050	r_{drag}	147.52 ± 0.26	χ_{lowl}^2	22.41 ± 0.82
c_{EE}	0.9917 ± 0.0050	k_D	0.14045 ± 0.00032	χ_{CamSpec}^2	11512.7 ± 5.6
H_0	68.09 ± 0.50	$100\theta_D$	0.16076 ± 0.00019	$\chi_{6\text{DF}}^2$	0.031 ± 0.043
Ω_Λ	0.6953 ± 0.0065	z_{eq}	3359 ± 24	χ_{MGS}^2	1.74 ± 0.52
Ω_m	0.3047 ± 0.0065	k_{eq}	0.010253 ± 0.000075	χ_{DR12BAO}^2	3.99 ± 0.84
$\Omega_m h^2$	0.1412 ± 0.0010	$100\theta_{\text{eq}}$	0.8213 ± 0.0047	χ_{prior}^2	7.7 ± 3.3
$\Omega_m h^3$	0.09616 ± 0.00032	$100\theta_{s,\text{eq}}$	0.4535 ± 0.0024	χ_{CMB}^2	11941.3 ± 5.7
σ_8	$0.8017^{+0.0056}_{-0.0070}$	$H(0.15)$	73.30 ± 0.43	χ_{BAO}^2	5.76 ± 0.76
S_8	0.808 ± 0.013	$D_M(0.15)$	637.2 ± 4.2		

$$\bar{\chi}_{\text{eff}}^2 = 11954.75; \Delta\bar{\chi}_{\text{eff}}^2 = -2.51; R - 1 = 0.02132$$

3.25 base_Alens_CamSpecHM_TT

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022619	0.02256 ± 0.00031	S_8	0.848	$0.834^{+0.048}_{-0.055}$	$100\theta_{\text{eq}}$	0.8273	0.826 ± 0.012
$\Omega_c h^2$	0.11677	0.1172 ± 0.0028	$\sigma_8 \Omega_m^{0.5}$	0.4643	$0.457^{+0.026}_{-0.030}$	$100\theta_{\text{s,eq}}$	0.4565	0.4556 ± 0.0062
$100\theta_{\text{MC}}$	1.04141	1.04135 ± 0.00056	$\sigma_8 \Omega_m^{0.25}$	0.6299	$0.618^{+0.031}_{-0.039}$	$H(0.15)$	73.98	73.8 ± 1.1
τ	0.121	< 0.124	$\sigma_8/h^{0.5}$	1.030	$1.010^{+0.049}_{-0.063}$	$D_{\text{M}}(0.15)$	630.6	633 ± 11
A_{L}	1.080	$1.12^{+0.13}_{-0.16}$	$r_{\text{drag}} h$	101.71	101.3 ± 2.3	$H(0.38)$	83.81	83.68 ± 0.85
$\ln(10^{10} A_{\text{s}})$	3.169	$3.121^{+0.076}_{-0.15}$	$\langle d^2 \rangle^{1/2}$	2.642	2.630 ± 0.079	$D_{\text{M}}(0.38)$	1507.8	1512 ± 22
n_{s}	0.9764	0.9740 ± 0.0086	z_{re}	13.40	$11.0^{+5.5}_{-4.3}$	$H(0.51)$	90.37	90.26 ± 0.68
A_{100}^{PS}	219.7	230 ± 25	$10^9 A_{\text{s}}$	2.378	$2.28^{+0.14}_{-0.34}$	$D_{\text{M}}(0.51)$	1955.8	1961 ± 26
A_{143}^{PS}	43.7	34 ± 9	$10^9 A_{\text{s}} e^{-2\tau}$	1.8663	1.867 ± 0.016	$H(0.61)$	95.86	$95.78^{+0.52}_{-0.59}$
A_{217}^{PS}	108.4	104 ± 10	D_{40}	1234.5	1233^{+23}_{-33}	$D_{\text{M}}(0.61)$	2278.0	2283 ± 28
A_{217}^{CIB}	37.8	37 ± 7	D_{220}	5724.4	5723 ± 42	$H(2.33)$	234.73	235.0 ± 1.6
A_{143}^{tSZ}	6.31	$4.2^{+2.0}_{-2.3}$	D_{810}	2526.9	2525 ± 14	$D_{\text{M}}(2.33)$	5738.7	5743 ± 24
$r_{143 \times 217}^{\text{PS}}$	0.764	0.68 ± 0.14	D_{1420}	815.5	814.0 ± 5.2	$f\sigma_8(0.15)$	0.4705	$0.463^{+0.026}_{-0.030}$
$r_{143 \times 217}^{\text{CIB}}$	0.784	$0.51^{+0.32}_{-0.28}$	D_{2000}	232.91	232.1 ± 2.2	$\sigma_8(0.15)$	0.7914	$0.774^{+0.032}_{-0.053}$
$\xi^{\text{tSZ} \times \text{CIB}}$	0.89	—	$n_{\text{s},0.002}$	0.9764	0.9740 ± 0.0086	$f\sigma_8(0.38)$	0.4937	$0.484^{+0.025}_{-0.030}$
A^{kSZ}	0.00	< 5.23	Y_{P}	0.245487	$0.24547^{+0.00011}_{-0.00013}$	$\sigma_8(0.38)$	0.7034	$0.688^{+0.027}_{-0.048}$
A_{100}^{dust}	0.995	1.00 ± 0.19	$Y_{\text{P}}^{\text{BBN}}$	0.246814	$0.24679^{+0.00011}_{-0.00013}$	$f\sigma_8(0.51)$	0.4942	$0.485^{+0.024}_{-0.030}$
A_{143}^{dust}	0.965	0.95 ± 0.18	$10^5 \text{D}/\text{H}$	2.541	2.552 ± 0.056	$\sigma_8(0.51)$	0.6591	$0.644^{+0.024}_{-0.046}$
A_{217}^{dust}	0.989	0.98 ± 0.10	Age/Gyr	13.744	13.753 ± 0.054	$f\sigma_8(0.61)$	0.4904	$0.481^{+0.023}_{-0.030}$
$A_{143 \times 217}^{\text{dust}}$	1.007	1.01 ± 0.16	z_*	1089.33	1089.45 ± 0.58	$\sigma_8(0.61)$	0.6277	$0.614^{+0.023}_{-0.044}$
y_{cal}	1.00007	1.0000 ± 0.0025	r_*	145.08	145.01 ± 0.58	$f\sigma_8(2.33)$	0.3172	$0.310^{+0.011}_{-0.023}$
c_{100}	0.99783	0.9976 ± 0.0011	$100\theta_*$	1.04157	1.04152 ± 0.00054	$\sigma_8(2.33)$	0.3278	$0.320^{+0.011}_{-0.025}$
c_{217}	1.00083	1.0008 ± 0.0016	$D_{\text{M}}(z_*)/\text{Gpc}$	13.929	13.923 ± 0.052	f_{2000}^{143}	25.76	26 ± 4
H_0	68.87	68.7 ± 1.3	z_{drag}	1060.28	1060.17 ± 0.58	f_{2000}^{217}	103.72	104.5 ± 2.5
Ω_{Λ}	0.7048	0.701 ± 0.017	r_{drag}	147.67	147.62 ± 0.55	$f_{2000}^{143 \times 217}$	28.79	29.4 ± 2.7
Ω_{m}	0.2952	0.299 ± 0.017	k_{D}	0.14044	0.14045 ± 0.00054	χ_{CamSpec}^2	7045.0	7059.9 ± 5.4
$\Omega_{\text{m}} h^2$	0.14003	0.1404 ± 0.0026	$100\theta_{\text{D}}$	0.160599	0.16066 ± 0.00032	χ_{prior}^2	1.43	7.2 ± 3.3
$\Omega_{\text{m}} h^3$	0.09645	0.09639 ± 0.00051	z_{eq}	3331	3341 ± 61			
σ_8	0.8546	$0.836^{+0.036}_{-0.055}$	k_{eq}	0.010167	0.01020 ± 0.00019			

Best-fit $\chi_{\text{eff}}^2 = 7046.45$; $\Delta\chi_{\text{eff}}^2 = -0.25$; $\bar{\chi}_{\text{eff}}^2 = 7067.10$; $\Delta\bar{\chi}_{\text{eff}}^2 = 0.23$; $R - 1 = 0.00805$
 χ_{eff}^2 : CMB - CamSpec like_10.7HM: 7045.02 (Δ -0.23)

3.26 base_Alens_CamSpecHM_TT_post_BAO

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02248 ± 0.00022	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	$0.461^{+0.021}_{-0.030}$	$H(0.15)$	73.43 ± 0.53
$\Omega_{\mathrm{c}}h^2$	0.1181 ± 0.0013	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	$0.621^{+0.027}_{-0.040}$	$D_{\mathrm{M}}(0.15)$	636.0 ± 5.2
$100\theta_{\mathrm{MC}}$	1.04123 ± 0.00044	$\sigma_8/h^{0.5}$	$1.013^{+0.042}_{-0.066}$	$H(0.38)$	83.40 ± 0.41
τ	$0.094^{+0.028}_{-0.080}$	$r_{\mathrm{drag}}h$	100.6 ± 1.0	$D_{\mathrm{M}}(0.38)$	1519 ± 11
A_{L}	1.11 ± 0.13	$\langle d^2 \rangle^{1/2}$	2.622 ± 0.076	$H(0.51)$	90.04 ± 0.34
$\ln(10^{10}A_{\mathrm{s}})$	$3.116^{+0.074}_{-0.14}$	z_{re}	$10.8^{+5.3}_{-4.3}$	$D_{\mathrm{M}}(0.51)$	1969 ± 12
n_{s}	0.9715 ± 0.0051	$10^9 A_{\mathrm{s}}$	$2.27^{+0.14}_{-0.33}$	$H(0.61)$	95.60 ± 0.29
A_{100}^{PS}	231 ± 25	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.871 ± 0.012	$D_{\mathrm{M}}(0.61)$	2292 ± 13
A_{143}^{PS}	35 ± 8	D_{40}	1236^{+18}_{-32}	$H(2.33)$	235.44 ± 0.81
A_{217}^{PS}	104 ± 10	D_{220}	5719 ± 41	$D_{\mathrm{M}}(2.33)$	5750 ± 14
A_{217}^{CIB}	37 ± 7	D_{810}	2526 ± 14	$f\sigma_8(0.15)$	$0.466^{+0.021}_{-0.030}$
A_{143}^{tSZ}	$4.1^{+2.0}_{-2.4}$	D_{1420}	813.6 ± 5.1	$\sigma_8(0.15)$	$0.774^{+0.029}_{-0.053}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.68 ± 0.14	D_{2000}	231.7 ± 1.9	$f\sigma_8(0.38)$	$0.487^{+0.021}_{-0.031}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.51^{+0.34}_{-0.27}$	$n_{\mathrm{s},0.002}$	0.9715 ± 0.0051	$\sigma_8(0.38)$	$0.687^{+0.025}_{-0.048}$
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Y_{P}	0.245436 ± 0.000088	$f\sigma_8(0.51)$	$0.487^{+0.020}_{-0.032}$
A^{kSZ}	< 5.38	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246763 ± 0.000088	$\sigma_8(0.51)$	$0.644^{+0.023}_{-0.045}$
A_{100}^{dust}	1.00 ± 0.19	$10^5 \mathrm{D}/\mathrm{H}$	2.566 ± 0.041	$f\sigma_8(0.61)$	$0.482^{+0.020}_{-0.032}$
A_{143}^{dust}	0.95 ± 0.18	$\mathrm{Age}/\mathrm{Gyr}$	13.768 ± 0.032	$\sigma_8(0.61)$	$0.613^{+0.021}_{-0.043}$
A_{217}^{dust}	0.98 ± 0.10	z_*	1089.61 ± 0.33	$f\sigma_8(2.33)$	$0.309^{+0.011}_{-0.022}$
$A_{143 \times 217}^{\mathrm{dust}}$	1.02 ± 0.16	r_*	144.84 ± 0.32	$\sigma_8(2.33)$	$0.319^{+0.011}_{-0.023}$
y_{cal}	1.0000 ± 0.0025	$100\theta_*$	1.04141 ± 0.00043	f_{2000}^{143}	27 ± 3
c_{100}	0.9976 ± 0.0011	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.908 ± 0.032	f_{2000}^{217}	104.9 ± 2.2
c_{217}	1.0008 ± 0.0016	z_{drag}	1060.06 ± 0.49	$f_{2000}^{143 \times 217}$	29.9 ± 2.4
H_0	68.23 ± 0.61	r_{drag}	147.48 ± 0.35	$\chi_{\mathrm{CamSpec}}^2$	7059.1 ± 5.3
Ω_{Λ}	0.6966 ± 0.0078	k_{D}	0.14055 ± 0.00046	$\chi_{6\mathrm{DF}}^2$	0.046 ± 0.065
Ω_{m}	0.3034 ± 0.0078	$100\theta_{\mathrm{D}}$	0.16072 ± 0.00028	χ_{MGS}^2	1.86 ± 0.64
$\Omega_{\mathrm{m}}h^2$	0.1412 ± 0.0012	z_{eq}	3359 ± 30	$\chi_{\mathrm{DR12BAO}}^2$	4.1 ± 1.0
$\Omega_{\mathrm{m}}h^3$	0.09635 ± 0.00050	k_{eq}	0.010252 ± 0.000091	χ_{prior}^2	7.2 ± 3.3
σ_8	$0.837^{+0.032}_{-0.057}$	$100\theta_{\mathrm{eq}}$	0.8217 ± 0.0057	χ_{BAO}^2	6.0 ± 1.1
S_8	$0.842^{+0.039}_{-0.054}$	$100\theta_{\mathrm{s,eq}}$	0.4537 ± 0.0029		
$\bar{\chi}_{\mathrm{eff}}^2 = 7072.33; R - 1 = 0.01128$					

3.27 base_Alens_CamSpecHM_TT_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02256 ± 0.00031	S_8	$0.847^{+0.042}_{-0.050}$	$100\theta_{\mathrm{eq}}$	0.826 ± 0.012
$\Omega_{\mathrm{c}}h^2$	0.1171 ± 0.0028	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	$0.464^{+0.023}_{-0.027}$	$100\theta_{\mathrm{s,eq}}$	0.4559 ± 0.0062
$100\theta_{\mathrm{MC}}$	1.04136 ± 0.00056	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	$0.628^{+0.026}_{-0.034}$	$H(0.15)$	73.8 ± 1.1
τ	$0.114^{+0.026}_{-0.065}$	$\sigma_8/h^{0.5}$	$1.026^{+0.040}_{-0.055}$	$D_{\mathrm{M}}(0.15)$	632 ± 11
A_{L}	$1.08^{+0.11}_{-0.13}$	$r_{\mathrm{drag}}h$	101.4 ± 2.3	$H(0.38)$	83.71 ± 0.85
$\ln(10^{10}A_{\mathrm{s}})$	$3.155^{+0.058}_{-0.12}$	$\langle d^2 \rangle^{1/2}$	2.630 ± 0.079	$D_{\mathrm{M}}(0.38)$	1511 ± 22
n_{s}	0.9746 ± 0.0085	z_{re}	$12.7^{+3.2}_{-4.3}$	$H(0.51)$	$90.29^{+0.64}_{-0.72}$
A_{100}^{PS}	229 ± 25	$10^9 A_{\mathrm{s}}$	$2.35^{+0.12}_{-0.29}$	$D_{\mathrm{M}}(0.51)$	1959 ± 26
A_{143}^{PS}	34 ± 9	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.866 ± 0.016	$H(0.61)$	$95.80^{+0.51}_{-0.59}$
A_{217}^{PS}	104 ± 10	D_{40}	1238^{+23}_{-33}	$D_{\mathrm{M}}(0.61)$	2282 ± 28
A_{217}^{CIB}	37 ± 7	D_{220}	5721 ± 42	$H(2.33)$	234.9 ± 1.6
A_{143}^{tSZ}	$4.2^{+2.0}_{-2.3}$	D_{810}	2525 ± 14	$D_{\mathrm{M}}(2.33)$	5742 ± 24
$r_{143 \times 217}^{\mathrm{PS}}$	0.68 ± 0.14	D_{1420}	814.1 ± 5.2	$f\sigma_8(0.15)$	$0.470^{+0.023}_{-0.027}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.51^{+0.32}_{-0.29}$	D_{2000}	232.2 ± 2.2	$\sigma_8(0.15)$	$0.787^{+0.025}_{-0.044}$
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$n_{\mathrm{s},0.002}$	0.9746 ± 0.0085	$f\sigma_8(0.38)$	$0.492^{+0.021}_{-0.027}$
A^{kSZ}	< 5.17	Y_{P}	$0.24547^{+0.00011}_{-0.00013}$	$\sigma_8(0.38)$	$0.699^{+0.021}_{-0.041}$
A_{100}^{dust}	1.00 ± 0.20	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.24680^{+0.00011}_{-0.00013}$	$f\sigma_8(0.51)$	$0.492^{+0.020}_{-0.027}$
A_{143}^{dust}	0.95 ± 0.18	$10^5 \mathrm{D}/\mathrm{H}$	2.551 ± 0.056	$\sigma_8(0.51)$	$0.655^{+0.019}_{-0.038}$
A_{217}^{dust}	0.98 ± 0.10	$\mathrm{Age}/\mathrm{Gyr}$	13.752 ± 0.054	$f\sigma_8(0.61)$	$0.488^{+0.019}_{-0.026}$
$A_{143 \times 217}^{\mathrm{dust}}$	1.01 ± 0.16	z_*	1089.43 ± 0.58	$\sigma_8(0.61)$	$0.624^{+0.018}_{-0.037}$
y_{cal}	1.0000 ± 0.0025	r_*	145.04 ± 0.58	$f\sigma_8(2.33)$	$0.3151^{+0.0088}_{-0.019}$
c_{100}	0.9976 ± 0.0011	$100\theta_*$	1.04153 ± 0.00054	$\sigma_8(2.33)$	$0.3255^{+0.0088}_{-0.020}$
c_{217}	1.0008 ± 0.0016	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.925 ± 0.052	f_{2000}^{143}	26 ± 4
H_0	68.7 ± 1.3	z_{drag}	1060.17 ± 0.59	f_{2000}^{217}	104.4 ± 2.5
Ω_{Λ}	0.702 ± 0.017	r_{drag}	147.65 ± 0.55	$f_{2000}^{143 \times 217}$	29.3 ± 2.7
Ω_{m}	0.298 ± 0.017	k_{D}	0.14042 ± 0.00054	$\chi^2_{\mathrm{CamSpec}}$	7059.9 ± 5.4
$\Omega_{\mathrm{m}}h^2$	0.1403 ± 0.0026	$100\theta_{\mathrm{D}}$	0.16066 ± 0.00032	χ^2_{prior}	7.2 ± 3.3
$\Omega_{\mathrm{m}}h^3$	0.09638 ± 0.00051	z_{eq}	3338 ± 61		
σ_8	$0.850^{+0.029}_{-0.047}$	k_{eq}	0.01019 ± 0.00019		

$\bar{\chi}^2_{\mathrm{eff}} = 7067.05$; $R - 1 = 0.01053$

3.28 base_Alens_CamSpecHM_TT_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02248 ± 0.00022	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	$0.469^{+0.017}_{-0.026}$	$H(0.15)$	73.43 ± 0.53
$\Omega_{\mathrm{c}}h^2$	0.1181 ± 0.0013	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	$0.631^{+0.021}_{-0.035}$	$D_{\mathrm{M}}(0.15)$	635.9 ± 5.2
$100\theta_{\mathrm{MC}}$	1.04123 ± 0.00044	$\sigma_8/h^{0.5}$	$1.030^{+0.032}_{-0.057}$	$H(0.38)$	83.41 ± 0.41
τ	$0.110^{+0.026}_{-0.060}$	$r_{\mathrm{drag}}h$	100.6 ± 1.0	$D_{\mathrm{M}}(0.38)$	1519 ± 10
A_{L}	1.07 ± 0.11	$\langle d^2 \rangle^{1/2}$	2.621 ± 0.076	$H(0.51)$	90.04 ± 0.34
$\ln(10^{10}A_{\mathrm{s}})$	$3.149^{+0.056}_{-0.12}$	z_{re}	$12.4^{+2.9}_{-4.5}$	$D_{\mathrm{M}}(0.51)$	1969 ± 12
n_{s}	0.9719 ± 0.0050	$10^9 A_{\mathrm{s}}$	$2.34^{+0.11}_{-0.27}$	$H(0.61)$	95.60 ± 0.29
A_{100}^{PS}	231 ± 25	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.870 ± 0.012	$D_{\mathrm{M}}(0.61)$	2292 ± 13
A_{143}^{PS}	35 ± 8	D_{40}	1242^{+19}_{-31}	$H(2.33)$	235.42 ± 0.81
A_{217}^{PS}	104 ± 10	D_{220}	5717 ± 41	$D_{\mathrm{M}}(2.33)$	5750 ± 14
A_{217}^{CIB}	37 ± 7	D_{810}	2526 ± 14	$f\sigma_8(0.15)$	$0.474^{+0.017}_{-0.026}$
A_{143}^{tSZ}	$4.1^{+2.0}_{-2.4}$	D_{1420}	813.7 ± 5.1	$\sigma_8(0.15)$	$0.787^{+0.022}_{-0.045}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.68 ± 0.14	D_{2000}	231.8 ± 1.9	$f\sigma_8(0.38)$	$0.495^{+0.017}_{-0.027}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.51^{+0.33}_{-0.28}$	$n_{\mathrm{s},0.002}$	0.9719 ± 0.0050	$\sigma_8(0.38)$	$0.699^{+0.019}_{-0.040}$
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Y_{P}	0.245435 ± 0.000088	$f\sigma_8(0.51)$	$0.495^{+0.016}_{-0.027}$
A^{kSZ}	< 5.33	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246762 ± 0.000088	$\sigma_8(0.51)$	$0.654^{+0.018}_{-0.038}$
A_{100}^{dust}	0.999 ± 0.20	$10^5 \mathrm{D}/\mathrm{H}$	2.566 ± 0.041	$f\sigma_8(0.61)$	$0.490^{+0.015}_{-0.027}$
A_{143}^{dust}	0.95 ± 0.18	$\mathrm{Age}/\mathrm{Gyr}$	13.769 ± 0.032	$\sigma_8(0.61)$	$0.623^{+0.017}_{-0.036}$
A_{217}^{dust}	0.98 ± 0.10	z_*	1089.62 ± 0.33	$f\sigma_8(2.33)$	$0.3143^{+0.0083}_{-0.018}$
$A_{143 \times 217}^{\mathrm{dust}}$	1.02 ± 0.16	r_*	144.85 ± 0.33	$\sigma_8(2.33)$	$0.3245^{+0.0086}_{-0.019}$
y_{cal}	0.99999 ± 0.0025	$100\theta_*$	1.04141 ± 0.00043	f_{2000}^{143}	27 ± 3
c_{100}	0.9976 ± 0.0011	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.909 ± 0.032	f_{2000}^{217}	104.8 ± 2.2
c_{217}	1.0008 ± 0.0016	z_{drag}	1060.05 ± 0.49	$f_{2000}^{143 \times 217}$	29.8 ± 2.4
H_0	68.24 ± 0.61	r_{drag}	147.49 ± 0.35	$\chi_{\mathrm{CamSpec}}^2$	7059.1 ± 5.3
Ω_{Λ}	0.6967 ± 0.0078	k_{D}	0.14053 ± 0.00046	$\chi_{6\mathrm{DF}}^2$	0.046 ± 0.065
Ω_{m}	0.3033 ± 0.0078	$100\theta_{\mathrm{D}}$	0.16072 ± 0.00028	χ_{MGS}^2	1.87 ± 0.64
$\Omega_{\mathrm{m}}h^2$	0.1412 ± 0.0013	z_{eq}	3358 ± 30	$\chi_{\mathrm{DR12BAO}}^2$	4.1 ± 1.0
$\Omega_{\mathrm{m}}h^3$	0.09634 ± 0.00050	k_{eq}	0.010250 ± 0.000091	χ_{prior}^2	7.2 ± 3.3
σ_8	$0.851^{+0.024}_{-0.048}$	$100\theta_{\mathrm{eq}}$	0.8218 ± 0.0057	χ_{BAO}^2	6.0 ± 1.1
S_8	$0.855^{+0.032}_{-0.047}$	$100\theta_{\mathrm{s,eq}}$	0.4537 ± 0.0029		
$\bar{\chi}_{\mathrm{eff}}^2 = 7072.34; R - 1 = 0.01270$					

3.29 base_Alens_CamSpecHM_TT_lowl

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022672	0.02266 ± 0.00030	S_8	0.7557	$0.793^{+0.034}_{-0.040}$	$100\theta_{\text{eq}}$	0.8283	0.830 ± 0.011
$\Omega_c h^2$	0.11654	0.1162 ± 0.0026	$\sigma_8 \Omega_m^{0.5}$	0.4139	$0.434^{+0.019}_{-0.022}$	$100\theta_{\text{s,eq}}$	0.4570	0.4580 ± 0.0058
$100\theta_{\text{MC}}$	1.04148	1.04150 ± 0.00053	$\sigma_8 \Omega_m^{0.25}$	0.5623	$0.591^{+0.020}_{-0.027}$	$H(0.15)$	74.11	74.2 ± 1.1
τ	0.0102	< 0.0783	$\sigma_8/h^{0.5}$	0.9195	$0.967^{+0.030}_{-0.043}$	$D_{\text{M}}(0.15)$	629.4	628 ± 10
A_{L}	1.362	1.22 ± 0.12	$r_{\text{drag}} h$	101.93	102.2 ± 2.1	$H(0.38)$	83.92	84.01 ± 0.81
$\ln(10^{10} A_{\text{s}})$	2.947	$3.051^{+0.041}_{-0.097}$	$\langle d^2 \rangle^{1/2}$	2.652	2.638 ± 0.077	$D_{\text{M}}(0.38)$	1505.3	1503 ± 21
n_{s}	0.9760	0.9768 ± 0.0077	z_{re}	2.12	$8.1^{+2.6}_{-4.8}$	$H(0.51)$	90.46	90.53 ± 0.65
y_{cal}	1.00006	1.0000 ± 0.0025	$10^9 A_{\text{s}}$	1.905	$2.120^{+0.079}_{-0.21}$	$D_{\text{M}}(0.51)$	1952.8	1950 ± 24
A_{100}^{PS}	218.4	228 ± 30	$10^9 A_{\text{s}} e^{-2\tau}$	1.8667	1.863 ± 0.015	$H(0.61)$	95.94	$95.99^{+0.50}_{-0.56}$
A_{143}^{PS}	45.1	33 ± 9	D_{40}	1197.5	1209 ± 20	$D_{\text{M}}(0.61)$	2274.7	2272 ± 26
A_{217}^{PS}	108.8	105 ± 10	D_{220}	5732.1	5726 ± 42	$H(2.33)$	234.64	234.4 ± 1.5
A_{217}^{CIB}	37.6	36^{+7}_{-7}	D_{810}	2527.5	2524 ± 14	$D_{\text{M}}(2.33)$	5735.1	5734 ± 23
A_{143}^{tSZ}	6.32	$4.2^{+2.0}_{-2.3}$	D_{1420}	815.5	814.5 ± 5.1	$f\sigma_8(0.15)$	0.4195	$0.440^{+0.018}_{-0.021}$
$r_{143 \times 217}^{\text{PS}}$	0.793	0.68 ± 0.14	D_{2000}	232.95	232.6 ± 2.1	$\sigma_8(0.15)$	0.7076	$0.745^{+0.018}_{-0.034}$
$r_{143 \times 217}^{\text{CIB}}$	0.772	0.50 ± 0.27	$n_{\text{s},0.002}$	0.9760	0.9768 ± 0.0077	$f\sigma_8(0.38)$	0.4406	$0.463^{+0.016}_{-0.021}$
$\xi^{\text{tSZ} \times \text{CIB}}$	0.999	—	Y_{P}	0.245506	$0.24551^{+0.00011}_{-0.00013}$	$\sigma_8(0.38)$	0.6291	$0.662^{+0.015}_{-0.031}$
A^{kSZ}	0.00	< 5.05	$Y_{\text{P}}^{\text{BBN}}$	0.246833	$0.24684^{+0.00011}_{-0.00013}$	$f\sigma_8(0.51)$	0.4413	$0.464^{+0.015}_{-0.021}$
A_{100}^{dust}	1.008	1.01 ± 0.20	$10^5 \text{D}/\text{H}$	2.532	2.534 ± 0.054	$\sigma_8(0.51)$	0.5895	$0.621^{+0.014}_{-0.029}$
A_{143}^{dust}	0.962	0.95 ± 0.18	Age/Gyr	13.735	13.733 ± 0.051	$f\sigma_8(0.61)$	0.4380	$0.460^{+0.014}_{-0.021}$
A_{217}^{dust}	0.988	0.98 ± 0.10	z_*	1089.24	1089.23 ± 0.54	$\sigma_8(0.61)$	0.5614	$0.591^{+0.013}_{-0.028}$
$A_{143 \times 217}^{\text{dust}}$	1.016	1.01 ± 0.16	r_*	145.10	145.21 ± 0.54	$f\sigma_8(2.33)$	0.2838	$0.2990^{+0.0061}_{-0.015}$
c_{100}	0.99790	0.9976 ± 0.0011	$100\theta_*$	1.04163	1.04166 ± 0.00052	$\sigma_8(2.33)$	0.2934	$0.3092^{+0.0060}_{-0.015}$
c_{217}	1.00088	1.0007 ± 0.0016	$D_{\text{M}}(z_*)/\text{Gpc}$	13.9300	13.940 ± 0.049	f_{2000}^{143}	25.68	26 ± 3
H_0	69.02	69.2 ± 1.2	z_{drag}	1060.39	1060.33 ± 0.57	f_{2000}^{217}	103.69	104.0 ± 2.4
Ω_{Λ}	0.7064	$0.708^{+0.016}_{-0.014}$	r_{drag}	147.67	147.79 ± 0.51	$f_{2000}^{143 \times 217}$	28.89	28.8 ± 2.7
Ω_{m}	0.2936	0.292 ± 0.015	k_{D}	0.14048	0.14034 ± 0.00052	χ_{lowl}^2	20.86	22.0 ± 1.5
$\Omega_{\text{m}} h^2$	0.13986	0.1395 ± 0.0024	$100\theta_{\text{D}}$	0.160545	0.16059 ± 0.00031	χ_{CamSpec}^2	7046.1	7060.0 ± 5.3
$\Omega_{\text{m}} h^3$	0.09653	0.09645 ± 0.00050	z_{eq}	3327	3318 ± 56	χ_{prior}^2	1.38	7.2 ± 3.3
σ_8	0.7639	$0.804^{+0.020}_{-0.037}$	k_{eq}	0.010154	0.01013 ± 0.00017	χ_{CMB}^2	7066.9	7082.0 ± 5.3

Best-fit $\chi_{\text{eff}}^2 = 7068.30$; $\Delta\chi_{\text{eff}}^2 = -3.99$; $\bar{\chi}_{\text{eff}}^2 = 7089.14$; $\Delta\bar{\chi}_{\text{eff}}^2 = -3.10$; $R - 1 = 0.00730$

χ_{eff}^2 : CMB - commander_dx12.v3.2.29: 20.86 (Δ -3.64) CamSpec like_10.7HM: 7046.06 (Δ -0.32)

3.30 base_Alens_CamSpecHM_TT_lowl_post_BAO

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02251 ± 0.00022	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	$0.597^{+0.014}_{-0.026}$	$H(0.38)$	83.49 ± 0.40
$\Omega_{\mathrm{c}}h^2$	0.1178 ± 0.0013	$\sigma_8/h^{0.5}$	$0.974^{+0.022}_{-0.042}$	$D_{\mathrm{M}}(0.38)$	1516 ± 10
$100\theta_{\mathrm{MC}}$	1.04128 ± 0.00042	$r_{\mathrm{drag}}h$	100.9 ± 1.0	$H(0.51)$	90.12 ± 0.34
τ	< 0.0706	$\langle d^2 \rangle^{1/2}$	2.626 ± 0.076	$D_{\mathrm{M}}(0.51)$	1966 ± 12
A_{L}	1.20 ± 0.11	z_{re}	$7.6^{+2.3}_{-4.6}$	$H(0.61)$	95.66 ± 0.29
$\ln(10^{10}A_{\mathrm{s}})$	$3.043^{+0.037}_{-0.087}$	$10^9 A_{\mathrm{s}}$	$2.102^{+0.071}_{-0.18}$	$D_{\mathrm{M}}(0.61)$	2289 ± 13
n_{s}	0.9723 ± 0.0048	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.870 ± 0.012	$H(2.33)$	235.30 ± 0.80
y_{cal}	1.0000 ± 0.0025	D_{40}	1216^{+14}_{-17}	$D_{\mathrm{M}}(2.33)$	5747 ± 14
A_{100}^{PS}	230 ± 25	D_{220}	5718 ± 40	$f\sigma_8(0.15)$	$0.448^{+0.012}_{-0.019}$
A_{143}^{PS}	34 ± 9	D_{810}	2526 ± 14	$\sigma_8(0.15)$	$0.745^{+0.014}_{-0.032}$
A_{217}^{PS}	104 ± 10	D_{1420}	813.8 ± 5.0	$f\sigma_8(0.38)$	$0.468^{+0.012}_{-0.020}$
A_{217}^{CIB}	37 ± 7	D_{2000}	231.9 ± 1.9	$\sigma_8(0.38)$	$0.662^{+0.012}_{-0.029}$
A_{143}^{tSZ}	$4.1^{+2.0}_{-2.3}$	$n_{\mathrm{s},0.002}$	0.9723 ± 0.0048	$f\sigma_8(0.51)$	$0.468^{+0.011}_{-0.020}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.68 ± 0.13	Y_{P}	0.245448 ± 0.000088	$\sigma_8(0.51)$	$0.620^{+0.011}_{-0.027}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.51^{+0.34}_{-0.26}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246775 ± 0.000089	$f\sigma_8(0.61)$	$0.464^{+0.010}_{-0.020}$
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$10^5 \mathrm{D}/\mathrm{H}$	2.560 ± 0.041	$\sigma_8(0.61)$	$0.590^{+0.011}_{-0.026}$
A^{kSZ}	< 5.25	$\mathrm{Age}/\mathrm{Gyr}$	13.763 ± 0.032	$f\sigma_8(2.33)$	$0.2979^{+0.0054}_{-0.013}$
A_{100}^{dust}	1.01 ± 0.19	z_*	1089.55 ± 0.34	$\sigma_8(2.33)$	$0.3076^{+0.0055}_{-0.014}$
A_{143}^{dust}	0.95 ± 0.18	r_*	144.89 ± 0.32	f_{2000}^{143}	27 ± 3
A_{217}^{dust}	0.98 ± 0.10	$100\theta_*$	1.04145 ± 0.00042	f_{2000}^{217}	104.7 ± 2.2
$A_{143 \times 217}^{\mathrm{dust}}$	1.01 ± 0.16	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.912 ± 0.031	$f_{2000}^{143 \times 217}$	29.6 ± 2.4
c_{100}	0.9975 ± 0.0011	z_{drag}	1060.11 ± 0.49	χ_{lowl}^2	22.4 ± 1.4
c_{217}	1.0009 ± 0.0016	r_{drag}	147.51 ± 0.35	$\chi_{\mathrm{CamSpec}}^2$	7058.9 ± 5.1
H_0	68.37 ± 0.61	k_{D}	0.14053 ± 0.00045	$\chi_{6\mathrm{DF}}^2$	0.049 ± 0.071
Ω_{Λ}	0.6983 ± 0.0077	$100\theta_{\mathrm{D}}$	0.16069 ± 0.00028	χ_{MGS}^2	2.00 ± 0.65
Ω_{m}	0.3017 ± 0.0077	z_{eq}	3353 ± 29	$\chi_{\mathrm{DR12BAO}}^2$	4.05 ± 0.97
$\Omega_{\mathrm{m}}h^2$	0.1410 ± 0.0012	k_{eq}	0.010235 ± 0.000089	χ_{prior}^2	7.2 ± 3.3
$\Omega_{\mathrm{m}}h^3$	0.09638 ± 0.00049	$100\theta_{\mathrm{eq}}$	0.8229 ± 0.0056	χ_{BAO}^2	6.1 ± 1.3
σ_8	$0.806^{+0.016}_{-0.035}$	$100\theta_{\mathrm{s,eq}}$	0.4543 ± 0.0029	χ_{CMB}^2	7081.3 ± 5.2
S_8	$0.808^{+0.023}_{-0.035}$	$H(0.15)$	73.55 ± 0.53		
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	$0.442^{+0.013}_{-0.019}$	$D_{\mathrm{M}}(0.15)$	634.8 ± 5.1		

$\bar{\chi}_{\mathrm{eff}}^2 = 7094.64$; $\Delta\bar{\chi}_{\mathrm{eff}}^2 = -2.98$; $R - 1 = 0.01645$

3.31 base_Alens_CamSpecHM_TT_lowl_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02268 ± 0.00030	S_8	$0.806^{+0.032}_{-0.037}$	$100\theta_{\mathrm{eq}}$	0.832 ± 0.011
$\Omega_{\mathrm{c}}h^2$	0.1159 ± 0.0025	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	$0.441^{+0.018}_{-0.020}$	$100\theta_{\mathrm{s,eq}}$	0.4587 ± 0.0058
$100\theta_{\mathrm{MC}}$	1.04154 ± 0.00053	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	$0.601^{+0.018}_{-0.023}$	$H(0.15)$	74.4 ± 1.1
τ	$0.084^{+0.014}_{-0.039}$	$\sigma_8/h^{0.5}$	$0.985^{+0.027}_{-0.037}$	$D_{\mathrm{M}}(0.15)$	627 ± 10
A_{L}	1.18 ± 0.11	$r_{\mathrm{drag}}h$	102.5 ± 2.1	$H(0.38)$	84.10 ± 0.81
$\ln(10^{10}A_{\mathrm{s}})$	$3.093^{+0.031}_{-0.076}$	$\langle d^2 \rangle^{1/2}$	2.640 ± 0.078	$D_{\mathrm{M}}(0.38)$	1501 ± 21
n_{s}	0.9781 ± 0.0077	z_{re}	< 11.3	$H(0.51)$	90.60 ± 0.66
y_{cal}	1.0000 ± 0.0025	$10^9 A_{\mathrm{s}}$	$2.207^{+0.063}_{-0.17}$	$D_{\mathrm{M}}(0.51)$	1947 ± 24
A_{100}^{PS}	227 ± 30	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.861 ± 0.015	$H(0.61)$	96.05 ± 0.54
A_{143}^{PS}	32 ± 9	D_{40}	1213 ± 20	$D_{\mathrm{M}}(0.61)$	2269 ± 27
A_{217}^{PS}	105 ± 10	D_{220}	5725 ± 42	$H(2.33)$	234.2 ± 1.4
A_{217}^{CIB}	36^{+7}_{-7}	D_{810}	2524 ± 14	$D_{\mathrm{M}}(2.33)$	5731 ± 23
A_{143}^{tSZ}	4.2 ± 2.1	D_{1420}	814.8 ± 5.2	$f\sigma_8(0.15)$	$0.448^{+0.017}_{-0.019}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.69 ± 0.14	D_{2000}	232.8 ± 2.2	$\sigma_8(0.15)$	$0.760^{+0.015}_{-0.028}$
$r_{143 \times 217}^{\mathrm{CIB}}$	0.49 ± 0.27	$n_{\mathrm{s},0.002}$	0.9781 ± 0.0077	$f\sigma_8(0.38)$	$0.471^{+0.015}_{-0.018}$
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Y_{P}	$0.24552^{+0.00011}_{-0.00013}$	$\sigma_8(0.38)$	$0.676^{+0.012}_{-0.025}$
A^{kSZ}	< 4.95	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.24684^{+0.00011}_{-0.00013}$	$f\sigma_8(0.51)$	$0.472^{+0.014}_{-0.018}$
A_{100}^{dust}	1.01 ± 0.20	$10^5 \mathrm{D}/\mathrm{H}$	2.530 ± 0.054	$\sigma_8(0.51)$	$0.634^{+0.011}_{-0.024}$
A_{143}^{dust}	0.95 ± 0.18	$\mathrm{Age}/\mathrm{Gyr}$	13.728 ± 0.051	$f\sigma_8(0.61)$	$0.469^{+0.013}_{-0.017}$
A_{217}^{dust}	0.99 ± 0.10	z_*	1089.18 ± 0.55	$\sigma_8(0.61)$	$0.603^{+0.010}_{-0.023}$
$A_{143 \times 217}^{\mathrm{dust}}$	1.01 ± 0.16	r_*	145.27 ± 0.53	$f\sigma_8(2.33)$	$0.3052^{+0.0047}_{-0.012}$
c_{100}	0.9975 ± 0.0011	$100\theta_*$	1.04170 ± 0.00052	$\sigma_8(2.33)$	$0.3157^{+0.0046}_{-0.012}$
c_{217}	1.0007 ± 0.0016	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.946 ± 0.048	f_{2000}^{143}	25 ± 3
H_0	69.3 ± 1.2	z_{drag}	1060.36 ± 0.57	f_{2000}^{217}	103.8 ± 2.4
Ω_{Λ}	0.710 ± 0.015	r_{drag}	147.85 ± 0.51	$f_{2000}^{143 \times 217}$	28.5 ± 2.6
Ω_{m}	0.290 ± 0.015	k_{D}	0.14030 ± 0.00051	χ_{lowl}^2	22.4 ± 1.6
$\Omega_{\mathrm{m}}h^2$	0.1392 ± 0.0023	$100\theta_{\mathrm{D}}$	0.16057 ± 0.00031	$\chi_{\mathrm{CamSpec}}^2$	7059.9 ± 5.4
$\Omega_{\mathrm{m}}h^3$	0.09646 ± 0.00050	z_{eq}	3311 ± 56	χ_{prior}^2	7.2 ± 3.3
σ_8	$0.820^{+0.017}_{-0.030}$	k_{eq}	0.01011 ± 0.00017	χ_{CMB}^2	7082.3 ± 5.4

$\bar{\chi}_{\mathrm{eff}}^2 = 7089.50$; $\Delta\bar{\chi}_{\mathrm{eff}}^2 = -2.64$; $R - 1 = 0.00995$

3.32 base_Alens_CamSpecHM_TT_lowl_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02252 ± 0.00022	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	$0.610^{+0.012}_{-0.021}$	$H(0.38)$	83.51 ± 0.40
$\Omega_{\mathrm{c}}h^2$	0.1177 ± 0.0013	$\sigma_8/h^{0.5}$	$0.995^{+0.019}_{-0.034}$	$D_{\mathrm{M}}(0.38)$	1516 ± 10
$100\theta_{\mathrm{MC}}$	1.04128 ± 0.00042	$r_{\mathrm{drag}}h$	100.9 ± 1.0	$H(0.51)$	90.13 ± 0.33
τ	$0.079^{+0.020}_{-0.035}$	$\langle d^2 \rangle^{1/2}$	2.627 ± 0.077	$D_{\mathrm{M}}(0.51)$	1965 ± 12
A_{L}	1.146 ± 0.093	z_{re}	< 10.9	$H(0.61)$	95.67 ± 0.28
$\ln(10^{10}A_{\mathrm{s}})$	$3.086^{+0.028}_{-0.067}$	$10^9 A_{\mathrm{s}}$	$2.193^{+0.060}_{-0.15}$	$D_{\mathrm{M}}(0.61)$	2288 ± 13
n_{s}	0.9730 ± 0.0047	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.869 ± 0.012	$H(2.33)$	235.23 ± 0.78
y_{cal}	0.99998 ± 0.0025	D_{40}	1221^{+14}_{-17}	$D_{\mathrm{M}}(2.33)$	5747 ± 14
A_{100}^{PS}	229 ± 25	D_{220}	5715 ± 41	$f\sigma_8(0.15)$	$0.457^{+0.011}_{-0.016}$
A_{143}^{PS}	34 ± 9	D_{810}	2526 ± 14	$\sigma_8(0.15)$	$0.761^{+0.012}_{-0.025}$
A_{217}^{PS}	105 ± 10	D_{1420}	813.9 ± 5.0	$f\sigma_8(0.38)$	$0.4780^{+0.0099}_{-0.016}$
A_{217}^{CIB}	37 ± 7	D_{2000}	232.0 ± 1.9	$\sigma_8(0.38)$	$0.6761^{+0.0099}_{-0.023}$
A_{143}^{tSZ}	$4.1^{+2.0}_{-2.3}$	$n_{\mathrm{s},0.002}$	0.9730 ± 0.0047	$f\sigma_8(0.51)$	$0.4778^{+0.0093}_{-0.016}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.68 ± 0.13	Y_{P}	0.245449 ± 0.000087	$\sigma_8(0.51)$	$0.6332^{+0.0091}_{-0.021}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.51^{+0.34}_{-0.26}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246776 ± 0.000088	$f\sigma_8(0.61)$	$0.4736^{+0.0088}_{-0.016}$
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$10^5 \mathrm{D}/\mathrm{H}$	2.560 ± 0.040	$\sigma_8(0.61)$	$0.6028^{+0.0086}_{-0.020}$
A^{kSZ}	< 5.14	$\mathrm{Age}/\mathrm{Gyr}$	13.762 ± 0.032	$f\sigma_8(2.33)$	$0.3044^{+0.0042}_{-0.010}$
A_{100}^{dust}	1.01 ± 0.19	z_*	1089.54 ± 0.33	$\sigma_8(2.33)$	$0.3143^{+0.0043}_{-0.011}$
A_{143}^{dust}	0.95 ± 0.18	r_*	144.91 ± 0.31	f_{2000}^{143}	26 ± 3
A_{217}^{dust}	0.98 ± 0.10	$100\theta_*$	1.04145 ± 0.00041	f_{2000}^{217}	104.6 ± 2.2
$A_{143 \times 217}^{\mathrm{dust}}$	1.01 ± 0.16	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.915 ± 0.031	$f_{2000}^{143 \times 217}$	29.5 ± 2.4
c_{100}	0.9975 ± 0.0011	z_{drag}	1060.10 ± 0.49	χ_{lowl}^2	23.0 ± 1.5
c_{217}	1.0008 ± 0.0015	r_{drag}	147.54 ± 0.34	$\chi_{\mathrm{CamSpec}}^2$	7058.7 ± 5.2
H_0	68.41 ± 0.60	k_{D}	0.14050 ± 0.00045	$\chi_{6\mathrm{DF}}^2$	0.051 ± 0.073
Ω_{Λ}	0.6989 ± 0.0076	$100\theta_{\mathrm{D}}$	0.16069 ± 0.00028	χ_{MGS}^2	2.05 ± 0.65
Ω_{m}	0.3011 ± 0.0076	z_{eq}	3351 ± 29	$\chi_{\mathrm{DR12BAO}}^2$	4.04 ± 0.96
$\Omega_{\mathrm{m}}h^2$	0.1409 ± 0.0012	k_{eq}	0.010228 ± 0.000088	χ_{prior}^2	7.3 ± 3.3
$\Omega_{\mathrm{m}}h^3$	0.09636 ± 0.00048	$100\theta_{\mathrm{eq}}$	0.8233 ± 0.0055	χ_{BAO}^2	6.1 ± 1.3
σ_8	$0.823^{+0.013}_{-0.027}$	$100\theta_{\mathrm{s,eq}}$	0.4545 ± 0.0028	χ_{CMB}^2	7081.7 ± 5.3
S_8	$0.824^{+0.020}_{-0.030}$	$H(0.15)$	73.58 ± 0.52		
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	$0.452^{+0.011}_{-0.016}$	$D_{\mathrm{M}}(0.15)$	634.5 ± 5.0		

$$\bar{\chi}_{\mathrm{eff}}^2 = 7095.11; \Delta\bar{\chi}_{\mathrm{eff}}^2 = -2.46; R - 1 = 0.02149$$

3.33 base_Alens_CamSpecHM_TT_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022554	0.02253 ± 0.00031	S_8	0.7979	0.800 ± 0.032	$100\theta_{\text{eq}}$	0.8245	0.823 ± 0.012
$\Omega_c h^2$	0.11743	0.1177 ± 0.0027	$\sigma_8 \Omega_m^{0.5}$	0.4370	0.438 ± 0.018	$100\theta_{\text{s,eq}}$	0.4551	0.4546 ± 0.0060
$100\theta_{\text{MC}}$	1.04132	1.04130 ± 0.00055	$\sigma_8 \Omega_m^{0.25}$	0.5909	0.592 ± 0.016	$H(0.15)$	73.71	73.6 ± 1.1
τ	0.0509	0.0504 ± 0.0085	$\sigma_8/h^{0.5}$	0.9649	0.966 ± 0.022	$D_{\text{M}}(0.15)$	633.3	634 ± 11
A_{L}	1.222	$1.213^{+0.091}_{-0.10}$	$r_{\text{drag}} h$	101.16	101.0 ± 2.2	$H(0.38)$	83.61	83.55 ± 0.83
$\ln(10^{10} A_{\text{s}})$	3.0305	3.030 ± 0.018	$\langle d^2 \rangle^{1/2}$	2.638	2.629 ± 0.077	$D_{\text{M}}(0.38)$	1513.2	1515 ± 22
n_{s}	0.9728	0.9713 ± 0.0080	z_{re}	7.25	$7.19^{+0.89}_{-0.75}$	$H(0.51)$	90.20	$90.16^{+0.62}_{-0.70}$
y_{cal}	0.99998	1.0001 ± 0.0025	$10^9 A_{\text{s}}$	2.0707	2.069 ± 0.037	$D_{\text{M}}(0.51)$	1962.2	1965 ± 26
A_{100}^{PS}	221.1	232 ± 26	$10^9 A_{\text{s}} e^{-2\tau}$	1.8702	1.870 ± 0.015	$H(0.61)$	95.73	$95.70^{+0.50}_{-0.58}$
A_{143}^{PS}	47.8	35 ± 9	D_{40}	1210.9	1214 ± 19	$D_{\text{M}}(0.61)$	2284.9	2287 ± 28
A_{217}^{PS}	107.6	103 ± 10	D_{220}	5729.0	5729 ± 42	$H(2.33)$	235.09	235.2 ± 1.6
A_{217}^{CIB}	38.9	38 ± 7	D_{810}	2528.0	2526 ± 14	$D_{\text{M}}(2.33)$	5744.3	5746 ± 24
A_{143}^{tSZ}	6.40	$4.1^{+2.0}_{-2.4}$	D_{1420}	814.5	813.4 ± 5.2	$f\sigma_8(0.15)$	0.4425	0.444 ± 0.016
$r_{143 \times 217}^{\text{PS}}$	0.773	0.67 ± 0.14	D_{2000}	232.22	231.7 ± 2.2	$\sigma_8(0.15)$	0.7394	0.7392 ± 0.0096
$r_{143 \times 217}^{\text{CIB}}$	0.849	$0.52^{+0.35}_{-0.25}$	$n_{\text{s},0.002}$	0.9728	0.9713 ± 0.0080	$f\sigma_8(0.38)$	0.4633	0.464 ± 0.013
$\xi^{\text{tSZ} \times \text{CIB}}$	1.00	—	Y_{P}	0.245464	$0.24546^{+0.00011}_{-0.00012}$	$\sigma_8(0.38)$	0.6568	0.6564 ± 0.0073
A^{kSZ}	0.01	< 5.55	$Y_{\text{P}}^{\text{BBN}}$	0.246791	$0.24678^{+0.00011}_{-0.00012}$	$f\sigma_8(0.51)$	0.4633	0.464 ± 0.011
A_{100}^{dust}	1.003	1.01 ± 0.20	$10^5 \text{D}/\text{H}$	2.552	2.557 ± 0.056	$\sigma_8(0.51)$	0.6152	0.6147 ± 0.0064
A_{143}^{dust}	0.969	0.96 ± 0.18	Age/Gyr	13.756	13.759 ± 0.053	$f\sigma_8(0.61)$	0.4594	0.460 ± 0.010
A_{217}^{dust}	0.985	0.98 ± 0.10	z_*	1089.47	1089.52 ± 0.57	$\sigma_8(0.61)$	0.5857	0.5852 ± 0.0059
$A_{143 \times 217}^{\text{dust}}$	1.003	1.02 ± 0.16	r_*	144.96	144.91 ± 0.56	$f\sigma_8(2.33)$	0.29582	0.2955 ± 0.0028
c_{100}	0.99793	0.9976 ± 0.0010	$100\theta_*$	1.04149	1.04147 ± 0.00054	$\sigma_8(2.33)$	0.30553	0.3052 ± 0.0028
c_{217}	1.00095	1.0009 ± 0.0016	$D_{\text{M}}(z_*)/\text{Gpc}$	13.918	13.914 ± 0.051	f_{2000}^{143}	26.96	27 ± 4
H_0	68.55	68.4 ± 1.3	z_{drag}	1060.16	1060.14 ± 0.58	f_{2000}^{217}	104.33	105.0 ± 2.4
Ω_{Λ}	0.7007	$0.699^{+0.017}_{-0.016}$	r_{drag}	147.57	147.53 ± 0.53	$f_{2000}^{143 \times 217}$	29.67	30.0 ± 2.7
Ω_{m}	0.2993	$0.301^{+0.016}_{-0.017}$	k_{D}	0.14050	0.14052 ± 0.00053	χ_{small}^2	395.67	396.8 ± 1.6
$\Omega_{\text{m}} h^2$	0.14063	0.1409 ± 0.0025	$100\theta_{\text{D}}$	0.160650	0.16068 ± 0.00032	χ_{CamSpec}^2	7045.6	7059.8 ± 5.3
$\Omega_{\text{m}} h^3$	0.09641	0.09639 ± 0.00050	z_{eq}	3345	3351 ± 60	χ_{prior}^2	1.39	7.2 ± 3.3
σ_8	0.7989	0.799 ± 0.012	k_{eq}	0.010210	0.01023 ± 0.00018	χ_{CMB}^2	7441.3	7456.6 ± 5.6

Best-fit $\chi_{\text{eff}}^2 = 7442.68$; $\Delta\chi_{\text{eff}}^2 = -5.15$; $\bar{\chi}_{\text{eff}}^2 = 7463.85$; $\Delta\bar{\chi}_{\text{eff}}^2 = -3.64$; $R - 1 = 0.00741$

χ_{eff}^2 : CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.67 (Δ -0.16) CamSpec like_10.7HM: 7045.62 (Δ -4.09)

3.34 base_Alens_CamSpecHM_TTTEEE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022503	0.02247 ± 0.00020	$\Omega_m h^3$	0.096311	0.09626 ± 0.00033	z_{eq}	3361.2	3362 ± 37
$\Omega_c h^2$	0.11815	0.1182 ± 0.0017	σ_8	0.843	0.850 ± 0.051	k_{eq}	0.010259	0.01026 ± 0.00011
$100\theta_{\text{MC}}$	1.041047	1.04105 ± 0.00033	S_8	0.849	$0.857^{+0.045}_{-0.065}$	$100\theta_{\text{eq}}$	0.8212	0.8211 ± 0.0071
τ	0.101	< 0.141	$\sigma_8 \Omega_m^{0.5}$	0.4649	$0.469^{+0.025}_{-0.036}$	$100\theta_{\text{s,eq}}$	0.45340	0.4534 ± 0.0036
A_L	1.035	$1.02^{+0.12}_{-0.15}$	$\sigma_8 \Omega_m^{0.25}$	0.6260	$0.632^{+0.044}_{-0.052}$	$H(0.15)$	73.37	73.33 ± 0.66
$\ln(10^{10} A_s)$	3.133	3.15 ± 0.12	$\sigma_8/h^{0.5}$	1.021	1.030 ± 0.061	$D_M(0.15)$	636.6	636.9 ± 6.5
n_s	0.9716	$0.9713^{+0.0058}_{-0.0064}$	$r_{\text{drag}} h$	100.49	100.5 ± 1.3	$H(0.38)$	83.353	83.33 ± 0.49
A_{100}^{PS}	222.2	232 ± 25	$\langle d^2 \rangle^{1/2}$	2.566	2.555 ± 0.066	$D_M(0.38)$	1519.9	1521 ± 13
A_{143}^{PS}	48.5	35 ± 8	z_{re}	11.9	$12.0^{+7.6}_{-4.6}$	$H(0.51)$	89.998	89.97 ± 0.39
A_{217}^{PS}	108.5	105 ± 10	$10^9 A_s$	2.294	2.34 ± 0.28	$D_M(0.51)$	1970.1	1971 ± 15
A_{217}^{CIB}	38.8	37 ± 7	$10^9 A_s e^{-2\tau}$	1.8725	1.871 ± 0.013	$H(0.61)$	95.563	95.54 ± 0.31
A_{143}^{tSZ}	6.30	4.1 ± 2.0	D_{40}	1234.0	1247^{+21}_{-43}	$D_M(0.61)$	2293.4	2294 ± 17
$r_{143 \times 217}^{\text{PS}}$	0.775	0.68 ± 0.13	D_{220}	5724.1	5720 ± 41	$H(2.33)$	235.49	235.49 ± 0.96
$r_{143 \times 217}^{\text{CIB}}$	0.839	$0.51^{+0.32}_{-0.28}$	D_{810}	2530.6	2529 ± 14	$D_M(2.33)$	5751.8	5753 ± 14
$\xi^{\text{tSZ} \times \text{CIB}}$	0.996	—	D_{1420}	815.66	814.8 ± 4.9	$f\sigma_8(0.15)$	0.4703	$0.475^{+0.024}_{-0.037}$
A^{kSZ}	0.00	< 5.33	D_{2000}	231.94	231.6 ± 1.9	$\sigma_8(0.15)$	0.780	0.787 ± 0.047
A_{100}^{dust}	1.003	0.998 ± 0.19	$n_{\text{s},0.002}$	0.9716	$0.9713^{+0.0058}_{-0.0064}$	$f\sigma_8(0.38)$	0.4911	$0.496^{+0.033}_{-0.040}$
A_{143}^{dust}	0.960	0.94 ± 0.18	Y_{P}	0.245446	0.245433 ± 0.000076	$\sigma_8(0.38)$	0.692	0.698 ± 0.042
A_{217}^{dust}	0.987	0.98 ± 0.10	$Y_{\text{P}}^{\text{BBN}}$	0.246772	0.246759 ± 0.000076	$f\sigma_8(0.51)$	0.4905	$0.495^{+0.037}_{-0.041}$
$A_{143 \times 217}^{\text{dust}}$	1.001	1.02 ± 0.16	$10^5 \text{D}/\text{H}$	2.5614	2.567 ± 0.036	$\sigma_8(0.51)$	0.648	0.654 ± 0.039
y_{cal}	1.00001	1.0001 ± 0.0025	Age/Gyr	13.7722	13.775 ± 0.031	$f\sigma_8(0.61)$	0.4860	0.490 ± 0.029
c_{100}	0.99791	0.9976 ± 0.0011	z_*	1089.591	1089.64 ± 0.36	$\sigma_8(0.61)$	0.617	0.622 ± 0.037
c_{217}	1.00098	1.0009 ± 0.0016	r_*	144.809	144.82 ± 0.35	$f\sigma_8(2.33)$	0.3113	0.314 ± 0.019
c_{TE}	0.9919	0.9919 ± 0.0055	$100\theta_*$	1.041225	1.04122 ± 0.00032	$\sigma_8(2.33)$	0.3213	0.324 ± 0.020
c_{EE}	0.9905	0.9900 ± 0.0051	$D_M(z_*)/\text{Gpc}$	13.9076	13.909 ± 0.032	f_{2000}^{143}	27.20	27 ± 3
H_0	68.16	68.12 ± 0.77	z_{drag}	1060.123	1060.04 ± 0.38	f_{2000}^{217}	104.59	105.1 ± 2.2
Ω_Λ	0.6959	0.695 ± 0.010	r_{drag}	147.433	147.46 ± 0.34	$f_{2000}^{143 \times 217}$	29.95	30.1 ± 2.4
Ω_m	0.3041	0.305 ± 0.010	k_{D}	0.140605	0.14056 ± 0.00035	χ_{CamSpec}^2	11495.7	11512.3 ± 5.7
$\Omega_m h^2$	0.14130	0.1413 ± 0.0015	$100\theta_{\text{D}}$	0.160656	0.16070 ± 0.00022	χ_{prior}^2	1.80	7.8 ± 3.4

Best-fit $\chi_{\text{eff}}^2 = 11497.50$; $\Delta\chi_{\text{eff}}^2 = -0.14$; $\bar{\chi}_{\text{eff}}^2 = 11520.05$; $\Delta\bar{\chi}_{\text{eff}}^2 = 0.29$; $R - 1 = 0.00760$
 χ_{eff}^2 : CMB - CamSpec like_10.7HM_1400_unified: 11495.71 (Δ -0.08)

3.35 base_Alens_CamSpecHM_TTTEEE_post_BAO

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02247 ± 0.00017	S_8	$0.857^{+0.053}_{-0.070}$	$H(0.15)$	73.33 ± 0.44
$\Omega_c h^2$	0.1182 ± 0.0011	$\sigma_8 \Omega_m^{0.5}$	$0.469^{+0.029}_{-0.038}$	$D_M(0.15)$	636.9 ± 4.3
$100\theta_{MC}$	1.04105 ± 0.00030	$\sigma_8 \Omega_m^{0.25}$	0.632 ± 0.038	$H(0.38)$	83.32 ± 0.33
τ	< 0.140	$\sigma_8/h^{0.5}$	1.030 ± 0.062	$D_M(0.38)$	1520.7 ± 8.8
A_L	$1.02^{+0.12}_{-0.15}$	$r_{\text{drag}} h$	100.45 ± 0.87	$H(0.51)$	89.97 ± 0.27
$\ln(10^{10} A_s)$	3.15 ± 0.12	$\langle d^2 \rangle^{1/2}$	2.554 ± 0.065	$D_M(0.51)$	1971 ± 10
n_s	$0.9713^{+0.0047}_{-0.0052}$	z_{re}	$12.0^{+7.5}_{-4.6}$	$H(0.61)$	95.54 ± 0.22
A_{100}^{PS}	232 ± 25	$10^9 A_s$	2.34 ± 0.28	$D_M(0.61)$	2294 ± 11
A_{143}^{PS}	35 ± 8	$10^9 A_s e^{-2\tau}$	1.871 ± 0.012	$H(2.33)$	235.49 ± 0.66
A_{217}^{PS}	105 ± 10	D_{40}	1247^{+20}_{-43}	$D_M(2.33)$	5753 ± 11
A_{217}^{CIB}	37 ± 7	D_{220}	5721 ± 40	$f\sigma_8(0.15)$	$0.475^{+0.032}_{-0.039}$
A_{143}^{tSZ}	4.1 ± 2.0	D_{810}	2529 ± 14	$\sigma_8(0.15)$	0.786 ± 0.047
$r_{143 \times 217}^{\text{PS}}$	0.68 ± 0.13	D_{1420}	814.8 ± 4.9	$f\sigma_8(0.38)$	0.495 ± 0.030
$r_{143 \times 217}^{\text{CIB}}$	$0.51^{+0.32}_{-0.28}$	D_{2000}	231.5 ± 1.8	$\sigma_8(0.38)$	0.698 ± 0.042
$\xi^{\text{tSZ} \times \text{CIB}}$	—	$n_{s,0.002}$	$0.9713^{+0.0047}_{-0.0052}$	$f\sigma_8(0.51)$	0.495 ± 0.030
A^{kSZ}	< 5.33	Y_P	0.245432 ± 0.000064	$\sigma_8(0.51)$	0.653 ± 0.039
A_{100}^{dust}	0.998 ± 0.20	Y_P^{BBN}	0.246759 ± 0.000064	$f\sigma_8(0.61)$	0.490 ± 0.029
A_{143}^{dust}	0.94 ± 0.18	10^5D/H	2.568 ± 0.030	$\sigma_8(0.61)$	0.622 ± 0.037
A_{217}^{dust}	0.98 ± 0.10	Age/Gyr	13.776 ± 0.024	$f\sigma_8(2.33)$	0.314 ± 0.019
$A_{143 \times 217}^{\text{dust}}$	1.01 ± 0.16	z_*	1089.64 ± 0.27	$\sigma_8(2.33)$	0.324 ± 0.020
y_{cal}	1.0001 ± 0.0025	r_*	144.82 ± 0.25	f_{2000}^{143}	27 ± 3
c_{100}	0.9976 ± 0.0011	$100\theta_*$	1.04122 ± 0.00029	f_{2000}^{217}	105.1 ± 2.1
c_{217}	1.0009 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.909 ± 0.024	$f_{2000}^{143 \times 217}$	30.1 ± 2.3
c_{TE}	0.9920 ± 0.0054	z_{drag}	1060.04 ± 0.35	χ_{CamSpec}^2	11511.8 ± 5.6
c_{EE}	0.9901 ± 0.0051	r_{drag}	147.46 ± 0.26	$\chi_{6\text{DF}}^2$	0.032 ± 0.045
H_0	68.12 ± 0.51	k_D	0.14056 ± 0.00032	χ_{MGS}^2	1.74 ± 0.53
Ω_Λ	0.6954 ± 0.0067	$100\theta_D$	0.16070 ± 0.00021	χ_{DR12BAO}^2	4.02 ± 0.88
Ω_m	0.3046 ± 0.0067	z_{eq}	3362 ± 25	χ_{prior}^2	7.8 ± 3.4
$\Omega_m h^2$	0.1413 ± 0.0010	k_{eq}	0.010260 ± 0.000076	χ_{BAO}^2	5.79 ± 0.80
$\Omega_m h^3$	0.09626 ± 0.00033	$100\theta_{\text{eq}}$	0.8210 ± 0.0048		
σ_8	0.850 ± 0.051	$100\theta_{s,\text{eq}}$	0.4533 ± 0.0024		

$\bar{\chi}_{\text{eff}}^2 = 11525.37$; $R - 1 = 0.00886$

3.36 base_Alens_CamSpecHM_TTTEEE_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02248 ± 0.00019	$\Omega_{\mathrm{m}}h^3$	0.09626 ± 0.00033	z_{eq}	3360 ± 37
$\Omega_{\mathrm{c}}h^2$	0.1181 ± 0.0017	σ_8	0.864 ± 0.044	k_{eq}	0.01025 ± 0.00011
$100\theta_{\mathrm{MC}}$	1.04105 ± 0.00033	S_8	$0.870^{+0.042}_{-0.056}$	$100\theta_{\mathrm{eq}}$	0.8214 ± 0.0072
τ	0.126 ± 0.052	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	$0.477^{+0.023}_{-0.031}$	$100\theta_{\mathrm{s,eq}}$	0.4535 ± 0.0037
A_{L}	$0.98^{+0.11}_{-0.12}$	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	$0.642^{+0.037}_{-0.043}$	$H(0.15)$	73.36 ± 0.66
$\ln(10^{10}A_{\mathrm{s}})$	3.18 ± 0.10	$\sigma_8/h^{0.5}$	1.047 ± 0.054	$D_{\mathrm{M}}(0.15)$	636.7 ± 6.5
n_{s}	0.9719 ± 0.0061	$r_{\mathrm{drag}}h$	100.5 ± 1.3	$H(0.38)$	83.35 ± 0.49
A_{100}^{PS}	231 ± 25	$\langle d^2 \rangle^{1/2}$	2.555 ± 0.066	$D_{\mathrm{M}}(0.38)$	1520 ± 13
A_{143}^{PS}	35 ± 8	z_{re}	$13.6^{+5.9}_{-5.3}$	$H(0.51)$	89.99 ± 0.39
A_{217}^{PS}	105 ± 10	$10^9 A_{\mathrm{s}}$	2.42 ± 0.25	$D_{\mathrm{M}}(0.51)$	1970 ± 15
A_{217}^{CIB}	37 ± 7	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.870 ± 0.013	$H(0.61)$	95.55 ± 0.32
A_{143}^{tSZ}	4.1 ± 2.0	D_{40}	1253^{+23}_{-41}	$D_{\mathrm{M}}(0.61)$	2294 ± 17
$r_{143 \times 217}^{\mathrm{PS}}$	0.68 ± 0.13	D_{220}	5718 ± 40	$H(2.33)$	235.44 ± 0.96
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.50^{+0.32}_{-0.28}$	D_{810}	2528 ± 14	$D_{\mathrm{M}}(2.33)$	5753 ± 14
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	D_{1420}	814.9 ± 4.9	$f\sigma_8(0.15)$	$0.482^{+0.023}_{-0.031}$
A^{kSZ}	< 5.28	D_{2000}	231.7 ± 1.8	$\sigma_8(0.15)$	0.799 ± 0.041
A_{100}^{dust}	0.995 ± 0.19	$n_{\mathrm{s},0.002}$	0.9719 ± 0.0061	$f\sigma_8(0.38)$	$0.503^{+0.027}_{-0.034}$
A_{143}^{dust}	0.94 ± 0.18	Y_{P}	0.245435 ± 0.000075	$\sigma_8(0.38)$	0.709 ± 0.037
A_{217}^{dust}	0.98 ± 0.10	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246761 ± 0.000076	$f\sigma_8(0.51)$	0.503 ± 0.026
$A_{143 \times 217}^{\mathrm{dust}}$	1.01 ± 0.16	$10^5 \mathrm{D}/\mathrm{H}$	2.566 ± 0.035	$\sigma_8(0.51)$	0.664 ± 0.034
y_{cal}	1.0001 ± 0.0025	$\mathrm{Age}/\mathrm{Gyr}$	13.774 ± 0.031	$f\sigma_8(0.61)$	0.498 ± 0.025
c_{100}	0.9976 ± 0.0011	z_*	1089.62 ± 0.36	$\sigma_8(0.61)$	0.632 ± 0.033
c_{217}	1.0009 ± 0.0016	r_*	144.84 ± 0.35	$f\sigma_8(2.33)$	0.319 ± 0.017
c_{TE}	0.9917 ± 0.0055	$100\theta_*$	1.04123 ± 0.00032	$\sigma_8(2.33)$	0.329 ± 0.017
c_{EE}	0.9898 ± 0.0051	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.910 ± 0.032	f_{2000}^{143}	27 ± 3
H_0	68.16 ± 0.77	z_{drag}	1060.05 ± 0.38	f_{2000}^{217}	104.9 ± 2.2
Ω_{Λ}	0.696 ± 0.010	r_{drag}	147.47 ± 0.34	$f_{2000}^{143 \times 217}$	29.9 ± 2.4
Ω_{m}	0.304 ± 0.010	k_{D}	0.14055 ± 0.00035	$\chi_{\mathrm{CamSpec}}^2$	11512.2 ± 5.7
$\Omega_{\mathrm{m}}h^2$	0.1412 ± 0.0015	$100\theta_{\mathrm{D}}$	0.16069 ± 0.00022	χ_{prior}^2	7.8 ± 3.4

$\bar{\chi}_{\mathrm{eff}}^2 = 11520.01$; $R - 1 = 0.00786$

3.37 base_Alens_CamSpecHM_TTTEEE_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02247 ± 0.00017	S_8	$0.870^{+0.046}_{-0.059}$	$H(0.15)$	73.34 ± 0.44
$\Omega_c h^2$	0.1182 ± 0.0011	$\sigma_8 \Omega_m^{0.5}$	$0.477^{+0.025}_{-0.032}$	$D_M(0.15)$	636.8 ± 4.3
$100\theta_{MC}$	1.04105 ± 0.00030	$\sigma_8 \Omega_m^{0.25}$	0.642 ± 0.033	$H(0.38)$	83.33 ± 0.33
τ	0.125 ± 0.051	$\sigma_8/h^{0.5}$	1.047 ± 0.054	$D_M(0.38)$	1520.5 ± 8.7
A_L	0.98 ± 0.11	$r_{\text{drag}} h$	100.47 ± 0.87	$H(0.51)$	89.98 ± 0.27
$\ln(10^{10} A_s)$	3.18 ± 0.10	$\langle d^2 \rangle^{1/2}$	2.554 ± 0.065	$D_M(0.51)$	1971 ± 10
n_s	0.9718 ± 0.0049	z_{re}	13.5 ± 4.0	$H(0.61)$	95.54 ± 0.22
A_{100}^{PS}	232 ± 25	$10^9 A_s$	2.41 ± 0.25	$D_M(0.61)$	2294 ± 11
A_{143}^{PS}	35 ± 8	$10^9 A_s e^{-2\tau}$	1.870 ± 0.011	$H(2.33)$	235.47 ± 0.66
A_{217}^{PS}	105 ± 10	D_{40}	1253^{+22}_{-42}	$D_M(2.33)$	5753 ± 11
A_{217}^{CIB}	37 ± 7	D_{220}	5719 ± 40	$f\sigma_8(0.15)$	$0.482^{+0.027}_{-0.033}$
A_{143}^{tSZ}	4.1 ± 2.0	D_{810}	2528 ± 14	$\sigma_8(0.15)$	0.799 ± 0.041
$r_{143 \times 217}^{\text{PS}}$	0.68 ± 0.13	D_{1420}	814.9 ± 4.9	$f\sigma_8(0.38)$	0.503 ± 0.026
$r_{143 \times 217}^{\text{CIB}}$	0.51 ± 0.26	D_{2000}	231.6 ± 1.8	$\sigma_8(0.38)$	0.709 ± 0.037
$\xi^{\text{tSZ} \times \text{CIB}}$	—	$n_{s,0.002}$	0.9718 ± 0.0049	$f\sigma_8(0.51)$	0.503 ± 0.026
A^{kSZ}	< 5.30	Y_P	$0.245433^{+0.000065}_{-0.000058}$	$\sigma_8(0.51)$	0.664 ± 0.034
A_{100}^{dust}	0.995 ± 0.20	Y_P^{BBN}	$0.246759^{+0.000066}_{-0.000059}$	$f\sigma_8(0.61)$	0.498 ± 0.026
A_{143}^{dust}	0.94 ± 0.18	$10^5 D/H$	2.567 ± 0.030	$\sigma_8(0.61)$	0.632 ± 0.033
A_{217}^{dust}	0.98 ± 0.10	Age/Gyr	13.775 ± 0.024	$f\sigma_8(2.33)$	0.319 ± 0.017
$A_{143 \times 217}^{\text{dust}}$	1.01 ± 0.16	z_*	1089.63 ± 0.27	$\sigma_8(2.33)$	0.329 ± 0.017
y_{cal}	1.0001 ± 0.0025	r_*	144.83 ± 0.25	f_{2000}^{143}	27 ± 3
c_{100}	0.9976 ± 0.0011	$100\theta_*$	1.04123 ± 0.00029	f_{2000}^{217}	105.0 ± 2.1
c_{217}	1.0009 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.909 ± 0.024	$f_{2000}^{143 \times 217}$	30.0 ± 2.3
c_{TE}	0.9918 ± 0.0054	z_{drag}	1060.04 ± 0.35	χ_{CamSpec}^2	11511.7 ± 5.6
c_{EE}	0.9899 ± 0.0051	r_{drag}	147.46 ± 0.26	$\chi_{6\text{DF}}^2$	0.032 ± 0.045
H_0	68.13 ± 0.51	k_D	0.14055 ± 0.00032	χ_{MGS}^2	1.75 ± 0.53
Ω_Λ	0.6956 ± 0.0067	$100\theta_D$	0.16070 ± 0.00021	χ_{DR12BAO}^2	4.00 ± 0.87
Ω_m	0.3044 ± 0.0067	z_{eq}	3361 ± 25	χ_{prior}^2	7.8 ± 3.4
$\Omega_m h^2$	0.1413 ± 0.0010	k_{eq}	0.010258 ± 0.000076	χ_{BAO}^2	5.79 ± 0.80
$\Omega_m h^3$	0.09626 ± 0.00032	$100\theta_{\text{eq}}$	0.8212 ± 0.0048		
σ_8	0.864 ± 0.045	$100\theta_{s,\text{eq}}$	0.4534 ± 0.0024		

$$\bar{\chi}_{\text{eff}}^2 = 11525.31; R - 1 = 0.00906$$

3.38 base_Alens_CamSpecHM_TTTEEE_lowl

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022524	0.02251 ± 0.00019	σ_8	0.7686	$0.805^{+0.016}_{-0.035}$	$100\theta_{\text{eq}}$	0.8220	0.8226 ± 0.0069
$\Omega_c h^2$	0.11795	0.1179 ± 0.0016	S_8	0.7723	$0.808^{+0.025}_{-0.036}$	$100\theta_{\text{s,eq}}$	0.45384	0.4541 ± 0.0035
$100\theta_{\text{MC}}$	1.041083	1.04108 ± 0.00033	$\sigma_8 \Omega_{\text{m}}^{0.5}$	0.4230	$0.443^{+0.014}_{-0.020}$	$H(0.15)$	73.45	73.48 ± 0.64
τ	0.0101	< 0.0694	$\sigma_8 \Omega_{\text{m}}^{0.25}$	0.5702	$0.597^{+0.015}_{-0.026}$	$D_{\text{M}}(0.15)$	635.7	635.5 ± 6.2
A_{L}	1.248	1.136 ± 0.096	$\sigma_8/h^{0.5}$	0.9303	$0.974^{+0.023}_{-0.042}$	$H(0.38)$	83.415	83.43 ± 0.47
$\ln(10^{10} A_{\text{s}})$	2.950	$3.041^{+0.035}_{-0.088}$	$r_{\text{drag}} h$	100.66	100.7 ± 1.3	$D_{\text{M}}(0.38)$	1518.2	1518 ± 13
n_{s}	0.9717	0.9716 ± 0.0053	$\langle d^2 \rangle^{1/2}$	2.568	2.560 ± 0.065	$H(0.51)$	90.048	90.06 ± 0.38
y_{cal}	0.99998	1.0001 ± 0.0025	z_{re}	2.11	$7.5^{+2.2}_{-4.7}$	$D_{\text{M}}(0.51)$	1968.1	1968 ± 15
A_{100}^{PS}	222.3	232 ± 25	$10^9 A_{\text{s}}$	1.910	$2.098^{+0.067}_{-0.18}$	$H(0.61)$	95.602	95.61 ± 0.31
A_{143}^{PS}	48.5	35 ± 8	$10^9 A_{\text{s}} e^{-2\tau}$	1.8720	1.870 ± 0.012	$D_{\text{M}}(0.61)$	2291.3	2291 ± 16
A_{217}^{PS}	108.5	105 ± 10	D_{40}	1206.1	1217^{+14}_{-18}	$H(2.33)$	235.38	235.30 ± 0.92
A_{217}^{CIB}	38.7	37 ± 7	D_{220}	5725.1	5722 ± 39	$D_{\text{M}}(2.33)$	5750.1	5750 ± 14
A_{143}^{tSZ}	6.30	$4.1^{+2.0}_{-2.4}$	D_{810}	2530.4	2528 ± 14	$f\sigma_8(0.15)$	0.4280	$0.448^{+0.013}_{-0.020}$
$r_{143 \times 217}^{\text{PS}}$	0.779	0.68 ± 0.13	D_{1420}	815.63	814.8 ± 4.8	$\sigma_8(0.15)$	0.7111	$0.744^{+0.015}_{-0.032}$
$r_{143 \times 217}^{\text{CIB}}$	0.826	$0.51^{+0.32}_{-0.28}$	D_{2000}	231.89	231.6 ± 1.7	$f\sigma_8(0.38)$	0.4472	$0.468^{+0.012}_{-0.020}$
$\xi^{\text{tSZ} \times \text{CIB}}$	0.998	—	$n_{\text{s},0.002}$	0.9717	0.9716 ± 0.0053	$\sigma_8(0.38)$	0.6312	$0.661^{+0.012}_{-0.029}$
A^{kSZ}	0.01	< 5.25	Y_{P}	0.245453	0.245447 ± 0.000073	$f\sigma_8(0.51)$	0.4469	$0.468^{+0.012}_{-0.020}$
A_{100}^{dust}	1.010	1.01 ± 0.19	$Y_{\text{P}}^{\text{BBN}}$	0.246780	0.246774 ± 0.000073	$\sigma_8(0.51)$	0.5911	$0.619^{+0.011}_{-0.027}$
A_{143}^{dust}	0.971	0.95 ± 0.17	$10^5 \text{D}/\text{H}$	2.5578	2.561 ± 0.034	$f\sigma_8(0.61)$	0.4428	$0.463^{+0.011}_{-0.020}$
A_{217}^{dust}	0.993	0.98 ± 0.10	Age/Gyr	13.7685	13.769 ± 0.030	$\sigma_8(0.61)$	0.5627	$0.589^{+0.010}_{-0.026}$
$A_{143 \times 217}^{\text{dust}}$	1.016	1.01 ± 0.16	z_*	1089.548	1089.56 ± 0.34	$f\sigma_8(2.33)$	0.2840	$0.2974^{+0.0051}_{-0.013}$
c_{100}	0.99788	0.9975 ± 0.0010	r_*	144.846	144.88 ± 0.34	$\sigma_8(2.33)$	0.2932	$0.3070^{+0.0052}_{-0.014}$
c_{217}	1.00107	1.0009 ± 0.0016	$100\theta_*$	1.041249	1.04125 ± 0.00033	f_{2000}^{143}	27.23	27 ± 3
c_{TE}	0.9922	0.9924 ± 0.0053	$D_{\text{M}}(z_*)/\text{Gpc}$	13.9108	13.914 ± 0.031	f_{2000}^{217}	104.66	105.0 ± 2.1
c_{EE}	0.99045	0.9903 ± 0.0050	z_{drag}	1060.162	1060.10 ± 0.37	$f_{2000}^{143 \times 217}$	30.03	30.0 ± 2.2
H_0	68.26	68.29 ± 0.74	r_{drag}	147.463	147.51 ± 0.33	χ_{lowl}^2	21.34	22.5 ± 1.4
Ω_{Λ}	0.6971	0.6975 ± 0.0096	k_{D}	0.140588	0.14053 ± 0.00035	χ_{CamSpec}^2	11496.5	11512.4 ± 5.7
Ω_{m}	0.3029	0.3025 ± 0.0096	$100\theta_{\text{D}}$	0.160639	0.16066 ± 0.00021	χ_{prior}^2	1.87	7.7 ± 3.3
$\Omega_{\text{m}} h^2$	0.14112	0.1410 ± 0.0015	z_{eq}	3356.8	3354 ± 35	χ_{CMB}^2	11517.8	11534.9 ± 5.8
$\Omega_{\text{m}} h^3$	0.096325	0.09628 ± 0.00033	k_{eq}	0.010245	0.01024 ± 0.00011			

Best-fit $\chi_{\text{eff}}^2 = 11519.71$; $\Delta\chi_{\text{eff}}^2 = -2.34$; $\bar{\chi}_{\text{eff}}^2 = 11542.67$; $\Delta\bar{\chi}_{\text{eff}}^2 = -1.43$; $R - 1 = 0.01017$

χ_{eff}^2 : CMB - commander_dx12.v3.2.29: 21.34 (Δ -2.58) CamSpec like_10.7HM.1400.unified: 11496.50 (Δ 0.28)

3.39 base_Alens_CamSpecHM_TTTEEE_lowl_post_BAO

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02249 ± 0.00016	S_8	$0.809^{+0.021}_{-0.035}$	$H(0.15)$	73.40 ± 0.44
$\Omega_c h^2$	0.1180 ± 0.0011	$\sigma_8 \Omega_m^{0.5}$	$0.443^{+0.012}_{-0.019}$	$D_M(0.15)$	636.3 ± 4.2
$100\theta_{MC}$	1.04106 ± 0.00030	$\sigma_8 \Omega_m^{0.25}$	$0.597^{+0.013}_{-0.025}$	$H(0.38)$	83.37 ± 0.33
τ	< 0.0679	$\sigma_8/h^{0.5}$	$0.974^{+0.020}_{-0.042}$	$D_M(0.38)$	1519.4 ± 8.6
A_L	$1.133^{+0.098}_{-0.087}$	$r_{\text{drag}} h$	100.58 ± 0.85	$H(0.51)$	90.01 ± 0.27
$\ln(10^{10} A_s)$	$3.039^{+0.034}_{-0.086}$	$\langle d^2 \rangle^{1/2}$	2.558 ± 0.064	$D_M(0.51)$	1969 ± 10
n_s	0.9711 ± 0.0043	z_{re}	$7.4^{+2.2}_{-4.6}$	$H(0.61)$	95.57 ± 0.22
y_{cal}	1.0000 ± 0.0025	$10^9 A_s$	$2.093^{+0.065}_{-0.18}$	$D_M(0.61)$	2293 ± 11
A_{100}^{PS}	232 ± 25	$10^9 A_s e^{-2\tau}$	1.871 ± 0.011	$H(2.33)$	235.40 ± 0.65
A_{143}^{PS}	35 ± 8	D_{40}	1218^{+13}_{-17}	$D_M(2.33)$	5752 ± 10
A_{217}^{PS}	105 ± 10	D_{220}	5721 ± 39	$f\sigma_8(0.15)$	$0.448^{+0.011}_{-0.019}$
A_{217}^{CIB}	37 ± 7	D_{810}	2528 ± 14	$\sigma_8(0.15)$	$0.744^{+0.013}_{-0.032}$
A_{143}^{tSZ}	$4.1^{+2.0}_{-2.4}$	D_{1420}	814.7 ± 4.8	$f\sigma_8(0.38)$	$0.468^{+0.011}_{-0.020}$
$r_{143 \times 217}^{\text{PS}}$	0.68 ± 0.13	D_{2000}	231.5 ± 1.7	$\sigma_8(0.38)$	$0.660^{+0.012}_{-0.028}$
$r_{143 \times 217}^{\text{CIB}}$	$0.51^{+0.33}_{-0.28}$	$n_{s,0.002}$	0.9711 ± 0.0043	$f\sigma_8(0.51)$	$0.468^{+0.010}_{-0.020}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P	0.245440 ± 0.000062	$\sigma_8(0.51)$	$0.618^{+0.011}_{-0.027}$
A^{kSZ}	< 5.24	Y_P^{BBN}	0.246767 ± 0.000062	$f\sigma_8(0.61)$	$0.4635^{+0.0096}_{-0.020}$
A_{100}^{dust}	1.01 ± 0.19	10^5D/H	2.564 ± 0.029	$\sigma_8(0.61)$	$0.589^{+0.010}_{-0.025}$
A_{143}^{dust}	0.95 ± 0.18	Age/Gyr	13.773 ± 0.024	$f\sigma_8(2.33)$	$0.2971^{+0.0050}_{-0.013}$
A_{217}^{dust}	0.98 ± 0.10	z_*	1089.60 ± 0.26	$\sigma_8(2.33)$	$0.3067^{+0.0051}_{-0.013}$
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	r_*	144.85 ± 0.25	f_{2000}^{143}	27.1 ± 3.0
c_{100}	0.9976 ± 0.0010	$100\theta_*$	1.04123 ± 0.00030	f_{2000}^{217}	105.1 ± 2.0
c_{217}	1.0009 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.911 ± 0.024	$f_{2000}^{143 \times 217}$	30.1 ± 2.1
c_{TE}	0.9925 ± 0.0053	z_{drag}	1060.08 ± 0.35	χ_{lowl}^2	22.5 ± 1.4
c_{EE}	0.9903 ± 0.0049	r_{drag}	147.48 ± 0.26	χ_{CamSpec}^2	11511.8 ± 5.5
H_0	68.20 ± 0.50	k_D	0.14055 ± 0.00032	$\chi_{6\text{DF}}^2$	0.031 ± 0.044
Ω_Λ	0.6964 ± 0.0065	$100\theta_D$	0.16068 ± 0.00020	χ_{MGS}^2	1.82 ± 0.53
Ω_m	0.3036 ± 0.0065	z_{eq}	3358 ± 24	χ_{DR12BAO}^2	3.94 ± 0.78
$\Omega_m h^2$	0.1412 ± 0.0010	k_{eq}	0.010250 ± 0.000074	χ_{prior}^2	7.7 ± 3.3
$\Omega_m h^3$	0.09627 ± 0.00033	$100\theta_{\text{eq}}$	0.8217 ± 0.0047	χ_{BAO}^2	5.78 ± 0.79
σ_8	$0.804^{+0.015}_{-0.034}$	$100\theta_{s,\text{eq}}$	0.4537 ± 0.0024	χ_{CMB}^2	11534.3 ± 5.6

$$\bar{\chi}_{\text{eff}}^2 = 11547.85; \Delta\bar{\chi}_{\text{eff}}^2 = -1.38; R - 1 = 0.01201$$

3.40 base_Alens_CamSpecHM_TTTEEE_lowl_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02252 ± 0.00019	σ_8	$0.823^{+0.013}_{-0.027}$	$100\theta_{\text{eq}}$	0.8231 ± 0.0070
$\Omega_c h^2$	0.1177 ± 0.0016	S_8	$0.825^{+0.023}_{-0.030}$	$100\theta_{\text{s,eq}}$	0.4544 ± 0.0036
$100\theta_{\text{MC}}$	1.04110 ± 0.00033	$\sigma_8 \Omega_{\text{m}}^{0.5}$	$0.452^{+0.012}_{-0.017}$	$H(0.15)$	73.52 ± 0.65
τ	$0.079^{+0.011}_{-0.035}$	$\sigma_8 \Omega_{\text{m}}^{0.25}$	$0.610^{+0.013}_{-0.021}$	$D_{\text{M}}(0.15)$	635.1 ± 6.3
A_{L}	1.088 ± 0.083	$\sigma_8/h^{0.5}$	$0.995^{+0.019}_{-0.033}$	$H(0.38)$	83.47 ± 0.48
$\ln(10^{10} A_{\text{s}})$	$3.087^{+0.027}_{-0.067}$	$r_{\text{drag}} h$	100.8 ± 1.3	$D_{\text{M}}(0.38)$	1517 ± 13
n_{s}	0.9724 ± 0.0053	$\langle d^2 \rangle^{1/2}$	2.561 ± 0.066	$H(0.51)$	90.09 ± 0.38
y_{cal}	1.0001 ± 0.0025	z_{re}	< 10.8	$D_{\text{M}}(0.51)$	1967 ± 15
A_{100}^{PS}	231 ± 25	$10^9 A_{\text{s}}$	$2.193^{+0.054}_{-0.15}$	$H(0.61)$	95.63 ± 0.31
A_{143}^{PS}	35 ± 8	$10^9 A_{\text{s}} e^{-2\tau}$	1.869 ± 0.012	$D_{\text{M}}(0.61)$	2290 ± 16
A_{217}^{PS}	105 ± 10	D_{40}	1222^{+14}_{-18}	$H(2.33)$	235.23 ± 0.94
A_{217}^{CIB}	37 ± 7	D_{220}	5720 ± 39	$D_{\text{M}}(2.33)$	5749 ± 14
A_{143}^{tSZ}	$4.1^{+2.0}_{-2.4}$	D_{810}	2528 ± 14	$f\sigma_8(0.15)$	$0.457^{+0.012}_{-0.016}$
$r_{143 \times 217}^{\text{PS}}$	0.68 ± 0.13	D_{1420}	815.1 ± 4.8	$\sigma_8(0.15)$	$0.761^{+0.012}_{-0.025}$
$r_{143 \times 217}^{\text{CIB}}$	0.50 ± 0.27	D_{2000}	231.8 ± 1.7	$f\sigma_8(0.38)$	$0.478^{+0.011}_{-0.016}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	$n_{\text{s},0.002}$	0.9724 ± 0.0053	$\sigma_8(0.38)$	$0.6758^{+0.0096}_{-0.022}$
A^{kSZ}	< 5.09	Y_{P}	0.245451 ± 0.000073	$f\sigma_8(0.51)$	$0.4779^{+0.0097}_{-0.016}$
A_{100}^{dust}	1.01 ± 0.20	$Y_{\text{P}}^{\text{BBN}}$	0.246777 ± 0.000074	$\sigma_8(0.51)$	$0.6329^{+0.0088}_{-0.021}$
A_{143}^{dust}	0.95 ± 0.17	10^5D/H	2.559 ± 0.034	$f\sigma_8(0.61)$	$0.4736^{+0.0091}_{-0.016}$
A_{217}^{dust}	0.98 ± 0.10	Age/Gyr	13.767 ± 0.031	$\sigma_8(0.61)$	$0.6025^{+0.0082}_{-0.020}$
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	z_*	1089.54 ± 0.34	$f\sigma_8(2.33)$	$0.3042^{+0.0040}_{-0.010}$
c_{100}	0.9975 ± 0.0010	r_*	144.91 ± 0.34	$\sigma_8(2.33)$	$0.3141^{+0.0040}_{-0.011}$
c_{217}	1.0008 ± 0.0016	$100\theta_*$	1.04127 ± 0.00033	f_{2000}^{143}	27 ± 3
c_{TE}	0.9922 ± 0.0053	$D_{\text{M}}(z_*)/\text{Gpc}$	13.916 ± 0.032	f_{2000}^{217}	104.8 ± 2.1
c_{EE}	0.9901 ± 0.0049	z_{drag}	1060.12 ± 0.37	$f_{2000}^{143 \times 217}$	29.7 ± 2.2
H_0	68.35 ± 0.75	r_{drag}	147.53 ± 0.33	χ_{lowl}^2	23.1 ± 1.6
Ω_{Λ}	0.6982 ± 0.0097	k_{D}	0.14052 ± 0.00035	χ_{CamSpec}^2	11512.4 ± 5.8
Ω_{m}	0.3018 ± 0.0097	$100\theta_{\text{D}}$	0.16066 ± 0.00021	χ_{prior}^2	7.8 ± 3.3
$\Omega_{\text{m}} h^2$	0.1409 ± 0.0015	z_{eq}	3351 ± 36	χ_{CMB}^2	11535.5 ± 5.9
$\Omega_{\text{m}} h^3$	0.09628 ± 0.00033	k_{eq}	0.01023 ± 0.00011		

$$\bar{\chi}_{\text{eff}}^2 = 11543.27; \Delta\bar{\chi}_{\text{eff}}^2 = -0.66; R - 1 = 0.01232$$

3.41 base_Alens_CamSpecHM_TTTEEE_lowl_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02250 ± 0.00016	S_8	$0.827^{+0.018}_{-0.028}$	$H(0.15)$	73.41 ± 0.44
$\Omega_c h^2$	0.1180 ± 0.0011	$\sigma_8 \Omega_m^{0.5}$	$0.453^{+0.010}_{-0.015}$	$D_M(0.15)$	636.1 ± 4.3
$100\theta_{MC}$	1.04106 ± 0.00030	$\sigma_8 \Omega_m^{0.25}$	$0.611^{+0.011}_{-0.020}$	$H(0.38)$	83.38 ± 0.33
τ	$0.078^{+0.011}_{-0.033}$	$\sigma_8/h^{0.5}$	$0.996^{+0.017}_{-0.032}$	$D_M(0.38)$	1519.1 ± 8.7
A_L	1.084 ± 0.080	$r_{\text{drag}} h$	100.61 ± 0.87	$H(0.51)$	90.02 ± 0.27
$\ln(10^{10} A_s)$	$3.085^{+0.027}_{-0.065}$	$\langle d^2 \rangle^{1/2}$	2.559 ± 0.065	$D_M(0.51)$	1969 ± 10
n_s	0.9717 ± 0.0043	z_{re}	< 10.7	$H(0.61)$	95.58 ± 0.23
y_{cal}	1.0001 ± 0.0025	$10^9 A_s$	$2.189^{+0.054}_{-0.14}$	$D_M(0.61)$	2292 ± 11
A_{100}^{PS}	231 ± 25	$10^9 A_s e^{-2\tau}$	1.870 ± 0.011	$H(2.33)$	235.38 ± 0.66
A_{143}^{PS}	35 ± 8	D_{40}	1223^{+14}_{-17}	$D_M(2.33)$	5752 ± 11
A_{217}^{PS}	105 ± 10	D_{220}	5719 ± 39	$f\sigma_8(0.15)$	$0.4584^{+0.0096}_{-0.015}$
A_{217}^{CIB}	37^{+6}_{-7}	D_{810}	2528 ± 14	$\sigma_8(0.15)$	$0.761^{+0.011}_{-0.025}$
A_{143}^{tSZ}	$4.1^{+1.9}_{-2.5}$	D_{1420}	814.9 ± 4.9	$f\sigma_8(0.38)$	$0.4789^{+0.0089}_{-0.016}$
$r_{143 \times 217}^{\text{PS}}$	0.68 ± 0.13	D_{2000}	231.6 ± 1.7	$\sigma_8(0.38)$	$0.6755^{+0.0092}_{-0.022}$
$r_{143 \times 217}^{\text{CIB}}$	0.50 ± 0.27	$n_{s,0.002}$	0.9717 ± 0.0043	$f\sigma_8(0.51)$	$0.4784^{+0.0084}_{-0.015}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P	0.245442 ± 0.000062	$\sigma_8(0.51)$	$0.6325^{+0.0085}_{-0.021}$
A^{kSZ}	< 5.12	Y_P^{BBN}	0.246768 ± 0.000063	$f\sigma_8(0.61)$	$0.4741^{+0.0079}_{-0.015}$
A_{100}^{dust}	1.01 ± 0.20	10^5D/H	2.563 ± 0.030	$\sigma_8(0.61)$	$0.6021^{+0.0080}_{-0.020}$
A_{143}^{dust}	0.94 ± 0.17	Age/Gyr	13.772 ± 0.024	$f\sigma_8(2.33)$	$0.3039^{+0.0040}_{-0.0099}$
A_{217}^{dust}	0.98 ± 0.10	z_*	1089.59 ± 0.26	$\sigma_8(2.33)$	$0.3137^{+0.0041}_{-0.010}$
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	r_*	144.86 ± 0.25	f_{2000}^{143}	27 ± 3
c_{100}	0.9975 ± 0.0010	$100\theta_*$	1.04124 ± 0.00030	f_{2000}^{217}	105.0 ± 2.1
c_{217}	1.0009 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.912 ± 0.024	$f_{2000}^{143 \times 217}$	29.9 ± 2.1
c_{TE}	0.9923 ± 0.0053	z_{drag}	1060.08 ± 0.35	χ_{lowl}^2	23.2 ± 1.5
c_{EE}	0.9901 ± 0.0049	r_{drag}	147.48 ± 0.26	χ_{CamSpec}^2	11511.7 ± 5.5
H_0	68.22 ± 0.51	k_D	0.14055 ± 0.00032	$\chi_{6\text{DF}}^2$	0.032 ± 0.046
Ω_Λ	0.6966 ± 0.0066	$100\theta_D$	0.16067 ± 0.00020	χ_{MGS}^2	1.84 ± 0.54
Ω_m	0.3034 ± 0.0066	z_{eq}	3357 ± 25	χ_{DR12BAO}^2	3.93 ± 0.77
$\Omega_m h^2$	0.1411 ± 0.0010	k_{eq}	0.010247 ± 0.000075	χ_{prior}^2	7.8 ± 3.3
$\Omega_m h^3$	0.09627 ± 0.00033	$100\theta_{\text{eq}}$	0.8219 ± 0.0047	χ_{BAO}^2	5.80 ± 0.81
σ_8	$0.823^{+0.012}_{-0.027}$	$100\theta_{s,\text{eq}}$	0.4538 ± 0.0024	χ_{CMB}^2	11534.9 ± 5.7

$$\bar{\chi}_{\text{eff}}^2 = 11548.48; \Delta\bar{\chi}_{\text{eff}}^2 = -0.61; R - 1 = 0.01389$$

3.42 base_Alens_CamSpecHM_TTTEEE_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022483	0.02246 ± 0.00019	σ_8	0.8015	0.8012 ± 0.0090	$100\theta_{\text{eq}}$	0.8203	0.8199 ± 0.0070
$\Omega_c h^2$	0.11835	0.1185 ± 0.0016	S_8	0.8086	0.810 ± 0.020	$100\theta_{\text{s,eq}}$	0.45297	0.4528 ± 0.0036
$100\theta_{\text{MC}}$	1.041013	1.04102 ± 0.00033	$\sigma_8 \Omega_{\text{m}}^{0.5}$	0.4429	0.443 ± 0.011	$H(0.15)$	73.28	73.23 ± 0.65
τ	0.0505	$0.0498^{+0.0083}_{-0.0073}$	$\sigma_8 \Omega_{\text{m}}^{0.25}$	0.5958	0.596 ± 0.010	$D_{\text{M}}(0.15)$	637.4	637.9 ± 6.4
A_{L}	1.137	1.130 ± 0.071	$\sigma_8/h^{0.5}$	0.9714	0.972 ± 0.015	$H(0.38)$	83.291	83.26 ± 0.48
$\ln(10^{10} A_{\text{s}})$	3.0311	$3.030^{+0.017}_{-0.016}$	$r_{\text{drag}} h$	100.33	100.2 ± 1.3	$D_{\text{M}}(0.38)$	1521.6	1523 ± 13
n_{s}	0.9699	0.9689 ± 0.0053	$\langle d^2 \rangle^{1/2}$	2.562	2.554 ± 0.064	$H(0.51)$	89.949	89.92 ± 0.38
y_{cal}	0.99982	1.0001 ± 0.0025	z_{re}	7.23	$7.15^{+0.90}_{-0.71}$	$D_{\text{M}}(0.51)$	1972.0	1973 ± 15
A_{100}^{PS}	224.2	234 ± 25	$10^9 A_{\text{s}}$	2.0720	2.070 ± 0.036	$H(0.61)$	95.522	95.50 ± 0.31
A_{143}^{PS}	49.0	36 ± 8	$10^9 A_{\text{s}} e^{-2\tau}$	1.8732	1.874 ± 0.013	$D_{\text{M}}(0.61)$	2295.5	2297 ± 16
A_{217}^{PS}	107.3	104 ± 10	D_{40}	1216.5	1219 ± 15	$H(2.33)$	235.59	235.65 ± 0.95
A_{217}^{CIB}	39.7	38^{+7}_{-7}	D_{220}	5725.7	5728 ± 39	$D_{\text{M}}(2.33)$	5753.6	5755 ± 14
A_{143}^{tSZ}	6.41	$4.0^{+2.0}_{-2.4}$	D_{810}	2529.8	2530 ± 14	$f\sigma_8(0.15)$	0.4479	0.448 ± 0.010
$r_{143 \times 217}^{\text{PS}}$	0.758	0.67 ± 0.13	D_{1420}	814.82	814.3 ± 4.9	$\sigma_8(0.15)$	0.7412	0.7409 ± 0.0077
$r_{143 \times 217}^{\text{CIB}}$	0.874	$0.52^{+0.35}_{-0.26}$	D_{2000}	231.47	231.1 ± 1.7	$f\sigma_8(0.38)$	0.4674	0.4676 ± 0.0085
$\xi^{\text{tSZ} \times \text{CIB}}$	0.95	—	$n_{\text{s},0.002}$	0.9699	0.9689 ± 0.0053	$\sigma_8(0.38)$	0.6577	0.6573 ± 0.0064
A^{kSZ}	0.01	< 5.55	Y_{P}	0.245438	$0.245428^{+0.000075}_{-0.000068}$	$f\sigma_8(0.51)$	0.4667	0.4668 ± 0.0075
A_{100}^{dust}	1.003	1.01 ± 0.20	$Y_{\text{P}}^{\text{BBN}}$	0.246765	$0.246754^{+0.000075}_{-0.000068}$	$\sigma_8(0.51)$	0.6157	0.6154 ± 0.0058
A_{143}^{dust}	0.968	0.95 ± 0.18	$10^5 \text{D}/\text{H}$	2.5649	2.570 ± 0.035	$f\sigma_8(0.61)$	0.4623	0.4623 ± 0.0068
A_{217}^{dust}	0.986	0.98 ± 0.10	Age/Gyr	13.7760	13.779 ± 0.031	$\sigma_8(0.61)$	0.5861	0.5857 ± 0.0054
$A_{143 \times 217}^{\text{dust}}$	0.996	1.02 ± 0.16	z_*	1089.634	1089.68 ± 0.35	$f\sigma_8(2.33)$	0.29574	0.2955 ± 0.0027
c_{100}	0.99790	0.9976 ± 0.0010	r_*	144.773	144.76 ± 0.34	$\sigma_8(2.33)$	0.30517	0.3049 ± 0.0027
c_{217}	1.00108	1.0009 ± 0.0016	$100\theta_*$	1.041194	1.04120 ± 0.00033	f_{2000}^{143}	27.85	28 ± 3
c_{TE}	0.9926	0.9929 ± 0.0053	$D_{\text{M}}(z_*)/\text{Gpc}$	13.9045	13.903 ± 0.032	f_{2000}^{217}	104.96	105.5 ± 2.1
c_{EE}	0.9908	0.9908 ± 0.0050	z_{drag}	1060.085	1060.03 ± 0.38	$f_{2000}^{143 \times 217}$	30.36	30.6 ± 2.3
H_0	68.06	68.01 ± 0.75	r_{drag}	147.403	147.40 ± 0.33	χ_{small}^2	395.68	396.8 ± 1.6
Ω_{Λ}	0.6946	0.694 ± 0.010	k_{D}	0.140623	0.14061 ± 0.00035	χ_{CamSpec}^2	11496.2	11512.2 ± 5.6
Ω_{m}	0.3054	0.306 ± 0.010	$100\theta_{\text{D}}$	0.160671	0.16070 ± 0.00021	χ_{prior}^2	1.84	7.8 ± 3.4
$\Omega_{\text{m}} h^2$	0.14148	0.1416 ± 0.0015	z_{eq}	3365.4	3368 ± 36	χ_{CMB}^2	11891.9	11909.0 ± 5.8
$\Omega_{\text{m}} h^3$	0.096294	0.09627 ± 0.00033	k_{eq}	0.010272	0.01028 ± 0.00011			

Best-fit $\chi_{\text{eff}}^2 = 11893.69$; $\Delta\chi_{\text{eff}}^2 = -3.79$; $\bar{\chi}_{\text{eff}}^2 = 11916.80$; $\Delta\bar{\chi}_{\text{eff}}^2 = -2.29$; $R - 1 = 0.00486$

χ_{eff}^2 : CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.68 (Δ -0.18) CamSpec like_10.7HM_1400_unified: 11496.17 (Δ -3.31)

4 alpha1

4.1 base_alpha1_CamSpecHM_TT_lowl_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022139	0.02220 ± 0.00023	$\sigma_8 \Omega_m^{0.5}$	0.4615	0.461 ± 0.013	$H(0.15)$	72.11	72.16 ± 0.81
$\Omega_c h^2$	0.12106	0.1210 ± 0.0022	$\sigma_8 \Omega_m^{0.25}$	0.6120	0.612 ± 0.012	$D_M(0.15)$	649.1	648.7 ± 8.3
$100\theta_{MC}$	1.04066	1.04059 ± 0.00056	$\sigma_8/h^{0.5}$	0.9938	0.993 ± 0.016	$H(0.38)$	82.42	82.47 ± 0.58
τ	0.0526	0.0537 ± 0.0084	$r_{drag} h$	98.11	98.2 ± 1.7	$D_M(0.38)$	1545.1	1544 ± 16
α_{-1}	$-22 \cdot 10^{-5}$	$-0.0012^{+0.0017}_{-0.0012}$	$\langle d^2 \rangle^{1/2}$	2.4559	2.457 ± 0.039	$H(0.51)$	89.250	89.29 ± 0.45
$\ln(10^{10} A_s)$	3.0417	3.045 ± 0.018	z_{re}	7.57	7.65 ± 0.85	$D_M(0.51)$	1999.7	1999 ± 19
n_s	0.9607	$0.9596^{+0.0071}_{-0.0083}$	$10^9 A_s$	2.0940	2.101 ± 0.038	$H(0.61)$	94.956	$95.00^{+0.33}_{-0.37}$
y_{cal}	1.00035	1.0005 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.8850	1.887 ± 0.015	$D_M(0.61)$	2325.4	2324 ± 21
A_{100}^{PS}	240.1	244 ± 25	D_{40}	1221.5	1216^{+18}_{-24}	$H(2.33)$	237.00	237.0 ± 1.4
A_{143}^{PS}	39.3	41 ± 8	D_{220}	5701.3	5709 ± 42	$D_M(2.33)$	5779.3	5777 ± 16
A_{217}^{PS}	99.2	100 ± 10	D_{810}	2534.4	2536 ± 14	$f\sigma_8(0.15)$	0.4651	0.465 ± 0.012
A_{217}^{CIB}	45.6	41 ± 7	D_{1420}	813.5	813.8 ± 5.3	$\sigma_8(0.15)$	0.7489	0.7485 ± 0.0075
A_{143}^{tSZ}	5.89	$3.7^{+1.7}_{-2.6}$	D_{2000}	229.24	229.4 ± 1.9	$f\sigma_8(0.38)$	0.4808	0.4804 ± 0.0096
$r_{143 \times 217}^{PS}$	0.560	0.64 ± 0.13	$n_{s,0.002}$	0.9607	$0.9596^{+0.0071}_{-0.0083}$	$\sigma_8(0.38)$	0.6626	0.6623 ± 0.0061
$r_{143 \times 217}^{CIB}$	0.762	$0.59^{+0.40}_{-0.12}$	Y_P	0.245301	$0.24532^{+0.00011}_{-0.000085}$	$f\sigma_8(0.51)$	0.4780	0.4776 ± 0.0082
$\xi^{tSZ \times CIB}$	0.02	—	Y_P^{BBN}	0.246627	$0.24665^{+0.00011}_{-0.000085}$	$\sigma_8(0.51)$	0.6195	0.6193 ± 0.0055
A^{kSZ}	1.5	—	$10^5 D/H$	2.6295	2.619 ± 0.044	$f\sigma_8(0.61)$	0.4721	0.4717 ± 0.0072
A_{100}^{dust}	1.017	1.02 ± 0.19	Age/Gyr	13.8331	13.829 ± 0.037	$\sigma_8(0.61)$	0.5892	0.5889 ± 0.0052
A_{143}^{dust}	0.993	0.98 ± 0.18	z_*	1090.306	1090.23 ± 0.40	$f\sigma_8(2.33)$	0.29662	0.2965 ± 0.0026
A_{217}^{dust}	0.962	0.97 ± 0.10	r_*	144.34	144.31 ± 0.53	$\sigma_8(2.33)$	0.30531	0.3052 ± 0.0028
$A_{143 \times 217}^{dust}$	1.005	1.03 ± 0.16	$100\theta_*$	1.04086	1.04079 ± 0.00056	f_{2000}^{143}	31.32	31.1 ± 3.0
c_{100}	0.99750	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.8670	13.865 ± 0.048	f_{2000}^{217}	107.80	107.7 ± 2.0
c_{217}	1.00144	1.0012 ± 0.0016	z_{drag}	1059.47	1059.60 ± 0.51	$f_{2000}^{143 \times 217}$	33.15	33.2 ± 2.1
H_0	66.71	66.76 ± 0.95	r_{drag}	147.07	147.02 ± 0.55	χ_{simall}^2	395.89	397.1 ± 1.8
Ω_Λ	0.6767	0.677 ± 0.014	k_D	0.14071	$0.14080^{+0.00065}_{-0.00059}$	χ_{lowl}^2	22.30	22.2 ± 2.4
Ω_m	0.3233	0.323 ± 0.014	$100\theta_D$	0.161006	$0.16092^{+0.00029}_{-0.00034}$	$\chi_{CamSpec}^2$	7050.8	7065.8 ± 5.8
$\Omega_m h^2$	0.14384	0.1438 ± 0.0021	z_{eq}	3422	3422 ± 51	χ_{prior}^2	2.35	7.6 ± 3.5
$\Omega_m h^3$	0.095951	0.09601 ± 0.00047	k_{eq}	0.010444	0.01044 ± 0.00016	χ_{CMB}^2	7469.0	7485.1 ± 5.8
σ_8	0.8117	0.8112 ± 0.0089	$100\theta_{eq}$	0.8090	0.8092 ± 0.0094			
S_8	0.8426	0.842 ± 0.025	$100\theta_{s,eq}$	0.44728	0.4473 ± 0.0049			

Best-fit $\chi_{eff}^2 = 7471.39$; $\Delta\chi_{eff}^2 = -0.35$; $\bar{\chi}_{eff}^2 = 7492.71$; $\Delta\bar{\chi}_{eff}^2 = 1.18$; $R - 1 = 0.00444$

χ_{eff}^2 : CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.89 (Δ 0.05) commander_dx12_v3.2.29: 22.30 (Δ -1.10) CamSpec like_10.7HM: 7050.85 (Δ 0.51)

4.2 base_alpha1_CamSpecHM_TT_lowl_lowE_post_BAO

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}} h^2$	0.02228 ± 0.00023	$\sigma_8 \Omega_{\mathrm{m}}^{0.25}$	0.6017 ± 0.0080	$H(0.38)$	82.99 ± 0.35
$\Omega_{\mathrm{c}} h^2$	0.1190 ± 0.0012	$\sigma_8 / h^{0.5}$	0.980 ± 0.011	$D_{\mathrm{M}}(0.38)$	1529.1 ± 9.4
$100\theta_{\mathrm{MC}}$	1.04094 ± 0.00048	$r_{\mathrm{drag}} h$	99.76 ± 0.96	$H(0.51)$	89.69 ± 0.29
τ	0.0550 ± 0.0084	$\langle d^2 \rangle^{1/2}$	2.425 ± 0.028	$D_{\mathrm{M}}(0.51)$	1981 ± 11
α_{-1}	$-0.0007^{+0.0015}_{-0.0012}$	z_{re}	7.73 ± 0.83	$H(0.61)$	95.30 ± 0.25
$\ln(10^{10} A_{\mathrm{s}})$	3.042 ± 0.018	$10^9 A_{\mathrm{s}}$	$2.096^{+0.035}_{-0.039}$	$D_{\mathrm{M}}(0.61)$	2305 ± 12
n_{s}	$0.9656^{+0.0057}_{-0.0065}$	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.877 ± 0.013	$H(2.33)$	235.79 ± 0.81
y_{cal}	1.0007 ± 0.0025	D_{40}	1214^{+21}_{-27}	$D_{\mathrm{M}}(2.33)$	5765 ± 12
A_{100}^{PS}	243 ± 25	D_{220}	5716 ± 42	$f\sigma_8(0.15)$	0.4537 ± 0.0076
A_{143}^{PS}	40 ± 8	D_{810}	2535 ± 14	$\sigma_8(0.15)$	0.7452 ± 0.0069
A_{217}^{PS}	100 ± 10	D_{1420}	815.1 ± 5.2	$f\sigma_8(0.38)$	0.4723 ± 0.0065
A_{217}^{CIB}	41 ± 7	D_{2000}	229.9 ± 1.8	$\sigma_8(0.38)$	0.6607 ± 0.0059
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.7}$	$n_{\mathrm{s},0.002}$	$0.9656^{+0.0057}_{-0.0065}$	$f\sigma_8(0.51)$	0.4710 ± 0.0058
$r_{143 \times 217}^{\mathrm{PS}}$	0.64 ± 0.13	Y_{P}	$0.24535^{+0.00010}_{-0.000081}$	$\sigma_8(0.51)$	0.6184 ± 0.0055
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.465	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.24668^{+0.00011}_{-0.000082}$	$f\sigma_8(0.61)$	0.4662 ± 0.0054
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$10^5 \mathrm{D}/\mathrm{H}$	$2.604^{+0.040}_{-0.046}$	$\sigma_8(0.61)$	0.5885 ± 0.0052
A^{kSZ}	—	$\mathrm{Age}/\mathrm{Gyr}$	13.802 ± 0.028	$f\sigma_8(2.33)$	0.2968 ± 0.0026
A_{100}^{dust}	1.02 ± 0.20	z_*	1089.95 ± 0.32	$\sigma_8(2.33)$	0.3060 ± 0.0027
A_{143}^{dust}	0.99 ± 0.18	r_*	144.77 ± 0.35	f_{2000}^{143}	30.6 ± 3.0
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04113 ± 0.00048	f_{2000}^{217}	107.4 ± 2.0
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.905 ± 0.032	$f_{2000}^{143 \times 217}$	32.8 ± 2.1
c_{100}	0.9975 ± 0.0011	z_{drag}	$1059.64^{+0.56}_{-0.50}$	χ_{simall}^2	397.1 ± 1.9
c_{217}	1.0012 ± 0.0016	r_{drag}	147.47 ± 0.39	χ_{lowl}^2	22 ± 3
H_0	67.65 ± 0.55	k_{D}	$0.14039^{+0.00056}_{-0.00050}$	$\chi_{\mathrm{CamSpec}}^2$	7065.8 ± 5.9
Ω_{Λ}	0.6898 ± 0.0074	$100\theta_{\mathrm{D}}$	$0.16093^{+0.00031}_{-0.00036}$	$\chi_{6\mathrm{DF}}^2$	0.061 ± 0.079
Ω_{m}	0.3102 ± 0.0074	z_{eq}	3375 ± 29	χ_{MGS}^2	1.35 ± 0.53
$\Omega_{\mathrm{m}} h^2$	0.1419 ± 0.0012	k_{eq}	0.010302 ± 0.000090	$\chi_{\mathrm{DR12BAO}}^2$	4.8 ± 1.7
$\Omega_{\mathrm{m}} h^3$	0.09598 ± 0.00048	$100\theta_{\mathrm{eq}}$	0.8179 ± 0.0054	χ_{prior}^2	7.7 ± 3.5
σ_8	0.8063 ± 0.0078	$100\theta_{\mathrm{s,eq}}$	0.4519 ± 0.0028	χ_{BAO}^2	6.3 ± 1.4
S_8	0.820 ± 0.015	$H(0.15)$	72.91 ± 0.47	χ_{CMB}^2	7485.4 ± 5.8
$\sigma_8 \Omega_{\mathrm{m}}^{0.5}$	0.4491 ± 0.0081	$D_{\mathrm{M}}(0.15)$	641.0 ± 4.7		

$$\bar{\chi}_{\mathrm{eff}}^2 = 7499.33; \Delta \bar{\chi}_{\mathrm{eff}}^2 = 1.77; R - 1 = 0.01534$$

4.3 base_alpha1_CamSpecHM_TT_lowl_lowE_post_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02222 ± 0.00023	$\sigma_8 \Omega_m^{0.5}$	0.4583 ± 0.0091	$H(0.15)$	72.31 ± 0.63
$\Omega_c h^2$	0.1206 ± 0.0016	$\sigma_8 \Omega_m^{0.25}$	0.6093 ± 0.0077	$D_M(0.15)$	647.1 ± 6.4
$100\theta_{MC}$	1.04063 ± 0.00052	$\sigma_8/h^{0.5}$	0.990 ± 0.010	$H(0.38)$	82.57 ± 0.46
τ	0.0539 ± 0.0081	$r_{\text{drag}} h$	98.5 ± 1.3	$D_M(0.38)$	1541 ± 13
α_{-1}	$-0.0012^{+0.0017}_{-0.0011}$	$\langle d^2 \rangle^{1/2}$	2.450 ± 0.026	$H(0.51)$	89.37 ± 0.37
$\ln(10^{10} A_s)$	3.044 ± 0.016	z_{re}	7.66 ± 0.81	$D_M(0.51)$	1995 ± 15
n_s	$0.9604^{+0.0061}_{-0.0071}$	$10^9 A_s$	$2.100^{+0.031}_{-0.035}$	$H(0.61)$	95.05 ± 0.30
y_{cal}	1.0006 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.885 ± 0.013	$D_M(0.61)$	2320 ± 16
A_{100}^{PS}	244 ± 25	D_{40}	1216^{+17}_{-25}	$H(2.33)$	236.8 ± 1.0
A_{143}^{PS}	41 ± 8	D_{220}	5712 ± 42	$D_M(2.33)$	5775 ± 15
A_{217}^{PS}	100 ± 10	D_{810}	2536 ± 14	$f\sigma_8(0.15)$	0.4622 ± 0.0083
A_{217}^{CIB}	41 ± 7	D_{1420}	814.0 ± 5.3	$\sigma_8(0.15)$	0.7475 ± 0.0056
A_{143}^{tSZ}	$3.6^{+1.7}_{-2.6}$	D_{2000}	229.4 ± 1.9	$f\sigma_8(0.38)$	0.4785 ± 0.0063
$r_{143 \times 217}^{\text{PS}}$	0.64 ± 0.13	$n_{s,0.002}$	$0.9604^{+0.0061}_{-0.0071}$	$\sigma_8(0.38)$	0.6617 ± 0.0050
$r_{143 \times 217}^{\text{CIB}}$	$0.59^{+0.40}_{-0.13}$	Y_P	$0.24533^{+0.00011}_{-0.000083}$	$f\sigma_8(0.51)$	0.4761 ± 0.0054
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	$0.24666^{+0.00011}_{-0.000083}$	$\sigma_8(0.51)$	0.6189 ± 0.0048
A^{kSZ}	$5.2^{+3.8}_{-2.4}$	$10^5 D/H$	2.615 ± 0.043	$f\sigma_8(0.61)$	0.4704 ± 0.0047
A_{100}^{dust}	1.02 ± 0.19	Age/Gyr	13.823 ± 0.033	$\sigma_8(0.61)$	0.5886 ± 0.0046
A_{143}^{dust}	0.98 ± 0.18	z_*	1090.16 ± 0.36	$f\sigma_8(2.33)$	0.2965 ± 0.0025
A_{217}^{dust}	0.97 ± 0.10	r_*	144.40 ± 0.41	$\sigma_8(2.33)$	0.3053 ± 0.0027
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04083 ± 0.00052	f_{2000}^{143}	31.1 ± 3.0
c_{100}	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.873 ± 0.037	f_{2000}^{217}	107.7 ± 2.0
c_{217}	1.0012 ± 0.0016	z_{drag}	1059.63 ± 0.51	$f_{2000}^{143 \times 217}$	33.1 ± 2.1
H_0	66.94 ± 0.74	r_{drag}	147.11 ± 0.44	χ_{lensing}^2	9.52 ± 0.91
Ω_Λ	0.680 ± 0.010	k_D	0.14073 ± 0.00054	χ_{simall}^2	397.0 ± 1.7
Ω_m	0.320 ± 0.010	$100\theta_D$	$0.16091^{+0.00030}_{-0.00033}$	χ_{lowl}^2	22.2 ± 2.4
$\Omega_m h^2$	0.1434 ± 0.0016	z_{eq}	3412 ± 38	χ_{CamSpec}^2	7065.3 ± 5.8
$\Omega_m h^3$	0.09601 ± 0.00047	k_{eq}	0.01042 ± 0.00012	χ_{prior}^2	7.6 ± 3.4
σ_8	0.8099 ± 0.0063	$100\theta_{\text{eq}}$	0.8109 ± 0.0071	χ_{CMB}^2	7494.0 ± 5.9
S_8	0.837 ± 0.017	$100\theta_{s,\text{eq}}$	0.4482 ± 0.0037		

$$\bar{\chi}_{\text{eff}}^2 = 7501.64; \Delta\bar{\chi}_{\text{eff}}^2 = 1.40; R - 1 = 0.00636$$

4.4 base_alpha1_CamSpecHM_TT_lowl_lowE_post_BAO_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02228 ± 0.00023	$\sigma_8 \Omega_m^{0.25}$	0.6040 ± 0.0062	$H(0.38)$	82.95 ± 0.33
$\Omega_c h^2$	0.1192 ± 0.0011	$\sigma_8/h^{0.5}$	0.9836 ± 0.0090	$D_M(0.38)$	1530.4 ± 8.7
$100\theta_{MC}$	1.04091 ± 0.00047	$r_{drag}h$	99.59 ± 0.86	$H(0.51)$	89.66 ± 0.27
τ	$0.0566^{+0.0072}_{-0.0081}$	$\langle d^2 \rangle^{1/2}$	2.434 ± 0.022	$D_M(0.51)$	1983 ± 10
α_{-1}	$-0.0007^{+0.0015}_{-0.0012}$	z_{re}	7.90 ± 0.77	$H(0.61)$	95.28 ± 0.24
$\ln(10^{10} A_s)$	3.047 ± 0.016	$10^9 A_s$	$2.105^{+0.032}_{-0.036}$	$D_M(0.61)$	2307 ± 11
n_s	$0.9648^{+0.0054}_{-0.0064}$	$10^9 A_s e^{-2\tau}$	1.880 ± 0.012	$H(2.33)$	235.94 ± 0.72
y_{cal}	1.0009 ± 0.0025	D_{40}	1216^{+19}_{-27}	$D_M(2.33)$	5766 ± 12
A_{100}^{PS}	243 ± 25	D_{220}	5721 ± 42	$f\sigma_8(0.15)$	0.4557 ± 0.0061
A_{143}^{PS}	40 ± 8	D_{810}	2536 ± 14	$\sigma_8(0.15)$	0.7471 ± 0.0057
A_{217}^{PS}	101 ± 10	D_{1420}	815.5 ± 5.1	$f\sigma_8(0.38)$	0.4741 ± 0.0051
A_{217}^{CIB}	41 ± 7	D_{2000}	230.0 ± 1.8	$\sigma_8(0.38)$	0.6623 ± 0.0051
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.7}$	$n_{s,0.002}$	$0.9648^{+0.0054}_{-0.0064}$	$f\sigma_8(0.51)$	0.4727 ± 0.0045
$r_{143 \times 217}^{PS}$	0.64 ± 0.13	Y_P	$0.24536^{+0.00010}_{-0.000082}$	$\sigma_8(0.51)$	0.6198 ± 0.0048
$r_{143 \times 217}^{CIB}$	$0.58^{+0.41}_{-0.13}$	Y_P^{BBN}	$0.24668^{+0.00010}_{-0.000082}$	$f\sigma_8(0.61)$	0.4677 ± 0.0042
$\xi^{tSZ \times CIB}$	—	$10^5 D/H$	$2.603^{+0.041}_{-0.046}$	$\sigma_8(0.61)$	0.5897 ± 0.0045
A^{kSZ}	—	Age/Gyr	13.803 ± 0.028	$f\sigma_8(2.33)$	0.2974 ± 0.0024
A_{100}^{dust}	1.02 ± 0.20	z_*	1089.96 ± 0.32	$\sigma_8(2.33)$	0.3066 ± 0.0025
A_{143}^{dust}	0.98 ± 0.18	r_*	144.71 ± 0.31	f_{2000}^{143}	30.5 ± 3.0
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04110 ± 0.00047	f_{2000}^{217}	107.4 ± 2.0
$A_{143 \times 217}^{dust}$	1.03 ± 0.16	$D_M(z_*)/\text{Gpc}$	13.899 ± 0.029	$f_{2000}^{143 \times 217}$	32.7 ± 2.1
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.67 ± 0.53	$\chi_{lensing}^2$	9.35 ± 0.80
c_{217}	1.0012 ± 0.0016	r_{drag}	147.40 ± 0.36	χ_{small}^2	397.3 ± 2.0
H_0	67.56 ± 0.50	k_D	$0.14047^{+0.00053}_{-0.00048}$	χ_{lowl}^2	23 ± 3
Ω_Λ	0.6886 ± 0.0067	$100\theta_D$	$0.16091^{+0.00031}_{-0.00035}$	$\chi_{CamSpec}^2$	7065.2 ± 5.7
Ω_m	0.3114 ± 0.0067	z_{eq}	3381 ± 26	χ_{6DF}^2	0.065 ± 0.077
$\Omega_m h^2$	0.1421 ± 0.0011	k_{eq}	0.010319 ± 0.000080	χ_{MGS}^2	1.25 ± 0.47
$\Omega_m h^3$	0.09602 ± 0.00047	$100\theta_{eq}$	0.8169 ± 0.0048	$\chi_{DR12BAO}^2$	5.0 ± 1.7
σ_8	0.8085 ± 0.0063	$100\theta_{s,eq}$	0.4513 ± 0.0025	χ_{prior}^2	7.6 ± 3.4
S_8	0.824 ± 0.012	$H(0.15)$	72.84 ± 0.43	χ_{CMB}^2	7494.3 ± 5.9
$\sigma_8 \Omega_m^{0.5}$	0.4512 ± 0.0065	$D_M(0.15)$	641.7 ± 4.3	χ_{BAO}^2	6.3 ± 1.4

$$\bar{\chi}_{eff}^2 = 7508.28; \Delta \bar{\chi}_{eff}^2 = 1.80; R - 1 = 0.01595$$

4.5 base_alpha1_CamSpecHM_TT_lowl_lowE_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02221 ± 0.00023	$\sigma_8 \Omega_m^{0.5}$	0.461 ± 0.013	$H(0.15)$	72.18 ± 0.81
$\Omega_c h^2$	0.1210 ± 0.0022	$\sigma_8 \Omega_m^{0.25}$	0.612 ± 0.012	$D_M(0.15)$	648.5 ± 8.2
$100\theta_{MC}$	1.04059 ± 0.00056	$\sigma_8/h^{0.5}$	0.994 ± 0.016	$H(0.38)$	82.48 ± 0.58
τ	$0.0551^{+0.0052}_{-0.0087}$	$r_{\text{drag}} h$	98.2 ± 1.7	$D_M(0.38)$	1544 ± 16
α_{-1}	$-0.0013^{+0.0017}_{-0.0011}$	$\langle d^2 \rangle^{1/2}$	2.459 ± 0.039	$H(0.51)$	$89.31^{+0.42}_{-0.47}$
$\ln(10^{10} A_s)$	$3.048^{+0.014}_{-0.018}$	z_{re}	$7.80^{+0.58}_{-0.85}$	$D_M(0.51)$	1998 ± 19
n_s	$0.9596^{+0.0070}_{-0.0083}$	$10^9 A_s$	$2.107^{+0.028}_{-0.038}$	$H(0.61)$	$95.01^{+0.33}_{-0.37}$
y_{cal}	1.0005 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.887 ± 0.015	$D_M(0.61)$	2324 ± 20
A_{100}^{PS}	244 ± 25	D_{40}	1216^{+18}_{-24}	$H(2.33)$	237.0 ± 1.4
A_{143}^{PS}	41 ± 8	D_{220}	5710 ± 42	$D_M(2.33)$	5777 ± 16
A_{217}^{PS}	100 ± 10	D_{810}	2536 ± 14	$f\sigma_8(0.15)$	0.465 ± 0.012
A_{217}^{CIB}	41 ± 7	D_{1420}	813.8 ± 5.2	$\sigma_8(0.15)$	0.7493 ± 0.0071
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.6}$	D_{2000}	229.4 ± 1.8	$f\sigma_8(0.38)$	0.4807 ± 0.0096
$r_{143 \times 217}^{\text{PS}}$	0.64 ± 0.13	$n_{s,0.002}$	$0.9596^{+0.0070}_{-0.0083}$	$\sigma_8(0.38)$	$0.6630^{+0.0052}_{-0.0059}$
$r_{143 \times 217}^{\text{CIB}}$	$0.59^{+0.41}_{-0.12}$	Y_P	$0.24532^{+0.00011}_{-0.000084}$	$f\sigma_8(0.51)$	0.4780 ± 0.0081
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	$0.24665^{+0.00011}_{-0.000084}$	$\sigma_8(0.51)$	$0.6200^{+0.0047}_{-0.0054}$
A^{kSZ}	—	10^5D/H	2.617 ± 0.043	$f\sigma_8(0.61)$	0.4721 ± 0.0071
A_{100}^{dust}	1.02 ± 0.19	Age/Gyr	13.827 ± 0.036	$\sigma_8(0.61)$	$0.5896^{+0.0043}_{-0.0051}$
A_{143}^{dust}	0.98 ± 0.18	z_*	1090.21 ± 0.40	$f\sigma_8(2.33)$	$0.2969^{+0.0021}_{-0.0026}$
A_{217}^{dust}	0.97 ± 0.10	r_*	144.31 ± 0.53	$\sigma_8(2.33)$	$0.3056^{+0.0023}_{-0.0028}$
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04079 ± 0.00055	f_{2000}^{143}	31.0 ± 3.0
c_{100}	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.865 ± 0.048	f_{2000}^{217}	107.7 ± 2.0
c_{217}	1.0012 ± 0.0016	z_{drag}	1059.62 ± 0.50	$f_{2000}^{143 \times 217}$	33.1 ± 2.1
H_0	66.78 ± 0.95	r_{drag}	147.02 ± 0.55	χ_{simall}^2	397.0 ± 1.8
Ω_Λ	0.677 ± 0.014	k_D	$0.14081^{+0.00065}_{-0.00059}$	χ_{lowl}^2	22.2 ± 2.3
Ω_m	0.323 ± 0.014	$100\theta_D$	$0.16091^{+0.00029}_{-0.00033}$	χ_{CamSpec}^2	7065.7 ± 5.8
$\Omega_m h^2$	0.1438 ± 0.0021	z_{eq}	3421 ± 51	χ_{prior}^2	7.6 ± 3.5
$\Omega_m h^3$	0.09603 ± 0.00047	k_{eq}	0.01044 ± 0.00016	χ_{CMB}^2	7484.8 ± 5.7
σ_8	0.8121 ± 0.0085	$100\theta_{\text{eq}}$	0.8093 ± 0.0094		
S_8	0.842 ± 0.025	$100\theta_{s,\text{eq}}$	0.4474 ± 0.0049		

$$\bar{\chi}_{\text{eff}}^2 = 7492.46; \Delta\bar{\chi}_{\text{eff}}^2 = 1.20; R - 1 = 0.00453$$

4.6 base_alpha1_CamSpecHM_TT_lowl_lowE_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02228 ± 0.00023	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6022 ± 0.0078	$H(0.38)$	83.00 ± 0.35
$\Omega_{\mathrm{c}}h^2$	0.1190 ± 0.0012	$\sigma_8/h^{0.5}$	0.981 ± 0.011	$D_{\mathrm{M}}(0.38)$	1528.9 ± 9.4
$100\theta_{\mathrm{MC}}$	1.04093 ± 0.00047	$r_{\mathrm{drag}}h$	99.77 ± 0.96	$H(0.51)$	89.70 ± 0.29
τ	$0.0562^{+0.0055}_{-0.0086}$	$\langle d^2 \rangle^{1/2}$	2.428 ± 0.027	$D_{\mathrm{M}}(0.51)$	1981 ± 11
α_{-1}	$-0.0007^{+0.0015}_{-0.0012}$	z_{re}	$7.86^{+0.59}_{-0.85}$	$H(0.61)$	95.30 ± 0.25
$\ln(10^{10}A_{\mathrm{s}})$	$3.045^{+0.013}_{-0.018}$	$10^9 A_{\mathrm{s}}$	$2.101^{+0.027}_{-0.039}$	$D_{\mathrm{M}}(0.61)$	2305 ± 12
n_{s}	$0.9655^{+0.0056}_{-0.0065}$	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.877 ± 0.013	$H(2.33)$	235.79 ± 0.81
y_{cal}	1.0006 ± 0.0025	D_{40}	1214^{+20}_{-27}	$D_{\mathrm{M}}(2.33)$	5765 ± 12
A_{100}^{PS}	243 ± 25	D_{220}	5716 ± 42	$f\sigma_8(0.15)$	0.4541 ± 0.0076
A_{143}^{PS}	40 ± 8	D_{810}	2535 ± 14	$\sigma_8(0.15)$	$0.7459^{+0.0061}_{-0.0068}$
A_{217}^{PS}	100 ± 10	D_{1420}	815.1 ± 5.1	$f\sigma_8(0.38)$	0.4727 ± 0.0064
A_{217}^{CIB}	41 ± 7	D_{2000}	229.9 ± 1.8	$\sigma_8(0.38)$	$0.6614^{+0.0051}_{-0.0058}$
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.7}$	$n_{\mathrm{s},0.002}$	$0.9655^{+0.0056}_{-0.0065}$	$f\sigma_8(0.51)$	0.4714 ± 0.0057
$r_{143 \times 217}^{\mathrm{PS}}$	0.64 ± 0.13	Y_{P}	$0.24536^{+0.00010}_{-0.000080}$	$\sigma_8(0.51)$	$0.6190^{+0.0047}_{-0.0054}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.59^{+0.41}_{-0.12}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.24668^{+0.00010}_{-0.000081}$	$f\sigma_8(0.61)$	0.4666 ± 0.0052
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$10^5 \mathrm{D}/\mathrm{H}$	$2.602^{+0.040}_{-0.046}$	$\sigma_8(0.61)$	$0.5890^{+0.0044}_{-0.0051}$
A^{kSZ}	—	$\mathrm{Age}/\mathrm{Gyr}$	13.801 ± 0.028	$f\sigma_8(2.33)$	$0.2971^{+0.0022}_{-0.0026}$
A_{100}^{dust}	1.02 ± 0.20	z_{*}	1089.94 ± 0.32	$\sigma_8(2.33)$	$0.3063^{+0.0023}_{-0.0027}$
A_{143}^{dust}	0.99 ± 0.18	r_{*}	144.77 ± 0.35	f_{2000}^{143}	30.5 ± 3.0
A_{217}^{dust}	0.97 ± 0.10	$100\theta_{*}$	1.04112 ± 0.00048	f_{2000}^{217}	107.4 ± 2.0
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$D_{\mathrm{M}}(z_{*})/\mathrm{Gpc}$	13.905 ± 0.032	$f_{2000}^{143 \times 217}$	32.7 ± 2.1
c_{100}	0.9975 ± 0.0011	z_{drag}	$1059.66^{+0.55}_{-0.50}$	χ_{simall}^2	397.1 ± 2.0
c_{217}	1.0012 ± 0.0016	r_{drag}	147.46 ± 0.39	χ_{lowl}^2	22 ± 3
H_0	67.66 ± 0.55	k_{D}	$0.14041^{+0.00056}_{-0.00050}$	$\chi_{\mathrm{CamSpec}}^2$	7065.7 ± 5.9
Ω_{Λ}	0.6899 ± 0.0074	$100\theta_{\mathrm{D}}$	$0.16092^{+0.00031}_{-0.00035}$	$\chi_{6\mathrm{DF}}^2$	0.060 ± 0.079
Ω_{m}	0.3101 ± 0.0074	z_{eq}	3375 ± 29	χ_{MGS}^2	1.35 ± 0.53
$\Omega_{\mathrm{m}}h^2$	0.1419 ± 0.0012	k_{eq}	0.010302 ± 0.000090	$\chi_{\mathrm{DR12BAO}}^2$	4.8 ± 1.7
$\Omega_{\mathrm{m}}h^3$	0.09599 ± 0.00048	$100\theta_{\mathrm{eq}}$	0.8179 ± 0.0054	χ_{prior}^2	7.7 ± 3.5
σ_8	0.8071 ± 0.0074	$100\theta_{\mathrm{s,eq}}$	0.4519 ± 0.0028	χ_{BAO}^2	6.2 ± 1.4
S_8	0.820 ± 0.015	$H(0.15)$	72.92 ± 0.47	χ_{CMB}^2	7485.2 ± 5.7
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4494 ± 0.0081	$D_{\mathrm{M}}(0.15)$	640.9 ± 4.7		

$$\bar{\chi}_{\mathrm{eff}}^2 = 7499.10; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 1.79; R - 1 = 0.01710$$

4.7 base_alpha1_CamSpecHM_TT_lowl_lowE_post_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02223 ± 0.00023	$\sigma_8 \Omega_m^{0.5}$	0.4582 ± 0.0091	$H(0.15)$	72.35 ± 0.62
$\Omega_c h^2$	0.1205 ± 0.0016	$\sigma_8 \Omega_m^{0.25}$	0.6094 ± 0.0077	$D_M(0.15)$	646.7 ± 6.3
$100\theta_{MC}$	1.04064 ± 0.00052	$\sigma_8/h^{0.5}$	0.990 ± 0.010	$H(0.38)$	82.60 ± 0.45
τ	$0.0551^{+0.0052}_{-0.0086}$	$r_{\text{drag}} h$	98.5 ± 1.3	$D_M(0.38)$	1540 ± 13
α_{-1}	$-0.0012^{+0.0017}_{-0.0011}$	$\langle d^2 \rangle^{1/2}$	2.451 ± 0.025	$H(0.51)$	89.39 ± 0.36
$\ln(10^{10} A_s)$	$3.047^{+0.012}_{-0.016}$	z_{re}	$7.78^{+0.58}_{-0.83}$	$D_M(0.51)$	1994 ± 15
n_s	$0.9606^{+0.0060}_{-0.0071}$	$10^9 A_s$	$2.104^{+0.025}_{-0.035}$	$H(0.61)$	95.07 ± 0.30
y_{cal}	1.0005 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.885 ± 0.012	$D_M(0.61)$	2319 ± 16
A_{100}^{PS}	244 ± 25	D_{40}	1215^{+16}_{-24}	$H(2.33)$	236.7 ± 1.0
A_{143}^{PS}	41 ± 8	D_{220}	5713 ± 42	$D_M(2.33)$	5774 ± 14
A_{217}^{PS}	100 ± 10	D_{810}	2536 ± 14	$f\sigma_8(0.15)$	0.4621 ± 0.0083
A_{217}^{CIB}	41 ± 7	D_{1420}	814.0 ± 5.2	$\sigma_8(0.15)$	0.7481 ± 0.0053
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.6}$	D_{2000}	229.4 ± 1.8	$f\sigma_8(0.38)$	0.4786 ± 0.0063
$r_{143 \times 217}^{\text{PS}}$	0.64 ± 0.13	$n_{s,0.002}$	$0.9606^{+0.0060}_{-0.0071}$	$\sigma_8(0.38)$	$0.6623^{+0.0043}_{-0.0049}$
$r_{143 \times 217}^{\text{CIB}}$	$0.59^{+0.40}_{-0.12}$	Y_P	$0.24533^{+0.00010}_{-0.000082}$	$f\sigma_8(0.51)$	0.4762 ± 0.0053
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	$0.24666^{+0.00010}_{-0.000082}$	$\sigma_8(0.51)$	$0.6194^{+0.0040}_{-0.0047}$
A^{kSZ}	$5.2^{+3.8}_{-2.4}$	$10^5 D/H$	2.613 ± 0.043	$f\sigma_8(0.61)$	0.4706 ± 0.0047
A_{100}^{dust}	1.02 ± 0.20	Age/Gyr	13.822 ± 0.032	$\sigma_8(0.61)$	$0.5892^{+0.0039}_{-0.0045}$
A_{143}^{dust}	0.98 ± 0.17	z_*	1090.14 ± 0.35	$f\sigma_8(2.33)$	$0.2967^{+0.0020}_{-0.0024}$
A_{217}^{dust}	0.97 ± 0.10	r_*	144.41 ± 0.40	$\sigma_8(2.33)$	$0.3056^{+0.0023}_{-0.0027}$
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04084 ± 0.00052	f_{2000}^{143}	31.0 ± 3.0
c_{100}	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.875 ± 0.037	f_{2000}^{217}	107.6 ± 2.0
c_{217}	1.0012 ± 0.0016	z_{drag}	1059.65 ± 0.51	$f_{2000}^{143 \times 217}$	33.1 ± 2.1
H_0	66.98 ± 0.73	r_{drag}	147.12 ± 0.43	χ_{lensing}^2	9.50 ± 0.91
Ω_Λ	0.680 ± 0.010	k_D	$0.14073^{+0.00056}_{-0.00051}$	χ_{simall}^2	396.9 ± 1.7
Ω_m	0.320 ± 0.010	$100\theta_D$	$0.16090^{+0.00029}_{-0.00033}$	χ_{lowl}^2	22.1 ± 2.3
$\Omega_m h^2$	0.1434 ± 0.0016	z_{eq}	3410 ± 37	χ_{CamSpec}^2	7065.2 ± 5.7
$\Omega_m h^3$	0.09601 ± 0.00046	k_{eq}	0.01041 ± 0.00011	χ_{prior}^2	7.6 ± 3.4
σ_8	0.8105 ± 0.0061	$100\theta_{\text{eq}}$	0.8113 ± 0.0069	χ_{CMB}^2	7493.7 ± 5.8
S_8	0.837 ± 0.017	$100\theta_{s,\text{eq}}$	0.4484 ± 0.0036		

$$\bar{\chi}_{\text{eff}}^2 = 7501.39; \Delta\bar{\chi}_{\text{eff}}^2 = 1.38; R - 1 = 0.00867$$

4.8 base_alpha1_CamSpecHM_TT_lowl_lowE_post_BAO_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02229 ± 0.00023	$\sigma_8 \Omega_m^{0.25}$	0.6041 ± 0.0062	$H(0.38)$	82.95 ± 0.33
$\Omega_c h^2$	0.1192 ± 0.0011	$\sigma_8/h^{0.5}$	0.9840 ± 0.0089	$D_M(0.38)$	1530.2 ± 8.6
$100\theta_{MC}$	1.04090 ± 0.00047	$r_{\text{drag}} h$	99.61 ± 0.86	$H(0.51)$	89.67 ± 0.27
τ	$0.0573^{+0.0060}_{-0.0083}$	$\langle d^2 \rangle^{1/2}$	2.435 ± 0.021	$D_M(0.51)$	1982 ± 10
α_{-1}	$-0.0008^{+0.0015}_{-0.0011}$	z_{re}	$7.97^{+0.63}_{-0.80}$	$H(0.61)$	95.28 ± 0.24
$\ln(10^{10} A_s)$	$3.048^{+0.013}_{-0.017}$	$10^9 A_s$	$2.108^{+0.028}_{-0.036}$	$D_M(0.61)$	2307 ± 11
n_s	$0.9647^{+0.0054}_{-0.0064}$	$10^9 A_s e^{-2\tau}$	1.880 ± 0.012	$H(2.33)$	235.93 ± 0.72
y_{cal}	1.0008 ± 0.0025	D_{40}	1216^{+19}_{-27}	$D_M(2.33)$	5765 ± 12
A_{100}^{PS}	243 ± 25	D_{220}	5721 ± 42	$f\sigma_8(0.15)$	0.4558 ± 0.0061
A_{143}^{PS}	40 ± 8	D_{810}	2536 ± 14	$\sigma_8(0.15)$	0.7474 ± 0.0055
A_{217}^{PS}	101 ± 10	D_{1420}	815.4 ± 5.1	$f\sigma_8(0.38)$	0.4742 ± 0.0050
A_{217}^{CIB}	41 ± 7	D_{2000}	230.0 ± 1.8	$\sigma_8(0.38)$	0.6626 ± 0.0049
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.7}$	$n_{s,0.002}$	$0.9647^{+0.0054}_{-0.0064}$	$f\sigma_8(0.51)$	0.4728 ± 0.0045
$r_{143 \times 217}^{\text{PS}}$	0.64 ± 0.13	Y_P	$0.24536^{+0.00010}_{-0.000081}$	$\sigma_8(0.51)$	0.6201 ± 0.0046
$r_{143 \times 217}^{\text{CIB}}$	$0.58^{+0.41}_{-0.13}$	Y_P^{BBN}	$0.24668^{+0.00010}_{-0.000082}$	$f\sigma_8(0.61)$	0.4679 ± 0.0041
$\xi^{\text{tSZ} \times \text{CIB}}$	—	$10^5 D/H$	$2.602^{+0.040}_{-0.045}$	$\sigma_8(0.61)$	0.5900 ± 0.0044
A^{kSZ}	—	Age/Gyr	13.803 ± 0.028	$f\sigma_8(2.33)$	0.2975 ± 0.0023
A_{100}^{dust}	1.02 ± 0.20	z_*	1089.95 ± 0.31	$\sigma_8(2.33)$	$0.3067^{+0.0022}_{-0.0025}$
A_{143}^{dust}	0.98 ± 0.18	r_*	144.71 ± 0.31	f_{2000}^{143}	30.5 ± 3.0
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04110 ± 0.00047	f_{2000}^{217}	107.4 ± 2.0
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$D_M(z_*)/\text{Gpc}$	13.900 ± 0.029	$f_{2000}^{143 \times 217}$	32.7 ± 2.1
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.68 ± 0.52	χ_{lensing}^2	9.32 ± 0.76
c_{217}	1.0012 ± 0.0016	r_{drag}	147.40 ± 0.36	χ_{simall}^2	397.3 ± 2.0
H_0	67.57 ± 0.50	k_D	$0.14047^{+0.00053}_{-0.00048}$	χ_{lowl}^2	22 ± 3
Ω_Λ	0.6887 ± 0.0066	$100\theta_D$	$0.16090^{+0.00031}_{-0.00035}$	χ_{CamSpec}^2	7065.2 ± 5.7
Ω_m	0.3113 ± 0.0066	z_{eq}	3380 ± 26	$\chi_{6\text{DF}}^2$	0.063 ± 0.076
$\Omega_m h^2$	0.1421 ± 0.0011	k_{eq}	0.010317 ± 0.000080	χ_{MGS}^2	1.26 ± 0.47
$\Omega_m h^3$	0.09602 ± 0.00047	$100\theta_{\text{eq}}$	0.8170 ± 0.0048	χ_{DR12BAO}^2	5.0 ± 1.6
σ_8	0.8088 ± 0.0061	$100\theta_{s,\text{eq}}$	0.4514 ± 0.0025	χ_{prior}^2	7.6 ± 3.4
S_8	0.824 ± 0.012	$H(0.15)$	72.85 ± 0.43	χ_{CMB}^2	7494.2 ± 5.8
$\sigma_8 \Omega_m^{0.5}$	0.4512 ± 0.0065	$D_M(0.15)$	641.6 ± 4.3	χ_{BAO}^2	6.3 ± 1.3

$$\bar{\chi}_{\text{eff}}^2 = 7508.12; \Delta \bar{\chi}_{\text{eff}}^2 = 1.79; R - 1 = 0.01736$$

5 mnu

5.1 base_mnu_CamSpecHM_TT_lowl_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022145	0.02205 ± 0.00025	S_8	0.8412	0.833 ± 0.025	$100\theta_{s,eq}$	0.44852	0.4477 ± 0.0047
$\Omega_c h^2$	0.12051	0.1210 ± 0.0022	$\sigma_8 \Omega_m^{0.5}$	0.4607	0.456 ± 0.014	$H(0.15)$	72.77	$71.2^{+2.1}_{-0.88}$
$100\theta_{MC}$	1.04085	1.04070 ± 0.00051	$\sigma_8 \Omega_m^{0.25}$	0.6158	$0.599^{+0.024}_{-0.012}$	$D_M(0.15)$	642.4	$658.6^{+8.2}_{-23}$
τ	0.0507	0.0517 ± 0.0081	$\sigma_8/h^{0.5}$	1.0019	$0.971^{+0.041}_{-0.017}$	$H(0.38)$	82.92	$81.7^{+1.6}_{-0.66}$
Σm_ν [eV]	0.001	< 0.201	$r_{drag} h$	99.32	$96.7^{+3.8}_{-1.8}$	$D_M(0.38)$	1531.7	1564^{+17}_{-45}
$\ln(10^{10} A_s)$	3.0361	3.039 ± 0.016	$\langle d^2 \rangle^{1/2}$	2.4542	2.444 ± 0.038	$H(0.51)$	89.66	$88.7^{+1.3}_{-0.53}$
n_s	0.9637	0.9621 ± 0.0063	z_{re}	7.36	7.49 ± 0.83	$D_M(0.51)$	1983.9	2022^{+20}_{-53}
y_{cal}	1.00034	1.0005 ± 0.0025	$10^9 A_s$	2.0825	2.088 ± 0.034	$H(0.61)$	95.30	$94.5^{+1.1}_{-0.44}$
A_{100}^{PS}	239.3	244 ± 25	$10^9 A_s e^{-2\tau}$	1.8816	1.883 ± 0.014	$D_M(0.61)$	2308.2	2350^{+21}_{-58}
A_{143}^{PS}	38.7	42 ± 9	D_{40}	1229.4	1230 ± 15	$H(2.33)$	236.34	$237.6^{+1.3}_{-2.1}$
A_{217}^{PS}	99.7	101 ± 10	D_{220}	5702.9	5701 ± 42	$D_M(2.33)$	5763.1	5806^{+19}_{-57}
A_{217}^{CIB}	44.5	41 ± 7	D_{810}	2533.4	2535 ± 14	$f\sigma_8(0.15)$	0.4644	0.460 ± 0.013
A_{143}^{tSZ}	5.47	$3.7^{+1.7}_{-2.6}$	D_{1420}	813.9	814.0 ± 5.3	$\sigma_8(0.15)$	0.7601	$0.725^{+0.041}_{-0.010}$
$r_{143 \times 217}^{PS}$	0.578	0.65 ± 0.13	D_{2000}	229.58	229.1 ± 2.0	$f\sigma_8(0.38)$	0.4824	$0.472^{+0.016}_{-0.0096}$
$r_{143 \times 217}^{CIB}$	0.713	> 0.474	$n_{s,0.002}$	0.9637	0.9621 ± 0.0063	$\sigma_8(0.38)$	0.6734	$0.641^{+0.037}_{-0.0089}$
$\xi^{tSZ \times CIB}$	0.04	—	Y_P	0.245303	$0.24526^{+0.00013}_{-0.000095}$	$f\sigma_8(0.51)$	0.4807	$0.468^{+0.018}_{-0.0082}$
A^{kSZ}	1.8	—	Y_P^{BBN}	0.246629	$0.24658^{+0.00013}_{-0.000096}$	$\sigma_8(0.51)$	0.6300	$0.599^{+0.036}_{-0.0084}$
A_{100}^{dust}	1.014	1.01 ± 0.19	$10^5 D/H$	2.6285	$2.646^{+0.045}_{-0.051}$	$f\sigma_8(0.61)$	0.4755	$0.462^{+0.019}_{-0.0073}$
A_{143}^{dust}	0.980	0.98 ± 0.18	Age/Gyr	13.796	$13.896^{+0.042}_{-0.13}$	$\sigma_8(0.61)$	0.5993	$0.569^{+0.034}_{-0.0080}$
A_{217}^{dust}	0.965	0.97 ± 0.10	z_*	1090.247	$1090.44^{+0.43}_{-0.52}$	$f\sigma_8(2.33)$	0.3011	$0.288^{+0.016}_{-0.0034}$
$A_{143 \times 217}^{dust}$	1.011	1.03 ± 0.16	r_*	144.478	144.39 ± 0.50	$\sigma_8(2.33)$	0.3108	$0.295^{+0.018}_{-0.0042}$
c_{100}	0.99748	0.9975 ± 0.0010	$100\theta_*$	1.041019	1.04097 ± 0.00047	f_{2000}^{143}	30.78	31.5 ± 3.2
c_{217}	1.00139	1.0013 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.8785	13.871 ± 0.046	f_{2000}^{217}	107.44	108.0 ± 2.2
H_0	67.47	$65.7^{+2.5}_{-1.0}$	z_{drag}	1059.437	1059.29 ± 0.49	$f_{2000}^{143 \times 217}$	32.87	33.5 ± 2.3
Ω_Λ	0.6866	$0.662^{+0.034}_{-0.012}$	r_{drag}	147.215	147.15 ± 0.49	χ_{small}^2	395.71	397.0 ± 1.8
Ω_m	0.3134	$0.338^{+0.012}_{-0.034}$	k_D	0.14056	0.14057 ± 0.00053	χ_{lowl}^2	23.54	23.6 ± 1.3
$\Omega_m h^2$	0.14267	$0.1450^{+0.0021}_{-0.0036}$	$100\theta_D$	0.161047	0.16112 ± 0.00028	$\chi_{CamSpec}^2$	7049.7	7064.5 ± 5.7
$\Omega_\nu h^2$	0.00001	< 0.00216	z_{eq}	3409.1	3418 ± 50	χ_{prior}^2	2.27	7.7 ± 3.5
$\Omega_m h^3$	0.09626	$0.0952^{+0.0014}_{-0.00050}$	k_{eq}	0.010405	0.01043 ± 0.00015	χ_{CMB}^2	7469.0	7485.1 ± 5.8
σ_8	0.8230	$0.787^{+0.042}_{-0.011}$	$100\theta_{eq}$	0.8113	0.8097 ± 0.0092			

Best-fit $\chi_{eff}^2 = 7471.23$; $\Delta\chi_{eff}^2 = -0.51$; $\bar{\chi}_{eff}^2 = 7492.77$; $\Delta\bar{\chi}_{eff}^2 = 1.23$; $R - 1 = 0.00611$

χ_{eff}^2 : CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.71 (Δ -0.12) commander_dx12_v3_2_29: 23.54 (Δ 0.14) CamSpec like_10.7HM: 7049.70 (Δ -0.64)

5.2 base_mnu_CamSpecHM_TT_lowl_lowE_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02206 ± 0.00025	S_8	0.833 ± 0.025	$100\theta_{s,eq}$	0.4479 ± 0.0047
$\Omega_c h^2$	0.1209 ± 0.0022	$\sigma_8 \Omega_m^{0.5}$	0.456 ± 0.014	$H(0.15)$	$71.3^{+2.1}_{-0.89}$
$100\theta_{MC}$	1.04071 ± 0.00051	$\sigma_8 \Omega_m^{0.25}$	$0.599^{+0.024}_{-0.012}$	$D_M(0.15)$	$658.3^{+8.2}_{-23}$
τ	$0.0534^{+0.0046}_{-0.0082}$	$\sigma_8/h^{0.5}$	$0.972^{+0.041}_{-0.017}$	$H(0.38)$	$81.8^{+1.6}_{-0.66}$
Σm_ν [eV]	< 0.202	$r_{drag}h$	$96.7^{+3.9}_{-1.8}$	$D_M(0.38)$	1564^{+17}_{-46}
$\ln(10^{10} A_s)$	$3.042^{+0.011}_{-0.016}$	$\langle d^2 \rangle^{1/2}$	2.446 ± 0.037	$H(0.51)$	$88.7^{+1.3}_{-0.53}$
n_s	0.9624 ± 0.0063	z_{re}	$7.67^{+0.51}_{-0.85}$	$D_M(0.51)$	2022^{+20}_{-54}
y_{cal}	1.0005 ± 0.0025	$10^9 A_s$	$2.095^{+0.023}_{-0.034}$	$H(0.61)$	$94.5^{+1.1}_{-0.44}$
A_{100}^{PS}	244 ± 25	$10^9 A_s e^{-2\tau}$	1.882 ± 0.014	$D_M(0.61)$	2349^{+21}_{-58}
A_{143}^{PS}	42 ± 9	D_{40}	1230 ± 15	$H(2.33)$	$237.5^{+1.3}_{-2.1}$
A_{217}^{PS}	101 ± 10	D_{220}	5701 ± 42	$D_M(2.33)$	5806^{+19}_{-57}
A_{217}^{CIB}	41 ± 7	D_{810}	2535 ± 14	$f\sigma_8(0.15)$	0.460 ± 0.013
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.6}$	D_{1420}	814.0 ± 5.3	$\sigma_8(0.15)$	$0.726^{+0.041}_{-0.010}$
$r_{143 \times 217}^{PS}$	0.65 ± 0.13	D_{2000}	229.2 ± 2.0	$f\sigma_8(0.38)$	$0.473^{+0.016}_{-0.0097}$
$r_{143 \times 217}^{CIB}$	> 0.473	$n_{s,0.002}$	0.9624 ± 0.0063	$\sigma_8(0.38)$	$0.642^{+0.037}_{-0.0088}$
$\xi^{tSZ \times CIB}$	—	Y_P	$0.24526^{+0.00013}_{-0.000095}$	$f\sigma_8(0.51)$	$0.469^{+0.018}_{-0.0082}$
A^{kSZ}	—	Y_P^{BBN}	$0.24659^{+0.00013}_{-0.000095}$	$\sigma_8(0.51)$	$0.600^{+0.035}_{-0.0082}$
A_{100}^{dust}	1.01 ± 0.19	$10^5 D/H$	$2.645^{+0.045}_{-0.051}$	$f\sigma_8(0.61)$	$0.462^{+0.019}_{-0.0072}$
A_{143}^{dust}	0.98 ± 0.18	Age/Gyr	$13.895^{+0.042}_{-0.13}$	$\sigma_8(0.61)$	$0.570^{+0.034}_{-0.0078}$
A_{217}^{dust}	0.97 ± 0.10	z_*	$1090.42^{+0.43}_{-0.53}$	$f\sigma_8(2.33)$	$0.288^{+0.016}_{-0.0033}$
$A_{143 \times 217}^{dust}$	1.03 ± 0.16	r_*	144.40 ± 0.50	$\sigma_8(2.33)$	$0.295^{+0.018}_{-0.0041}$
c_{100}	0.9974 ± 0.0010	$100\theta_*$	1.04098 ± 0.00047	f_{2000}^{143}	31.4 ± 3.2
c_{217}	1.0013 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.872 ± 0.046	f_{2000}^{217}	108.0 ± 2.2
H_0	$65.7^{+2.5}_{-1.0}$	z_{drag}	1059.30 ± 0.50	$f_{2000}^{143 \times 217}$	33.4 ± 2.3
Ω_Λ	$0.663^{+0.035}_{-0.012}$	r_{drag}	147.17 ± 0.49	χ_{simall}^2	396.9 ± 1.8
Ω_m	$0.337^{+0.012}_{-0.035}$	k_D	0.14056 ± 0.00053	χ_{lowl}^2	23.6 ± 1.3
$\Omega_m h^2$	$0.1449^{+0.0021}_{-0.0037}$	$100\theta_D$	0.16112 ± 0.00028	$\chi_{CamSpec}^2$	7064.4 ± 5.7
$\Omega_\nu h^2$	< 0.00217	z_{eq}	3416 ± 50	χ_{prior}^2	7.7 ± 3.5
$\Omega_m h^3$	$0.0952^{+0.0014}_{-0.00050}$	k_{eq}	0.01043 ± 0.00015	χ_{CMB}^2	7484.8 ± 5.7
σ_8	$0.788^{+0.042}_{-0.011}$	$100\theta_{eq}$	0.8101 ± 0.0092		

$\bar{\chi}_{eff}^2 = 7492.51$; $\Delta\bar{\chi}_{eff}^2 = 1.25$; $R - 1 = 0.00841$

5.3 base_mnu_CamSpecHM_TTTEEE_lowl_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022312	0.02227 ± 0.00017	σ_8	0.8205	$0.795^{+0.030}_{-0.010}$	$100\theta_{s,eq}$	0.45053	0.4502 ± 0.0030
$\Omega_c h^2$	0.11951	0.1197 ± 0.0014	S_8	0.8298	0.822 ± 0.018	$H(0.15)$	73.22	$72.2^{+1.4}_{-0.62}$
$100\theta_{MC}$	1.040926	1.04082 ± 0.00034	$\sigma_8 \Omega_m^{0.5}$	0.4545	0.4504 ± 0.0096	$D_M(0.15)$	638.0	$648.7^{+5.8}_{-14}$
τ	0.0522	0.0528 ± 0.0079	$\sigma_8 \Omega_m^{0.25}$	0.6107	$0.598^{+0.017}_{-0.0092}$	$H(0.38)$	83.26	$82.4^{+1.1}_{-0.46}$
Σm_ν [eV]	0.001	< 0.149	$\sigma_8/h^{0.5}$	0.9951	$0.972^{+0.029}_{-0.013}$	$D_M(0.38)$	1522.7	1544^{+12}_{-28}
$\ln(10^{10} A_s)$	3.0374	3.039 ± 0.016	$r_{drag} h$	100.14	$98.4^{+2.4}_{-1.2}$	$H(0.51)$	89.94	$89.25^{+0.88}_{-0.37}$
n_s	0.96667	0.9652 ± 0.0047	$\langle d^2 \rangle^{1/2}$	2.4385	2.428 ± 0.029	$D_M(0.51)$	1973.3	1999^{+14}_{-34}
y_{cal}	1.00034	1.0006 ± 0.0024	z_{re}	7.46	7.53 ± 0.81	$H(0.61)$	95.53	$94.94^{+0.75}_{-0.31}$
A_{100}^{PS}	231.3	241 ± 25	$10^9 A_s$	2.0851	2.088 ± 0.034	$D_M(0.61)$	2296.8	2325^{+15}_{-37}
A_{143}^{PS}	45.8	40 ± 8	$10^9 A_s e^{-2\tau}$	1.8786	1.879 ± 0.011	$H(2.33)$	235.85	$236.65^{+0.89}_{-1.3}$
A_{217}^{PS}	103.5	102 ± 10	D_{40}	1224.5	1227 ± 13	$D_M(2.33)$	5752.6	5782^{+14}_{-37}
A_{217}^{CIB}	43.3	40 ± 7	D_{220}	5716.5	5720 ± 38	$f\sigma_8(0.15)$	0.4587	$0.4549^{+0.0094}_{-0.0085}$
A_{143}^{tSZ}	6.55	$3.8^{+1.8}_{-2.6}$	D_{810}	2535.3	2536 ± 13	$\sigma_8(0.15)$	0.7585	$0.733^{+0.029}_{-0.0091}$
$r_{143 \times 217}^{PS}$	0.674	0.65 ± 0.13	D_{1420}	816.03	815.7 ± 4.8	$f\sigma_8(0.38)$	0.4782	$0.471^{+0.011}_{-0.0071}$
$r_{143 \times 217}^{CIB}$	0.848	$0.57^{+0.40}_{-0.16}$	D_{2000}	230.50	230.1 ± 1.7	$\sigma_8(0.38)$	0.6727	$0.649^{+0.027}_{-0.0081}$
$\xi^{tSZ \times CIB}$	0.49	—	$n_{s,0.002}$	0.96667	0.9652 ± 0.0047	$f\sigma_8(0.51)$	0.4772	$0.468^{+0.012}_{-0.0063}$
A^{kSZ}	0.04	$4.8^{+2.6}_{-3.7}$	Y_P	0.245372	$0.245351^{+0.000072}_{-0.000063}$	$\sigma_8(0.51)$	0.6296	$0.607^{+0.026}_{-0.0076}$
A_{100}^{dust}	1.006	1.01 ± 0.20	Y_P^{BBN}	0.246698	$0.246677^{+0.000072}_{-0.000063}$	$f\sigma_8(0.61)$	0.4725	$0.463^{+0.013}_{-0.0058}$
A_{143}^{dust}	0.981	0.97 ± 0.18	$10^5 D/H$	2.5965	2.606 ± 0.032	$\sigma_8(0.61)$	0.5991	$0.578^{+0.025}_{-0.0072}$
A_{217}^{dust}	0.976	0.97 ± 0.10	Age/Gyr	13.773	$13.841^{+0.031}_{-0.085}$	$f\sigma_8(2.33)$	0.3013	$0.292^{+0.011}_{-0.0032}$
$A_{143 \times 217}^{dust}$	1.005	1.03 ± 0.16	z_*	1089.946	1090.04 ± 0.31	$\sigma_8(2.33)$	0.3113	$0.300^{+0.013}_{-0.0038}$
c_{100}	0.99774	0.9975 ± 0.0011	r_*	144.609	144.57 ± 0.32	f_{2000}^{143}	29.84	30.2 ± 2.9
c_{217}	1.00133	1.0011 ± 0.0016	$100\theta_*$	1.041078	1.04105 ± 0.00032	f_{2000}^{217}	106.52	107.2 ± 2.0
c_{TE}	0.99645	0.9971 ± 0.0050	$D_M(z_*)/\text{Gpc}$	13.8903	13.887 ± 0.029	$f_{2000}^{143 \times 217}$	31.94	32.5 ± 2.1
c_{EE}	0.99230	0.9924 ± 0.0049	z_{drag}	1059.780	1059.68 ± 0.34	χ_{small}^2	395.78	396.9 ± 1.7
H_0	67.99	$66.8^{+1.6}_{-0.71}$	r_{drag}	147.291	147.27 ± 0.32	χ_{lowl}^2	23.03	23.13 ± 0.94
Ω_Λ	0.6931	$0.678^{+0.021}_{-0.0087}$	k_D	0.140605	0.14061 ± 0.00035	$\chi_{CamSpec}^2$	11499.2	11515.5 ± 6.0
Ω_m	0.3069	$0.3221^{+0.0087}_{-0.021}$	$100\theta_D$	0.160856	0.16089 ± 0.00020	χ_{prior}^2	2.06	7.8 ± 3.4
$\Omega_m h^2$	0.14183	$0.1434^{+0.0014}_{-0.0023}$	z_{eq}	3389.1	3393 ± 31	χ_{CMB}^2	11918.0	11935.6 ± 6.1
$\Omega_\nu h^2$	0.00001	< 0.00160	k_{eq}	0.010344	0.010356 ± 0.000096			
$\Omega_m h^3$	0.09642	$0.09572^{+0.00094}_{-0.00037}$	$100\theta_{eq}$	0.8154	0.8147 ± 0.0059			

Best-fit $\chi_{eff}^2 = 11920.07$; $\Delta\chi_{eff}^2 = -0.70$; $\bar{\chi}_{eff}^2 = 11943.39$; $\Delta\bar{\chi}_{eff}^2 = 0.93$; $R - 1 = 0.01661$

χ_{eff}^2 : CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.78 (Δ -0.12) commander_dx12.v3.2.29: 23.03 (Δ 0.03) CamSpec like_10.7HM_1400_unified: 11499.19 (Δ -0.46)

5.4 base_mnu_CamSpecHM_TTTEEE_lowl_lowE_post_Riess18

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	$0.02243^{+0.00015}_{-0.00017}$	σ_8	$0.810^{+0.011}_{-0.0085}$	$100\theta_{s,eq}$	0.4539 ± 0.0028
$\Omega_c h^2$	0.1180 ± 0.0013	S_8	0.811 ± 0.015	$H(0.15)$	$73.59^{+0.61}_{-0.55}$
$100\theta_{MC}$	1.04110 ± 0.00032	$\sigma_8 \Omega_m^{0.5}$	0.4444 ± 0.0084	$D_M(0.15)$	$634.4^{+5.2}_{-6.0}$
τ	0.0549 ± 0.0080	$\sigma_8 \Omega_m^{0.25}$	0.6000 ± 0.0087	$H(0.38)$	$83.52^{+0.46}_{-0.41}$
Σm_ν [eV]	< 0.0450	$\sigma_8/h^{0.5}$	0.979 ± 0.013	$D_M(0.38)$	1516^{+11}_{-12}
$\ln(10^{10} A_s)$	3.040 ± 0.016	$r_{drag} h$	101.0 ± 1.1	$H(0.51)$	$90.13^{+0.37}_{-0.33}$
n_s	0.9697 ± 0.0044	$\langle d^2 \rangle^{1/2}$	2.414 ± 0.028	$D_M(0.51)$	1965^{+12}_{-14}
y_{cal}	1.0007 ± 0.0024	z_{re}	7.68 ± 0.81	$H(0.61)$	$95.67^{+0.31}_{-0.27}$
A_{100}^{PS}	239 ± 24	$10^9 A_s$	2.091 ± 0.034	$D_M(0.61)$	2288^{+13}_{-15}
A_{143}^{PS}	38 ± 8	$10^9 A_s e^{-2\tau}$	1.873 ± 0.011	$H(2.33)$	235.18 ± 0.80
A_{217}^{PS}	102 ± 10	D_{40}	1220 ± 13	$D_M(2.33)$	5747^{+12}_{-14}
A_{217}^{CIB}	39 ± 7	D_{220}	5730 ± 40	$f\sigma_8(0.15)$	0.4495 ± 0.0079
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.4}$	D_{810}	2535 ± 13	$\sigma_8(0.15)$	$0.750^{+0.010}_{-0.0076}$
$r_{143 \times 217}^{PS}$	0.66 ± 0.13	D_{1420}	817.0 ± 4.9	$f\sigma_8(0.38)$	0.4701 ± 0.0068
$r_{143 \times 217}^{CIB}$	$0.56^{+0.43}_{-0.15}$	D_{2000}	230.9 ± 1.7	$\sigma_8(0.38)$	$0.6656^{+0.0092}_{-0.0064}$
$\xi^{tSZ \times CIB}$	$0.48^{+0.36}_{-0.44}$	$n_{s,0.002}$	0.9697 ± 0.0044	$f\sigma_8(0.51)$	0.4700 ± 0.0063
A^{kSZ}	$4.7^{+1.7}_{-4.5}$	Y_P	0.245417 ± 0.000061	$\sigma_8(0.51)$	$0.6233^{+0.0087}_{-0.0060}$
A_{100}^{dust}	1.01 ± 0.19	Y_P^{BBN}	0.246743 ± 0.000062	$f\sigma_8(0.61)$	0.4658 ± 0.0060
A_{143}^{dust}	0.97 ± 0.18	$10^5 D/H$	2.575 ± 0.029	$\sigma_8(0.61)$	$0.5934^{+0.0083}_{-0.0056}$
A_{217}^{dust}	$0.977^{+0.093}_{-0.10}$	Age/Gyr	$13.763^{+0.028}_{-0.032}$	$f\sigma_8(2.33)$	$0.2993^{+0.0038}_{-0.0028}$
$A_{143 \times 217}^{dust}$	1.02 ± 0.15	z_*	1089.67 ± 0.27	$\sigma_8(2.33)$	$0.3092^{+0.0044}_{-0.0030}$
c_{100}	0.9976 ± 0.0010	r_*	144.91 ± 0.29	f_{2000}^{143}	29.2 ± 2.9
c_{217}	1.0011 ± 0.0015	$100\theta_*$	1.04127 ± 0.00032	f_{2000}^{217}	106.5 ± 1.9
c_{TE}	0.9966 ± 0.0049	$D_M(z_*)/Gpc$	13.917 ± 0.028	$f_{2000}^{143 \times 217}$	31.7 ± 2.1
c_{EE}	0.9923 ± 0.0049	z_{drag}	$1059.93^{+0.31}_{-0.36}$	χ_{small}^2	397.1 ± 1.8
H_0	$68.42^{+0.71}_{-0.63}$	r_{drag}	147.57 ± 0.30	χ_{lowl}^2	22.56 ± 0.85
Ω_Λ	$0.6991^{+0.0091}_{-0.0078}$	k_D	0.14041 ± 0.00034	$\chi_{CamSpec}^2$	11516.2 ± 6.0
Ω_m	$0.3009^{+0.0078}_{-0.0091}$	$100\theta_D$	0.16077 ± 0.00019	$\chi_{H073p45}^2$	9.3 ± 2.5
$\Omega_m h^2$	0.1408 ± 0.0013	z_{eq}	3355 ± 29	χ_{prior}^2	7.5 ± 3.3
$\Omega_\nu h^2$	< 0.000484	k_{eq}	0.010241 ± 0.000088	χ_{CMB}^2	11935.8 ± 6.0
$\Omega_m h^3$	0.09635 ± 0.00038	$100\theta_{eq}$	0.8221 ± 0.0056		

$$\bar{\chi}_{eff}^2 = 11952.66; \Delta\bar{\chi}_{eff}^2 = -1.61; R - 1 = 0.05737$$

5.5 base_mnu_CamSpecHM_TTTEEE_lowl_lowE_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02227 ± 0.00017	σ_8	$0.795^{+0.030}_{-0.0097}$	$100\theta_{s,eq}$	0.4503 ± 0.0030
$\Omega_c h^2$	0.1197 ± 0.0014	S_8	0.823 ± 0.018	$H(0.15)$	$72.2^{+1.4}_{-0.62}$
$100\theta_{MC}$	1.04083 ± 0.00034	$\sigma_8 \Omega_m^{0.5}$	0.4507 ± 0.0096	$D_M(0.15)$	$648.5^{+5.8}_{-14}$
τ	$0.0543^{+0.0047}_{-0.0081}$	$\sigma_8 \Omega_m^{0.25}$	$0.599^{+0.016}_{-0.0091}$	$H(0.38)$	$82.4^{+1.1}_{-0.46}$
Σm_ν [eV]	< 0.150	$\sigma_8/h^{0.5}$	$0.973^{+0.029}_{-0.013}$	$D_M(0.38)$	1544^{+12}_{-29}
$\ln(10^{10} A_s)$	$3.042^{+0.012}_{-0.016}$	$r_{drag} h$	$98.4^{+2.4}_{-1.2}$	$H(0.51)$	$89.26^{+0.89}_{-0.38}$
n_s	0.9654 ± 0.0046	$\langle d^2 \rangle^{1/2}$	2.431 ± 0.028	$D_M(0.51)$	1999^{+14}_{-34}
y_{cal}	1.0006 ± 0.0024	z_{re}	$7.69^{+0.53}_{-0.80}$	$H(0.61)$	$94.94^{+0.75}_{-0.31}$
A_{100}^{PS}	241 ± 25	$10^9 A_s$	$2.094^{+0.024}_{-0.033}$	$D_M(0.61)$	2324^{+15}_{-37}
A_{143}^{PS}	40 ± 8	$10^9 A_s e^{-2\tau}$	1.879 ± 0.011	$H(2.33)$	$236.63^{+0.89}_{-1.3}$
A_{217}^{PS}	102 ± 10	D_{40}	1227 ± 13	$D_M(2.33)$	5782^{+14}_{-37}
A_{217}^{CIB}	40 ± 7	D_{220}	5719 ± 38	$f\sigma_8(0.15)$	$0.4552^{+0.0094}_{-0.0084}$
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	D_{810}	2535 ± 13	$\sigma_8(0.15)$	$0.734^{+0.029}_{-0.0088}$
$r_{143 \times 217}^{PS}$	0.66 ± 0.13	D_{1420}	815.7 ± 4.8	$f\sigma_8(0.38)$	$0.471^{+0.011}_{-0.0071}$
$r_{143 \times 217}^{CIB}$	$0.57^{+0.41}_{-0.16}$	D_{2000}	230.1 ± 1.7	$\sigma_8(0.38)$	$0.650^{+0.027}_{-0.0078}$
$\xi^{tSZ \times CIB}$	—	$n_{s,0.002}$	0.9654 ± 0.0046	$f\sigma_8(0.51)$	$0.469^{+0.012}_{-0.0062}$
A^{kSZ}	$4.8^{+2.6}_{-3.8}$	Y_P	$0.245353^{+0.000072}_{-0.000063}$	$\sigma_8(0.51)$	$0.608^{+0.025}_{-0.0072}$
A_{100}^{dust}	1.01 ± 0.19	Y_P^{BBN}	$0.246679^{+0.000072}_{-0.000063}$	$f\sigma_8(0.61)$	$0.463^{+0.013}_{-0.0057}$
A_{143}^{dust}	0.97 ± 0.18	$10^5 D/H$	2.605 ± 0.032	$\sigma_8(0.61)$	$0.578^{+0.024}_{-0.0069}$
A_{217}^{dust}	0.97 ± 0.10	Age/Gyr	$13.840^{+0.031}_{-0.086}$	$f\sigma_8(2.33)$	$0.292^{+0.011}_{-0.0031}$
$A_{143 \times 217}^{dust}$	1.03 ± 0.16	z_*	1090.03 ± 0.31	$\sigma_8(2.33)$	$0.300^{+0.013}_{-0.0036}$
c_{100}	0.9975 ± 0.0011	r_*	144.58 ± 0.31	f_{2000}^{143}	30.1 ± 2.9
c_{217}	1.0011 ± 0.0016	$100\theta_*$	1.04106 ± 0.00032	f_{2000}^{217}	107.1 ± 2.0
c_{TE}	0.9970 ± 0.0050	$D_M(z_*)/\text{Gpc}$	13.888 ± 0.029	$f_{2000}^{143 \times 217}$	32.4 ± 2.0
c_{EE}	0.9923 ± 0.0049	z_{drag}	1059.69 ± 0.34	χ_{small}^2	396.9 ± 1.7
H_0	$66.8^{+1.6}_{-0.71}$	r_{drag}	147.28 ± 0.31	χ_{lowl}^2	23.14 ± 0.94
Ω_Λ	$0.678^{+0.021}_{-0.0087}$	k_D	0.14060 ± 0.00035	$\chi_{CamSpec}^2$	11515.4 ± 6.0
Ω_m	$0.3219^{+0.0087}_{-0.021}$	$100\theta_D$	0.16089 ± 0.00019	χ_{prior}^2	7.8 ± 3.4
$\Omega_m h^2$	$0.1433^{+0.0014}_{-0.0023}$	z_{eq}	3392 ± 31	χ_{CMB}^2	11935.4 ± 6.1
$\Omega_\nu h^2$	< 0.00161	k_{eq}	0.010353 ± 0.000095		
$\Omega_m h^3$	$0.09572^{+0.00095}_{-0.00037}$	$100\theta_{eq}$	0.8149 ± 0.0059		

$$\bar{\chi}_{eff}^2 = 11943.12; \Delta\bar{\chi}_{eff}^2 = 0.93; R - 1 = 0.01799$$

5.6 base_mnu_CamSpecHM_TTTEEE_lowl_lowE_post_Riess18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	$0.02243^{+0.00015}_{-0.00017}$	σ_8	$0.811^{+0.010}_{-0.0083}$	$100\theta_{s,eq}$	0.4540 ± 0.0028
$\Omega_c h^2$	0.1180 ± 0.0013	S_8	0.812 ± 0.015	$H(0.15)$	$73.60^{+0.61}_{-0.55}$
$100\theta_{MC}$	1.04111 ± 0.00032	$\sigma_8 \Omega_m^{0.5}$	0.4446 ± 0.0083	$D_M(0.15)$	$634.3^{+5.2}_{-6.0}$
τ	$0.0561^{+0.0059}_{-0.0079}$	$\sigma_8 \Omega_m^{0.25}$	0.6004 ± 0.0085	$H(0.38)$	$83.53^{+0.46}_{-0.41}$
Σm_ν [eV]	< 0.0453	$\sigma_8/h^{0.5}$	0.980 ± 0.013	$D_M(0.38)$	1515^{+11}_{-12}
$\ln(10^{10} A_s)$	$3.042^{+0.013}_{-0.016}$	$r_{drag} h$	101.0 ± 1.1	$H(0.51)$	$90.14^{+0.37}_{-0.33}$
n_s	0.9698 ± 0.0044	$\langle d^2 \rangle^{1/2}$	2.416 ± 0.027	$D_M(0.51)$	1965^{+13}_{-14}
y_{cal}	1.0007 ± 0.0024	z_{re}	$7.80^{+0.60}_{-0.81}$	$H(0.61)$	$95.68^{+0.31}_{-0.28}$
A_{100}^{PS}	239 ± 24	$10^9 A_s$	$2.095^{+0.027}_{-0.034}$	$D_M(0.61)$	2288^{+14}_{-15}
A_{143}^{PS}	38 ± 8	$10^9 A_s e^{-2\tau}$	1.873 ± 0.011	$H(2.33)$	235.16 ± 0.80
A_{217}^{PS}	102 ± 10	D_{40}	1220 ± 13	$D_M(2.33)$	5747^{+13}_{-14}
A_{217}^{CIB}	39 ± 7	D_{220}	5730 ± 41	$f\sigma_8(0.15)$	0.4498 ± 0.0078
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.4}$	D_{810}	2535 ± 13	$\sigma_8(0.15)$	$0.7503^{+0.0097}_{-0.0073}$
$r_{143 \times 217}^{PS}$	0.66 ± 0.13	D_{1420}	816.9 ± 4.9	$f\sigma_8(0.38)$	0.4705 ± 0.0067
$r_{143 \times 217}^{CIB}$	$0.55^{+0.43}_{-0.16}$	D_{2000}	230.9 ± 1.7	$\sigma_8(0.38)$	$0.6662^{+0.0087}_{-0.0061}$
$\xi^{tSZ \times CIB}$	$0.48^{+0.34}_{-0.44}$	$n_{s,0.002}$	0.9698 ± 0.0044	$f\sigma_8(0.51)$	0.4704 ± 0.0061
A^{kSZ}	$4.7^{+1.6}_{-4.6}$	Y_P	0.245418 ± 0.000061	$\sigma_8(0.51)$	$0.6239^{+0.0082}_{-0.0056}$
A_{100}^{dust}	1.02 ± 0.19	Y_P^{BBN}	0.246745 ± 0.000061	$f\sigma_8(0.61)$	0.4663 ± 0.0058
A_{143}^{dust}	0.97 ± 0.18	$10^5 D/H$	2.574 ± 0.029	$\sigma_8(0.61)$	$0.5940^{+0.0079}_{-0.0053}$
A_{217}^{dust}	$0.977^{+0.091}_{-0.10}$	Age/Gyr	$13.762^{+0.028}_{-0.032}$	$f\sigma_8(2.33)$	$0.2996^{+0.0035}_{-0.0026}$
$A_{143 \times 217}^{dust}$	1.02 ± 0.15	z_*	1089.66 ± 0.27	$\sigma_8(2.33)$	$0.3095^{+0.0041}_{-0.0028}$
c_{100}	0.9976 ± 0.0010	r_*	144.92 ± 0.29	f_{2000}^{143}	29.1 ± 2.9
c_{217}	1.0011 ± 0.0015	$100\theta_*$	1.04128 ± 0.00032	f_{2000}^{217}	106.5 ± 1.9
c_{TE}	0.9966 ± 0.0049	$D_M(z_*)/Gpc$	13.917 ± 0.028	$f_{2000}^{143 \times 217}$	31.7 ± 2.1
c_{EE}	0.9923 ± 0.0049	z_{drag}	$1059.93^{+0.32}_{-0.36}$	χ_{small}^2	397.0 ± 1.8
H_0	68.44 ± 0.67	r_{drag}	147.57 ± 0.30	χ_{lowl}^2	22.57 ± 0.86
Ω_Λ	$0.6992^{+0.0091}_{-0.0078}$	k_D	0.14041 ± 0.00034	$\chi_{CamSpec}^2$	11516.1 ± 6.0
Ω_m	$0.3008^{+0.0078}_{-0.0091}$	$100\theta_D$	0.16077 ± 0.00019	$\chi_{H073p45}^2$	9.3 ± 2.5
$\Omega_m h^2$	0.1408 ± 0.0013	z_{eq}	3355 ± 29	χ_{prior}^2	7.5 ± 3.2
$\Omega_\nu h^2$	< 0.000487	k_{eq}	0.010239 ± 0.000088	χ_{CMB}^2	11935.7 ± 6.0
$\Omega_m h^3$	$0.09635^{+0.00038}_{-0.00034}$	$100\theta_{eq}$	0.8222 ± 0.0055		

$$\bar{\chi}_{eff}^2 = 11952.44; \Delta\bar{\chi}_{eff}^2 = -1.57; R - 1 = 0.06967$$

5.7 base_mnu_CamSpecHM_TTTEEE_lowl_lowE_lensing

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022343	0.02227 ± 0.00016	σ_8	0.8210	$0.802^{+0.021}_{-0.0089}$	$100\theta_{s,eq}$	0.45078	0.4499 ± 0.0029
$\Omega_c h^2$	0.11938	0.1199 ± 0.0013	S_8	0.8292	0.827 ± 0.013	$H(0.15)$	73.29	$72.3^{+1.2}_{-0.64}$
$100\theta_{MC}$	1.040913	1.04083 ± 0.00033	$\sigma_8 \Omega_m^{0.5}$	0.4541	0.4532 ± 0.0070	$D_M(0.15)$	637.4	$646.9^{+6.1}_{-12}$
τ	0.0532	0.0541 ± 0.0078	$\sigma_8 \Omega_m^{0.25}$	0.6106	$0.6028^{+0.0099}_{-0.0071}$	$H(0.38)$	83.31	$82.58^{+0.89}_{-0.48}$
Σm_ν [eV]	0.000	< 0.127	$\sigma_8/h^{0.5}$	0.9952	$0.980^{+0.018}_{-0.011}$	$D_M(0.38)$	1521.5	1541^{+12}_{-24}
$\ln(10^{10} A_s)$	3.0396	3.042 ± 0.015	$r_{drag} h$	100.24	$98.6^{+2.1}_{-1.2}$	$H(0.51)$	89.98	$89.37^{+0.74}_{-0.39}$
n_s	0.96734	0.9650 ± 0.0044	$\langle d^2 \rangle^{1/2}$	2.4383	2.437 ± 0.022	$D_M(0.51)$	1971.8	1995^{+15}_{-28}
y_{cal}	1.00052	1.0006 ± 0.0025	z_{re}	7.56	7.66 ± 0.79	$H(0.61)$	95.560	$95.04^{+0.62}_{-0.33}$
A_{100}^{PS}	232.8	241 ± 25	$10^9 A_s$	2.0896	2.095 ± 0.032	$D_M(0.61)$	2295.2	2320^{+16}_{-31}
A_{143}^{PS}	42.3	40 ± 8	$10^9 A_s e^{-2\tau}$	1.8786	1.880 ± 0.011	$H(2.33)$	235.79	$236.59^{+0.89}_{-1.2}$
A_{217}^{PS}	103.7	103 ± 10	D_{40}	1223.7	1229 ± 12	$D_M(2.33)$	5751.0	5776^{+15}_{-30}
A_{217}^{CIB}	42.7	40 ± 7	D_{220}	5718.6	5721 ± 39	$f\sigma_8(0.15)$	0.4585	0.4576 ± 0.0065
A_{143}^{tSZ}	6.19	$3.8^{+1.9}_{-2.5}$	D_{810}	2536.0	2536 ± 13	$\sigma_8(0.15)$	0.7591	$0.740^{+0.020}_{-0.0084}$
$r_{143 \times 217}^{PS}$	0.665	0.66 ± 0.13	D_{1420}	816.63	815.9 ± 4.9	$f\sigma_8(0.38)$	0.4781	$0.4741^{+0.0065}_{-0.0054}$
$r_{143 \times 217}^{CIB}$	0.753	$0.56^{+0.39}_{-0.17}$	D_{2000}	230.77	230.2 ± 1.7	$\sigma_8(0.38)$	0.6733	$0.656^{+0.019}_{-0.0077}$
$\xi^{tSZ \times CIB}$	0.36	—	$n_{s,0.002}$	0.96734	0.9650 ± 0.0044	$f\sigma_8(0.51)$	0.4773	$0.4719^{+0.0071}_{-0.0050}$
A^{kSZ}	0.47	$4.8^{+2.4}_{-3.8}$	Y_P	0.245385	0.245354 ± 0.000066	$\sigma_8(0.51)$	0.6302	$0.613^{+0.018}_{-0.0073}$
A_{100}^{dust}	1.009	1.01 ± 0.19	Y_P^{BBN}	0.246711	0.246680 ± 0.000066	$f\sigma_8(0.61)$	0.4726	$0.4664^{+0.0077}_{-0.0047}$
A_{143}^{dust}	0.972	0.96 ± 0.18	$10^5 D/H$	2.5905	2.604 ± 0.030	$\sigma_8(0.61)$	0.5997	$0.583^{+0.018}_{-0.0071}$
A_{217}^{dust}	0.973	0.97 ± 0.10	Age/Gyr	13.769	$13.827^{+0.033}_{-0.069}$	$f\sigma_8(2.33)$	0.3016	$0.2946^{+0.0080}_{-0.0033}$
$A_{143 \times 217}^{dust}$	1.018	1.02 ± 0.16	z_*	1089.893	1090.04 ± 0.29	$\sigma_8(2.33)$	0.3117	$0.3030^{+0.0097}_{-0.0039}$
c_{100}	0.99772	0.9976 ± 0.0011	r_*	144.619	144.54 ± 0.31	f_{2000}^{143}	29.32	29.9 ± 2.9
c_{217}	1.00120	1.0011 ± 0.0016	$100\theta_*$	1.041069	1.04104 ± 0.00031	f_{2000}^{217}	106.32	107.0 ± 2.0
c_{TE}	0.99612	0.9968 ± 0.0049	$D_M(z_*)/\text{Gpc}$	13.8914	13.884 ± 0.029	$f_{2000}^{143 \times 217}$	31.71	32.3 ± 2.0
c_{EE}	0.99172	0.9921 ± 0.0049	z_{drag}	1059.818	1059.70 ± 0.33	$\chi^2_{lensing}$	8.92	9.44 ± 0.87
H_0	68.06	$67.0^{+1.3}_{-0.74}$	r_{drag}	147.293	147.24 ± 0.31	χ^2_{small}	395.86	397.1 ± 1.9
Ω_Λ	0.6940	$0.680^{+0.018}_{-0.0092}$	k_D	0.140629	0.14064 ± 0.00035	χ^2_{lowl}	22.92	23.30 ± 0.87
Ω_m	0.3060	$0.3198^{+0.0092}_{-0.018}$	$100\theta_D$	0.160816	0.16089 ± 0.00019	$\chi^2_{CamSpec}$	11499.3	11514.7 ± 5.6
$\Omega_m h^2$	0.14172	$0.1432^{+0.0014}_{-0.0021}$	z_{eq}	3386.7	3396 ± 30	χ^2_{prior}	2.05	7.8 ± 3.5
$\Omega_\nu h^2$	0.00000	< 0.00136	k_{eq}	0.010336	0.010366 ± 0.000092	χ^2_{CMB}	11927.0	11944.5 ± 6.0
$\Omega_m h^3$	0.09645	$0.09591^{+0.00071}_{-0.00039}$	$100\theta_{eq}$	0.8159	0.8141 ± 0.0057			

Best-fit $\chi^2_{eff} = 11929.03$; $\Delta\chi^2_{eff} = -0.62$; $\bar{\chi}^2_{eff} = 11952.30$; $\Delta\bar{\chi}^2_{eff} = 0.86$; $R - 1 = 0.01307$

χ^2_{eff} : CMB - smicadx12.Dec5_ftl.mv2_ndclpp.p.teb.consext8: 8.92 (Δ 0.09) simall_100x143_offlike5.EE_Aplanck.B: 395.86 (Δ -0.01) commander_dx12.v3.2.29: 22.93 (Δ -0.29) CamSpec like_10.7HM_1400_unified: 11499.28 (Δ -0.37)

5.8 base_mnu_CamSpecHM_TTTEEE_lowl_lowE_lensing_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02228 ± 0.00016	σ_8	$0.802^{+0.021}_{-0.0090}$	$100\theta_{s,eq}$	0.4500 ± 0.0029
$\Omega_c h^2$	0.1198 ± 0.0013	S_8	0.827 ± 0.013	$H(0.15)$	$72.3^{+1.2}_{-0.64}$
$100\theta_{MC}$	1.04083 ± 0.00033	$\sigma_8 \Omega_m^{0.5}$	0.4532 ± 0.0070	$D_M(0.15)$	$646.9^{+6.1}_{-12}$
τ	$0.0552^{+0.0052}_{-0.0080}$	$\sigma_8 \Omega_m^{0.25}$	$0.6029^{+0.0099}_{-0.0072}$	$H(0.38)$	$82.58^{+0.91}_{-0.48}$
Σm_ν [eV]	< 0.129	$\sigma_8/h^{0.5}$	$0.980^{+0.018}_{-0.011}$	$D_M(0.38)$	1541^{+12}_{-24}
$\ln(10^{10} A_s)$	$3.044^{+0.011}_{-0.015}$	$r_{drag} h$	$98.6^{+2.2}_{-1.2}$	$H(0.51)$	$89.37^{+0.75}_{-0.39}$
n_s	0.9652 ± 0.0044	$\langle d^2 \rangle^{1/2}$	2.438 ± 0.022	$D_M(0.51)$	1995^{+15}_{-29}
y_{cal}	1.0006 ± 0.0025	z_{re}	$7.78^{+0.57}_{-0.79}$	$H(0.61)$	$95.04^{+0.63}_{-0.33}$
A_{100}^{PS}	241 ± 25	$10^9 A_s$	$2.100^{+0.024}_{-0.033}$	$D_M(0.61)$	2320^{+16}_{-31}
A_{143}^{PS}	40 ± 8	$10^9 A_s e^{-2\tau}$	1.880 ± 0.011	$H(2.33)$	$236.57^{+0.88}_{-1.2}$
A_{217}^{PS}	103 ± 10	D_{40}	1229 ± 12	$D_M(2.33)$	5776^{+15}_{-31}
A_{217}^{CIB}	40 ± 7	D_{220}	5721 ± 39	$f\sigma_8(0.15)$	0.4577 ± 0.0065
A_{143}^{tSZ}	$3.8^{+1.9}_{-2.5}$	D_{810}	2536 ± 13	$\sigma_8(0.15)$	$0.741^{+0.020}_{-0.0084}$
$r_{143 \times 217}^{PS}$	0.66 ± 0.13	D_{1420}	815.9 ± 4.9	$f\sigma_8(0.38)$	$0.4742^{+0.0066}_{-0.0054}$
$r_{143 \times 217}^{CIB}$	$0.56^{+0.39}_{-0.17}$	D_{2000}	230.2 ± 1.7	$\sigma_8(0.38)$	$0.656^{+0.019}_{-0.0077}$
$\xi^{tSZ \times CIB}$	—	$n_{s,0.002}$	0.9652 ± 0.0044	$f\sigma_8(0.51)$	$0.4720^{+0.0072}_{-0.0050}$
A^{kSZ}	$4.7^{+2.4}_{-3.8}$	Y_P	0.245355 ± 0.000065	$\sigma_8(0.51)$	$0.614^{+0.019}_{-0.0073}$
A_{100}^{dust}	1.01 ± 0.19	Y_P^{BBN}	0.246682 ± 0.000066	$f\sigma_8(0.61)$	$0.4665^{+0.0078}_{-0.0047}$
A_{143}^{dust}	0.96 ± 0.18	$10^5 D/H$	2.604 ± 0.030	$\sigma_8(0.61)$	$0.584^{+0.018}_{-0.0070}$
A_{217}^{dust}	0.97 ± 0.10	Age/Gyr	$13.828^{+0.033}_{-0.070}$	$f\sigma_8(2.33)$	$0.2947^{+0.0081}_{-0.0032}$
$A_{143 \times 217}^{dust}$	1.02 ± 0.16	z_*	1090.03 ± 0.29	$\sigma_8(2.33)$	$0.3031^{+0.0098}_{-0.0038}$
c_{100}	0.9976 ± 0.0011	r_*	144.55 ± 0.31	f_{2000}^{143}	29.9 ± 2.9
c_{217}	1.0011 ± 0.0016	$100\theta_*$	1.04105 ± 0.00031	f_{2000}^{217}	107.0 ± 2.0
c_{TE}	0.9968 ± 0.0049	$D_M(z_*)/\text{Gpc}$	13.885 ± 0.029	$f_{2000}^{143 \times 217}$	32.3 ± 2.0
c_{EE}	0.9921 ± 0.0049	z_{drag}	1059.71 ± 0.33	$\chi_{lensing}^2$	9.39 ± 0.83
H_0	$67.0^{+1.4}_{-0.74}$	r_{drag}	147.25 ± 0.31	χ_{small}^2	397.0 ± 1.9
Ω_Λ	$0.680^{+0.018}_{-0.0092}$	k_D	0.14063 ± 0.00035	χ_{lowl}^2	23.29 ± 0.87
Ω_m	$0.3197^{+0.0092}_{-0.018}$	$100\theta_D$	0.16088 ± 0.00019	$\chi_{CamSpec}^2$	11514.6 ± 5.6
$\Omega_m h^2$	$0.1432^{+0.0014}_{-0.0021}$	z_{eq}	3395 ± 30	χ_{prior}^2	7.8 ± 3.5
$\Omega_\nu h^2$	< 0.00139	k_{eq}	0.010362 ± 0.000092	χ_{CMB}^2	11944.4 ± 6.0
$\Omega_m h^3$	$0.09590^{+0.00071}_{-0.00039}$	$100\theta_{eq}$	0.8143 ± 0.0056		

$$\bar{\chi}_{eff}^2 = 11952.13; \Delta\bar{\chi}_{eff}^2 = 0.88; R - 1 = 0.01210$$

5.9 base_mnu_CamSpecHM_TT_lowl_lowE_BAO

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022216	0.02222 ± 0.00019	$\sigma_8 \Omega_m^{0.5}$	0.4545	$0.450^{+0.010}_{-0.0086}$	$D_M(0.15)$	638.1	640.6 ± 5.0
$\Omega_c h^2$	0.11938	0.1189 ± 0.0013	$\sigma_8 \Omega_m^{0.25}$	0.6109	$0.603^{+0.013}_{-0.0088}$	$H(0.38)$	83.233	83.02 ± 0.39
$100\theta_{MC}$	1.041014	1.04105 ± 0.00042	$\sigma_8/h^{0.5}$	0.9958	$0.982^{+0.020}_{-0.013}$	$D_M(0.38)$	1523.1	1528 ± 10
τ	0.0531	0.0536 ± 0.0079	$r_{drag}h$	100.22	99.88 ± 0.97	$H(0.51)$	89.903	89.71 ± 0.33
Σm_ν [eV]	0.0034	< 0.0747	$\langle d^2 \rangle^{1/2}$	2.4386	$2.424^{+0.032}_{-0.029}$	$D_M(0.51)$	1973.8	1980 ± 12
$\ln(10^{10} A_s)$	3.0387	3.038 ± 0.016	z_{re}	7.57	7.61 ± 0.81	$H(0.61)$	95.485	95.31 ± 0.29
n_s	0.96698	0.9674 ± 0.0044	$10^9 A_s$	2.0878	2.088 ± 0.034	$D_M(0.61)$	2297.4	2304 ± 13
y_{cal}	1.00052	1.0005 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.8776	1.875 ± 0.012	$H(2.33)$	235.69	235.71 ± 0.77
A_{100}^{PS}	234.1	242 ± 25	D_{40}	1223.0	1222 ± 13	$D_M(2.33)$	5755.3	5764^{+13}_{-15}
A_{143}^{PS}	43.5	40 ± 8	D_{220}	5706.7	5709 ± 40	$f\sigma_8(0.15)$	0.4588	$0.4543^{+0.0096}_{-0.0080}$
A_{217}^{PS}	101.9	101 ± 10	D_{810}	2534.3	2533 ± 14	$\sigma_8(0.15)$	0.7590	$0.747^{+0.015}_{-0.0082}$
A_{217}^{CIB}	44.6	41 ± 7	D_{1420}	815.3	815.0 ± 5.1	$f\sigma_8(0.38)$	0.4784	$0.4730^{+0.0092}_{-0.0070}$
A_{143}^{tSZ}	6.47	$3.8^{+1.8}_{-2.6}$	D_{2000}	230.14	229.9 ± 1.8	$\sigma_8(0.38)$	0.6731	$0.662^{+0.014}_{-0.0071}$
$r_{143 \times 217}^{PS}$	0.626	0.65 ± 0.13	$n_{s,0.002}$	0.96698	0.9674 ± 0.0044	$f\sigma_8(0.51)$	0.4775	$0.4719^{+0.0089}_{-0.0064}$
$r_{143 \times 217}^{CIB}$	0.839	$0.58^{+0.40}_{-0.15}$	Y_P	0.245333	$0.245331^{+0.000087}_{-0.000073}$	$\sigma_8(0.51)$	0.6301	$0.620^{+0.013}_{-0.0066}$
$\xi^{tSZ \times CIB}$	0.29	—	Y_P^{BBN}	0.246659	$0.246657^{+0.000087}_{-0.000073}$	$f\sigma_8(0.61)$	0.4728	$0.4671^{+0.0087}_{-0.0059}$
A^{kSZ}	0.3	—	$10^5 D/H$	2.6148	2.615 ± 0.037	$\sigma_8(0.61)$	0.5996	$0.590^{+0.012}_{-0.0063}$
A_{100}^{dust}	1.013	1.01 ± 0.19	Age/Gyr	13.7795	$13.801^{+0.031}_{-0.036}$	$f\sigma_8(2.33)$	0.30158	$0.2976^{+0.0052}_{-0.0030}$
A_{143}^{dust}	0.992	0.98 ± 0.17	z_*	1090.057	1090.02 ± 0.30	$\sigma_8(2.33)$	0.31158	$0.3068^{+0.0060}_{-0.0032}$
A_{217}^{dust}	0.969	0.97 ± 0.10	r_*	144.715	144.83 ± 0.33	f_{2000}^{143}	30.50	30.5 ± 3.0
$A_{143 \times 217}^{dust}$	0.996	1.03 ± 0.16	$100\theta_*$	1.041179	1.04125 ± 0.00042	f_{2000}^{217}	107.13	107.4 ± 2.0
c_{100}	0.99764	0.9975 ± 0.0010	$D_M(z_*)/\text{Gpc}$	13.8991	13.909 ± 0.032	$f_{2000}^{143 \times 217}$	32.49	32.7 ± 2.1
c_{217}	1.00136	1.0012 ± 0.0016	z_{drag}	1059.513	1059.51 ± 0.44	χ_{small}^2	395.87	397.0 ± 1.8
H_0	67.98	67.69 ± 0.59	r_{drag}	147.435	147.55 ± 0.36	χ_{lowl}^2	22.93	22.85 ± 0.93
Ω_Λ	0.6935	0.6904 ± 0.0075	k_D	0.140385	0.14027 ± 0.00045	$\chi_{CamSpec}^2$	7050.5	7063.9 ± 5.6
Ω_m	0.3065	0.3096 ± 0.0075	$100\theta_D$	0.161006	0.16103 ± 0.00026	χ_{6DF}^2	0.0029	0.054 ± 0.073
$\Omega_m h^2$	0.14164	0.1418 ± 0.0012	z_{eq}	3383.8	3373 ± 31	χ_{MGS}^2	1.54	1.42 ± 0.55
$\Omega_\nu h^2$	0.000037	< 0.000804	k_{eq}	0.010327	0.010295 ± 0.000093	$\chi_{DR12BAO}^2$	3.66	4.6 ± 1.5
$\Omega_m h^3$	0.09628	$0.09599^{+0.00057}_{-0.00049}$	$100\theta_{eq}$	0.8162	$0.8183^{+0.0053}_{-0.0060}$	χ_{prior}^2	2.06	7.6 ± 3.5
σ_8	0.8210	$0.808^{+0.017}_{-0.0092}$	$100\theta_{s,eq}$	0.45101	$0.4521^{+0.0027}_{-0.0031}$	χ_{BAO}^2	5.21	6.1 ± 1.3
S_8	0.8299	$0.821^{+0.019}_{-0.016}$	$H(0.15)$	73.21	72.95 ± 0.51	χ_{CMB}^2	7469.3	7483.8 ± 5.6

Best-fit $\chi_{eff}^2 = 7476.59$; $\bar{\chi}_{eff}^2 = 7497.48$; $\Delta\bar{\chi}_{eff}^2 = -0.07$; $R - 1 = 0.00749$

χ_{eff}^2 : BAO - 6DF: 0.00 MGS: 1.54 DR12BAO: 3.66 CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.87 commander_dx12_v3.2.29: 22.93 CamSpec like_10.7HM: 7050.52

5.10 base_mnu_CamSpecHM_TT_lowl_lowE_BAO_post_Pantheon18

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_{\text{b}}h^2$	0.022200	0.02223 ± 0.00019	$\sigma_8\Omega_{\text{m}}^{0.25}$	0.6099	$0.602^{+0.012}_{-0.0086}$	$D_{\text{M}}(0.38)$	1523.3	1526.9 ± 9.7
$\Omega_{\text{c}}h^2$	0.11938	0.1188 ± 0.0013	$\sigma_8/h^{0.5}$	0.9942	$0.982^{+0.019}_{-0.013}$	$H(0.51)$	89.891	89.75 ± 0.32
$100\theta_{\text{MC}}$	1.040996	1.04107 ± 0.00042	$r_{\text{drag}}h$	100.22	100.02 ± 0.92	$D_{\text{M}}(0.51)$	1974.1	1978 ± 12
τ	0.0517	0.0538 ± 0.0080	$\langle d^2 \rangle^{1/2}$	2.4362	$2.422^{+0.032}_{-0.028}$	$H(0.61)$	95.473	95.35 ± 0.28
Σm_{ν} [eV]	0.0009	< 0.0722	z_{re}	7.43	7.62 ± 0.81	$D_{\text{M}}(0.61)$	2297.7	2303 ± 13
$\ln(10^{10}A_{\text{s}})$	3.0354	3.038 ± 0.017	10^9A_{s}	2.0809	2.088 ± 0.034	$H(2.33)$	235.66	235.62 ± 0.74
n_{s}	0.96625	0.9677 ± 0.0044	$10^9A_{\text{s}}e^{-2\tau}$	1.8765	1.874 ± 0.012	$D_{\text{M}}(2.33)$	5756.0	5763^{+13}_{-15}
y_{cal}	1.00035	1.0005 ± 0.0025	D_{40}	1223.7	1222 ± 13	$f\sigma_8(0.15)$	0.4581	$0.4536^{+0.0093}_{-0.0077}$
A_{100}^{PS}	236.9	243 ± 25	D_{220}	5706.1	5710 ± 40	$\sigma_8(0.15)$	0.7578	$0.747^{+0.015}_{-0.0082}$
A_{143}^{PS}	39.2	40 ± 8	D_{810}	2532.5	2533 ± 14	$f\sigma_8(0.38)$	0.4775	$0.4726^{+0.0089}_{-0.0067}$
A_{217}^{PS}	99.97	101 ± 10	D_{1420}	814.4	815.1 ± 5.1	$\sigma_8(0.38)$	0.6720	$0.663^{+0.013}_{-0.0071}$
A_{217}^{CIB}	46.1	41 ± 7	D_{2000}	229.76	229.9 ± 1.8	$f\sigma_8(0.51)$	0.4766	$0.4716^{+0.0086}_{-0.0062}$
A_{143}^{tSZ}	6.64	$3.8^{+1.8}_{-2.6}$	$n_{\text{s},0.002}$	0.96625	0.9677 ± 0.0044	$\sigma_8(0.51)$	0.6290	$0.620^{+0.012}_{-0.0066}$
$r_{143 \times 217}^{\text{PS}}$	0.559	0.65 ± 0.13	Y_{P}	0.245326	$0.245335^{+0.000086}_{-0.000073}$	$f\sigma_8(0.61)$	0.4720	$0.4669^{+0.0084}_{-0.0058}$
$r_{143 \times 217}^{\text{CIB}}$	0.806	$0.58^{+0.39}_{-0.15}$	$Y_{\text{P}}^{\text{BBN}}$	0.246652	$0.246662^{+0.000086}_{-0.000073}$	$\sigma_8(0.61)$	0.5986	$0.590^{+0.012}_{-0.0063}$
$\xi^{\text{tSZ} \times \text{CIB}}$	0.00	—	$10^5\text{D}/\text{H}$	2.6180	2.613 ± 0.037	$f\sigma_8(2.33)$	0.30105	$0.2977^{+0.0051}_{-0.0030}$
A^{kSZ}	0.2	—	Age/Gyr	13.7811	$13.798^{+0.030}_{-0.035}$	$\sigma_8(2.33)$	0.31103	$0.3070^{+0.0057}_{-0.0032}$
A_{100}^{dust}	1.008	1.01 ± 0.19	z_*	1090.077	1089.99 ± 0.29	f_{2000}^{143}	30.85	30.5 ± 3.0
A_{143}^{dust}	0.988	0.98 ± 0.17	r_*	144.728	144.86 ± 0.33	f_{2000}^{217}	107.38	107.3 ± 2.0
A_{217}^{dust}	0.963	0.97 ± 0.10	$100\theta_*$	1.041170	1.04127 ± 0.00042	$f_{2000}^{143 \times 217}$	32.74	32.7 ± 2.1
$A_{143 \times 217}^{\text{dust}}$	0.996	1.03 ± 0.16	$D_{\text{M}}(z_*)/\text{Gpc}$	13.9005	13.911 ± 0.032	χ_{simall}^2	395.76	397.0 ± 1.8
c_{100}	0.99759	0.9975 ± 0.0010	z_{drag}	1059.475	1059.52 ± 0.44	χ_{lowl}^2	23.01	22.80 ± 0.91
c_{217}	1.00140	1.0012 ± 0.0016	r_{drag}	147.454	147.57 ± 0.35	χ_{CamSpec}^2	7050.4	7064.0 ± 5.7
H_0	67.97	67.78 ± 0.56	k_{D}	0.140352	0.14025 ± 0.00045	χ_{JLA}^2	1034.853	1035.02 ± 0.31
Ω_{Λ}	0.6935	0.6915 ± 0.0071	$100\theta_{\text{D}}$	0.161028	0.16102 ± 0.00025	$\chi_{6\text{DF}}^2$	0.0030	0.044 ± 0.061
Ω_{m}	0.3065	0.3085 ± 0.0071	z_{eq}	3383.4	3370 ± 30	χ_{MGS}^2	1.54	1.49 ± 0.53
$\Omega_{\text{m}}h^2$	0.14159	0.1417 ± 0.0011	k_{eq}	0.010326	0.010286 ± 0.000090	χ_{DR12BAO}^2	3.66	4.4 ± 1.3
$\Omega_{\nu}h^2$	$0.96 \cdot 10^{-5}$	< 0.000776	$100\theta_{\text{eq}}$	0.8162	$0.8188^{+0.0051}_{-0.0058}$	χ_{prior}^2	2.18	7.6 ± 3.4
$\Omega_{\text{m}}h^3$	0.09623	$0.09601^{+0.00056}_{-0.00048}$	$100\theta_{\text{s,eq}}$	0.45103	$0.4524^{+0.0026}_{-0.0030}$	χ_{BAO}^2	5.206	5.9 ± 1.0
σ_8	0.8197	$0.808^{+0.016}_{-0.0090}$	$H(0.15)$	73.195	73.02 ± 0.49	χ_{CMB}^2	7469.2	7483.8 ± 5.6
S_8	0.8285	$0.819^{+0.018}_{-0.015}$	$D_{\text{M}}(0.15)$	638.21	639.9 ± 4.8			
$\sigma_8\Omega_{\text{m}}^{0.5}$	0.4538	$0.4488^{+0.0099}_{-0.0082}$	$H(0.38)$	83.222	83.07 ± 0.38			

Best-fit $\chi_{\text{eff}}^2 = 8511.39$; $\bar{\chi}_{\text{eff}}^2 = 8532.36$; $R - 1 = 0.00853$
 χ_{eff}^2 : BAO - 6DF: 0.00 MGS: 1.54 DR12BAO: 3.66 CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.76 commander_dx12_v3.2.29: 23.01 CamSpec like_10.7HM: 7050.38
SN - JLA Pantheon18: 1034.85

5.11 base_mnu_CamSpecHM_TT_lowl_lowE_BAO_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\text{b}}h^2$	0.02222 ± 0.00019	$\sigma_8\Omega_{\text{m}}^{0.5}$	$0.450^{+0.010}_{-0.0086}$	$D_{\text{M}}(0.15)$	640.5 ± 5.0
$\Omega_{\text{c}}h^2$	0.1189 ± 0.0013	$\sigma_8\Omega_{\text{m}}^{0.25}$	$0.603^{+0.012}_{-0.0087}$	$H(0.38)$	83.03 ± 0.40
$100\theta_{\text{MC}}$	1.04105 ± 0.00042	$\sigma_8/h^{0.5}$	$0.983^{+0.019}_{-0.013}$	$D_{\text{M}}(0.38)$	1528 ± 10
τ	$0.0549^{+0.0051}_{-0.0082}$	$r_{\text{drag}}h$	99.90 ± 0.97	$H(0.51)$	89.72 ± 0.33
$\Sigma m_{\nu} [\text{eV}]$	< 0.0752	$\langle d^2 \rangle^{1/2}$	$2.426^{+0.031}_{-0.028}$	$D_{\text{M}}(0.51)$	1980 ± 12
$\ln(10^{10}A_{\text{s}})$	$3.041^{+0.012}_{-0.016}$	z_{re}	$7.75^{+0.56}_{-0.81}$	$H(0.61)$	95.32 ± 0.29
n_{s}	0.9675 ± 0.0044	$10^9 A_{\text{s}}$	$2.093^{+0.025}_{-0.034}$	$D_{\text{M}}(0.61)$	2304 ± 13
y_{cal}	1.0005 ± 0.0025	$10^9 A_{\text{s}}e^{-2\tau}$	1.875 ± 0.012	$H(2.33)$	235.70 ± 0.77
A_{100}^{PS}	242 ± 25	D_{40}	1222 ± 13	$D_{\text{M}}(2.33)$	5764^{+13}_{-16}
A_{143}^{PS}	40 ± 8	D_{220}	5709 ± 40	$f\sigma_8(0.15)$	$0.4547^{+0.0096}_{-0.0080}$
A_{217}^{PS}	101 ± 10	D_{810}	2533 ± 14	$\sigma_8(0.15)$	$0.748^{+0.015}_{-0.0079}$
A_{217}^{CIB}	41 ± 7	D_{1420}	815.0 ± 5.1	$f\sigma_8(0.38)$	$0.4735^{+0.0091}_{-0.0069}$
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	D_{2000}	229.9 ± 1.8	$\sigma_8(0.38)$	$0.663^{+0.013}_{-0.0068}$
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.13	$n_{\text{s},0.002}$	0.9675 ± 0.0044	$f\sigma_8(0.51)$	$0.4723^{+0.0088}_{-0.0062}$
$r_{143 \times 217}^{\text{CIB}}$	$0.58^{+0.39}_{-0.15}$	Y_{P}	$0.245333^{+0.000087}_{-0.000073}$	$\sigma_8(0.51)$	$0.621^{+0.012}_{-0.0064}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	$Y_{\text{P}}^{\text{BBN}}$	$0.246659^{+0.000087}_{-0.000073}$	$f\sigma_8(0.61)$	$0.4676^{+0.0086}_{-0.0058}$
A^{kSZ}	—	$10^5 \text{D}/\text{H}$	2.614 ± 0.037	$\sigma_8(0.61)$	$0.591^{+0.012}_{-0.0060}$
A_{100}^{dust}	1.01 ± 0.19	Age/Gyr	$13.801^{+0.031}_{-0.036}$	$f\sigma_8(2.33)$	$0.2979^{+0.0051}_{-0.0028}$
A_{143}^{dust}	0.98 ± 0.18	z_*	1090.01 ± 0.30	$\sigma_8(2.33)$	$0.3072^{+0.0058}_{-0.0031}$
A_{217}^{dust}	0.97 ± 0.10	r_*	144.83 ± 0.33	f_{2000}^{143}	30.4 ± 3.0
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04126 ± 0.00042	f_{2000}^{217}	107.3 ± 2.0
c_{100}	0.9975 ± 0.0011	$D_{\text{M}}(z_*)/\text{Gpc}$	13.909 ± 0.032	$f_{2000}^{143 \times 217}$	32.7 ± 2.1
c_{217}	1.0012 ± 0.0016	z_{drag}	1059.51 ± 0.44	χ_{small}^2	396.9 ± 1.8
H_0	67.71 ± 0.59	r_{drag}	147.55 ± 0.36	χ_{lowl}^2	22.86 ± 0.93
Ω_{Λ}	0.6906 ± 0.0076	k_{D}	0.14027 ± 0.00045	χ_{CamSpec}^2	7063.8 ± 5.6
Ω_{m}	0.3094 ± 0.0076	$100\theta_{\text{D}}$	0.16102 ± 0.00026	$\chi_{6\text{DF}}^2$	0.053 ± 0.072
$\Omega_{\text{m}}h^2$	0.1418 ± 0.0012	z_{eq}	3372 ± 31	χ_{MGS}^2	1.43 ± 0.55
$\Omega_{\nu}h^2$	< 0.000808	k_{eq}	0.010293 ± 0.000093	χ_{DR12BAO}^2	4.6 ± 1.5
$\Omega_{\text{m}}h^3$	$0.09599^{+0.00057}_{-0.00049}$	$100\theta_{\text{eq}}$	$0.8184^{+0.0053}_{-0.0059}$	χ_{prior}^2	7.6 ± 3.5
σ_8	$0.809^{+0.016}_{-0.0088}$	$100\theta_{\text{s,eq}}$	$0.4522^{+0.0028}_{-0.0031}$	χ_{BAO}^2	6.1 ± 1.3
S_8	$0.821^{+0.019}_{-0.016}$	$H(0.15)$	72.96 ± 0.51	χ_{CMB}^2	7483.6 ± 5.5

$$\bar{\chi}_{\text{eff}}^2 = 7497.29; \Delta\bar{\chi}_{\text{eff}}^2 = -0.02; R - 1 = 0.00759$$

5.12 base_mnu_CamSpecHM_TT_lowl_lowE_BAO_post_Pantheon18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\text{b}}h^2$	0.02223 ± 0.00019	$\sigma_8\Omega_{\text{m}}^{0.25}$	$0.603^{+0.012}_{-0.0085}$	$D_{\text{M}}(0.38)$	1526.7 ± 9.7
$\Omega_{\text{c}}h^2$	0.1188 ± 0.0013	$\sigma_8/h^{0.5}$	$0.983^{+0.019}_{-0.012}$	$H(0.51)$	89.76 ± 0.32
$100\theta_{\text{MC}}$	1.04107 ± 0.00042	$r_{\text{drag}}h$	100.04 ± 0.92	$D_{\text{M}}(0.51)$	1978 ± 12
τ	$0.0550^{+0.0051}_{-0.0083}$	$\langle d^2 \rangle^{1/2}$	$2.425^{+0.030}_{-0.028}$	$H(0.61)$	95.35 ± 0.28
$\Sigma m_{\nu} [\text{eV}]$	< 0.0724	z_{re}	$7.75^{+0.56}_{-0.83}$	$D_{\text{M}}(0.61)$	2302 ± 13
$\ln(10^{10}A_{\text{s}})$	$3.041^{+0.012}_{-0.016}$	$10^9 A_{\text{s}}$	$2.093^{+0.025}_{-0.035}$	$H(2.33)$	235.61 ± 0.74
n_{s}	0.9678 ± 0.0044	$10^9 A_{\text{s}}e^{-2\tau}$	1.874 ± 0.012	$D_{\text{M}}(2.33)$	5763^{+13}_{-15}
y_{cal}	1.0005 ± 0.0025	D_{40}	1222 ± 13	$f\sigma_8(0.15)$	$0.4540^{+0.0092}_{-0.0077}$
A_{100}^{PS}	242 ± 25	D_{220}	5710 ± 40	$\sigma_8(0.15)$	$0.748^{+0.015}_{-0.0079}$
A_{143}^{PS}	40 ± 8	D_{810}	2533 ± 14	$f\sigma_8(0.38)$	$0.4731^{+0.0088}_{-0.0067}$
A_{217}^{PS}	101 ± 10	D_{1420}	815.1 ± 5.1	$\sigma_8(0.38)$	$0.663^{+0.013}_{-0.0068}$
A_{217}^{CIB}	41 ± 7	D_{2000}	230.0 ± 1.8	$f\sigma_8(0.51)$	$0.4720^{+0.0085}_{-0.0061}$
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	$n_{\text{s},0.002}$	0.9678 ± 0.0044	$\sigma_8(0.51)$	$0.621^{+0.012}_{-0.0064}$
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.13	Y_{P}	$0.245337^{+0.000085}_{-0.000073}$	$f\sigma_8(0.61)$	$0.4673^{+0.0082}_{-0.0057}$
$r_{143 \times 217}^{\text{CIB}}$	$0.58^{+0.39}_{-0.15}$	$Y_{\text{P}}^{\text{BBN}}$	$0.246663^{+0.000086}_{-0.000073}$	$\sigma_8(0.61)$	$0.591^{+0.011}_{-0.0060}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	$10^5 \text{D}/\text{H}$	2.612 ± 0.036	$f\sigma_8(2.33)$	$0.2981^{+0.0049}_{-0.0028}$
A^{kSZ}	—	Age/Gyr	$13.797^{+0.030}_{-0.035}$	$\sigma_8(2.33)$	$0.3074^{+0.0056}_{-0.0031}$
A_{100}^{dust}	1.01 ± 0.20	z_*	1089.98 ± 0.29	f_{2000}^{143}	30.4 ± 3.0
A_{143}^{dust}	0.98 ± 0.17	r_*	144.86 ± 0.33	f_{2000}^{217}	107.3 ± 2.0
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04127 ± 0.00042	$f_{2000}^{143 \times 217}$	32.6 ± 2.1
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$D_{\text{M}}(z_*)/\text{Gpc}$	13.912 ± 0.032	χ_{simall}^2	397.0 ± 1.8
c_{100}	0.9975 ± 0.0010	z_{drag}	1059.53 ± 0.44	χ_{lowl}^2	22.81 ± 0.91
c_{217}	1.0012 ± 0.0016	r_{drag}	147.57 ± 0.35	χ_{CamSpec}^2	7063.9 ± 5.7
H_0	67.79 ± 0.56	k_{D}	0.14025 ± 0.00045	χ_{JLA}^2	1035.02 ± 0.31
Ω_{Λ}	0.6917 ± 0.0071	$100\theta_{\text{D}}$	0.16102 ± 0.00025	$\chi_{6\text{DF}}^2$	0.044 ± 0.060
Ω_{m}	0.3083 ± 0.0071	z_{eq}	3369 ± 30	χ_{MGS}^2	1.50 ± 0.53
$\Omega_{\text{m}}h^2$	0.1416 ± 0.0011	k_{eq}	0.010284 ± 0.000090	χ_{DR12BAO}^2	4.4 ± 1.3
$\Omega_{\nu}h^2$	< 0.000778	$100\theta_{\text{eq}}$	$0.8190^{+0.0051}_{-0.0057}$	χ_{prior}^2	7.6 ± 3.4
$\Omega_{\text{m}}h^3$	$0.09601^{+0.00057}_{-0.00049}$	$100\theta_{\text{s,eq}}$	$0.4524^{+0.0026}_{-0.0030}$	χ_{BAO}^2	5.9 ± 1.0
σ_8	$0.809^{+0.016}_{-0.0088}$	$H(0.15)$	73.03 ± 0.49	χ_{CMB}^2	7483.6 ± 5.6
S_8	$0.820^{+0.018}_{-0.015}$	$D_{\text{M}}(0.15)$	639.8 ± 4.8		
$\sigma_8\Omega_{\text{m}}^{0.5}$	$0.4492^{+0.0098}_{-0.0082}$	$H(0.38)$	83.08 ± 0.38		

$$\bar{\chi}_{\text{eff}}^2 = 8532.17; R - 1 = 0.00943$$

5.13 base_mnu_CamSpecHM_TTTEEE_lowl_lowE_BAO

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022331	0.02234 ± 0.00015	S_8	0.8271	0.820 ± 0.015	$D_M(0.15)$	637.06	$640.1^{+4.3}_{-5.0}$
$\Omega_c h^2$	0.11924	0.1189 ± 0.0011	$\sigma_8 \Omega_m^{0.5}$	0.4530	0.4489 ± 0.0081	$H(0.38)$	83.331	$83.08^{+0.39}_{-0.33}$
$100\theta_{MC}$	1.040959	1.04095 ± 0.00030	$\sigma_8 \Omega_m^{0.25}$	0.6094	$0.602^{+0.011}_{-0.0082}$	$D_M(0.38)$	1520.8	$1527.1^{+8.7}_{-10}$
τ	0.0530	0.0534 ± 0.0079	$\sigma_8/h^{0.5}$	0.9933	$0.981^{+0.017}_{-0.012}$	$H(0.51)$	89.993	$89.77^{+0.33}_{-0.27}$
Σm_ν [eV]	0.0046	< 0.0757	$r_{\text{drag}} h$	100.34	99.88 ± 0.90	$D_M(0.51)$	1971.1	1979^{+10}_{-12}
$\ln(10^{10} A_s)$	3.0382	3.038 ± 0.016	$\langle d^2 \rangle^{1/2}$	2.4352	2.423 ± 0.027	$H(0.61)$	95.569	$95.38^{+0.29}_{-0.23}$
n_s	0.96730	0.9675 ± 0.0039	z_{re}	7.54	7.56 ± 0.80	$D_M(0.61)$	2294.4	2303^{+11}_{-13}
y_{cal}	1.00028	1.0005 ± 0.0025	$10^9 A_s$	2.0868	2.087 ± 0.034	$H(2.33)$	235.71	235.83 ± 0.65
A_{100}^{PS}	232.4	239 ± 25	$10^9 A_s e^{-2\tau}$	1.8768	1.876 ± 0.011	$D_M(2.33)$	5750.8	5761^{+11}_{-14}
A_{143}^{PS}	41.7	39 ± 8	D_{40}	1222.9	1223 ± 12	$f\sigma_8(0.15)$	0.4574	0.4537 ± 0.0076
A_{217}^{PS}	102.5	103 ± 10	D_{220}	5715.7	5720 ± 39	$\sigma_8(0.15)$	0.7579	$0.746^{+0.014}_{-0.0083}$
A_{217}^{CIB}	43.9	39 ± 7	D_{810}	2534.1	2534 ± 14	$f\sigma_8(0.38)$	0.4771	$0.4725^{+0.0077}_{-0.0065}$
A_{143}^{tSZ}	6.59	$3.9^{+1.9}_{-2.5}$	D_{1420}	815.88	816.1 ± 4.8	$\sigma_8(0.38)$	0.6723	$0.662^{+0.013}_{-0.0073}$
$r_{143 \times 217}^{\text{PS}}$	0.630	0.66 ± 0.13	D_{2000}	230.49	230.4 ± 1.6	$f\sigma_8(0.51)$	0.4764	$0.4714^{+0.0077}_{-0.0060}$
$r_{143 \times 217}^{\text{CIB}}$	0.803	$0.56^{+0.40}_{-0.18}$	$n_{s,0.002}$	0.96730	0.9675 ± 0.0039	$\sigma_8(0.51)$	0.6294	$0.619^{+0.012}_{-0.0068}$
$\xi^{\text{tSZ} \times \text{CIB}}$	0.26	—	Y_P	0.245380	$0.245381^{+0.000061}_{-0.000055}$	$f\sigma_8(0.61)$	0.4718	$0.4666^{+0.0076}_{-0.0056}$
A^{kSZ}	0.01	$4.7^{+2.3}_{-4.0}$	Y_P^{BBN}	0.246706	$0.246707^{+0.000062}_{-0.000055}$	$\sigma_8(0.61)$	0.5990	$0.589^{+0.012}_{-0.0065}$
A_{100}^{dust}	1.011	1.01 ± 0.19	10^5D/H	2.5929	2.592 ± 0.028	$f\sigma_8(2.33)$	0.30133	$0.2974^{+0.0051}_{-0.0031}$
A_{143}^{dust}	0.975	0.96 ± 0.18	Age/Gyr	13.7692	$13.792^{+0.025}_{-0.033}$	$\sigma_8(2.33)$	0.31136	$0.3066^{+0.0059}_{-0.0033}$
A_{217}^{dust}	0.973	0.98 ± 0.10	z_*	1089.897	1089.87 ± 0.24	f_{2000}^{143}	29.72	29.5 ± 2.8
$A_{143 \times 217}^{\text{dust}}$	1.006	1.03 ± 0.16	r_*	144.664	144.74 ± 0.26	f_{2000}^{217}	106.53	106.8 ± 1.9
c_{100}	0.99768	0.9975 ± 0.0011	$100\theta_*$	1.041115	1.04114 ± 0.00030	$f_{2000}^{143 \times 217}$	31.88	32.0 ± 2.0
c_{217}	1.00130	1.0011 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.8951	13.902 ± 0.025	χ_{small}^2	395.85	396.9 ± 1.7
c_{TE}	0.99638	0.9968 ± 0.0049	z_{drag}	1059.780	1059.78 ± 0.32	χ_{lowl}^2	22.91	22.85 ± 0.83
c_{EE}	0.99209	0.9923 ± 0.0049	r_{drag}	147.344	147.41 ± 0.27	χ_{CamSpec}^2	11499.2	11514.8 ± 5.8
H_0	68.10	$67.75^{+0.58}_{-0.51}$	k_D	0.140566	0.14050 ± 0.00033	$\chi_{6\text{DF}}^2$	0.0009	0.049 ± 0.069
Ω_Λ	0.6946	$0.6907^{+0.0074}_{-0.0065}$	$100\theta_D$	0.160845	0.16085 ± 0.00019	χ_{MGS}^2	1.61	1.41 ± 0.50
Ω_m	0.3054	$0.3093^{+0.0065}_{-0.0074}$	z_{eq}	3383.1	3376 ± 25	χ_{DR12BAO}^2	3.59	4.6 ± 1.5
$\Omega_m h^2$	0.14162	0.1419 ± 0.0010	k_{eq}	0.010325	0.010304 ± 0.000075	χ_{prior}^2	2.14	7.8 ± 3.4
$\Omega_\nu h^2$	0.000049	< 0.000813	$100\theta_{\text{eq}}$	0.81658	0.8180 ± 0.0046	χ_{BAO}^2	5.20	6.0 ± 1.2
$\Omega_m h^3$	0.096442	$0.09616^{+0.00046}_{-0.00036}$	$100\theta_{s,\text{eq}}$	0.45112	0.4518 ± 0.0024	χ_{CMB}^2	11917.9	11934.6 ± 5.8
σ_8	0.8197	$0.807^{+0.016}_{-0.0092}$	$H(0.15)$	73.318	$73.01^{+0.51}_{-0.44}$			

Best-fit $\chi_{\text{eff}}^2 = 11925.28$; $\bar{\chi}_{\text{eff}}^2 = 11948.38$; $\Delta\chi_{\text{eff}}^2 = 0.10$; $R - 1 = 0.01113$
 χ_{eff}^2 : BAO - 6DF: 0.00 MGS: 1.61 DR12BAO: 3.59 CMB - simall_100x143.offlike5_EE_Aplanck_B: 395.85 commander_dx12_v3.2.29: 22.91 CamSpec like_10.7HM_1400_unified: 11499.17

5.14 base_mnu_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_Pantheon18

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022328	0.02234 ± 0.00015	S_8	0.8278	0.819 ± 0.014	$D_M(0.15)$	637.06	$639.4^{+4.0}_{-4.7}$
$\Omega_c h^2$	0.11927	0.1188 ± 0.0010	$\sigma_8 \Omega_m^{0.5}$	0.4534	0.4485 ± 0.0079	$H(0.38)$	83.332	$83.13^{+0.37}_{-0.32}$
$100\theta_{MC}$	1.040966	1.04096 ± 0.00030	$\sigma_8 \Omega_m^{0.25}$	0.6099	$0.602^{+0.010}_{-0.0082}$	$D_M(0.38)$	1520.8	$1525.7^{+8.2}_{-9.6}$
τ	0.0533	0.0535 ± 0.0079	$\sigma_8/h^{0.5}$	0.9943	$0.981^{+0.017}_{-0.012}$	$H(0.51)$	89.993	$89.81^{+0.31}_{-0.26}$
Σm_ν [eV]	0.0005	< 0.0707	$r_{\text{drag}} h$	100.33	100.00 ± 0.85	$D_M(0.51)$	1971.0	$1977.0^{+9.7}_{-11}$
$\ln(10^{10} A_s)$	3.0390	3.038 ± 0.016	$\langle d^2 \rangle^{1/2}$	2.4366	2.422 ± 0.027	$H(0.61)$	95.569	$95.41^{+0.27}_{-0.22}$
n_s	0.96732	0.9677 ± 0.0039	z_{re}	7.56	7.56 ± 0.80	$D_M(0.61)$	2294.4	2301^{+11}_{-12}
y_{cal}	1.00032	1.0005 ± 0.0025	$10^9 A_s$	2.0885	2.087 ± 0.034	$H(2.33)$	235.71	235.75 ± 0.63
A_{100}^{PS}	231.5	239 ± 25	$10^9 A_s e^{-2\tau}$	1.8775	1.875 ± 0.011	$D_M(2.33)$	5750.8	5759^{+11}_{-14}
A_{143}^{PS}	46.2	39 ± 8	D_{40}	1223.3	1223 ± 12	$f\sigma_8(0.15)$	0.4578	0.4534 ± 0.0075
A_{217}^{PS}	103.8	103 ± 10	D_{220}	5716.8	5721 ± 39	$\sigma_8(0.15)$	0.7587	$0.747^{+0.014}_{-0.0082}$
A_{217}^{CIB}	43.2	39 ± 7	D_{810}	2534.9	2534 ± 14	$f\sigma_8(0.38)$	0.4775	$0.4724^{+0.0074}_{-0.0064}$
A_{143}^{tSZ}	6.53	$3.9^{+1.9}_{-2.5}$	D_{1420}	816.14	816.1 ± 4.8	$\sigma_8(0.38)$	0.6730	$0.662^{+0.012}_{-0.0071}$
$r_{143 \times 217}^{\text{PS}}$	0.679	0.66 ± 0.13	D_{2000}	230.57	230.4 ± 1.6	$f\sigma_8(0.51)$	0.4768	$0.4714^{+0.0074}_{-0.0059}$
$r_{143 \times 217}^{\text{CIB}}$	0.853	$0.55^{+0.40}_{-0.18}$	$n_{s,0.002}$	0.96732	0.9677 ± 0.0039	$\sigma_8(0.51)$	0.6300	$0.620^{+0.012}_{-0.0066}$
$\xi^{\text{tSZ} \times \text{CIB}}$	0.52	—	Y_P	0.245379	$0.245383^{+0.000060}_{-0.000054}$	$f\sigma_8(0.61)$	0.4722	$0.4667^{+0.0073}_{-0.0056}$
A^{ksZ}	0.01	$4.7^{+2.3}_{-3.9}$	Y_P^{BBN}	0.246705	$0.246710^{+0.000060}_{-0.000055}$	$\sigma_8(0.61)$	0.5995	$0.590^{+0.011}_{-0.0063}$
A_{100}^{dust}	1.008	1.01 ± 0.19	$10^5 D/H$	2.5933	2.591 ± 0.027	$f\sigma_8(2.33)$	0.30155	$0.2977^{+0.0048}_{-0.0030}$
A_{143}^{dust}	0.983	0.96 ± 0.18	Age/Gyr	13.7690	$13.789^{+0.024}_{-0.031}$	$\sigma_8(2.33)$	0.31161	$0.3070^{+0.0056}_{-0.0032}$
A_{217}^{dust}	0.978	0.98 ± 0.10	z_*	1089.903	1089.85 ± 0.23	f_{2000}^{143}	29.78	29.5 ± 2.8
$A_{143 \times 217}^{\text{dust}}$	1.004	1.03 ± 0.16	r_*	144.659	144.76 ± 0.26	f_{2000}^{217}	106.51	106.7 ± 1.9
c_{100}	0.99774	0.9975 ± 0.0011	$100\theta_*$	1.041116	1.04115 ± 0.00030	$f_{2000}^{143 \times 217}$	31.92	32.0 ± 2.0
c_{217}	1.00133	1.0011 ± 0.0015	$D_M(z_*)/\text{Gpc}$	13.8946	13.903 ± 0.025	χ_{small}^2	395.86	397.0 ± 1.7
c_{TE}	0.99643	0.9968 ± 0.0049	z_{drag}	1059.780	1059.79 ± 0.32	χ_{lowl}^2	22.93	22.82 ± 0.82
c_{EE}	0.99241	0.9924 ± 0.0049	r_{drag}	147.338	147.43 ± 0.27	χ_{CamSpec}^2	11499.3	11514.7 ± 5.8
H_0	68.10	$67.83^{+0.55}_{-0.48}$	k_D	0.140570	0.14049 ± 0.00033	χ_{JLA}^2	1034.819	1035.00 ± 0.29
Ω_Λ	0.6946	$0.6917^{+0.0069}_{-0.0062}$	$100\theta_D$	0.160847	0.16084 ± 0.00019	$\chi_{6\text{DF}}^2$	0.00097	0.040 ± 0.057
Ω_m	0.3054	$0.3083^{+0.0062}_{-0.0069}$	z_{eq}	3383.8	3374 ± 24	χ_{MGS}^2	1.608	1.47 ± 0.49
$\Omega_m h^2$	0.14160	0.14181 ± 0.00098	k_{eq}	0.010327	0.010297 ± 0.000074	χ_{DR12BAO}^2	3.60	4.4 ± 1.2
$\Omega_\nu h^2$	$0.6 \cdot 10^{-5}$	< 0.000760	$100\theta_{\text{eq}}$	0.81646	0.8184 ± 0.0045	χ_{prior}^2	2.03	7.8 ± 3.4
$\Omega_m h^3$	0.096430	$0.09618^{+0.00045}_{-0.00036}$	$100\theta_{s,\text{eq}}$	0.45106	0.4521 ± 0.0023	χ_{BAO}^2	5.208	5.89 ± 0.98
σ_8	0.8205	$0.808^{+0.015}_{-0.0090}$	$H(0.15)$	73.318	$73.07^{+0.48}_{-0.42}$	χ_{CMB}^2	11918.0	11934.5 ± 5.9

Best-fit $\chi_{\text{eff}}^2 = 12960.09$; $\bar{\chi}_{\text{eff}}^2 = 12983.16$; $R - 1 = 0.01385$
 χ_{eff}^2 : BAO - 6DF: 0.00 MGS: 1.61 DR12BAO: 3.60 CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.86 commander_dx12_v3.2.29: 22.93 CamSpec like_10.7HM_1400_unified: 11499.25 SN - JLA Pantheon18: 1034.82

5.15 base_mnu_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02234 ± 0.00015	S_8	0.820 ± 0.015	$D_M(0.15)$	$640.0^{+4.3}_{-5.0}$
$\Omega_c h^2$	0.1189 ± 0.0011	$\sigma_8 \Omega_m^{0.5}$	0.4493 ± 0.0081	$H(0.38)$	$83.08^{+0.39}_{-0.33}$
$100\theta_{MC}$	1.04096 ± 0.00030	$\sigma_8 \Omega_m^{0.25}$	$0.603^{+0.011}_{-0.0080}$	$D_M(0.38)$	$1526.9^{+8.7}_{-10}$
τ	$0.0548^{+0.0048}_{-0.0084}$	$\sigma_8/h^{0.5}$	$0.982^{+0.017}_{-0.012}$	$H(0.51)$	$89.78^{+0.33}_{-0.27}$
Σm_ν [eV]	< 0.0767	$r_{\text{drag}} h$	99.89 ± 0.90	$D_M(0.51)$	1978^{+10}_{-12}
$\ln(10^{10} A_s)$	$3.041^{+0.012}_{-0.016}$	$\langle d^2 \rangle^{1/2}$	2.426 ± 0.027	$H(0.61)$	$95.38^{+0.29}_{-0.23}$
n_s	0.9677 ± 0.0039	z_{re}	$7.70^{+0.54}_{-0.83}$	$D_M(0.61)$	2302^{+11}_{-13}
y_{cal}	1.0005 ± 0.0025	$10^9 A_s$	$2.093^{+0.024}_{-0.035}$	$H(2.33)$	235.82 ± 0.65
A_{100}^{PS}	239 ± 25	$10^9 A_s e^{-2\tau}$	1.876 ± 0.011	$D_M(2.33)$	5761^{+11}_{-14}
A_{143}^{PS}	39 ± 8	D_{40}	1223 ± 12	$f\sigma_8(0.15)$	0.4542 ± 0.0076
A_{217}^{PS}	103 ± 10	D_{220}	5720 ± 39	$\sigma_8(0.15)$	$0.747^{+0.014}_{-0.0079}$
A_{217}^{CIB}	39 ± 7	D_{810}	2534 ± 14	$f\sigma_8(0.38)$	$0.4730^{+0.0077}_{-0.0063}$
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	D_{1420}	816.1 ± 4.8	$\sigma_8(0.38)$	$0.662^{+0.013}_{-0.0069}$
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	D_{2000}	230.4 ± 1.6	$f\sigma_8(0.51)$	$0.4719^{+0.0076}_{-0.0058}$
$r_{143 \times 217}^{\text{CIB}}$	$0.55^{+0.40}_{-0.18}$	$n_{s,0.002}$	0.9677 ± 0.0039	$\sigma_8(0.51)$	$0.620^{+0.012}_{-0.0064}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P	$0.245382^{+0.000061}_{-0.000055}$	$f\sigma_8(0.61)$	$0.4671^{+0.0075}_{-0.0054}$
A^{kSZ}	$4.7^{+2.2}_{-4.0}$	Y_P^{BBN}	$0.246708^{+0.000062}_{-0.000055}$	$\sigma_8(0.61)$	$0.590^{+0.012}_{-0.0061}$
A_{100}^{dust}	1.01 ± 0.19	10^5D/H	2.592 ± 0.028	$f\sigma_8(2.33)$	$0.2977^{+0.0050}_{-0.0029}$
A_{143}^{dust}	0.97 ± 0.18	Age/Gyr	$13.792^{+0.025}_{-0.033}$	$\sigma_8(2.33)$	$0.3070^{+0.0058}_{-0.0031}$
A_{217}^{dust}	0.98 ± 0.10	z_*	1089.86 ± 0.24	f_{2000}^{143}	29.5 ± 2.8
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	r_*	144.74 ± 0.26	f_{2000}^{217}	106.7 ± 1.9
c_{100}	0.9975 ± 0.0011	$100\theta_*$	1.04115 ± 0.00030	$f_{2000}^{143 \times 217}$	32.0 ± 2.0
c_{217}	1.0011 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.902 ± 0.025	χ_{small}^2	396.9 ± 1.8
c_{TE}	0.9968 ± 0.0049	z_{drag}	1059.79 ± 0.32	χ_{lowl}^2	22.86 ± 0.83
c_{EE}	0.9923 ± 0.0049	r_{drag}	147.42 ± 0.28	χ_{CamSpec}^2	11514.6 ± 5.8
H_0	$67.76^{+0.58}_{-0.51}$	k_D	0.14050 ± 0.00033	$\chi_{6\text{DF}}^2$	0.048 ± 0.068
Ω_Λ	$0.6908^{+0.0073}_{-0.0066}$	$100\theta_D$	0.16084 ± 0.00019	χ_{MGS}^2	1.42 ± 0.50
Ω_m	$0.3092^{+0.0066}_{-0.0073}$	z_{eq}	3375 ± 25	χ_{DR12BAO}^2	4.6 ± 1.5
$\Omega_m h^2$	0.1419 ± 0.0010	k_{eq}	0.010302 ± 0.000075	χ_{prior}^2	7.8 ± 3.4
$\Omega_\nu h^2$	< 0.000825	$100\theta_{\text{eq}}$	0.8181 ± 0.0047	χ_{BAO}^2	6.0 ± 1.2
$\Omega_m h^3$	$0.09616^{+0.00047}_{-0.00036}$	$100\theta_{s,\text{eq}}$	0.4519 ± 0.0024	χ_{CMB}^2	11934.4 ± 5.8
σ_8	$0.808^{+0.015}_{-0.0087}$	$H(0.15)$	$73.01^{+0.51}_{-0.44}$		

$$\bar{\chi}_{\text{eff}}^2 = 11948.19; \Delta\bar{\chi}_{\text{eff}}^2 = 0.20; R - 1 = 0.01072$$

5.16 base_mnu_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_Pantheon18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02235 ± 0.00015	S_8	0.820 ± 0.014	$D_M(0.15)$	$639.4^{+4.1}_{-4.7}$
$\Omega_c h^2$	0.1188 ± 0.0010	$\sigma_8 \Omega_m^{0.5}$	0.4490 ± 0.0079	$H(0.38)$	$83.13^{+0.37}_{-0.32}$
$100\theta_{MC}$	1.04097 ± 0.00030	$\sigma_8 \Omega_m^{0.25}$	$0.603^{+0.010}_{-0.0079}$	$D_M(0.38)$	$1525.7^{+8.3}_{-9.6}$
τ	$0.0549^{+0.0048}_{-0.0084}$	$\sigma_8/h^{0.5}$	$0.982^{+0.017}_{-0.012}$	$H(0.51)$	$89.82^{+0.31}_{-0.26}$
Σm_ν [eV]	< 0.0717	$r_{\text{drag}} h$	100.01 ± 0.85	$D_M(0.51)$	$1976.9^{+9.8}_{-11}$
$\ln(10^{10} A_s)$	$3.041^{+0.012}_{-0.017}$	$\langle d^2 \rangle^{1/2}$	2.425 ± 0.026	$H(0.61)$	$95.41^{+0.27}_{-0.22}$
n_s	0.9679 ± 0.0039	z_{re}	$7.71^{+0.54}_{-0.84}$	$D_M(0.61)$	2301^{+11}_{-12}
y_{cal}	1.0005 ± 0.0025	$10^9 A_s$	$2.093^{+0.024}_{-0.035}$	$H(2.33)$	235.74 ± 0.62
A_{100}^{PS}	239 ± 25	$10^9 A_s e^{-2\tau}$	1.875 ± 0.011	$D_M(2.33)$	5759^{+11}_{-14}
A_{143}^{PS}	39 ± 8	D_{40}	1223 ± 12	$f\sigma_8(0.15)$	0.4538 ± 0.0074
A_{217}^{PS}	103 ± 10	D_{220}	5721 ± 39	$\sigma_8(0.15)$	$0.748^{+0.014}_{-0.0077}$
A_{217}^{CIB}	39 ± 7	D_{810}	2534 ± 14	$f\sigma_8(0.38)$	$0.4729^{+0.0074}_{-0.0062}$
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	D_{1420}	816.1 ± 4.8	$\sigma_8(0.38)$	$0.663^{+0.012}_{-0.0067}$
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	D_{2000}	230.5 ± 1.6	$f\sigma_8(0.51)$	$0.4719^{+0.0073}_{-0.0057}$
$r_{143 \times 217}^{\text{CIB}}$	$0.55^{+0.40}_{-0.18}$	$n_{s,0.002}$	0.9679 ± 0.0039	$\sigma_8(0.51)$	$0.621^{+0.011}_{-0.0063}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P	$0.245384^{+0.000060}_{-0.000054}$	$f\sigma_8(0.61)$	$0.4672^{+0.0072}_{-0.0054}$
A^{kSZ}	$4.7^{+2.3}_{-3.9}$	Y_P^{BBN}	$0.246711^{+0.000060}_{-0.000054}$	$\sigma_8(0.61)$	$0.591^{+0.011}_{-0.0059}$
A_{100}^{dust}	1.01 ± 0.19	10^5D/H	2.590 ± 0.027	$f\sigma_8(2.33)$	$0.2980^{+0.0047}_{-0.0028}$
A_{143}^{dust}	0.97 ± 0.18	Age/Gyr	$13.789^{+0.024}_{-0.031}$	$\sigma_8(2.33)$	$0.3073^{+0.0055}_{-0.0030}$
A_{217}^{dust}	0.98 ± 0.10	z_*	1089.84 ± 0.23	f_{2000}^{143}	29.4 ± 2.8
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	r_*	144.76 ± 0.26	f_{2000}^{217}	106.7 ± 1.9
c_{100}	0.9975 ± 0.0011	$100\theta_*$	1.04116 ± 0.00030	$f_{2000}^{143 \times 217}$	31.9 ± 2.0
c_{217}	1.0011 ± 0.0015	$D_M(z_*)/\text{Gpc}$	13.904 ± 0.025	χ_{small}^2	396.9 ± 1.8
c_{TE}	0.9968 ± 0.0049	z_{drag}	1059.80 ± 0.32	χ_{lowl}^2	22.83 ± 0.82
c_{EE}	0.9923 ± 0.0049	r_{drag}	147.44 ± 0.27	χ_{CamSpec}^2	11514.6 ± 5.8
H_0	$67.83^{+0.54}_{-0.49}$	k_D	0.14048 ± 0.00033	χ_{JLA}^2	1035.00 ± 0.29
Ω_Λ	$0.6918^{+0.0069}_{-0.0062}$	$100\theta_D$	0.16084 ± 0.00019	$\chi_{6\text{DF}}^2$	0.040 ± 0.056
Ω_m	$0.3082^{+0.0062}_{-0.0069}$	z_{eq}	3373 ± 24	χ_{MGS}^2	1.48 ± 0.49
$\Omega_m h^2$	0.14179 ± 0.00098	k_{eq}	0.010296 ± 0.000074	χ_{DR12BAO}^2	4.4 ± 1.2
$\Omega_\nu h^2$	< 0.000771	$100\theta_{\text{eq}}$	0.8185 ± 0.0045	χ_{prior}^2	7.8 ± 3.4
$\Omega_m h^3$	$0.09618^{+0.00045}_{-0.00036}$	$100\theta_{s,\text{eq}}$	0.4521 ± 0.0023	χ_{BAO}^2	5.88 ± 0.97
σ_8	$0.809^{+0.015}_{-0.0085}$	$H(0.15)$	$73.08^{+0.48}_{-0.42}$	χ_{CMB}^2	11934.3 ± 5.8

$$\bar{\chi}_{\text{eff}}^2 = 12982.95; R - 1 = 0.01405$$

5.17 base_mnu_CamSpecHM_TTTEEE_lowl_lowE_lensing_BAO

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022335	0.02233 ± 0.00015	S_8	0.8275	0.824 ± 0.011	$D_M(0.15)$	637.07	$639.9^{+3.9}_{-4.9}$
$\Omega_c h^2$	0.11925	0.11911 ± 0.00093	$\sigma_8 \Omega_m^{0.5}$	0.4532	0.4511 ± 0.0060	$H(0.38)$	83.331	$83.10^{+0.38}_{-0.30}$
$100\theta_{MC}$	1.040934	1.04094 ± 0.00030	$\sigma_8 \Omega_m^{0.25}$	0.6097	$0.6049^{+0.0076}_{-0.0063}$	$D_M(0.38)$	1520.8	$1526.7^{+7.8}_{-9.9}$
τ	0.0533	0.0545 ± 0.0073	$\sigma_8/h^{0.5}$	0.9938	$0.985^{+0.012}_{-0.0094}$	$H(0.51)$	89.993	$89.80^{+0.32}_{-0.25}$
Σm_ν [eV]	0.0037	< 0.0637	$r_{\text{drag}} h$	100.33	$99.88^{+0.89}_{-0.77}$	$D_M(0.51)$	1971.1	$1978.0^{+9.3}_{-12}$
$\ln(10^{10} A_s)$	3.0391	3.041 ± 0.014	$\langle d^2 \rangle^{1/2}$	2.4368	2.431 ± 0.021	$H(0.61)$	95.569	$95.40^{+0.28}_{-0.21}$
n_s	0.96708	0.9670 ± 0.0038	z_{re}	7.56	7.67 ± 0.74	$D_M(0.61)$	2294.4	2302^{+10}_{-13}
y_{cal}	1.00049	1.0006 ± 0.0025	$10^9 A_s$	2.0887	2.094 ± 0.030	$H(2.33)$	235.71	235.88 ± 0.59
A_{100}^{PS}	234.6	239 ± 25	$10^9 A_s e^{-2\tau}$	1.8776	1.877 ± 0.010	$D_M(2.33)$	5750.8	5759^{+10}_{-14}
A_{143}^{PS}	41.4	39 ± 8	D_{40}	1224.1	1225 ± 11	$f\sigma_8(0.15)$	0.4576	0.4558 ± 0.0056
A_{217}^{PS}	103.7	103 ± 10	D_{220}	5719.8	5724 ± 38	$\sigma_8(0.15)$	0.7583	$0.750^{+0.011}_{-0.0066}$
A_{217}^{CIB}	42.1	39 ± 7	D_{810}	2535.1	2535 ± 13	$f\sigma_8(0.38)$	0.4774	$0.4746^{+0.0055}_{-0.0049}$
A_{143}^{tSZ}	5.60	$3.9^{+1.9}_{-2.5}$	D_{1420}	816.11	816.2 ± 4.8	$\sigma_8(0.38)$	0.6727	$0.6649^{+0.0098}_{-0.0058}$
$r_{143 \times 217}^{\text{PS}}$	0.641	0.66 ± 0.13	D_{2000}	230.55	230.5 ± 1.6	$f\sigma_8(0.51)$	0.47660	$0.4735^{+0.0054}_{-0.0045}$
$r_{143 \times 217}^{\text{CIB}}$	0.743	$0.56^{+0.40}_{-0.17}$	$n_{s,0.002}$	0.96708	0.9670 ± 0.0038	$\sigma_8(0.51)$	0.6297	$0.6223^{+0.0093}_{-0.0055}$
$\xi^{\text{tSZ} \times \text{CIB}}$	0.33	—	Y_P	0.245382	$0.245379^{+0.000061}_{-0.000055}$	$f\sigma_8(0.61)$	0.47202	$0.4687^{+0.0054}_{-0.0043}$
A^{kSZ}	1.47	$4.7^{+2.1}_{-4.0}$	Y_P^{BBN}	0.246708	$0.246705^{+0.000061}_{-0.000056}$	$\sigma_8(0.61)$	0.5993	$0.5922^{+0.0089}_{-0.0053}$
A_{100}^{dust}	1.010	1.01 ± 0.19	10^5D/H	2.5920	2.593 ± 0.027	$f\sigma_8(2.33)$	0.30146	$0.2986^{+0.0039}_{-0.0025}$
A_{143}^{dust}	0.987	0.96 ± 0.17	Age/Gyr	13.7691	$13.789^{+0.024}_{-0.031}$	$\sigma_8(2.33)$	0.31150	$0.3080^{+0.0046}_{-0.0028}$
A_{217}^{dust}	0.968	0.98 ± 0.10	z_*	1089.892	1089.89 ± 0.22	f_{2000}^{143}	29.64	29.5 ± 2.8
$A_{143 \times 217}^{\text{dust}}$	0.995	1.03 ± 0.16	r_*	144.659	144.70 ± 0.23	f_{2000}^{217}	106.61	106.7 ± 1.9
c_{100}	0.99756	0.9976 ± 0.0011	$100\theta_*$	1.041097	1.04112 ± 0.00030	$f_{2000}^{143 \times 217}$	31.88	31.9 ± 2.0
c_{217}	1.00108	1.0011 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.8949	13.898 ± 0.022	χ^2_{lensing}	8.890	9.39 ± 0.79
c_{TE}	0.99650	0.9966 ± 0.0049	z_{drag}	1059.780	1059.78 ± 0.32	χ^2_{small}	395.87	397.0 ± 1.6
c_{EE}	0.99208	0.9924 ± 0.0049	r_{drag}	147.338	147.37 ± 0.24	χ^2_{lowl}	22.96	23.02 ± 0.79
H_0	68.10	$67.77^{+0.56}_{-0.46}$	k_D	0.140577	0.14054 ± 0.00031	χ^2_{CamSpec}	11499.2	11514.0 ± 5.5
Ω_Λ	0.6946	$0.6907^{+0.0071}_{-0.0058}$	$100\theta_D$	0.160835	0.16085 ± 0.00019	$\chi^2_{6\text{DF}}$	0.0010	0.045 ± 0.065
Ω_m	0.3054	$0.3093^{+0.0058}_{-0.0071}$	z_{eq}	3383.4	3380 ± 21	χ^2_{MGS}	1.608	1.40 ± 0.47
$\Omega_m h^2$	0.14162	0.14200 ± 0.00094	k_{eq}	0.010326	0.010316 ± 0.000065	χ^2_{DR12BAO}	3.60	4.5 ± 1.4
$\Omega_\nu h^2$	0.000040	< 0.000685	$100\theta_{\text{eq}}$	0.81653	0.8172 ± 0.0040	χ^2_{prior}	2.14	7.7 ± 3.4
$\Omega_m h^3$	0.096442	$0.09623^{+0.00040}_{-0.00035}$	$100\theta_{s,\text{eq}}$	0.45110	0.4514 ± 0.0020	χ^2_{CMB}	11926.9	11943.4 ± 5.8
σ_8	0.8201	$0.811^{+0.011}_{-0.0071}$	$H(0.15)$	73.318	$73.03^{+0.49}_{-0.40}$	χ^2_{BAO}	5.209	6.0 ± 1.1

Best-fit $\chi^2_{\text{eff}} = 11934.26$; $\bar{\chi}^2_{\text{eff}} = 11957.14$; $\Delta\chi^2_{\text{eff}} = -0.26$; $R - 1 = 0.00745$
 χ^2_{eff} : BAO - 6DF: 0.00 MGS: 1.61 DR12BAO: 3.60 CMB - smicadx12_Dec5.ftl_mv2_ndclpp_p_teb_consext8: 8.89 small_100x143.offlike5_EE_Aplanck_B: 395.87 comman-
der_dx12_v3_2_29: 22.96 CamSpec like_10.7HM_1400_unified: 11499.19

5.18 base_mnu_CamSpecHM_TTTEEE_lowl_lowE_lensing_BAO_post_Pantheon18

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022346	0.02234 ± 0.00014	$\sigma_8 \Omega_m^{0.5}$	0.4525	0.4507 ± 0.0059	$D_M(0.38)$	1519.6	$1525.5^{+7.6}_{-9.2}$
$\Omega_c h^2$	0.11912	0.11902 ± 0.00091	$\sigma_8 \Omega_m^{0.25}$	0.6091	$0.6049^{+0.0074}_{-0.0062}$	$H(0.51)$	90.027	$89.83^{+0.30}_{-0.24}$
$100\theta_{MC}$	1.040966	1.04095 ± 0.00030	$\sigma_8/h^{0.5}$	0.9932	$0.986^{+0.012}_{-0.0092}$	$D_M(0.51)$	1969.7	$1976.6^{+8.9}_{-11}$
τ	0.0533	0.0546 ± 0.0073	$r_{\text{drag}} h$	100.45	$99.99^{+0.83}_{-0.74}$	$H(0.61)$	95.597	$95.43^{+0.26}_{-0.21}$
Σm_ν [eV]	0.0008	< 0.0593	$\langle d^2 \rangle^{1/2}$	2.4348	2.430 ± 0.021	$D_M(0.61)$	2292.9	$2300.5^{+9.7}_{-12}$
$\ln(10^{10} A_s)$	3.0391	3.042 ± 0.014	z_{re}	7.56	7.68 ± 0.74	$H(2.33)$	235.63	235.81 ± 0.57
n_s	0.96751	0.9672 ± 0.0037	$10^9 A_s$	2.0886	2.094 ± 0.030	$D_M(2.33)$	5749.6	5758^{+10}_{-13}
y_{cal}	1.00045	1.0006 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.8774	1.877 ± 0.010	$f\sigma_8(0.15)$	0.4569	0.4555 ± 0.0055
A_{100}^{PS}	231.8	239 ± 25	D_{40}	1223.3	1225 ± 11	$\sigma_8(0.15)$	0.7583	$0.750^{+0.010}_{-0.0064}$
A_{143}^{PS}	44.3	39 ± 8	D_{220}	5720.5	5724 ± 39	$f\sigma_8(0.38)$	0.4769	$0.4745^{+0.0054}_{-0.0048}$
A_{217}^{PS}	103.3	103 ± 10	D_{810}	2535.5	2536 ± 13	$\sigma_8(0.38)$	0.6728	$0.6655^{+0.0093}_{-0.0057}$
A_{217}^{CIB}	43.3	39 ± 7	D_{1420}	816.39	816.3 ± 4.8	$f\sigma_8(0.51)$	0.47622	$0.4735^{+0.0053}_{-0.0045}$
A_{143}^{tSZ}	6.49	$3.9^{+1.8}_{-2.6}$	D_{2000}	230.66	230.5 ± 1.6	$\sigma_8(0.51)$	0.6298	$0.6229^{+0.0088}_{-0.0054}$
$r_{143 \times 217}^{\text{PS}}$	0.662	0.66 ± 0.13	$n_{s,0.002}$	0.96751	0.9672 ± 0.0037	$f\sigma_8(0.61)$	0.47171	$0.4687^{+0.0052}_{-0.0042}$
$r_{143 \times 217}^{\text{CIB}}$	0.826	$0.56^{+0.41}_{-0.16}$	Y_P	0.245386	$0.245382^{+0.000061}_{-0.000054}$	$\sigma_8(0.61)$	0.5994	$0.5928^{+0.0084}_{-0.0051}$
$\xi^{\text{tSZ} \times \text{CIB}}$	0.42	—	Y_P^{BBN}	0.246712	$0.246708^{+0.000062}_{-0.000054}$	$f\sigma_8(2.33)$	0.30153	$0.2989^{+0.0037}_{-0.0025}$
A^{kSZ}	0.08	$4.6^{+1.9}_{-4.1}$	$10^5 \text{D}/\text{H}$	2.5901	2.592 ± 0.027	$\sigma_8(2.33)$	0.31163	$0.3083^{+0.0044}_{-0.0027}$
A_{100}^{dust}	1.014	1.01 ± 0.19	Age/Gyr	13.7663	$13.786^{+0.023}_{-0.029}$	f_{2000}^{143}	29.65	29.5 ± 2.8
A_{143}^{dust}	0.977	0.96 ± 0.17	z_*	1089.868	1089.87 ± 0.22	f_{2000}^{217}	106.43	106.7 ± 1.9
A_{217}^{dust}	0.975	0.98 ± 0.10	r_*	144.683	144.71 ± 0.22	$f_{2000}^{143 \times 217}$	31.82	31.9 ± 2.0
$A_{143 \times 217}^{\text{dust}}$	1.004	1.03 ± 0.16	$100\theta_*$	1.041122	1.04113 ± 0.00030	χ_{lensing}^2	8.882	9.38 ± 0.78
c_{100}	0.99773	0.9976 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.8969	13.899 ± 0.022	χ_{small}^2	395.86	397.0 ± 1.7
c_{217}	1.00128	1.0011 ± 0.0016	z_{drag}	1059.818	1059.79 ± 0.32	χ_{lowl}^2	22.90	22.99 ± 0.78
c_{TE}	0.99641	0.9965 ± 0.0049	r_{drag}	147.357	147.39 ± 0.24	χ_{CamSpec}^2	11499.3	11514.0 ± 5.5
c_{EE}	0.99220	0.9925 ± 0.0049	k_D	0.140562	0.14053 ± 0.00031	χ_{JLA}^2	1034.797	1034.99 ± 0.28
H_0	68.167	$67.84^{+0.52}_{-0.44}$	$100\theta_D$	0.160829	0.16084 ± 0.00019	$\chi_{6\text{DF}}^2$	0.0001	0.037 ± 0.054
Ω_Λ	0.6955	$0.6916^{+0.0066}_{-0.0056}$	z_{eq}	3380.7	3378 ± 21	χ_{MGS}^2	1.677	1.46 ± 0.45
Ω_m	0.3045	$0.3084^{+0.0056}_{-0.0066}$	k_{eq}	0.010318	0.010310 ± 0.000063	χ_{DR12BAO}^2	3.52	4.3 ± 1.2
$\Omega_m h^2$	0.14148	0.14188 ± 0.00090	$100\theta_{\text{eq}}$	0.81707	0.8176 ± 0.0039	χ_{prior}^2	2.05	7.7 ± 3.4
$\Omega_\nu h^2$	$0.9 \cdot 10^{-5}$	< 0.000637	$100\theta_{s,\text{eq}}$	0.45137	0.4516 ± 0.0020	χ_{CMB}^2	11926.9	11943.4 ± 5.7
$\Omega_m h^3$	0.096442	$0.09625^{+0.00040}_{-0.00034}$	$H(0.15)$	73.378	$73.09^{+0.46}_{-0.39}$	χ_{BAO}^2	5.200	5.84 ± 0.93
σ_8	0.8200	$0.812^{+0.011}_{-0.0070}$	$D_M(0.15)$	636.48	$639.3^{+3.7}_{-4.5}$			
S_8	0.8261	0.823 ± 0.011	$H(0.38)$	83.375	$83.15^{+0.35}_{-0.29}$			

Best-fit $\chi_{\text{eff}}^2 = 12968.97$; $\Delta\chi_{\text{eff}}^2 = -1.51$; $\bar{\chi}_{\text{eff}}^2 = 12991.94$; $\Delta\bar{\chi}_{\text{eff}}^2 = -0.45$; $R - 1 = 0.00817$
 χ_{eff}^2 : BAO - 6DF: 0.00 (Δ -0.02) MGS: 1.68 (Δ 0.40) DR12BAO: 3.52 (Δ -0.71) CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p_teb_consext8: 8.88 (Δ -0.08) small_100x143_offlike5_EE_Aplanc
395.86 (Δ -0.19) commander_dx12_v3.2_29: 22.90 (Δ 0.13) CamSpec like_10.7HM.1400_unified: 11499.28 (Δ -0.89) SN - JLA Pantheon18: 1034.80 (Δ -0.18)

5.19 base_mnu_CamSpecHM_TTTEEE_lowl_lowE_lensing_BAO_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02234 ± 0.00014	S_8	0.824 ± 0.011	$D_M(0.15)$	$639.8^{+3.8}_{-4.9}$
$\Omega_c h^2$	0.11908 ± 0.00092	$\sigma_8 \Omega_m^{0.5}$	0.4512 ± 0.0060	$H(0.38)$	$83.11^{+0.38}_{-0.30}$
$100\theta_{MC}$	1.04094 ± 0.00030	$\sigma_8 \Omega_m^{0.25}$	$0.6052^{+0.0075}_{-0.0062}$	$D_M(0.38)$	$1526.5^{+7.8}_{-9.9}$
τ	$0.0554^{+0.0053}_{-0.0076}$	$\sigma_8/h^{0.5}$	$0.986^{+0.012}_{-0.0092}$	$H(0.51)$	$89.80^{+0.32}_{-0.25}$
Σm_ν [eV]	< 0.0644	$r_{\text{drag}} h$	$99.89^{+0.88}_{-0.76}$	$D_M(0.51)$	$1977.9^{+9.2}_{-12}$
$\ln(10^{10} A_s)$	$3.043^{+0.011}_{-0.014}$	$\langle d^2 \rangle^{1/2}$	2.433 ± 0.020	$H(0.61)$	$95.40^{+0.28}_{-0.21}$
n_s	0.9671 ± 0.0037	z_{re}	$7.77^{+0.58}_{-0.75}$	$D_M(0.61)$	2302^{+10}_{-13}
y_{cal}	1.0006 ± 0.0025	$10^9 A_s$	$2.097^{+0.023}_{-0.031}$	$H(2.33)$	235.87 ± 0.59
A_{100}^{PS}	239 ± 25	$10^9 A_s e^{-2\tau}$	1.877 ± 0.010	$D_M(2.33)$	5759^{+10}_{-14}
A_{143}^{PS}	39 ± 8	D_{40}	1225 ± 11	$f\sigma_8(0.15)$	0.4560 ± 0.0056
A_{217}^{PS}	103 ± 10	D_{220}	5723 ± 38	$\sigma_8(0.15)$	$0.750^{+0.011}_{-0.0064}$
A_{217}^{CIB}	39 ± 7	D_{810}	2535 ± 13	$f\sigma_8(0.38)$	$0.4749^{+0.0053}_{-0.0048}$
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	D_{1420}	816.1 ± 4.8	$\sigma_8(0.38)$	$0.6653^{+0.0097}_{-0.0056}$
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	D_{2000}	230.5 ± 1.6	$f\sigma_8(0.51)$	$0.4737^{+0.0053}_{-0.0045}$
$r_{143 \times 217}^{\text{CIB}}$	$0.56^{+0.40}_{-0.17}$	$n_{s,0.002}$	0.9671 ± 0.0037	$\sigma_8(0.51)$	$0.6227^{+0.0092}_{-0.0053}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P	$0.245380^{+0.000061}_{-0.000055}$	$f\sigma_8(0.61)$	$0.4689^{+0.0053}_{-0.0042}$
A^{kSZ}	$4.6^{+2.1}_{-4.1}$	Y_P^{BBN}	$0.246707^{+0.000061}_{-0.000055}$	$\sigma_8(0.61)$	$0.5926^{+0.0088}_{-0.0051}$
A_{100}^{dust}	1.01 ± 0.19	10^5D/H	2.592 ± 0.027	$f\sigma_8(2.33)$	$0.2988^{+0.0038}_{-0.0024}$
A_{143}^{dust}	0.96 ± 0.17	Age/Gyr	$13.789^{+0.024}_{-0.031}$	$\sigma_8(2.33)$	$0.3082^{+0.0046}_{-0.0027}$
A_{217}^{dust}	0.98 ± 0.10	z_*	1089.88 ± 0.22	f_{2000}^{143}	29.5 ± 2.8
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	r_*	144.70 ± 0.23	f_{2000}^{217}	106.7 ± 1.9
c_{100}	0.9976 ± 0.0011	$100\theta_*$	1.04113 ± 0.00030	$f_{2000}^{143 \times 217}$	31.9 ± 2.0
c_{217}	1.0011 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.898 ± 0.022	χ_{lensing}^2	9.34 ± 0.72
c_{TE}	0.9965 ± 0.0049	z_{drag}	1059.79 ± 0.32	χ_{simall}^2	396.9 ± 1.7
c_{EE}	0.9924 ± 0.0049	r_{drag}	147.38 ± 0.24	χ_{lowl}^2	23.02 ± 0.78
H_0	$67.78^{+0.56}_{-0.46}$	k_D	0.14053 ± 0.00031	χ_{CamSpec}^2	11513.9 ± 5.5
Ω_Λ	$0.6909^{+0.0071}_{-0.0058}$	$100\theta_D$	0.16084 ± 0.00019	$\chi_{6\text{DF}}^2$	0.044 ± 0.064
Ω_m	$0.3091^{+0.0058}_{-0.0071}$	z_{eq}	3379 ± 21	χ_{MGS}^2	1.41 ± 0.47
$\Omega_m h^2$	0.14198 ± 0.00094	k_{eq}	0.010314 ± 0.000064	χ_{DR12BAO}^2	4.5 ± 1.4
$\Omega_\nu h^2$	< 0.000692	$100\theta_{\text{eq}}$	0.8173 ± 0.0039	χ_{prior}^2	7.7 ± 3.4
$\Omega_m h^3$	$0.09623^{+0.00041}_{-0.00035}$	$100\theta_{s,\text{eq}}$	0.4515 ± 0.0020	χ_{CMB}^2	11943.2 ± 5.7
σ_8	$0.812^{+0.011}_{-0.0069}$	$H(0.15)$	$73.03^{+0.49}_{-0.40}$	χ_{BAO}^2	6.0 ± 1.1

$$\bar{\chi}_{\text{eff}}^2 = 11956.94; \Delta\bar{\chi}_{\text{eff}}^2 = -0.31; R - 1 = 0.00819$$

5.20 base_mnu_CamSpecHM_TTTEEE_lowl_lowE_lensing_BAO_post_Pantheon18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02234 ± 0.00014	$\sigma_8 \Omega_m^{0.5}$	0.4509 ± 0.0059	$D_M(0.38)$	$1525.3^{+7.6}_{-9.2}$
$\Omega_c h^2$	0.11899 ± 0.00090	$\sigma_8 \Omega_m^{0.25}$	$0.6051^{+0.0073}_{-0.0061}$	$H(0.51)$	$89.84^{+0.30}_{-0.24}$
$100\theta_{MC}$	1.04095 ± 0.00030	$\sigma_8/h^{0.5}$	$0.986^{+0.012}_{-0.0091}$	$D_M(0.51)$	$1976.5^{+8.9}_{-11}$
τ	$0.0555^{+0.0053}_{-0.0077}$	$r_{\text{drag}} h$	$100.00^{+0.82}_{-0.74}$	$H(0.61)$	$95.43^{+0.26}_{-0.21}$
$\Sigma m_\nu [\text{eV}]$	< 0.0600	$\langle d^2 \rangle^{1/2}$	2.432 ± 0.020	$D_M(0.61)$	$2300.3^{+9.7}_{-12}$
$\ln(10^{10} A_s)$	$3.043^{+0.011}_{-0.015}$	z_{re}	$7.78^{+0.57}_{-0.76}$	$H(2.33)$	235.80 ± 0.57
n_s	0.9673 ± 0.0037	$10^9 A_s$	$2.097^{+0.023}_{-0.031}$	$D_M(2.33)$	5758^{+10}_{-13}
y_{cal}	1.0006 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.877 ± 0.010	$f\sigma_8(0.15)$	0.4556 ± 0.0055
A_{100}^{PS}	239 ± 25	D_{40}	1225 ± 11	$\sigma_8(0.15)$	$0.751^{+0.010}_{-0.0062}$
A_{143}^{PS}	39 ± 8	D_{220}	5724 ± 39	$f\sigma_8(0.38)$	0.4747 ± 0.0051
A_{217}^{PS}	103 ± 10	D_{810}	2535 ± 13	$\sigma_8(0.38)$	$0.6659^{+0.0092}_{-0.0055}$
A_{217}^{CIB}	39 ± 7	D_{1420}	816.2 ± 4.8	$f\sigma_8(0.51)$	$0.4737^{+0.0051}_{-0.0044}$
A_{143}^{tSZ}	$3.9^{+1.8}_{-2.6}$	D_{2000}	230.5 ± 1.6	$\sigma_8(0.51)$	$0.6233^{+0.0087}_{-0.0052}$
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	$n_{s,0.002}$	0.9673 ± 0.0037	$f\sigma_8(0.61)$	$0.4690^{+0.0051}_{-0.0041}$
$r_{143 \times 217}^{\text{CIB}}$	$0.56^{+0.41}_{-0.16}$	Y_P	$0.245383^{+0.000061}_{-0.000054}$	$\sigma_8(0.61)$	$0.5931^{+0.0083}_{-0.0049}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	$0.246709^{+0.000061}_{-0.000054}$	$f\sigma_8(2.33)$	$0.2991^{+0.0036}_{-0.0024}$
A^{kSZ}	$4.6^{+1.9}_{-4.2}$	$10^5 D/H$	2.591 ± 0.027	$\sigma_8(2.33)$	$0.3085^{+0.0043}_{-0.0026}$
A_{100}^{dust}	1.01 ± 0.19	Age/Gyr	$13.786^{+0.023}_{-0.029}$	f_{2000}^{143}	29.4 ± 2.8
A_{143}^{dust}	0.96 ± 0.17	z_*	1089.86 ± 0.22	f_{2000}^{217}	106.7 ± 1.9
A_{217}^{dust}	0.98 ± 0.10	r_*	144.72 ± 0.22	$f_{2000}^{143 \times 217}$	31.9 ± 2.0
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04114 ± 0.00030	χ_{lensing}^2	9.33 ± 0.71
c_{100}	0.9976 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.900 ± 0.022	χ_{simall}^2	396.9 ± 1.7
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.80 ± 0.32	χ_{lowl}^2	22.99 ± 0.78
c_{TE}	0.9965 ± 0.0049	r_{drag}	147.39 ± 0.24	χ_{CamSpec}^2	11514.0 ± 5.5
c_{EE}	0.9925 ± 0.0049	k_D	0.14052 ± 0.00031	χ_{JLA}^2	1034.99 ± 0.28
H_0	$67.85^{+0.52}_{-0.44}$	$100\theta_D$	0.16084 ± 0.00019	$\chi_{6\text{DF}}^2$	0.036 ± 0.054
Ω_Λ	$0.6917^{+0.0066}_{-0.0056}$	z_{eq}	3378 ± 21	χ_{MGS}^2	1.47 ± 0.46
Ω_m	$0.3083^{+0.0056}_{-0.0066}$	k_{eq}	0.010308 ± 0.000063	χ_{DR12BAO}^2	4.3 ± 1.2
$\Omega_m h^2$	0.14186 ± 0.00090	$100\theta_{\text{eq}}$	0.8177 ± 0.0039	χ_{prior}^2	7.7 ± 3.4
$\Omega_\nu h^2$	< 0.000645	$100\theta_{s,\text{eq}}$	0.4517 ± 0.0020	χ_{CMB}^2	11943.2 ± 5.7
$\Omega_m h^3$	$0.09625^{+0.00040}_{-0.00034}$	$H(0.15)$	$73.09^{+0.46}_{-0.39}$	χ_{BAO}^2	5.83 ± 0.92
σ_8	$0.812^{+0.011}_{-0.0067}$	$D_M(0.15)$	$639.2^{+3.7}_{-4.5}$		
S_8	0.823 ± 0.011	$H(0.38)$	$83.15^{+0.35}_{-0.29}$		

$$\bar{\chi}_{\text{eff}}^2 = 12991.75; \Delta\bar{\chi}_{\text{eff}}^2 = -0.50; R - 1 = 0.00951$$

6 nnu

6.1 base_nnu_CamSpecHM_TT_lowl_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.021990	0.02204 ± 0.00032	$\sigma_8 \Omega_m^{0.5}$	0.4606	0.460 ± 0.014	$H(0.15)$	71.08	71.5 ± 2.3
$\Omega_c h^2$	0.11868	0.1192 ± 0.0041	$\sigma_8 \Omega_m^{0.25}$	0.6089	0.609 ± 0.012	$D_M(0.15)$	658.8	655 ± 23
$100\theta_{MC}$	1.04101	1.04099 ± 0.00059	$\sigma_8/h^{0.5}$	0.9931	0.992 ± 0.017	$H(0.38)$	81.35	81.8 ± 2.3
τ	0.0502	0.0514 ± 0.0082	$r_{drag} h$	97.67	98.1 ± 2.2	$D_M(0.38)$	1567.2	1559 ± 50
N_{eff}	2.888	2.94 ± 0.29	$\langle d^2 \rangle^{1/2}$	2.4615	2.457 ± 0.046	$H(0.51)$	88.14	88.6 ± 2.2
$\ln(10^{10} A_s)$	3.0298	3.033 ± 0.021	z_{re}	7.30	7.40 ± 0.85	$D_M(0.51)$	2028	2017 ± 62
n_s	0.9569	0.959 ± 0.014	$10^9 A_s$	2.0694	2.077 ± 0.044	$H(0.61)$	93.82	94.3 ± 2.2
y_{cal}	1.00028	1.0004 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.8717	1.874 ± 0.023	$D_M(0.61)$	2357	2346 ± 70
A_{100}^{PS}	234.0	240 ± 26	D_{40}	1238.2	1236 ± 23	$H(2.33)$	234.79	235.3 ± 3.7
A_{143}^{PS}	39.3	40 ± 9	D_{220}	5699.7	5702 ± 42	$D_M(2.33)$	5848	5826 ± 130
A_{217}^{PS}	101.3	102 ± 10	D_{810}	2531.6	2532 ± 14	$f\sigma_8(0.15)$	0.4638	0.463 ± 0.013
A_{217}^{CIB}	45.0	40 ± 8	D_{1420}	814.7	814.6 ± 5.2	$\sigma_8(0.15)$	0.7422	0.744 ± 0.013
A_{143}^{tSZ}	6.61	$3.8_{-2.6}^{+1.9}$	D_{2000}	230.25	230.1 ± 2.3	$f\sigma_8(0.38)$	0.4785	0.4783 ± 0.0097
$r_{143 \times 217}^{PS}$	0.592	0.65 ± 0.13	$n_{s,0.002}$	0.9569	0.959 ± 0.014	$\sigma_8(0.38)$	0.6562	0.658 ± 0.013
$r_{143 \times 217}^{CIB}$	0.780	$0.57_{-0.15}^{+0.41}$	Y_P	0.24309	0.2438 ± 0.0041	$f\sigma_8(0.51)$	0.4752	0.4754 ± 0.0086
$\xi^{tSZ \times CIB}$	0.08	—	Y_P^{BBN}	0.24441	0.2451 ± 0.0041	$\sigma_8(0.51)$	0.6134	0.616 ± 0.012
A^{kSZ}	0.00	$4.8_{-3.6}^{+2.7}$	$10^5 D/H$	2.602	2.611 ± 0.071	$f\sigma_8(0.61)$	0.4690	0.4694 ± 0.0080
A_{100}^{dust}	1.006	1.01 ± 0.20	Age/Gyr	13.995	13.94 ± 0.31	$\sigma_8(0.61)$	0.5833	0.585 ± 0.012
A_{143}^{dust}	0.989	0.97 ± 0.18	z_*	1090.13	1090.16 ± 0.50	$f\sigma_8(2.33)$	0.2935	0.2947 ± 0.0064
A_{217}^{dust}	0.967	0.97 ± 0.10	r_*	145.87	145.5 ± 2.6	$\sigma_8(2.33)$	0.3019	0.3034 ± 0.0072
$A_{143 \times 217}^{dust}$	1.011	1.03 ± 0.16	$100\theta_*$	1.04133	1.04127 ± 0.00074	f_{2000}^{143}	30.05	30 ± 4
c_{100}	0.99758	0.9975 ± 0.0010	$D_M(z_*)/\text{Gpc}$	14.008	13.97 ± 0.24	f_{2000}^{217}	106.85	107.1 ± 2.5
c_{217}	1.00132	1.0011 ± 0.0016	z_{drag}	1058.83	1059.0 ± 1.1	$f_{2000}^{143 \times 217}$	32.18	32.4 ± 2.7
H_0	65.69	66.2 ± 2.4	r_{drag}	148.68	148.3 ± 2.7	χ_{small}^2	395.70	396.9 ± 1.7
Ω_Λ	0.6725	$0.675_{-0.018}^{+0.020}$	k_D	0.13952	0.1398 ± 0.0019	χ_{lowl}^2	24.43	24.4 ± 2.3
Ω_m	0.3275	0.325 ± 0.019	$100\theta_D$	0.16074	0.16084 ± 0.00068	$\chi_{CamSpec}^2$	7049.2	7063.3 ± 5.7
$\Omega_m h^2$	0.14132	0.1419 ± 0.0042	z_{eq}	3435	3425 ± 67	χ_{prior}^2	2.08	7.6 ± 3.4
$\Omega_m h^3$	0.0928	$0.0939_{-0.0059}^{+0.0053}$	k_{eq}	0.010371	0.01037 ± 0.00016	χ_{CMB}^2	7469.3	7484.6 ± 5.6
σ_8	0.8049	0.807 ± 0.014	$100\theta_{eq}$	0.8065	0.809 ± 0.012			
S_8	0.8410	0.839 ± 0.025	$100\theta_{s,eq}$	0.4461	0.4472 ± 0.0063			

Best-fit $\chi_{eff}^2 = 7471.42$; $\Delta\chi_{eff}^2 = -0.31$; $\bar{\chi}_{eff}^2 = 7492.17$; $\Delta\bar{\chi}_{eff}^2 = 0.63$; $R - 1 = 0.00609$

χ_{eff}^2 : CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.70 (Δ -0.14) commander_dx12_v3_2_29: 24.43 (Δ 1.04) CamSpec like_10.7HM: 7049.22 (Δ -1.12)

6.2 base_nnu_CamSpecHM_TT_lowl_lowE_post_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\text{b}}h^2$	0.02202 ± 0.00030	$\sigma_8\Omega_{\text{m}}^{0.5}$	0.4580 ± 0.0092	$H(0.15)$	71.3 ± 2.1
$\Omega_{\text{c}}h^2$	0.1182 ± 0.0039	$\sigma_8\Omega_{\text{m}}^{0.25}$	0.6067 ± 0.0084	$D_{\text{M}}(0.15)$	658 ± 21
$100\theta_{\text{MC}}$	1.04108 ± 0.00058	$\sigma_8/h^{0.5}$	0.990 ± 0.011	$H(0.38)$	81.5 ± 2.1
τ	0.0514 ± 0.0081	$r_{\text{drag}}h$	98.0 ± 1.8	$D_{\text{M}}(0.38)$	1565 ± 46
N_{eff}	2.89 ± 0.28	$\langle d^2 \rangle^{1/2}$	2.457 ± 0.032	$H(0.51)$	88.2 ± 2.1
$\ln(10^{10}A_{\text{s}})$	3.031 ± 0.021	z_{re}	7.38 ± 0.84	$D_{\text{M}}(0.51)$	2025 ± 57
n_{s}	0.958 ± 0.012	$10^9 A_{\text{s}}$	2.072 ± 0.043	$H(0.61)$	93.9 ± 2.1
y_{cal}	1.0004 ± 0.0025	$10^9 A_{\text{s}}e^{-2\tau}$	1.869 ± 0.023	$D_{\text{M}}(0.61)$	2355 ± 65
A_{100}^{PS}	239 ± 26	D_{40}	1237 ± 19	$H(2.33)$	234.5 ± 3.6
A_{143}^{PS}	39 ± 9	D_{220}	5705 ± 41	$D_{\text{M}}(2.33)$	5848 ± 130
A_{217}^{PS}	102 ± 10	D_{810}	2532 ± 14	$f\sigma_8(0.15)$	0.4614 ± 0.0083
A_{217}^{CIB}	40 ± 7	D_{1420}	815.0 ± 5.2	$\sigma_8(0.15)$	0.742 ± 0.013
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.6}$	D_{2000}	230.4 ± 2.3	$f\sigma_8(0.38)$	0.4766 ± 0.0067
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	$n_{\text{s},0.002}$	0.958 ± 0.012	$\sigma_8(0.38)$	0.656 ± 0.012
$r_{143 \times 217}^{\text{CIB}}$	$0.57^{+0.41}_{-0.16}$	Y_{P}	0.2430 ± 0.0039	$f\sigma_8(0.51)$	0.4737 ± 0.0064
$\xi^{\text{tSZ} \times \text{CIB}}$	—	$Y_{\text{P}}^{\text{BBN}}$	0.2443 ± 0.0039	$\sigma_8(0.51)$	0.613 ± 0.012
A^{kSZ}	$4.7^{+2.1}_{-4.2}$	$10^5 \text{D}/\text{H}$	2.596 ± 0.069	$f\sigma_8(0.61)$	0.4678 ± 0.0064
A_{100}^{dust}	1.01 ± 0.20	Age/Gyr	14.00 ± 0.30	$\sigma_8(0.61)$	0.583 ± 0.012
A_{143}^{dust}	0.97 ± 0.17	z_*	1090.04 ± 0.47	$f\sigma_8(2.33)$	0.2936 ± 0.0063
A_{217}^{dust}	0.97 ± 0.10	r_*	146.0 ± 2.6	$\sigma_8(2.33)$	0.3022 ± 0.0070
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04141 ± 0.00073	f_{2000}^{143}	30 ± 4
c_{100}	0.9975 ± 0.0011	$D_{\text{M}}(z_*)/\text{Gpc}$	14.02 ± 0.24	f_{2000}^{217}	106.8 ± 2.5
c_{217}	1.0011 ± 0.0016	z_{drag}	1058.9 ± 1.1	$f_{2000}^{143 \times 217}$	32.0 ± 2.7
H_0	65.9 ± 2.2	r_{drag}	148.8 ± 2.7	χ_{lensing}^2	9.33 ± 0.99
Ω_{Λ}	0.675 ± 0.015	k_{D}	0.1394 ± 0.0019	χ_{simall}^2	396.8 ± 1.6
Ω_{m}	0.325 ± 0.015	$100\theta_{\text{D}}$	0.16071 ± 0.00066	χ_{lowl}^2	24.5 ± 2.0
$\Omega_{\text{m}}h^2$	0.1408 ± 0.0041	z_{eq}	3425 ± 53	χ_{CamSpec}^2	7062.7 ± 5.4
$\Omega_{\text{m}}h^3$	0.0929 ± 0.0054	k_{eq}	0.01034 ± 0.00014	χ_{prior}^2	7.5 ± 3.4
σ_8	0.804 ± 0.013	$100\theta_{\text{eq}}$	0.808 ± 0.010	χ_{CMB}^2	7493.4 ± 5.6
S_8	0.836 ± 0.017	$100\theta_{\text{s,eq}}$	0.4471 ± 0.0051		

$$\bar{\chi}_{\text{eff}}^2 = 7500.99; \Delta\bar{\chi}_{\text{eff}}^2 = 0.75; R - 1 = 0.00870$$

6.3 base_nnu_CamSpecHM_TT_lowl_lowE_post_Cooke17_Aver15

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02203 ± 0.00027	$\sigma_8 \Omega_m^{0.25}$	0.609 ± 0.012	$H(0.38)$	81.8 ± 1.6
$\Omega_c h^2$	0.1192 ± 0.0030	$\sigma_8 / h^{0.5}$	0.993 ± 0.016	$D_M(0.38)$	1559 ± 36
$100\theta_{MC}$	1.04098 ± 0.00052	$r_{drag} h$	98.0 ± 2.0	$H(0.51)$	88.6 ± 1.5
τ	0.0513 ± 0.0080	$\langle d^2 \rangle^{1/2}$	2.458 ± 0.042	$D_M(0.51)$	2017 ± 44
N_{eff}	2.94 ± 0.19	z_{re}	7.39 ± 0.83	$H(0.61)$	94.2 ± 1.5
$\ln(10^{10} A_s)$	3.033 ± 0.018	$10^9 A_s$	2.077 ± 0.038	$D_M(0.61)$	2346 ± 50
n_s	0.959 ± 0.010	$10^9 A_s e^{-2\tau}$	1.874 ± 0.018	$H(2.33)$	235.3 ± 2.5
y_{cal}	1.0004 ± 0.0025	D_{40}	1236 ± 19	$D_M(2.33)$	5826 ± 88
A_{100}^{PS}	240 ± 25	D_{220}	5701 ± 41	$f\sigma_8(0.15)$	0.463 ± 0.012
A_{143}^{PS}	40 ± 9	D_{810}	2532 ± 14	$\sigma_8(0.15)$	0.744 ± 0.010
A_{217}^{PS}	102 ± 10	D_{1420}	814.5 ± 5.0	$f\sigma_8(0.38)$	0.4785 ± 0.0094
A_{217}^{CIB}	40 ± 7	D_{2000}	230.0 ± 1.9	$\sigma_8(0.38)$	0.6584 ± 0.0093
A_{143}^{tSZ}	$3.8^{+1.9}_{-2.6}$	$n_{s,0.002}$	0.959 ± 0.010	$f\sigma_8(0.51)$	0.4756 ± 0.0081
$r_{143 \times 217}^{PS}$	0.65 ± 0.13	Y_P	0.2438 ± 0.0027	$\sigma_8(0.51)$	0.6156 ± 0.0089
$r_{143 \times 217}^{CIB}$	$0.57^{+0.41}_{-0.15}$	Y_P^{BBN}	0.2451 ± 0.0027	$f\sigma_8(0.61)$	0.4696 ± 0.0074
$\xi^{tSZ \times CIB}$	—	$10^5 D/H$	2.611 ± 0.049	$\sigma_8(0.61)$	0.5854 ± 0.0086
A^{kSZ}	$4.8^{+2.5}_{-3.8}$	Age/Gyr	13.94 ± 0.21	$f\sigma_8(2.33)$	0.2947 ± 0.0046
A_{100}^{dust}	1.01 ± 0.20	z_*	1090.17 ± 0.40	$\sigma_8(2.33)$	0.3033 ± 0.0051
A_{143}^{dust}	0.97 ± 0.17	r_*	145.5 ± 1.7	f_{2000}^{143}	30.1 ± 3.2
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04126 ± 0.00058	f_{2000}^{217}	107.1 ± 2.1
$A_{143 \times 217}^{dust}$	1.03 ± 0.16	$D_M(z_*)/\text{Gpc}$	13.97 ± 0.16	$f_{2000}^{143 \times 217}$	32.4 ± 2.3
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.00 ± 0.84	χ_{simall}^2	396.9 ± 1.6
c_{217}	1.0011 ± 0.0016	r_{drag}	148.3 ± 1.8	χ_{lowl}^2	24.3 ± 1.9
H_0	66.1 ± 1.8	k_D	0.1398 ± 0.0013	$\chi_{CamSpec}^2$	7062.8 ± 5.4
Ω_Λ	$0.675^{+0.017}_{-0.016}$	$100\theta_D$	0.16085 ± 0.00044	χ_{Aver15}^2	0.45 ± 0.63
Ω_m	0.325 ± 0.017	z_{eq}	3426 ± 58	$\chi_{Cooke17}^2$	0.28 ± 0.39
$\Omega_m h^2$	0.1419 ± 0.0030	k_{eq}	0.01038 ± 0.00015	χ_{prior}^2	7.6 ± 3.4
$\Omega_m h^3$	0.0938 ± 0.0037	$100\theta_{eq}$	0.808 ± 0.011	χ_{CMB}^2	7484.0 ± 5.4
σ_8	0.807 ± 0.011	$100\theta_{s,eq}$	0.4470 ± 0.0055	χ_{Abund}^2	0.73 ± 0.85
S_8	0.840 ± 0.025	$H(0.15)$	71.5 ± 1.7		
$\sigma_8 \Omega_m^{0.5}$	0.460 ± 0.014	$D_M(0.15)$	655 ± 17		

$\bar{\chi}_{eff}^2 = 7492.26$; $R - 1 = 0.00836$

6.4 base_nnu_CamSpecHM_TT_lowl_lowE_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\text{b}}h^2$	0.02206 ± 0.00031	$\sigma_8\Omega_{\text{m}}^{0.5}$	0.460 ± 0.014	$H(0.15)$	71.7 ± 2.3
$\Omega_{\text{c}}h^2$	0.1193 ± 0.0041	$\sigma_8\Omega_{\text{m}}^{0.25}$	0.610 ± 0.012	$D_{\text{M}}(0.15)$	653 ± 22
$100\theta_{\text{MC}}$	1.04098 ± 0.00059	$\sigma_8/h^{0.5}$	0.993 ± 0.017	$H(0.38)$	82.0 ± 2.2
τ	$0.0534^{+0.0044}_{-0.0084}$	$r_{\text{drag}}h$	98.2 ± 2.2	$D_{\text{M}}(0.38)$	1555 ± 49
N_{eff}	2.96 ± 0.29	$\langle d^2 \rangle^{1/2}$	2.458 ± 0.046	$H(0.51)$	88.7 ± 2.2
$\ln(10^{10}A_{\text{s}})$	$3.038^{+0.016}_{-0.020}$	z_{re}	$7.62^{+0.48}_{-0.87}$	$D_{\text{M}}(0.51)$	2013 ± 61
n_{s}	0.960 ± 0.013	$10^9 A_{\text{s}}$	$2.086^{+0.033}_{-0.041}$	$H(0.61)$	94.4 ± 2.2
y_{cal}	1.0004 ± 0.0025	$10^9 A_{\text{s}}e^{-2\tau}$	1.875 ± 0.023	$D_{\text{M}}(0.61)$	2340 ± 69
A_{100}^{PS}	240 ± 26	D_{40}	1234 ± 22	$H(2.33)$	235.5 ± 3.7
A_{143}^{PS}	40 ± 9	D_{220}	5702 ± 41	$D_{\text{M}}(2.33)$	5817 ± 130
A_{217}^{PS}	102 ± 10	D_{810}	2532 ± 14	$f\sigma_8(0.15)$	0.463 ± 0.013
A_{217}^{CIB}	40 ± 8	D_{1420}	814.5 ± 5.2	$\sigma_8(0.15)$	0.746 ± 0.013
A_{143}^{tSZ}	$3.8^{+1.9}_{-2.6}$	D_{2000}	230.0 ± 2.3	$f\sigma_8(0.38)$	0.4788 ± 0.0097
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.13	$n_{\text{s},0.002}$	0.960 ± 0.013	$\sigma_8(0.38)$	0.660 ± 0.012
$r_{143 \times 217}^{\text{CIB}}$	$0.57^{+0.41}_{-0.15}$	Y_{P}	0.2440 ± 0.0040	$f\sigma_8(0.51)$	0.4760 ± 0.0085
$\xi^{\text{tSZ} \times \text{CIB}}$	—	$Y_{\text{P}}^{\text{BBN}}$	0.2453 ± 0.0040	$\sigma_8(0.51)$	0.617 ± 0.012
A^{kSZ}	$4.8^{+2.7}_{-3.6}$	$10^5 \text{D}/\text{H}$	2.613 ± 0.071	$f\sigma_8(0.61)$	0.4702 ± 0.0079
A_{100}^{dust}	1.01 ± 0.20	Age/Gyr	13.92 ± 0.31	$\sigma_8(0.61)$	0.587 ± 0.011
A_{143}^{dust}	0.97 ± 0.18	z_*	1090.16 ± 0.50	$f\sigma_8(2.33)$	0.2956 ± 0.0061
A_{217}^{dust}	0.97 ± 0.10	r_*	145.3 ± 2.6	$\sigma_8(2.33)$	0.3043 ± 0.0068
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04125 ± 0.00073	f_{2000}^{143}	30 ± 4
c_{100}	0.9975 ± 0.0010	$D_{\text{M}}(z_*)/\text{Gpc}$	13.96 ± 0.24	f_{2000}^{217}	107.1 ± 2.5
c_{217}	1.0012 ± 0.0016	z_{drag}	1059.1 ± 1.1	$f_{2000}^{143 \times 217}$	32.4 ± 2.7
H_0	66.4 ± 2.4	r_{drag}	148.1 ± 2.7	χ_{simall}^2	396.8 ± 1.6
Ω_{Λ}	0.677 ± 0.019	k_{D}	0.1399 ± 0.0019	χ_{lowl}^2	24.3 ± 2.3
Ω_{m}	0.323 ± 0.019	$100\theta_{\text{D}}$	0.16087 ± 0.00067	χ_{CamSpec}^2	7063.2 ± 5.7
$\Omega_{\text{m}}h^2$	0.1420 ± 0.0042	z_{eq}	3420 ± 65	χ_{prior}^2	7.6 ± 3.4
$\Omega_{\text{m}}h^3$	$0.0943^{+0.0053}_{-0.0059}$	k_{eq}	0.01037 ± 0.00016	χ_{CMB}^2	7484.3 ± 5.5
σ_8	0.809 ± 0.013	$100\theta_{\text{eq}}$	0.810 ± 0.012		
S_8	0.839 ± 0.025	$100\theta_{\text{s,eq}}$	0.4477 ± 0.0062		

$$\bar{\chi}_{\text{eff}}^2 = 7491.86; \Delta\bar{\chi}_{\text{eff}}^2 = 0.60; R - 1 = 0.00538$$

6.5 base_nnu_CamSpecHM_TT_lowl_lowE_post_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\text{b}}h^2$	0.02205 ± 0.00029	$\sigma_8\Omega_{\text{m}}^{0.5}$	0.4575 ± 0.0092	$H(0.15)$	71.5 ± 2.1
$\Omega_{\text{c}}h^2$	0.1183 ± 0.0039	$\sigma_8\Omega_{\text{m}}^{0.25}$	0.6071 ± 0.0084	$D_{\text{M}}(0.15)$	655 ± 20
$100\theta_{\text{MC}}$	1.04108 ± 0.00058	$\sigma_8/h^{0.5}$	0.991 ± 0.011	$H(0.38)$	81.7 ± 2.1
τ	$0.0535^{+0.0045}_{-0.0081}$	$r_{\text{drag}}h$	98.3 ± 1.7	$D_{\text{M}}(0.38)$	1560 ± 45
N_{eff}	2.91 ± 0.28	$\langle d^2 \rangle^{1/2}$	2.456 ± 0.032	$H(0.51)$	88.4 ± 2.1
$\ln(10^{10}A_{\text{s}})$	$3.035^{+0.016}_{-0.019}$	z_{re}	$7.61^{+0.48}_{-0.85}$	$D_{\text{M}}(0.51)$	2019 ± 56
n_{s}	0.959 ± 0.012	$10^9 A_{\text{s}}$	$2.081^{+0.033}_{-0.040}$	$H(0.61)$	94.1 ± 2.1
y_{cal}	1.0004 ± 0.0025	$10^9 A_{\text{s}}e^{-2\tau}$	1.870 ± 0.022	$D_{\text{M}}(0.61)$	2348 ± 63
A_{100}^{PS}	239 ± 26	D_{40}	1236 ± 19	$H(2.33)$	234.6 ± 3.6
A_{143}^{PS}	39 ± 9	D_{220}	5705 ± 41	$D_{\text{M}}(2.33)$	5837 ± 120
A_{217}^{PS}	102 ± 10	D_{810}	2532 ± 14	$f\sigma_8(0.15)$	0.4611 ± 0.0083
A_{217}^{CIB}	40 ± 8	D_{1420}	814.9 ± 5.2	$\sigma_8(0.15)$	0.743 ± 0.012
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.6}$	D_{2000}	230.4 ± 2.3	$f\sigma_8(0.38)$	0.4768 ± 0.0067
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.13	$n_{\text{s},0.002}$	0.959 ± 0.012	$\sigma_8(0.38)$	0.658 ± 0.012
$r_{143 \times 217}^{\text{CIB}}$	$0.57^{+0.42}_{-0.15}$	Y_{P}	0.2433 ± 0.0039	$f\sigma_8(0.51)$	0.4742 ± 0.0063
$\xi^{\text{tSZ} \times \text{CIB}}$	—	$Y_{\text{P}}^{\text{BBN}}$	0.2446 ± 0.0039	$\sigma_8(0.51)$	0.615 ± 0.011
A^{kSZ}	$4.7^{+2.2}_{-4.1}$	$10^5 \text{D}/\text{H}$	2.598 ± 0.069	$f\sigma_8(0.61)$	0.4684 ± 0.0063
A_{100}^{dust}	1.01 ± 0.20	Age/Gyr	13.97 ± 0.29	$\sigma_8(0.61)$	0.585 ± 0.011
A_{143}^{dust}	0.97 ± 0.17	z_*	1090.03 ± 0.47	$f\sigma_8(2.33)$	0.2946 ± 0.0060
A_{217}^{dust}	0.97 ± 0.10	r_*	145.9 ± 2.6	$\sigma_8(2.33)$	0.3033 ± 0.0066
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04139 ± 0.00072	f_{2000}^{143}	30 ± 4
c_{100}	0.9975 ± 0.0011	$D_{\text{M}}(z_*)/\text{Gpc}$	14.01 ± 0.24	f_{2000}^{217}	106.8 ± 2.4
c_{217}	1.0011 ± 0.0016	z_{drag}	1058.9 ± 1.1	$f_{2000}^{143 \times 217}$	32.1 ± 2.7
H_0	66.1 ± 2.1	r_{drag}	148.7 ± 2.7	χ_{lensing}^2	9.34 ± 0.99
Ω_{Λ}	0.677 ± 0.015	k_{D}	0.1395 ± 0.0019	χ_{simall}^2	396.7 ± 1.6
Ω_{m}	0.323 ± 0.015	$100\theta_{\text{D}}$	0.16075 ± 0.00065	χ_{lowl}^2	24.3 ± 1.9
$\Omega_{\text{m}}h^2$	0.1410 ± 0.0041	z_{eq}	3418 ± 51	χ_{CamSpec}^2	7062.7 ± 5.4
$\Omega_{\text{m}}h^3$	0.0933 ± 0.0054	k_{eq}	0.01033 ± 0.00014	χ_{prior}^2	7.6 ± 3.4
σ_8	0.806 ± 0.012	$100\theta_{\text{eq}}$	0.8098 ± 0.0095	χ_{CMB}^2	7493.2 ± 5.5
S_8	0.835 ± 0.017	$100\theta_{\text{s,eq}}$	0.4478 ± 0.0048		

$$\bar{\chi}_{\text{eff}}^2 = 7500.70; \Delta\bar{\chi}_{\text{eff}}^2 = 0.69; R - 1 = 0.00702$$

6.6 base_nnu_CamSpecHM_TT_lowl_lowE_post_Cooke17_Aver15_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02205 ± 0.00027	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.610 ± 0.011	$H(0.38)$	81.9 ± 1.6
$\Omega_{\mathrm{c}}h^2$	0.1192 ± 0.0030	$\sigma_8/h^{0.5}$	0.994 ± 0.016	$D_{\mathrm{M}}(0.38)$	1557 ± 36
$100\theta_{\mathrm{MC}}$	1.04098 ± 0.00052	$r_{\mathrm{drag}}h$	98.1 ± 1.9	$H(0.51)$	88.6 ± 1.5
τ	$0.0532^{+0.0044}_{-0.0080}$	$\langle d^2 \rangle^{1/2}$	2.460 ± 0.042	$D_{\mathrm{M}}(0.51)$	2014 ± 44
N_{eff}	2.95 ± 0.19	z_{re}	$7.60^{+0.48}_{-0.84}$	$H(0.61)$	94.3 ± 1.5
$\ln(10^{10}A_{\mathrm{s}})$	$3.037^{+0.013}_{-0.017}$	$10^9 A_{\mathrm{s}}$	$2.085^{+0.027}_{-0.036}$	$D_{\mathrm{M}}(0.61)$	2342 ± 49
n_{s}	0.960 ± 0.010	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.875 ± 0.018	$H(2.33)$	235.4 ± 2.5
y_{cal}	1.0004 ± 0.0025	D_{40}	1235 ± 19	$D_{\mathrm{M}}(2.33)$	5820 ± 88
A_{100}^{PS}	240 ± 25	D_{220}	5701 ± 41	$f\sigma_8(0.15)$	0.464 ± 0.012
A_{143}^{PS}	40 ± 9	D_{810}	2532 ± 14	$\sigma_8(0.15)$	0.7459 ± 0.0095
A_{217}^{PS}	102 ± 10	D_{1420}	814.6 ± 5.0	$f\sigma_8(0.38)$	0.4790 ± 0.0094
A_{217}^{CIB}	40 ± 7	D_{2000}	230.1 ± 1.9	$\sigma_8(0.38)$	0.6599 ± 0.0087
A_{143}^{tSZ}	$3.8^{+1.9}_{-2.6}$	$n_{\mathrm{s},0.002}$	0.960 ± 0.010	$f\sigma_8(0.51)$	0.4762 ± 0.0080
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	Y_{P}	0.2439 ± 0.0026	$\sigma_8(0.51)$	0.6170 ± 0.0083
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.57^{+0.41}_{-0.15}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.2452 ± 0.0027	$f\sigma_8(0.61)$	0.4702 ± 0.0072
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$10^5 \mathrm{D}/\mathrm{H}$	2.612 ± 0.049	$\sigma_8(0.61)$	0.5868 ± 0.0081
A^{kSZ}	$4.8^{+2.4}_{-3.9}$	$\mathrm{Age}/\mathrm{Gyr}$	13.93 ± 0.21	$f\sigma_8(2.33)$	0.2954 ± 0.0043
A_{100}^{dust}	1.01 ± 0.20	z_*	1090.16 ± 0.40	$\sigma_8(2.33)$	0.3041 ± 0.0048
A_{143}^{dust}	0.97 ± 0.18	r_*	145.4 ± 1.7	f_{2000}^{143}	30.0 ± 3.2
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04126 ± 0.00058	f_{2000}^{217}	107.1 ± 2.1
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.96 ± 0.16	$f_{2000}^{143 \times 217}$	32.4 ± 2.3
c_{100}	0.9975 ± 0.0010	z_{drag}	1059.05 ± 0.84	χ_{simall}^2	396.7 ± 1.6
c_{217}	1.0011 ± 0.0015	r_{drag}	148.2 ± 1.8	χ_{lowl}^2	24.2 ± 1.9
H_0	66.2 ± 1.8	k_{D}	0.1399 ± 0.0013	$\chi_{\mathrm{CamSpec}}^2$	7062.7 ± 5.4
Ω_{Λ}	$0.676^{+0.017}_{-0.015}$	$100\theta_{\mathrm{D}}$	0.16086 ± 0.00044	χ_{Aver15}^2	0.45 ± 0.62
Ω_{m}	$0.324^{+0.015}_{-0.017}$	z_{eq}	3422 ± 57	$\chi_{\mathrm{Cooke17}}^2$	0.28 ± 0.39
$\Omega_{\mathrm{m}}h^2$	0.1419 ± 0.0030	k_{eq}	0.01037 ± 0.00015	χ_{prior}^2	7.6 ± 3.4
$\Omega_{\mathrm{m}}h^3$	0.0940 ± 0.0037	$100\theta_{\mathrm{eq}}$	0.809 ± 0.011	χ_{CMB}^2	7483.7 ± 5.3
σ_8	0.808 ± 0.010	$100\theta_{\mathrm{s,eq}}$	0.4474 ± 0.0055	χ_{Abund}^2	0.73 ± 0.85
S_8	0.840 ± 0.025	$H(0.15)$	71.6 ± 1.7		
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.460 ± 0.013	$D_{\mathrm{M}}(0.15)$	654 ± 16		

$$\bar{\chi}_{\mathrm{eff}}^2 = 7491.99; R - 1 = 0.00722$$

6.7 base_nnu_CamSpecHM_TTTEEE_lowl_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022177	0.02220 ± 0.00023	σ_8	0.8020	0.803 ± 0.012	$100\theta_{\text{eq}}$	0.8118	0.8124 ± 0.0077
$\Omega_c h^2$	0.11735	0.1179 ± 0.0034	S_8	0.8267	0.826 ± 0.016	$100\theta_{\text{s,eq}}$	0.44874	0.4490 ± 0.0039
$100\theta_{\text{MC}}$	1.041117	1.04108 ± 0.00047	$\sigma_8 \Omega_{\text{m}}^{0.5}$	0.4528	0.4527 ± 0.0090	$H(0.15)$	71.61	71.8 ± 1.6
τ	0.0527	0.0520 ± 0.0079	$\sigma_8 \Omega_{\text{m}}^{0.25}$	0.6026	0.6028 ± 0.0091	$D_{\text{M}}(0.15)$	653.2	651 ± 16
N_{eff}	2.885	2.92 ± 0.22	$\sigma_8/h^{0.5}$	0.9848	0.984 ± 0.012	$H(0.38)$	81.74	82.0 ± 1.6
$\ln(10^{10} A_{\text{s}})$	3.0322	3.032 ± 0.019	$r_{\text{drag}} h$	98.70	98.8 ± 1.4	$D_{\text{M}}(0.38)$	1556.1	1552 ± 35
n_{s}	0.9607	0.9613 ± 0.0095	$\langle d^2 \rangle^{1/2}$	2.4422	2.440 ± 0.031	$H(0.51)$	88.45	88.7 ± 1.6
y_{cal}	1.00022	1.0005 ± 0.0025	z_{re}	7.50	7.41 ± 0.82	$D_{\text{M}}(0.51)$	2014.6	2009 ± 44
A_{100}^{PS}	230.1	236 ± 25	$10^9 A_{\text{s}}$	2.0743	2.074 ± 0.040	$H(0.61)$	94.07	94.3 ± 1.7
A_{143}^{PS}	42.7	38 ± 9	$10^9 A_{\text{s}} e^{-2\tau}$	1.8666	1.869 ± 0.020	$D_{\text{M}}(0.61)$	2343.3	2337 ± 50
A_{217}^{PS}	105.0	103 ± 10	D_{40}	1230.9	1231 ± 16	$H(2.33)$	234.09	234.6 ± 3.1
A_{217}^{CIB}	41.1	39 ± 7	D_{220}	5711.7	5715 ± 38	$D_{\text{M}}(2.33)$	5836	5823 ± 99
A_{143}^{tSZ}	5.90	$3.9_{-2.5}^{+1.9}$	D_{810}	2532.6	2533 ± 14	$f\sigma_8(0.15)$	0.4568	0.4567 ± 0.0084
$r_{143 \times 217}^{\text{PS}}$	0.687	0.66 ± 0.13	D_{1420}	816.89	816.4 ± 5.0	$\sigma_8(0.15)$	0.7404	0.741 ± 0.011
$r_{143 \times 217}^{\text{CIB}}$	0.754	$0.54_{-0.21}^{+0.38}$	D_{2000}	231.28	230.9 ± 2.1	$f\sigma_8(0.38)$	0.4733	0.4733 ± 0.0073
$\xi^{\text{tSZ} \times \text{CIB}}$	0.51	—	$n_{\text{s},0.002}$	0.9607	0.9613 ± 0.0095	$\sigma_8(0.38)$	0.6555	0.656 ± 0.011
A^{kSZ}	0.80	< 5.98	Y_{P}	0.24314	0.2436 ± 0.0031	$f\sigma_8(0.51)$	0.4711	0.4712 ± 0.0069
A_{100}^{dust}	1.017	1.01 ± 0.20	$Y_{\text{P}}^{\text{BBN}}$	0.24446	0.2449 ± 0.0031	$\sigma_8(0.51)$	0.6132	0.614 ± 0.010
A_{143}^{dust}	0.973	0.96 ± 0.18	$10^5 \text{D}/\text{H}$	2.566	2.575 ± 0.057	$f\sigma_8(0.61)$	0.4656	0.4658 ± 0.0067
A_{217}^{dust}	0.979	0.98 ± 0.10	Age/Gyr	13.970	13.94 ± 0.23	$\sigma_8(0.61)$	0.5832	0.5840 ± 0.0099
$A_{143 \times 217}^{\text{dust}}$	1.011	1.02 ± 0.16	z_*	1089.771	1089.83 ± 0.41	$f\sigma_8(2.33)$	0.2938	0.2942 ± 0.0052
c_{100}	0.99769	0.9975 ± 0.0011	r_*	146.09	145.8 ± 2.1	$\sigma_8(2.33)$	0.3026	0.3031 ± 0.0057
c_{217}	1.00117	1.0011 ± 0.0016	$100\theta_*$	1.04143	1.04137 ± 0.00060	f_{2000}^{143}	28.51	29 ± 3
c_{TE}	0.9956	0.9959 ± 0.0052	$D_{\text{M}}(z_*)/\text{Gpc}$	14.028	14.00 ± 0.20	f_{2000}^{217}	105.81	106.2 ± 2.3
c_{EE}	0.9902	0.9906 ± 0.0057	z_{drag}	1059.17	1059.27 ± 0.85	$f_{2000}^{143 \times 217}$	31.09	31.4 ± 2.5
H_0	66.32	66.5 ± 1.7	r_{drag}	148.84	148.5 ± 2.2	χ_{small}^2	395.87	396.8 ± 1.6
Ω_{Λ}	0.6813	0.682 ± 0.011	k_{D}	0.13951	0.1397 ± 0.0016	χ_{lowl}^2	23.68	23.8 ± 1.5
Ω_{m}	0.3187	0.318 ± 0.011	$100\theta_{\text{D}}$	0.16053	0.16061 ± 0.00053	χ_{CamSpec}^2	11498.6	11514.5 ± 5.9
$\Omega_{\text{m}} h^2$	0.14017	0.1407 ± 0.0035	z_{eq}	3407.9	3405 ± 41	χ_{prior}^2	2.07	7.9 ± 3.4
$\Omega_{\text{m}} h^3$	0.09296	$0.0937_{-0.0046}^{+0.0041}$	k_{eq}	0.010288	0.01030 ± 0.00013	χ_{CMB}^2	11918.2	11935.2 ± 5.9

Best-fit $\chi_{\text{eff}}^2 = 11920.27$; $\Delta\chi_{\text{eff}}^2 = -0.49$; $\bar{\chi}_{\text{eff}}^2 = 11943.05$; $\Delta\bar{\chi}_{\text{eff}}^2 = 0.59$; $R - 1 = 0.00888$

χ_{eff}^2 : CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.87 (Δ -0.03) commander_dx12_v3.2.29: 23.68 (Δ 0.68) CamSpec like_10.7HM_1400_unified: 11498.65 (Δ -0.99)

6.8 base_nnu_CamSpecHM_TTTEEE_lowl_lowE_post_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02217 ± 0.00022	S_8	0.828 ± 0.013	$H(0.15)$	71.5 ± 1.6
$\Omega_c h^2$	0.1175 ± 0.0033	$\sigma_8 \Omega_m^{0.5}$	0.4537 ± 0.0070	$D_M(0.15)$	654 ± 15
$100\theta_{MC}$	1.04113 ± 0.00047	$\sigma_8 \Omega_m^{0.25}$	0.6033 ± 0.0073	$H(0.38)$	81.7 ± 1.6
τ	0.0527 ± 0.0074	$\sigma_8/h^{0.5}$	0.9859 ± 0.0091	$D_M(0.38)$	1558 ± 34
N_{eff}	2.88 ± 0.22	$r_{\text{drag}} h$	98.6 ± 1.3	$H(0.51)$	88.4 ± 1.6
$\ln(10^{10} A_s)$	3.033 ± 0.018	$\langle d^2 \rangle^{1/2}$	2.447 ± 0.025	$D_M(0.51)$	2017 ± 43
n_s	0.9595 ± 0.0093	z_{re}	7.48 ± 0.76	$H(0.61)$	94.0 ± 1.6
y_{cal}	1.0006 ± 0.0024	$10^9 A_s$	2.075 ± 0.037	$D_M(0.61)$	2346 ± 49
A_{100}^{PS}	236 ± 25	$10^9 A_s e^{-2\tau}$	1.868 ± 0.019	$H(2.33)$	234.1 ± 3.0
A_{143}^{PS}	37 ± 9	D_{40}	1235 ± 16	$D_M(2.33)$	5840 ± 98
A_{217}^{PS}	104 ± 10	D_{220}	5718 ± 38	$f\sigma_8(0.15)$	0.4576 ± 0.0065
A_{217}^{CIB}	38 ± 7	D_{810}	2533 ± 13	$\sigma_8(0.15)$	0.741 ± 0.011
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	D_{1420}	816.8 ± 5.0	$f\sigma_8(0.38)$	0.4739 ± 0.0057
$r_{143 \times 217}^{\text{PS}}$	0.67 ± 0.13	D_{2000}	231.2 ± 2.1	$\sigma_8(0.38)$	0.656 ± 0.010
$r_{143 \times 217}^{\text{CIB}}$	$0.54^{+0.39}_{-0.21}$	$n_{s,0.002}$	0.9595 ± 0.0093	$f\sigma_8(0.51)$	0.4715 ± 0.0056
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P	0.2431 ± 0.0031	$\sigma_8(0.51)$	0.6132 ± 0.0098
A^{kSZ}	< 5.88	Y_P^{BBN}	0.2444 ± 0.0031	$f\sigma_8(0.61)$	0.4659 ± 0.0056
A_{100}^{dust}	1.00 ± 0.20	$10^5 D/H$	2.567 ± 0.055	$\sigma_8(0.61)$	0.5832 ± 0.0095
A_{143}^{dust}	0.95 ± 0.18	Age/Gyr	13.98 ± 0.23	$f\sigma_8(2.33)$	0.2938 ± 0.0050
A_{217}^{dust}	0.98 ± 0.10	z_*	1089.79 ± 0.39	$\sigma_8(2.33)$	0.3025 ± 0.0055
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	r_*	146.1 ± 2.1	f_{2000}^{143}	28 ± 3
c_{100}	0.9975 ± 0.0011	$100\theta_*$	1.04144 ± 0.00060	f_{2000}^{217}	106.1 ± 2.3
c_{217}	1.0011 ± 0.0016	$D_M(z_*)/\text{Gpc}$	14.03 ± 0.19	$f_{2000}^{143 \times 217}$	31.1 ± 2.4
c_{TE}	0.9956 ± 0.0051	z_{drag}	1059.14 ± 0.84	χ_{lensing}^2	9.08 ± 0.76
c_{EE}	0.9902 ± 0.0056	r_{drag}	148.9 ± 2.2	χ_{simall}^2	396.8 ± 1.5
H_0	66.2 ± 1.6	k_D	0.1395 ± 0.0015	χ_{lowl}^2	24.1 ± 1.5
Ω_Λ	0.680 ± 0.011	$100\theta_D$	0.16052 ± 0.00052	χ_{CamSpec}^2	11513.8 ± 5.7
Ω_m	0.320 ± 0.011	z_{eq}	3412 ± 37	χ_{prior}^2	7.9 ± 3.4
$\Omega_m h^2$	0.1403 ± 0.0034	k_{eq}	0.01030 ± 0.00011	χ_{CMB}^2	11943.8 ± 6.0
$\Omega_m h^3$	$0.0930^{+0.0040}_{-0.0045}$	$100\theta_{\text{eq}}$	0.8111 ± 0.0070		
σ_8	0.802 ± 0.011	$100\theta_{s,\text{eq}}$	0.4484 ± 0.0035		

$$\bar{\chi}_{\text{eff}}^2 = 11951.65; \Delta\bar{\chi}_{\text{eff}}^2 = 0.20; R - 1 = 0.01144$$

6.9 base_nnu_CamSpecHM_TTTEEE_lowl_lowE_post_Cooke17_Aver15

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02220 ± 0.00020	S_8	0.827 ± 0.016	$H(0.15)$	72.0 ± 1.3
$\Omega_c h^2$	0.1183 ± 0.0026	$\sigma_8 \Omega_m^{0.5}$	0.4532 ± 0.0089	$D_M(0.15)$	650 ± 12
$100\theta_{MC}$	1.04103 ± 0.00040	$\sigma_8 \Omega_m^{0.25}$	0.6036 ± 0.0086	$H(0.38)$	82.1 ± 1.3
τ	0.0519 ± 0.0079	$\sigma_8/h^{0.5}$	0.985 ± 0.012	$D_M(0.38)$	1549 ± 27
N_{eff}	2.95 ± 0.17	$r_{\text{drag}} h$	98.8 ± 1.3	$H(0.51)$	88.8 ± 1.3
$\ln(10^{10} A_s)$	3.033 ± 0.018	$\langle d^2 \rangle^{1/2}$	2.440 ± 0.030	$D_M(0.51)$	2005 ± 34
n_s	0.9620 ± 0.0078	z_{re}	7.42 ± 0.82	$H(0.61)$	94.5 ± 1.3
y_{cal}	1.0004 ± 0.0025	$10^9 A_s$	2.076 ± 0.037	$D_M(0.61)$	2333 ± 39
A_{100}^{PS}	237 ± 25	$10^9 A_s e^{-2\tau}$	1.871 ± 0.016	$H(2.33)$	234.9 ± 2.3
A_{143}^{PS}	39 ± 8	D_{40}	1230 ± 15	$D_M(2.33)$	5813 ± 74
A_{217}^{PS}	103 ± 10	D_{220}	5714 ± 38	$f\sigma_8(0.15)$	0.4572 ± 0.0083
A_{217}^{CIB}	39 ± 7	D_{810}	2533 ± 14	$\sigma_8(0.15)$	0.7423 ± 0.0095
A_{143}^{tSZ}	$3.9^{+1.8}_{-2.6}$	D_{1420}	816.1 ± 4.8	$f\sigma_8(0.38)$	0.4740 ± 0.0069
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	D_{2000}	230.7 ± 1.8	$\sigma_8(0.38)$	0.6573 ± 0.0088
$r_{143 \times 217}^{\text{CIB}}$	$0.55^{+0.42}_{-0.17}$	$n_{s,0.002}$	0.9620 ± 0.0078	$f\sigma_8(0.51)$	0.4719 ± 0.0064
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P	0.2439 ± 0.0023	$\sigma_8(0.51)$	0.6149 ± 0.0083
A^{kSZ}	< 6.01	Y_P^{BBN}	0.2453 ± 0.0023	$f\sigma_8(0.61)$	0.4664 ± 0.0061
A_{100}^{dust}	1.00 ± 0.20	10^5D/H	2.583 ± 0.043	$\sigma_8(0.61)$	0.5849 ± 0.0081
A_{143}^{dust}	0.96 ± 0.18	Age/Gyr	13.91 ± 0.18	$f\sigma_8(2.33)$	0.2947 ± 0.0042
A_{217}^{dust}	0.98 ± 0.10	z_*	1089.89 ± 0.33	$\sigma_8(2.33)$	0.3036 ± 0.0046
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	r_*	145.5 ± 1.6	f_{2000}^{143}	29.1 ± 3.1
c_{100}	0.9975 ± 0.0011	$100\theta_*$	1.04129 ± 0.00048	f_{2000}^{217}	106.4 ± 2.1
c_{217}	1.0011 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.98 ± 0.15	$f_{2000}^{143 \times 217}$	31.6 ± 2.2
c_{TE}	0.9962 ± 0.0050	z_{drag}	1059.32 ± 0.69	χ_{simall}^2	396.8 ± 1.6
c_{EE}	0.9911 ± 0.0053	r_{drag}	148.3 ± 1.6	χ_{lowl}^2	23.7 ± 1.3
H_0	66.7 ± 1.3	k_D	0.1399 ± 0.0012	χ_{CamSpec}^2	11514.2 ± 5.8
Ω_Λ	0.682 ± 0.010	$100\theta_D$	0.16068 ± 0.00039	χ_{Aver15}^2	0.35 ± 0.48
Ω_m	0.318 ± 0.010	z_{eq}	3404 ± 37	χ_{Cooke17}^2	0.35 ± 0.45
$\Omega_m h^2$	0.1411 ± 0.0027	k_{eq}	0.01032 ± 0.00011	χ_{prior}^2	7.9 ± 3.4
$\Omega_m h^3$	0.0941 ± 0.0033	$100\theta_{\text{eq}}$	0.8126 ± 0.0070	χ_{CMB}^2	11934.7 ± 5.9
σ_8	0.804 ± 0.010	$100\theta_{s,\text{eq}}$	0.4491 ± 0.0036	χ_{Abund}^2	0.69 ± 0.73

$$\bar{\chi}_{\text{eff}}^2 = 11943.28; R - 1 = 0.01315$$

6.10 base_nnu_CamSpecHM_TTTEEE_lowl_lowE_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02221 ± 0.00023	σ_8	0.804 ± 0.011	$100\theta_{\text{eq}}$	0.8127 ± 0.0076
$\Omega_c h^2$	0.1179 ± 0.0034	S_8	0.827 ± 0.016	$100\theta_{\text{s,eq}}$	0.4492 ± 0.0039
$100\theta_{\text{MC}}$	1.04108 ± 0.00047	$\sigma_8 \Omega_{\text{m}}^{0.5}$	0.4531 ± 0.0089	$H(0.15)$	71.9 ± 1.6
τ	$0.0538^{+0.0043}_{-0.0082}$	$\sigma_8 \Omega_{\text{m}}^{0.25}$	0.6036 ± 0.0089	$D_{\text{M}}(0.15)$	651 ± 16
N_{eff}	2.93 ± 0.22	$\sigma_8/h^{0.5}$	0.985 ± 0.012	$H(0.38)$	82.1 ± 1.6
$\ln(10^{10} A_{\text{s}})$	$3.036^{+0.014}_{-0.019}$	$r_{\text{drag}} h$	98.9 ± 1.4	$D_{\text{M}}(0.38)$	1550 ± 35
n_{s}	0.9618 ± 0.0094	$\langle d^2 \rangle^{1/2}$	2.443 ± 0.031	$H(0.51)$	88.8 ± 1.6
y_{cal}	1.0005 ± 0.0025	z_{re}	$7.60^{+0.47}_{-0.85}$	$D_{\text{M}}(0.51)$	2007 ± 43
A_{100}^{PS}	236 ± 25	$10^9 A_{\text{s}}$	$2.082^{+0.029}_{-0.039}$	$H(0.61)$	94.4 ± 1.7
A_{143}^{PS}	38 ± 9	$10^9 A_{\text{s}} e^{-2\tau}$	1.869 ± 0.020	$D_{\text{M}}(0.61)$	2335 ± 49
A_{217}^{PS}	103 ± 10	D_{40}	1231 ± 16	$H(2.33)$	234.6 ± 3.0
A_{217}^{CIB}	39 ± 7	D_{220}	5715 ± 38	$D_{\text{M}}(2.33)$	5819 ± 98
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	D_{810}	2533 ± 14	$f\sigma_8(0.15)$	0.4571 ± 0.0083
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	D_{1420}	816.4 ± 5.0	$\sigma_8(0.15)$	0.743 ± 0.011
$r_{143 \times 217}^{\text{CIB}}$	$0.54^{+0.38}_{-0.21}$	D_{2000}	230.9 ± 2.1	$f\sigma_8(0.38)$	0.4740 ± 0.0071
$\xi^{\text{tSZ} \times \text{CIB}}$	—	$n_{\text{s},0.002}$	0.9618 ± 0.0094	$\sigma_8(0.38)$	0.658 ± 0.010
A^{kSZ}	< 5.97	Y_{P}	0.2437 ± 0.0031	$f\sigma_8(0.51)$	0.4719 ± 0.0066
A_{100}^{dust}	1.01 ± 0.20	$Y_{\text{P}}^{\text{BBN}}$	0.2450 ± 0.0031	$\sigma_8(0.51)$	0.6152 ± 0.0097
A_{143}^{dust}	0.96 ± 0.18	10^5D/H	2.576 ± 0.057	$f\sigma_8(0.61)$	0.4665 ± 0.0064
A_{217}^{dust}	0.98 ± 0.10	Age/Gyr	13.93 ± 0.23	$\sigma_8(0.61)$	0.5852 ± 0.0094
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	z_*	1089.83 ± 0.41	$f\sigma_8(2.33)$	0.2949 ± 0.0049
c_{100}	0.9975 ± 0.0011	r_*	145.7 ± 2.1	$\sigma_8(2.33)$	0.3038 ± 0.0054
c_{217}	1.0011 ± 0.0016	$100\theta_*$	1.04136 ± 0.00060	f_{2000}^{143}	29 ± 3
c_{TE}	0.9959 ± 0.0051	$D_{\text{M}}(z_*)/\text{Gpc}$	13.99 ± 0.20	f_{2000}^{217}	106.2 ± 2.3
c_{EE}	0.9906 ± 0.0057	z_{drag}	1059.31 ± 0.84	$f_{2000}^{143 \times 217}$	31.3 ± 2.5
H_0	66.6 ± 1.7	r_{drag}	148.5 ± 2.2	χ_{simall}^2	396.7 ± 1.6
Ω_{Λ}	0.682 ± 0.011	k_{D}	0.1398 ± 0.0015	χ_{lowl}^2	23.7 ± 1.5
Ω_{m}	0.318 ± 0.011	$100\theta_{\text{D}}$	0.16062 ± 0.00053	χ_{CamSpec}^2	11514.4 ± 5.9
$\Omega_{\text{m}} h^2$	0.1408 ± 0.0035	z_{eq}	3403 ± 40	χ_{prior}^2	7.9 ± 3.4
$\Omega_{\text{m}} h^3$	0.0938 ± 0.0044	k_{eq}	0.01030 ± 0.00013	χ_{CMB}^2	11934.9 ± 5.8

$$\bar{\chi}_{\text{eff}}^2 = 11942.78; \Delta\bar{\chi}_{\text{eff}}^2 = 0.60; R - 1 = 0.01065$$

6.11 base_nnu_CamSpecHM_TTTEEE_lowl_lowE_post_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02218 ± 0.00022	S_8	0.828 ± 0.013	$H(0.15)$	71.6 ± 1.6
$\Omega_c h^2$	0.1175 ± 0.0033	$\sigma_8 \Omega_m^{0.5}$	0.4538 ± 0.0070	$D_M(0.15)$	653 ± 15
$100\theta_{MC}$	1.04113 ± 0.00047	$\sigma_8 \Omega_m^{0.25}$	0.6038 ± 0.0072	$H(0.38)$	81.8 ± 1.6
τ	$0.0540^{+0.0047}_{-0.0077}$	$\sigma_8/h^{0.5}$	0.9865 ± 0.0089	$D_M(0.38)$	1556 ± 34
N_{eff}	2.89 ± 0.22	$r_{\text{drag}} h$	98.7 ± 1.2	$H(0.51)$	88.5 ± 1.6
$\ln(10^{10} A_s)$	$3.035^{+0.014}_{-0.018}$	$\langle d^2 \rangle^{1/2}$	2.448 ± 0.025	$D_M(0.51)$	2015 ± 43
n_s	0.9601 ± 0.0092	z_{re}	$7.62^{+0.50}_{-0.79}$	$H(0.61)$	94.1 ± 1.6
y_{cal}	1.0006 ± 0.0025	$10^9 A_s$	$2.081^{+0.028}_{-0.037}$	$D_M(0.61)$	2344 ± 48
A_{100}^{PS}	236 ± 25	$10^9 A_s e^{-2\tau}$	1.868 ± 0.019	$H(2.33)$	234.2 ± 3.0
A_{143}^{PS}	38 ± 9	D_{40}	1234 ± 15	$D_M(2.33)$	5836 ± 97
A_{217}^{PS}	104 ± 10	D_{220}	5718 ± 39	$f\sigma_8(0.15)$	0.4577 ± 0.0065
A_{217}^{CIB}	38 ± 7	D_{810}	2533 ± 13	$\sigma_8(0.15)$	0.742 ± 0.010
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	D_{1420}	816.8 ± 5.0	$f\sigma_8(0.38)$	0.4742 ± 0.0057
$r_{143 \times 217}^{\text{PS}}$	0.67 ± 0.13	D_{2000}	231.2 ± 2.1	$\sigma_8(0.38)$	$0.6566^{+0.0091}_{-0.010}$
$r_{143 \times 217}^{\text{CIB}}$	$0.54^{+0.38}_{-0.21}$	$n_{s,0.002}$	0.9601 ± 0.0092	$f\sigma_8(0.51)$	0.4719 ± 0.0055
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P	0.2432 ± 0.0031	$\sigma_8(0.51)$	$0.6141^{+0.0088}_{-0.0099}$
A^{kSZ}	< 5.90	Y_P^{BBN}	0.2445 ± 0.0031	$f\sigma_8(0.61)$	0.4664 ± 0.0055
A_{100}^{dust}	1.00 ± 0.20	$10^5 D/H$	2.567 ± 0.056	$\sigma_8(0.61)$	$0.5842^{+0.0085}_{-0.0096}$
A_{143}^{dust}	0.95 ± 0.18	Age/Gyr	13.97 ± 0.23	$f\sigma_8(2.33)$	$0.2943^{+0.0045}_{-0.0051}$
A_{217}^{dust}	0.98 ± 0.10	z_*	1089.79 ± 0.39	$\sigma_8(2.33)$	$0.3031^{+0.0050}_{-0.0056}$
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	r_*	146.1 ± 2.1	f_{2000}^{143}	28 ± 3
c_{100}	0.9975 ± 0.0011	$100\theta_*$	1.04144 ± 0.00060	f_{2000}^{217}	106.1 ± 2.3
c_{217}	1.0011 ± 0.0016	$D_M(z_*)/\text{Gpc}$	14.03 ± 0.19	$f_{2000}^{143 \times 217}$	31.1 ± 2.4
c_{TE}	0.9956 ± 0.0051	z_{drag}	1059.18 ± 0.84	χ_{lensing}^2	9.05 ± 0.72
c_{EE}	0.9902 ± 0.0056	r_{drag}	148.8 ± 2.2	χ_{simall}^2	396.7 ± 1.5
H_0	66.3 ± 1.6	k_D	0.1396 ± 0.0015	χ_{lowl}^2	24.0 ± 1.5
Ω_Λ	0.681 ± 0.010	$100\theta_D$	0.16054 ± 0.00052	χ_{CamSpec}^2	11513.8 ± 5.7
Ω_m	0.319 ± 0.010	z_{eq}	3409 ± 36	χ_{prior}^2	7.9 ± 3.4
$\Omega_m h^2$	0.1403 ± 0.0034	k_{eq}	0.01029 ± 0.00011	χ_{CMB}^2	11943.5 ± 5.9
$\Omega_m h^3$	$0.0931^{+0.0040}_{-0.0045}$	$100\theta_{\text{eq}}$	0.8116 ± 0.0069		
σ_8	0.803 ± 0.011	$100\theta_{s,\text{eq}}$	0.4486 ± 0.0035		

$$\bar{\chi}_{\text{eff}}^2 = 11951.41; \Delta\bar{\chi}_{\text{eff}}^2 = 0.16; R - 1 = 0.01353$$

6.12 base_nnu_CamSpecHM_TTTEEE_lowl_lowE_post_Cooke17_Aver15_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02220 ± 0.00020	S_8	0.828 ± 0.016	$H(0.15)$	72.0 ± 1.3
$\Omega_c h^2$	0.1183 ± 0.0026	$\sigma_8 \Omega_m^{0.5}$	0.4536 ± 0.0088	$D_M(0.15)$	650 ± 12
$100\theta_{MC}$	1.04103 ± 0.00040	$\sigma_8 \Omega_m^{0.25}$	0.6044 ± 0.0084	$H(0.38)$	82.2 ± 1.3
τ	$0.0537^{+0.0043}_{-0.0081}$	$\sigma_8/h^{0.5}$	0.986 ± 0.011	$D_M(0.38)$	1548 ± 27
N_{eff}	2.95 ± 0.17	$r_{\text{drag}} h$	98.9 ± 1.3	$H(0.51)$	88.9 ± 1.3
$\ln(10^{10} A_s)$	$3.037^{+0.013}_{-0.018}$	$\langle d^2 \rangle^{1/2}$	2.443 ± 0.030	$D_M(0.51)$	2004 ± 34
n_s	0.9625 ± 0.0078	z_{re}	$7.60^{+0.46}_{-0.84}$	$H(0.61)$	94.5 ± 1.3
y_{cal}	1.0004 ± 0.0024	$10^9 A_s$	$2.084^{+0.026}_{-0.037}$	$D_M(0.61)$	2331 ± 38
A_{100}^{PS}	237 ± 25	$10^9 A_s e^{-2\tau}$	1.871 ± 0.016	$H(2.33)$	235.0 ± 2.3
A_{143}^{PS}	39 ± 8	D_{40}	1230 ± 15	$D_M(2.33)$	5810 ± 74
A_{217}^{PS}	103 ± 10	D_{220}	5713 ± 38	$f\sigma_8(0.15)$	0.4577 ± 0.0082
A_{217}^{CIB}	39 ± 7	D_{810}	2533 ± 13	$\sigma_8(0.15)$	$0.7437^{+0.0082}_{-0.0093}$
A_{143}^{tSZ}	$3.9^{+1.8}_{-2.6}$	D_{1420}	816.1 ± 4.8	$f\sigma_8(0.38)$	0.4746 ± 0.0068
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	D_{2000}	230.7 ± 1.8	$\sigma_8(0.38)$	$0.6586^{+0.0075}_{-0.0086}$
$r_{143 \times 217}^{\text{CIB}}$	$0.55^{+0.41}_{-0.19}$	$n_{s,0.002}$	0.9625 ± 0.0078	$f\sigma_8(0.51)$	0.4725 ± 0.0061
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P	0.2440 ± 0.0023	$\sigma_8(0.51)$	$0.6161^{+0.0072}_{-0.0082}$
A^{kSZ}	< 6.01	Y_P^{BBN}	0.2453 ± 0.0023	$f\sigma_8(0.61)$	0.4672 ± 0.0058
A_{100}^{dust}	1.00 ± 0.20	10^5D/H	2.584 ± 0.043	$\sigma_8(0.61)$	$0.5861^{+0.0069}_{-0.0079}$
A_{143}^{dust}	0.95 ± 0.18	Age/Gyr	13.91 ± 0.18	$f\sigma_8(2.33)$	$0.2953^{+0.0037}_{-0.0041}$
A_{217}^{dust}	0.98 ± 0.10	z_*	1089.89 ± 0.33	$\sigma_8(2.33)$	$0.3042^{+0.0040}_{-0.0045}$
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	r_*	145.5 ± 1.6	f_{2000}^{143}	29.0 ± 3.1
c_{100}	0.9975 ± 0.0010	$100\theta_*$	1.04129 ± 0.00048	f_{2000}^{217}	106.4 ± 2.1
c_{217}	1.0011 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.97 ± 0.15	$f_{2000}^{143 \times 217}$	31.5 ± 2.2
c_{TE}	0.9961 ± 0.0050	z_{drag}	1059.35 ± 0.69	χ_{simall}^2	396.7 ± 1.6
c_{EE}	0.9911 ± 0.0052	r_{drag}	148.2 ± 1.6	χ_{lowl}^2	23.6 ± 1.3
H_0	66.7 ± 1.3	k_D	0.1399 ± 0.0012	χ_{CamSpec}^2	11514.1 ± 5.8
Ω_Λ	0.683 ± 0.010	$100\theta_D$	0.16069 ± 0.00039	χ_{Aver15}^2	0.35 ± 0.49
Ω_m	0.317 ± 0.010	z_{eq}	3402 ± 37	χ_{Cooke17}^2	0.35 ± 0.45
$\Omega_m h^2$	0.1412 ± 0.0027	k_{eq}	0.01032 ± 0.00011	χ_{prior}^2	7.8 ± 3.4
$\Omega_m h^3$	0.0942 ± 0.0033	$100\theta_{\text{eq}}$	0.8129 ± 0.0070	χ_{CMB}^2	11934.5 ± 5.8
σ_8	$0.8054^{+0.0088}_{-0.0099}$	$100\theta_{s,\text{eq}}$	0.4493 ± 0.0036	χ_{Abund}^2	0.70 ± 0.72

$$\bar{\chi}_{\text{eff}}^2 = 11943.02; R - 1 = 0.01235$$

6.13 base_nnu_CamSpecHM_TTTEEE_lowl_lowE_BAO

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022321	0.02231 ± 0.00019	$\sigma_8 \Omega_m^{0.5}$	0.4481	0.4476 ± 0.0074	$H(0.38)$	82.89	82.8 ± 1.4
$\Omega_c h^2$	0.11858	0.1182 ± 0.0034	$\sigma_8 \Omega_m^{0.25}$	0.6006	0.5999 ± 0.0087	$D_M(0.38)$	1530.8	1534 ± 27
$100\theta_{MC}$	1.040988	1.04106 ± 0.00047	$\sigma_8/h^{0.5}$	0.9791	0.979 ± 0.011	$H(0.51)$	89.59	89.4 ± 1.4
τ	0.0533	0.0536 ± 0.0077	$r_{drag}h$	99.76	99.77 ± 0.91	$D_M(0.51)$	1983.2	1987 ± 35
N_{eff}	3.023	3.00 ± 0.20	$\langle d^2 \rangle^{1/2}$	2.4232	2.423 ± 0.025	$H(0.61)$	95.18	95.0 ± 1.4
$\ln(10^{10} A_s)$	3.0368	3.036 ± 0.018	z_{re}	7.57	7.57 ± 0.78	$D_M(0.61)$	2307.9	2312 ± 40
n_s	0.9667	0.9662 ± 0.0076	$10^9 A_s$	2.0838	2.083 ± 0.038	$H(2.33)$	235.50	235.1 ± 3.0
y_{cal}	1.00020	1.0005 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.8729	1.871 ± 0.019	$D_M(2.33)$	5772	5782 ± 85
A_{100}^{PS}	233.9	238 ± 25	D_{40}	1222.9	1224 ± 14	$f\sigma_8(0.15)$	0.4528	0.4523 ± 0.0072
A_{143}^{PS}	45.4	38 ± 9	D_{220}	5718.2	5720 ± 38	$\sigma_8(0.15)$	0.7439	0.743 ± 0.011
A_{217}^{PS}	101.0	102 ± 10	D_{810}	2532.9	2534 ± 14	$f\sigma_8(0.38)$	0.4714	0.4708 ± 0.0068
A_{217}^{CIB}	43.3	39_{-8}^{+7}	D_{1420}	815.81	816.4 ± 5.0	$\sigma_8(0.38)$	0.6596	0.659 ± 0.010
A_{143}^{tSZ}	5.94	$4.0_{-2.5}^{+1.9}$	D_{2000}	230.39	230.7 ± 2.0	$f\sigma_8(0.51)$	0.4701	0.4696 ± 0.0067
$r_{143 \times 217}^{PS}$	0.641	0.66 ± 0.13	$n_{s,0.002}$	0.9667	0.9662 ± 0.0076	$\sigma_8(0.51)$	0.6173	0.6166 ± 0.0096
$r_{143 \times 217}^{CIB}$	0.903	$0.56_{-0.17}^{+0.40}$	Y_P	0.24507	0.2447 ± 0.0028	$f\sigma_8(0.61)$	0.4653	0.4648 ± 0.0066
$\xi^{tSZ \times CIB}$	0.55	—	Y_P^{BBN}	0.24639	0.2460 ± 0.0028	$\sigma_8(0.61)$	0.5874	0.5867 ± 0.0092
A^{kSZ}	1.32	< 6.09	$10^5 D/H$	2.587	2.581 ± 0.056	$f\sigma_8(2.33)$	0.29624	0.2959 ± 0.0048
A_{100}^{dust}	1.012	1.01 ± 0.19	Age/Gyr	13.818	13.84 ± 0.20	$\sigma_8(2.33)$	0.3055	0.3051 ± 0.0051
A_{143}^{dust}	0.998	0.96 ± 0.17	z_*	1089.833	1089.79 ± 0.40	f_{2000}^{143}	30.15	29 ± 3
A_{217}^{dust}	0.981	0.98 ± 0.10	r_*	144.95	145.2 ± 2.0	f_{2000}^{217}	106.63	106.5 ± 2.2
$A_{143 \times 217}^{dust}$	0.974	1.02 ± 0.16	$100\theta_*$	1.04120	1.04128 ± 0.00059	$f_{2000}^{143 \times 217}$	31.93	31.7 ± 2.4
c_{100}	0.99766	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.922	13.95 ± 0.18	χ_{small}^2	395.88	396.9 ± 1.7
c_{217}	1.00145	1.0011 ± 0.0016	z_{drag}	1059.70	1059.62 ± 0.75	χ_{lowl}^2	22.86	23.0 ± 1.1
c_{TE}	0.9966	0.9966 ± 0.0051	r_{drag}	147.64	147.9 ± 2.0	$\chi_{CamSpec}^2$	11500.0	11515.3 ± 6.0
c_{EE}	0.9922	0.9919 ± 0.0054	k_D	0.14034	0.1402 ± 0.0015	χ_{6DF}^2	0.0220	0.056 ± 0.071
H_0	67.57	67.5 ± 1.3	$100\theta_D$	0.160795	0.16074 ± 0.00049	χ_{MGS}^2	1.279	1.35 ± 0.51
Ω_Λ	0.6900	0.6899 ± 0.0074	z_{eq}	3377.4	3378 ± 27	$\chi_{DR12BAO}^2$	4.22	4.7 ± 1.5
Ω_m	0.3100	0.3101 ± 0.0074	k_{eq}	0.010292	0.01028 ± 0.00012	χ_{prior}^2	2.31	7.8 ± 3.4
$\Omega_m h^2$	0.14154	0.1411 ± 0.0035	$100\theta_{eq}$	0.8176	0.8177 ± 0.0051	χ_{BAO}^2	5.52	6.1 ± 1.2
$\Omega_m h^3$	0.09564	$0.0952_{-0.0042}^{+0.0037}$	$100\theta_{s,eq}$	0.45169	0.4517 ± 0.0026	χ_{CMB}^2	11918.7	11935.2 ± 5.9
σ_8	0.8049	0.804 ± 0.012	$H(0.15)$	72.83	72.7 ± 1.3			
S_8	0.8182	0.817 ± 0.013	$D_M(0.15)$	641.7	643 ± 12			

Best-fit $\chi_{eff}^2 = 11926.54$; $\bar{\chi}_{eff}^2 = 11949.07$; $\Delta\chi_{eff}^2 = 0.79$; $R - 1 = 0.00571$
 χ_{eff}^2 : BAO - 6DF: 0.02 MGS: 1.28 DR12BAO: 4.22 CMB - simall_100x143.offlike5_EE_Aplanck_B: 395.88 commander_dx12_v3_2_29: 22.86 CamSpec like_10.7HM_1400_unified: 11499.97

6.14 base_nnu_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_lensing_JLA

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02230 ± 0.00019	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4494 ± 0.0061	$H(0.38)$	82.7 ± 1.3
$\Omega_{\mathrm{c}}h^2$	0.1181 ± 0.0032	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6017 ± 0.0072	$D_{\mathrm{M}}(0.38)$	1536 ± 27
$100\theta_{\mathrm{MC}}$	1.04108 ± 0.00047	$\sigma_8/h^{0.5}$	0.9819 ± 0.0085	$H(0.51)$	89.3 ± 1.4
τ	0.0553 ± 0.0070	$r_{\mathrm{drag}}h$	99.63 ± 0.86	$D_{\mathrm{M}}(0.51)$	1990 ± 34
N_{eff}	$2.99^{+0.18}_{-0.21}$	$\langle d^2 \rangle^{1/2}$	2.432 ± 0.022	$H(0.61)$	94.9 ± 1.4
$\ln(10^{10}A_{\mathrm{s}})$	3.041 ± 0.016	z_{re}	7.75 ± 0.70	$D_{\mathrm{M}}(0.61)$	2316 ± 38
n_{s}	0.9654 ± 0.0073	$10^9 A_{\mathrm{s}}$	2.092 ± 0.034	$H(2.33)$	$235.1^{+2.7}_{-3.0}$
y_{cal}	1.0008 ± 0.0024	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.873 ± 0.018	$D_{\mathrm{M}}(2.33)$	5788 ± 82
A_{100}^{PS}	238 ± 24	D_{40}	1227 ± 13	$f\sigma_8(0.15)$	0.4540 ± 0.0059
A_{143}^{PS}	38 ± 9	D_{220}	5726 ± 37	$\sigma_8(0.15)$	0.7445 ± 0.0099
A_{217}^{PS}	103 ± 10	D_{810}	2536 ± 13	$f\sigma_8(0.38)$	0.4723 ± 0.0057
A_{217}^{CIB}	39 ± 7	D_{1420}	817.1 ± 5.1	$\sigma_8(0.38)$	0.6600 ± 0.0091
A_{143}^{tSZ}	$4.0^{+1.9}_{-2.4}$	D_{2000}	231.0 ± 2.1	$f\sigma_8(0.51)$	0.4710 ± 0.0056
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.14	$n_{\mathrm{s},0.002}$	0.9654 ± 0.0073	$\sigma_8(0.51)$	0.6177 ± 0.0087
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.55^{+0.41}_{-0.18}$	Y_{P}	0.2446 ± 0.0027	$f\sigma_8(0.61)$	0.4660 ± 0.0056
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.2459 ± 0.0027	$\sigma_8(0.61)$	0.5878 ± 0.0084
A^{kSZ}	< 5.77	$10^5 \mathrm{D}/\mathrm{H}$	2.578 ± 0.054	$f\sigma_8(2.33)$	0.2964 ± 0.0044
A_{100}^{dust}	1.01 ± 0.19	$\mathrm{Age}/\mathrm{Gyr}$	13.86 ± 0.20	$\sigma_8(2.33)$	0.3056 ± 0.0047
A_{143}^{dust}	0.95 ± 0.17	z_*	1089.78 ± 0.39	f_{2000}^{143}	29 ± 3
A_{217}^{dust}	0.98 ± 0.10	r_*	145.3 ± 1.9	f_{2000}^{217}	106.4 ± 2.2
$A_{143 \times 217}^{\mathrm{dust}}$	1.02 ± 0.16	$100\theta_*$	1.04131 ± 0.00058	$f_{2000}^{143 \times 217}$	31.5 ± 2.5
c_{100}	0.9976 ± 0.0010	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.95 ± 0.18	$\chi_{\mathrm{lensing}}^2$	9.29 ± 0.86
c_{217}	1.0011 ± 0.0015	z_{drag}	1059.60 ± 0.73	χ_{simall}^2	397.0 ± 1.7
c_{TE}	0.9964 ± 0.0052	r_{drag}	148.0 ± 2.0	χ_{lowl}^2	23.2 ± 1.1
c_{EE}	0.9917 ± 0.0053	k_{D}	0.1401 ± 0.0014	$\chi_{\mathrm{CamSpec}}^2$	11514.6 ± 5.9
H_0	67.3 ± 1.3	$100\theta_{\mathrm{D}}$	0.16071 ± 0.00048	χ_{JLA}^2	706.78 ± 0.21
Ω_{Λ}	$0.6888^{+0.0074}_{-0.0066}$	z_{eq}	3382 ± 25	$\chi_{6\mathrm{DF}}^2$	0.061 ± 0.076
Ω_{m}	$0.3112^{+0.0066}_{-0.0074}$	k_{eq}	0.01028 ± 0.00012	χ_{MGS}^2	1.27 ± 0.46
$\Omega_{\mathrm{m}}h^2$	$0.1411^{+0.0031}_{-0.0035}$	$100\theta_{\mathrm{eq}}$	0.8168 ± 0.0048	$\chi_{\mathrm{DR12BAO}}^2$	4.9 ± 1.6
$\Omega_{\mathrm{m}}h^3$	$0.0950^{+0.0035}_{-0.0041}$	$100\theta_{\mathrm{s,eq}}$	0.4513 ± 0.0024	χ_{prior}^2	7.7 ± 3.3
σ_8	0.806 ± 0.010	$H(0.15)$	72.6 ± 1.3	χ_{CMB}^2	11944.1 ± 6.0
S_8	0.821 ± 0.011	$D_{\mathrm{M}}(0.15)$	644 ± 12	χ_{BAO}^2	6.2 ± 1.3

$$\bar{\chi}_{\mathrm{eff}}^2 = 12664.75; R - 1 = 0.04059$$

6.15 base_nnu_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_lensing_Pantheon18

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022296	0.02232 ± 0.00019	$\sigma_8 \Omega_m^{0.5}$	0.4488	0.4490 ± 0.0061	$H(0.38)$	82.61	82.8 ± 1.3
$\Omega_c h^2$	0.11795	0.1182 ± 0.0032	$\sigma_8 \Omega_m^{0.25}$	0.6009	0.6016 ± 0.0073	$D_M(0.38)$	1536.4	1534 ± 26
$100\theta_{MC}$	1.041050	1.04106 ± 0.00046	$\sigma_8/h^{0.5}$	0.9809	0.9816 ± 0.0085	$H(0.51)$	89.29	89.4 ± 1.3
τ	0.0546	0.0558 ± 0.0071	$r_{\text{drag}} h$	99.64	99.73 ± 0.83	$D_M(0.51)$	1990.4	1987 ± 33
N_{eff}	2.981	3.00 ± 0.19	$\langle d^2 \rangle^{1/2}$	2.4288	2.431 ± 0.021	$H(0.61)$	94.88	95.0 ± 1.4
$\ln(10^{10} A_s)$	3.0388	3.042 ± 0.016	z_{re}	7.69	7.79 ± 0.71	$D_M(0.61)$	2316.1	2312 ± 38
n_s	0.9657	0.9660 ± 0.0073	$10^9 A_s$	2.0881	2.094 ± 0.034	$H(2.33)$	234.93	235.2 ± 2.8
y_{cal}	1.00064	1.0007 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.8721	1.873 ± 0.018	$D_M(2.33)$	5789	5782 ± 81
A_{100}^{PS}	231.1	238 ± 25	D_{40}	1225.3	1226 ± 13	$f\sigma_8(0.15)$	0.4534	0.4537 ± 0.0059
A_{143}^{PS}	41.8	38 ± 9	D_{220}	5723.0	5726 ± 38	$\sigma_8(0.15)$	0.7436	0.7450 ± 0.0099
A_{217}^{PS}	104.0	103 ± 10	D_{810}	2535.5	2535 ± 13	$f\sigma_8(0.38)$	0.4717	0.4722 ± 0.0057
A_{217}^{CIB}	42.9	39 ± 7	D_{1420}	817.27	816.9 ± 5.0	$\sigma_8(0.38)$	0.6592	0.6605 ± 0.0091
A_{143}^{tSZ}	6.57	$4.0^{+1.9}_{-2.5}$	D_{2000}	231.05	230.9 ± 2.0	$f\sigma_8(0.51)$	0.4704	0.4709 ± 0.0057
$r_{143 \times 217}^{\text{PS}}$	0.650	0.66 ± 0.14	$n_{s,0.002}$	0.9657	0.9660 ± 0.0073	$\sigma_8(0.51)$	0.6169	0.6182 ± 0.0087
$r_{143 \times 217}^{\text{CIB}}$	0.795	$0.55^{+0.41}_{-0.17}$	Y_P	0.24449	0.2447 ± 0.0027	$f\sigma_8(0.61)$	0.4655	0.4661 ± 0.0056
$\xi^{\text{tSZ} \times \text{CIB}}$	0.33	—	Y_P^{BBN}	0.24582	0.2460 ± 0.0027	$\sigma_8(0.61)$	0.5870	0.5883 ± 0.0084
A^{kSZ}	0.01	< 6.01	$10^5 D/H$	2.577	2.580 ± 0.054	$f\sigma_8(2.33)$	0.29602	0.2967 ± 0.0044
A_{100}^{dust}	1.008	1.01 ± 0.20	Age/Gyr	13.860	13.84 ± 0.19	$\sigma_8(2.33)$	0.30520	0.3059 ± 0.0047
A_{143}^{dust}	0.968	0.95 ± 0.17	z_*	1089.770	1089.78 ± 0.39	f_{2000}^{143}	29.13	29 ± 3
A_{217}^{dust}	0.975	0.98 ± 0.10	r_*	145.35	145.2 ± 1.9	f_{2000}^{217}	106.27	106.5 ± 2.2
$A_{143 \times 217}^{\text{dust}}$	1.002	1.02 ± 0.16	$100\theta_*$	1.04129	1.04128 ± 0.00057	$f_{2000}^{143 \times 217}$	31.47	31.6 ± 2.4
c_{100}	0.99776	0.9976 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.959	13.94 ± 0.17	χ_{lensing}^2	8.94	9.32 ± 0.85
c_{217}	1.00120	1.0011 ± 0.0016	z_{drag}	1059.55	1059.64 ± 0.72	χ_{small}^2	396.09	397.1 ± 1.8
c_{TE}	0.9964	0.9964 ± 0.0051	r_{drag}	148.05	147.9 ± 2.0	χ_{lowl}^2	23.00	23.1 ± 1.1
c_{EE}	0.9918	0.9919 ± 0.0054	k_D	0.14005	0.1402 ± 0.0014	χ_{CamSpec}^2	11499.7	11514.7 ± 5.8
H_0	67.30	67.5 ± 1.2	$100\theta_D$	0.160698	0.16073 ± 0.00047	χ_{JLA}^2	1035.034	1035.09 ± 0.34
Ω_Λ	0.6890	0.6896 ± 0.0068	z_{eq}	3380.9	3379 ± 25	$\chi_{6\text{DF}}^2$	0.0297	0.053 ± 0.065
Ω_m	0.3110	0.3104 ± 0.0068	k_{eq}	0.010274	0.01028 ± 0.00012	χ_{MGS}^2	1.217	1.32 ± 0.46
$\Omega_m h^2$	0.14089	0.1412 ± 0.0033	$100\theta_{\text{eq}}$	0.81697	0.8174 ± 0.0047	χ_{DR12BAO}^2	4.39	4.7 ± 1.4
$\Omega_m h^3$	0.09482	0.0953 ± 0.0038	$100\theta_{s,\text{eq}}$	0.45136	0.4516 ± 0.0024	χ_{prior}^2	2.04	7.7 ± 3.4
σ_8	0.8047	0.806 ± 0.010	$H(0.15)$	72.55	72.7 ± 1.3	χ_{CMB}^2	11927.7	11944.3 ± 5.9
S_8	0.8194	0.820 ± 0.011	$D_M(0.15)$	644.2	643 ± 11	χ_{BAO}^2	5.64	6.1 ± 1.1

Best-fit $\chi_{\text{eff}}^2 = 12970.39$; $\Delta\chi_{\text{eff}}^2 = -0.10$; $\bar{\chi}_{\text{eff}}^2 = 12993.15$; $\Delta\bar{\chi}_{\text{eff}}^2 = 0.76$; $R - 1 = 0.01037$
 χ_{eff}^2 : BAO - 6DF: 0.03 (Δ 0.01) MGS: 1.22 (Δ -0.06) DR12BAO: 4.39 (Δ 0.16) CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p-teb_consext8: 8.94 (Δ -0.03) small_100x143_offlike5_EE_Aplanck 396.09 (Δ 0.04) commander_dx12_v3_2_29: 23.00 (Δ 0.23) CamSpec like_10.7HM_1400_unified: 11499.66 (Δ -0.52) SN - JLA Pantheon18: 1035.03 (Δ 0.05)

6.16 base_nnu_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02230 ± 0.00019	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4495 ± 0.0061	$H(0.38)$	82.6 ± 1.3
$\Omega_{\mathrm{c}}h^2$	0.1180 ± 0.0032	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6017 ± 0.0073	$D_{\mathrm{M}}(0.38)$	1537 ± 27
$100\theta_{\mathrm{MC}}$	1.04108 ± 0.00046	$\sigma_8/h^{0.5}$	0.9820 ± 0.0086	$H(0.51)$	89.3 ± 1.4
τ	0.0554 ± 0.0071	$r_{\mathrm{drag}}h$	99.59 ± 0.87	$D_{\mathrm{M}}(0.51)$	1991 ± 34
N_{eff}	2.98 ± 0.20	$\langle d^2 \rangle^{1/2}$	2.433 ± 0.021	$H(0.61)$	94.9 ± 1.4
$\ln(10^{10}A_{\mathrm{s}})$	3.040 ± 0.016	z_{re}	7.76 ± 0.71	$D_{\mathrm{M}}(0.61)$	2317 ± 39
n_{s}	0.9651 ± 0.0074	$10^9 A_{\mathrm{s}}$	2.092 ± 0.034	$H(2.33)$	235.0 ± 2.8
y_{cal}	1.0007 ± 0.0025	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.872 ± 0.018	$D_{\mathrm{M}}(2.33)$	5791 ± 83
A_{100}^{PS}	238 ± 25	D_{40}	1227 ± 13	$f\sigma_8(0.15)$	0.4541 ± 0.0059
A_{143}^{PS}	38 ± 9	D_{220}	5725 ± 38	$\sigma_8(0.15)$	0.744 ± 0.010
A_{217}^{PS}	103 ± 10	D_{810}	2535 ± 13	$f\sigma_8(0.38)$	0.4723 ± 0.0057
A_{217}^{CIB}	39 ± 7	D_{1420}	816.9 ± 5.0	$\sigma_8(0.38)$	0.6598 ± 0.0092
A_{143}^{tSZ}	$4.0^{+1.9}_{-2.5}$	D_{2000}	230.9 ± 2.0	$f\sigma_8(0.51)$	0.4709 ± 0.0057
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.14	$n_{\mathrm{s},0.002}$	0.9651 ± 0.0074	$\sigma_8(0.51)$	0.6174 ± 0.0088
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.55^{+0.41}_{-0.17}$	Y_{P}	0.2445 ± 0.0027	$f\sigma_8(0.61)$	0.4660 ± 0.0056
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.2458 ± 0.0027	$\sigma_8(0.61)$	0.5875 ± 0.0085
A^{kSZ}	< 5.97	$10^5 \mathrm{D}/\mathrm{H}$	2.577 ± 0.054	$f\sigma_8(2.33)$	0.2962 ± 0.0044
A_{100}^{dust}	1.01 ± 0.20	$\mathrm{Age}/\mathrm{Gyr}$	13.86 ± 0.20	$\sigma_8(2.33)$	0.3054 ± 0.0048
A_{143}^{dust}	0.95 ± 0.17	z_*	1089.78 ± 0.39	f_{2000}^{143}	29 ± 3
A_{217}^{dust}	0.98 ± 0.10	r_*	145.4 ± 1.9	f_{2000}^{217}	106.4 ± 2.2
$A_{143 \times 217}^{\mathrm{dust}}$	1.02 ± 0.16	$100\theta_*$	1.04131 ± 0.00058	$f_{2000}^{143 \times 217}$	31.5 ± 2.4
c_{100}	0.9976 ± 0.0010	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.96 ± 0.18	$\chi_{\mathrm{lensing}}^2$	9.27 ± 0.84
c_{217}	1.0011 ± 0.0015	z_{drag}	1059.57 ± 0.73	χ_{simall}^2	397.1 ± 1.8
c_{TE}	0.9963 ± 0.0051	r_{drag}	148.1 ± 2.0	χ_{lowl}^2	23.2 ± 1.1
c_{EE}	0.9916 ± 0.0054	k_{D}	0.1401 ± 0.0014	$\chi_{\mathrm{CamSpec}}^2$	11514.5 ± 5.8
H_0	67.3 ± 1.3	$100\theta_{\mathrm{D}}$	0.16070 ± 0.00048	$\chi_{6\mathrm{DF}}^2$	0.065 ± 0.077
Ω_{Λ}	0.6885 ± 0.0071	z_{eq}	3383 ± 26	χ_{MGS}^2	1.25 ± 0.47
Ω_{m}	0.3115 ± 0.0071	k_{eq}	0.01028 ± 0.00012	$\chi_{\mathrm{DR12BAO}}^2$	5.0 ± 1.6
$\Omega_{\mathrm{m}}h^2$	0.1410 ± 0.0033	$100\theta_{\mathrm{eq}}$	0.8166 ± 0.0049	χ_{prior}^2	7.7 ± 3.4
$\Omega_{\mathrm{m}}h^3$	$0.0949^{+0.0036}_{-0.0040}$	$100\theta_{\mathrm{s,eq}}$	0.4512 ± 0.0025	χ_{CMB}^2	11944.1 ± 5.9
σ_8	0.805 ± 0.011	$H(0.15)$	72.5 ± 1.3	χ_{BAO}^2	6.3 ± 1.3
S_8	0.821 ± 0.011	$D_{\mathrm{M}}(0.15)$	645 ± 12		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11958.08; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.68; R - 1 = 0.01000$$

6.17 base_nnu_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_Aver15

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02229 ± 0.00018	$\sigma_8 \Omega_m^{0.5}$	0.4472 ± 0.0073	$H(0.38)$	82.6 ± 1.1
$\Omega_c h^2$	0.1177 ± 0.0028	$\sigma_8 \Omega_m^{0.25}$	0.5991 ± 0.0082	$D_M(0.38)$	1537 ± 23
$100\theta_{MC}$	1.04111 ± 0.00042	$\sigma_8/h^{0.5}$	0.978 ± 0.011	$H(0.51)$	89.2 ± 1.1
τ	0.0536 ± 0.0077	$r_{\text{drag}} h$	99.71 ± 0.87	$D_M(0.51)$	1992 ± 29
N_{eff}	2.97 ± 0.17	$\langle d^2 \rangle^{1/2}$	2.424 ± 0.025	$H(0.61)$	94.8 ± 1.2
$\ln(10^{10} A_s)$	3.035 ± 0.018	z_{re}	7.56 ± 0.78	$D_M(0.61)$	2318 ± 33
n_s	0.9652 ± 0.0066	$10^9 A_s$	2.081 ± 0.037	$H(2.33)$	234.7 ± 2.4
y_{cal}	1.0005 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.869 ± 0.017	$D_M(2.33)$	5794 ± 70
A_{100}^{PS}	238 ± 25	D_{40}	1225 ± 13	$f\sigma_8(0.15)$	0.4519 ± 0.0070
A_{143}^{PS}	38 ± 8	D_{220}	5720 ± 38	$\sigma_8(0.15)$	0.7417 ± 0.0098
A_{217}^{PS}	102 ± 10	D_{810}	2533 ± 14	$f\sigma_8(0.38)$	0.4702 ± 0.0065
A_{217}^{CIB}	39 ± 7	D_{1420}	816.6 ± 5.0	$\sigma_8(0.38)$	0.6575 ± 0.0089
A_{143}^{tSZ}	$4.0^{+1.9}_{-2.5}$	D_{2000}	230.9 ± 1.9	$f\sigma_8(0.51)$	0.4689 ± 0.0063
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.14	$n_{s,0.002}$	0.9652 ± 0.0066	$\sigma_8(0.51)$	0.6154 ± 0.0084
$r_{143 \times 217}^{\text{CIB}}$	$0.56^{+0.42}_{-0.16}$	Y_P	0.2443 ± 0.0023	$f\sigma_8(0.61)$	0.4641 ± 0.0061
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	0.2456 ± 0.0023	$\sigma_8(0.61)$	0.5856 ± 0.0081
A^{kSZ}	< 6.07	10^5D/H	2.574 ± 0.048	$f\sigma_8(2.33)$	0.2953 ± 0.0041
A_{100}^{dust}	1.01 ± 0.20	Age/Gyr	13.87 ± 0.17	$\sigma_8(2.33)$	0.3045 ± 0.0044
A_{143}^{dust}	0.96 ± 0.18	z_*	1089.74 ± 0.36	f_{2000}^{143}	28.9 ± 3.1
A_{217}^{dust}	0.98 ± 0.10	r_*	145.5 ± 1.6	f_{2000}^{217}	106.3 ± 2.1
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	$100\theta_*$	1.04135 ± 0.00051	$f_{2000}^{143 \times 217}$	31.5 ± 2.3
c_{100}	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.97 ± 0.15	χ_{simall}^2	396.9 ± 1.7
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.53 ± 0.63	χ_{lowl}^2	23.1 ± 1.0
c_{TE}	0.9964 ± 0.0051	r_{drag}	148.2 ± 1.7	χ_{CamSpec}^2	11514.9 ± 5.8
c_{EE}	0.9916 ± 0.0053	k_D	0.1399 ± 0.0012	χ_{Aver15}^2	0.36 ± 0.51
H_0	67.3 ± 1.1	$100\theta_D$	0.16068 ± 0.00042	$\chi_{6\text{DF}}^2$	0.056 ± 0.070
Ω_Λ	0.6894 ± 0.0069	z_{eq}	3379 ± 26	χ_{MGS}^2	1.32 ± 0.48
Ω_m	0.3106 ± 0.0069	k_{eq}	0.01026 ± 0.00011	χ_{DR12BAO}^2	4.8 ± 1.5
$\Omega_m h^2$	0.1406 ± 0.0029	$100\theta_{\text{eq}}$	0.8173 ± 0.0048	χ_{prior}^2	7.8 ± 3.4
$\Omega_m h^3$	0.0946 ± 0.0032	$100\theta_{s,\text{eq}}$	0.4515 ± 0.0025	χ_{BAO}^2	6.1 ± 1.2
σ_8	0.803 ± 0.011	$H(0.15)$	72.5 ± 1.1	χ_{CMB}^2	11934.9 ± 5.8
S_8	0.817 ± 0.013	$D_M(0.15)$	645 ± 10		

$$\bar{\chi}_{\text{eff}}^2 = 11949.20; R - 1 = 0.00729$$

6.18 base_nnu_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_Cooke17_Aver15

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02229 ± 0.00018	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6000 ± 0.0080	$H(0.51)$	89.4 ± 1.1
$\Omega_{\mathrm{c}}h^2$	0.1181 ± 0.0026	$\sigma_8/h^{0.5}$	0.979 ± 0.010	$D_{\mathrm{M}}(0.51)$	1988 ± 27
$100\theta_{\mathrm{MC}}$	1.04106 ± 0.00040	$r_{\mathrm{drag}}h$	99.73 ± 0.87	$H(0.61)$	95.0 ± 1.1
τ	0.0535 ± 0.0077	$\langle d^2 \rangle^{1/2}$	2.424 ± 0.025	$D_{\mathrm{M}}(0.61)$	2314 ± 31
N_{eff}	3.00 ± 0.15	z_{re}	7.56 ± 0.78	$H(2.33)$	235.1 ± 2.3
$\ln(10^{10}A_{\mathrm{s}})$	3.036 ± 0.018	$10^9 A_{\mathrm{s}}$	2.082 ± 0.037	$D_{\mathrm{M}}(2.33)$	5784 ± 66
n_{s}	0.9659 ± 0.0063	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.871 ± 0.016	$f\sigma_8(0.15)$	0.4525 ± 0.0069
y_{cal}	1.0005 ± 0.0025	D_{40}	1224 ± 13	$\sigma_8(0.15)$	0.7428 ± 0.0095
A_{100}^{PS}	238 ± 25	D_{220}	5719 ± 38	$f\sigma_8(0.38)$	0.4709 ± 0.0063
A_{143}^{PS}	38 ± 8	D_{810}	2533 ± 14	$\sigma_8(0.38)$	0.6586 ± 0.0085
A_{217}^{PS}	102 ± 10	D_{1420}	816.2 ± 4.9	$f\sigma_8(0.51)$	0.4696 ± 0.0061
A_{217}^{CIB}	40 ± 7	D_{2000}	230.6 ± 1.8	$\sigma_8(0.51)$	0.6164 ± 0.0081
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	$n_{\mathrm{s},0.002}$	0.9659 ± 0.0063	$f\sigma_8(0.61)$	0.4648 ± 0.0059
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	Y_{P}	0.2447 ± 0.0021	$\sigma_8(0.61)$	0.5865 ± 0.0077
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56^{+0.42}_{-0.15}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.2460 ± 0.0021	$f\sigma_8(2.33)$	0.2958 ± 0.0040
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$10^5 \mathrm{D}/\mathrm{H}$	2.583 ± 0.043	$\sigma_8(2.33)$	0.3050 ± 0.0042
A^{kSZ}	$4.6^{+1.7}_{-4.4}$	$\mathrm{Age}/\mathrm{Gyr}$	13.85 ± 0.16	f_{2000}^{143}	29.3 ± 3.1
A_{100}^{dust}	1.01 ± 0.20	z_*	1089.80 ± 0.32	f_{2000}^{217}	106.5 ± 2.1
A_{143}^{dust}	0.96 ± 0.18	r_*	145.3 ± 1.5	$f_{2000}^{143 \times 217}$	31.8 ± 2.2
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04128 ± 0.00048	χ_{simall}^2	396.9 ± 1.6
$A_{143 \times 217}^{\mathrm{dust}}$	1.02 ± 0.16	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.95 ± 0.14	χ_{lowl}^2	23.00 ± 0.99
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.57 ± 0.62	$\chi_{\mathrm{CamSpec}}^2$	11514.9 ± 5.8
c_{217}	1.0011 ± 0.0016	r_{drag}	148.0 ± 1.6	χ_{Aver15}^2	0.36 ± 0.49
c_{TE}	0.9966 ± 0.0051	k_{D}	0.1401 ± 0.0011	$\chi_{\mathrm{Cooke17}}^2$	0.35 ± 0.45
c_{EE}	0.9920 ± 0.0051	$100\theta_{\mathrm{D}}$	0.16075 ± 0.00038	$\chi_{6\mathrm{DF}}^2$	0.055 ± 0.069
H_0	67.4 ± 1.1	z_{eq}	3378 ± 26	χ_{MGS}^2	1.32 ± 0.48
Ω_{Λ}	0.6895 ± 0.0069	k_{eq}	0.01027 ± 0.00010	$\chi_{\mathrm{DR12BAO}}^2$	4.7 ± 1.5
Ω_{m}	0.3105 ± 0.0069	$100\theta_{\mathrm{eq}}$	0.8175 ± 0.0048	χ_{prior}^2	7.8 ± 3.5
$\Omega_{\mathrm{m}}h^2$	0.1410 ± 0.0027	$100\theta_{\mathrm{s,eq}}$	0.4516 ± 0.0025	χ_{BAO}^2	6.1 ± 1.2
$\Omega_{\mathrm{m}}h^3$	0.0951 ± 0.0030	$H(0.15)$	72.7 ± 1.0	χ_{CMB}^2	11934.8 ± 5.8
σ_8	0.804 ± 0.010	$D_{\mathrm{M}}(0.15)$	643.3 ± 9.6	χ_{Abund}^2	0.71 ± 0.65
S_8	0.818 ± 0.013	$H(0.38)$	82.7 ± 1.1		
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4478 ± 0.0072	$D_{\mathrm{M}}(0.38)$	1535 ± 22		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11949.40; R - 1 = 0.00827$$

6.19 base_nnu_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02231 ± 0.00019	$\sigma_8 \Omega_m^{0.5}$	0.4481 ± 0.0073	$H(0.38)$	82.8 ± 1.4
$\Omega_c h^2$	0.1182 ± 0.0034	$\sigma_8 \Omega_m^{0.25}$	0.6006 ± 0.0084	$D_M(0.38)$	1533 ± 27
$100\theta_{MC}$	1.04106 ± 0.00047	$\sigma_8/h^{0.5}$	0.980 ± 0.010	$H(0.51)$	89.5 ± 1.4
τ	$0.0549^{+0.0050}_{-0.0079}$	$r_{\text{drag}} h$	99.79 ± 0.91	$D_M(0.51)$	1986 ± 35
N_{eff}	3.00 ± 0.20	$\langle d^2 \rangle^{1/2}$	2.426 ± 0.024	$H(0.61)$	95.1 ± 1.4
$\ln(10^{10} A_s)$	$3.039^{+0.015}_{-0.018}$	z_{re}	$7.70^{+0.55}_{-0.80}$	$D_M(0.61)$	2312 ± 40
n_s	0.9664 ± 0.0076	$10^9 A_s$	$2.089^{+0.031}_{-0.038}$	$H(2.33)$	235.1 ± 3.0
y_{cal}	1.0005 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.871 ± 0.019	$D_M(2.33)$	5781 ± 85
A_{100}^{PS}	238 ± 25	D_{40}	1224 ± 14	$f\sigma_8(0.15)$	0.4528 ± 0.0070
A_{143}^{PS}	38 ± 9	D_{220}	5720 ± 38	$\sigma_8(0.15)$	0.744 ± 0.011
A_{217}^{PS}	102 ± 10	D_{810}	2534 ± 14	$f\sigma_8(0.38)$	0.4713 ± 0.0066
A_{217}^{CIB}	39^{+7}_{-8}	D_{1420}	816.4 ± 5.0	$\sigma_8(0.38)$	0.6597 ± 0.0098
A_{143}^{tSZ}	$4.0^{+1.9}_{-2.4}$	D_{2000}	230.7 ± 2.1	$f\sigma_8(0.51)$	0.4701 ± 0.0065
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	$n_{s,0.002}$	0.9664 ± 0.0076	$\sigma_8(0.51)$	0.6174 ± 0.0093
$r_{143 \times 217}^{\text{CIB}}$	$0.56^{+0.40}_{-0.17}$	Y_P	0.2448 ± 0.0028	$f\sigma_8(0.61)$	0.4653 ± 0.0064
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	0.2461 ± 0.0028	$\sigma_8(0.61)$	0.5875 ± 0.0089
A^{kSZ}	< 6.07	$10^5 \text{D}/\text{H}$	2.581 ± 0.056	$f\sigma_8(2.33)$	0.2963 ± 0.0046
A_{100}^{dust}	1.01 ± 0.19	Age/Gyr	13.84 ± 0.20	$\sigma_8(2.33)$	0.3056 ± 0.0049
A_{143}^{dust}	0.96 ± 0.17	z_*	1089.78 ± 0.41	f_{2000}^{143}	29 ± 3
A_{217}^{dust}	0.98 ± 0.10	r_*	145.2 ± 2.0	f_{2000}^{217}	106.5 ± 2.2
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	$100\theta_*$	1.04128 ± 0.00059	$f_{2000}^{143 \times 217}$	31.6 ± 2.4
c_{100}	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.94 ± 0.18	χ_{small}^2	396.9 ± 1.7
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.64 ± 0.75	χ_{lowl}^2	23.0 ± 1.1
c_{TE}	0.9965 ± 0.0051	r_{drag}	147.9 ± 2.0	χ_{CamSpec}^2	11515.1 ± 5.9
c_{EE}	0.9919 ± 0.0055	k_D	0.1402 ± 0.0015	$\chi_{6\text{DF}}^2$	0.054 ± 0.070
H_0	67.5 ± 1.3	$100\theta_D$	0.16074 ± 0.00049	χ_{MGS}^2	1.36 ± 0.51
Ω_Λ	0.6901 ± 0.0073	z_{eq}	3377 ± 27	χ_{DR12BAO}^2	4.7 ± 1.5
Ω_m	0.3099 ± 0.0073	k_{eq}	0.01028 ± 0.00012	χ_{prior}^2	7.7 ± 3.4
$\Omega_m h^2$	0.1411 ± 0.0035	$100\theta_{\text{eq}}$	0.8178 ± 0.0051	χ_{BAO}^2	6.1 ± 1.2
$\Omega_m h^3$	$0.0953^{+0.0037}_{-0.0042}$	$100\theta_{s,\text{eq}}$	0.4518 ± 0.0026	χ_{CMB}^2	11935.0 ± 5.8
σ_8	0.805 ± 0.011	$H(0.15)$	72.7 ± 1.3		
S_8	0.818 ± 0.013	$D_M(0.15)$	643 ± 12		

$$\bar{\chi}_{\text{eff}}^2 = 11948.82; \Delta\bar{\chi}_{\text{eff}}^2 = 0.83; R - 1 = 0.00628$$

6.20 base_nnu_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_lensing_JLA_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02231 ± 0.00019	$\sigma_8 \Omega_m^{0.5}$	0.4495 ± 0.0061	$H(0.38)$	82.7 ± 1.3
$\Omega_c h^2$	0.1181 ± 0.0032	$\sigma_8 \Omega_m^{0.25}$	0.6020 ± 0.0071	$D_M(0.38)$	1536 ± 27
$100\theta_{MC}$	1.04108 ± 0.00047	$\sigma_8/h^{0.5}$	0.9823 ± 0.0083	$H(0.51)$	89.3 ± 1.4
τ	$0.0560^{+0.0056}_{-0.0070}$	$r_{\text{drag}} h$	99.65 ± 0.85	$D_M(0.51)$	1990 ± 34
N_{eff}	$2.99^{+0.18}_{-0.21}$	$\langle d^2 \rangle^{1/2}$	2.433 ± 0.021	$H(0.61)$	94.9 ± 1.4
$\ln(10^{10} A_s)$	3.042 ± 0.015	z_{re}	$7.82^{+0.59}_{-0.70}$	$D_M(0.61)$	2315 ± 38
n_s	0.9655 ± 0.0073	$10^9 A_s$	$2.095^{+0.030}_{-0.034}$	$H(2.33)$	235.0 ± 2.8
y_{cal}	1.0008 ± 0.0024	$10^9 A_s e^{-2\tau}$	1.873 ± 0.018	$D_M(2.33)$	5787 ± 82
A_{100}^{PS}	237 ± 24	D_{40}	1227 ± 13	$f\sigma_8(0.15)$	0.4541 ± 0.0058
A_{143}^{PS}	38 ± 9	D_{220}	5725 ± 37	$\sigma_8(0.15)$	0.7449 ± 0.0097
A_{217}^{PS}	103 ± 10	D_{810}	2536 ± 13	$f\sigma_8(0.38)$	0.4725 ± 0.0056
A_{217}^{CIB}	39 ± 7	D_{1420}	817.1 ± 5.1	$\sigma_8(0.38)$	0.6604 ± 0.0090
A_{143}^{tSZ}	$4.0^{+1.9}_{-2.4}$	D_{2000}	231.0 ± 2.1	$f\sigma_8(0.51)$	0.4712 ± 0.0055
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.14	$n_{s,0.002}$	0.9655 ± 0.0073	$\sigma_8(0.51)$	0.6180 ± 0.0085
$r_{143 \times 217}^{\text{CIB}}$	$0.55^{+0.40}_{-0.18}$	Y_P	0.2446 ± 0.0027	$f\sigma_8(0.61)$	0.4663 ± 0.0055
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	0.2459 ± 0.0027	$\sigma_8(0.61)$	0.5881 ± 0.0082
A^{kSZ}	< 5.77	10^5D/H	2.578 ± 0.054	$f\sigma_8(2.33)$	0.2966 ± 0.0043
A_{100}^{dust}	1.01 ± 0.19	Age/Gyr	13.86 ± 0.20	$\sigma_8(2.33)$	0.3058 ± 0.0046
A_{143}^{dust}	0.95 ± 0.17	z_*	1089.77 ± 0.39	f_{2000}^{143}	29 ± 3
A_{217}^{dust}	0.98 ± 0.10	r_*	145.3 ± 1.9	f_{2000}^{217}	106.4 ± 2.2
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	$100\theta_*$	1.04131 ± 0.00058	$f_{2000}^{143 \times 217}$	31.5 ± 2.5
c_{100}	0.9975 ± 0.0010	$D_M(z_*)/\text{Gpc}$	13.95 ± 0.18	χ_{lensing}^2	9.23 ± 0.79
c_{217}	1.0011 ± 0.0015	z_{drag}	1059.60 ± 0.73	χ_{simall}^2	397.0 ± 1.7
c_{TE}	0.9963 ± 0.0052	r_{drag}	148.0 ± 2.0	χ_{lowl}^2	23.2 ± 1.1
c_{EE}	0.9917 ± 0.0054	k_D	0.1401 ± 0.0014	χ_{CamSpec}^2	11514.5 ± 5.9
H_0	67.3 ± 1.3	$100\theta_D$	0.16071 ± 0.00048	χ_{JLA}^2	706.78 ± 0.21
Ω_Λ	$0.6889^{+0.0074}_{-0.0066}$	z_{eq}	3382 ± 25	$\chi_{6\text{DF}}^2$	0.059 ± 0.073
Ω_m	$0.3111^{+0.0066}_{-0.0074}$	k_{eq}	0.01028 ± 0.00011	χ_{MGS}^2	1.28 ± 0.46
$\Omega_m h^2$	$0.1410^{+0.0031}_{-0.0035}$	$100\theta_{\text{eq}}$	0.8169 ± 0.0048	χ_{DR12BAO}^2	4.8 ± 1.5
$\Omega_m h^3$	$0.0950^{+0.0035}_{-0.0041}$	$100\theta_{s,\text{eq}}$	0.4513 ± 0.0024	χ_{prior}^2	7.7 ± 3.3
σ_8	0.806 ± 0.010	$H(0.15)$	72.6 ± 1.3	χ_{CMB}^2	11943.9 ± 6.0
S_8	0.821 ± 0.011	$D_M(0.15)$	644 ± 12	χ_{BAO}^2	6.2 ± 1.2

$$\bar{\chi}_{\text{eff}}^2 = 12664.58; R - 1 = 0.04058$$

6.21 base_nnu_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_lensing_Pantheon18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\text{b}}h^2$	0.02232 ± 0.00019	$\sigma_8\Omega_{\text{m}}^{0.5}$	0.4492 ± 0.0061	$H(0.38)$	82.8 ± 1.3
$\Omega_{\text{c}}h^2$	0.1182 ± 0.0032	$\sigma_8\Omega_{\text{m}}^{0.25}$	0.6019 ± 0.0072	$D_{\text{M}}(0.38)$	1534 ± 26
$100\theta_{\text{MC}}$	1.04106 ± 0.00046	$\sigma_8/h^{0.5}$	0.9820 ± 0.0083	$H(0.51)$	89.4 ± 1.3
τ	$0.0564^{+0.0057}_{-0.0073}$	$r_{\text{drag}}h$	99.75 ± 0.83	$D_{\text{M}}(0.51)$	1987 ± 33
N_{eff}	3.00 ± 0.19	$\langle d^2 \rangle^{1/2}$	2.432 ± 0.021	$H(0.61)$	95.0 ± 1.4
$\ln(10^{10}A_{\text{s}})$	$3.043^{+0.014}_{-0.016}$	z_{re}	$7.85^{+0.61}_{-0.71}$	$D_{\text{M}}(0.61)$	2312 ± 38
n_{s}	0.9661 ± 0.0073	$10^9 A_{\text{s}}$	$2.096^{+0.029}_{-0.034}$	$H(2.33)$	235.2 ± 2.8
y_{cal}	1.0007 ± 0.0025	$10^9 A_{\text{s}}e^{-2\tau}$	1.873 ± 0.018	$D_{\text{M}}(2.33)$	5782 ± 81
A_{100}^{PS}	238 ± 25	D_{40}	1226^{+12}_{-14}	$f\sigma_8(0.15)$	0.4538 ± 0.0059
A_{143}^{PS}	38 ± 9	D_{220}	5725 ± 37	$\sigma_8(0.15)$	0.7454 ± 0.0098
A_{217}^{PS}	103 ± 10	D_{810}	2535 ± 13	$f\sigma_8(0.38)$	0.4724 ± 0.0056
A_{217}^{CIB}	39 ± 7	D_{1420}	816.9 ± 5.0	$\sigma_8(0.38)$	0.6609 ± 0.0090
A_{143}^{tSZ}	$4.0^{+1.9}_{-2.5}$	D_{2000}	230.9 ± 2.0	$f\sigma_8(0.51)$	0.4711 ± 0.0056
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.14	$n_{\text{s},0.002}$	0.9661 ± 0.0073	$\sigma_8(0.51)$	0.6185 ± 0.0086
$r_{143 \times 217}^{\text{CIB}}$	$0.55^{+0.41}_{-0.17}$	Y_{P}	0.2447 ± 0.0027	$f\sigma_8(0.61)$	0.4663 ± 0.0056
$\xi^{\text{tSZ} \times \text{CIB}}$	—	$Y_{\text{P}}^{\text{BBN}}$	0.2461 ± 0.0027	$\sigma_8(0.61)$	0.5886 ± 0.0082
A^{kSZ}	< 6.01	$10^5 \text{D}/\text{H}$	2.579 ± 0.054	$f\sigma_8(2.33)$	0.2968 ± 0.0043
A_{100}^{dust}	1.01 ± 0.20	Age/Gyr	13.84 ± 0.19	$\sigma_8(2.33)$	0.3061 ± 0.0046
A_{143}^{dust}	0.95 ± 0.17	z_*	1089.78 ± 0.39	f_{2000}^{143}	29 ± 3
A_{217}^{dust}	0.98 ± 0.10	r_*	145.2 ± 1.9	f_{2000}^{217}	106.4 ± 2.2
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	$100\theta_*$	1.04128 ± 0.00057	$f_{2000}^{143 \times 217}$	31.6 ± 2.4
c_{100}	0.9976 ± 0.0011	$D_{\text{M}}(z_*)/\text{Gpc}$	13.94 ± 0.17	χ_{lensing}^2	9.27 ± 0.79
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.65 ± 0.72	χ_{simall}^2	397.1 ± 1.8
c_{TE}	0.9964 ± 0.0051	r_{drag}	147.9 ± 2.0	χ_{lowl}^2	23.1 ± 1.1
c_{EE}	0.9919 ± 0.0054	k_{D}	0.1402 ± 0.0014	χ_{CamSpec}^2	11514.7 ± 5.8
H_0	67.5 ± 1.2	$100\theta_{\text{D}}$	0.16073 ± 0.00047	χ_{JLA}^2	1035.09 ± 0.34
Ω_{Λ}	0.6898 ± 0.0068	z_{eq}	3379 ± 25	$\chi_{6\text{DF}}^2$	0.051 ± 0.064
Ω_{m}	0.3102 ± 0.0068	k_{eq}	0.01028 ± 0.00012	χ_{MGS}^2	1.33 ± 0.46
$\Omega_{\text{m}}h^2$	0.1412 ± 0.0033	$100\theta_{\text{eq}}$	0.8175 ± 0.0047	χ_{DR12BAO}^2	4.7 ± 1.4
$\Omega_{\text{m}}h^3$	0.0953 ± 0.0038	$100\theta_{\text{s,eq}}$	0.4516 ± 0.0024	χ_{prior}^2	7.7 ± 3.4
σ_8	0.807 ± 0.010	$H(0.15)$	72.7 ± 1.3	χ_{CMB}^2	11944.2 ± 5.9
S_8	0.820 ± 0.011	$D_{\text{M}}(0.15)$	643 ± 11	χ_{BAO}^2	6.1 ± 1.1

$$\bar{\chi}_{\text{eff}}^2 = 12993.02; \Delta\bar{\chi}_{\text{eff}}^2 = 0.76; R - 1 = 0.01132$$

6.22 base_nnu_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02230 ± 0.00019	$\sigma_8 \Omega_m^{0.5}$	0.4496 ± 0.0061	$H(0.38)$	82.6 ± 1.3
$\Omega_c h^2$	0.1180 ± 0.0032	$\sigma_8 \Omega_m^{0.25}$	0.6020 ± 0.0072	$D_M(0.38)$	1537 ± 27
$100\theta_{MC}$	1.04108 ± 0.00047	$\sigma_8/h^{0.5}$	0.9824 ± 0.0083	$H(0.51)$	89.3 ± 1.4
τ	$0.0561^{+0.0056}_{-0.0073}$	$r_{\text{drag}} h$	99.61 ± 0.87	$D_M(0.51)$	1991 ± 34
N_{eff}	2.98 ± 0.20	$\langle d^2 \rangle^{1/2}$	2.434 ± 0.021	$H(0.61)$	94.9 ± 1.4
$\ln(10^{10} A_s)$	$3.042^{+0.014}_{-0.016}$	z_{re}	$7.82^{+0.60}_{-0.72}$	$D_M(0.61)$	2317 ± 39
n_s	0.9652 ± 0.0074	$10^9 A_s$	$2.094^{+0.030}_{-0.034}$	$H(2.33)$	235.0 ± 2.8
y_{cal}	1.0007 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.872 ± 0.018	$D_M(2.33)$	5790 ± 83
A_{100}^{PS}	238 ± 25	D_{40}	1227^{+13}_{-14}	$f\sigma_8(0.15)$	0.4542 ± 0.0059
A_{143}^{PS}	38 ± 9	D_{220}	5724 ± 38	$\sigma_8(0.15)$	0.7447 ± 0.0098
A_{217}^{PS}	103 ± 10	D_{810}	2535 ± 13	$f\sigma_8(0.38)$	0.4725 ± 0.0056
A_{217}^{CIB}	39 ± 7	D_{1420}	816.9 ± 5.0	$\sigma_8(0.38)$	0.6601 ± 0.0091
A_{143}^{tSZ}	$4.0^{+1.9}_{-2.5}$	D_{2000}	231.0 ± 2.0	$f\sigma_8(0.51)$	0.4711 ± 0.0056
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.14	$n_{s,0.002}$	0.9652 ± 0.0074	$\sigma_8(0.51)$	0.6178 ± 0.0086
$r_{143 \times 217}^{\text{CIB}}$	$0.55^{+0.41}_{-0.17}$	Y_P	0.2445 ± 0.0027	$f\sigma_8(0.61)$	0.4662 ± 0.0056
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	0.2458 ± 0.0027	$\sigma_8(0.61)$	0.5879 ± 0.0083
A^{kSZ}	< 5.97	10^5D/H	2.577 ± 0.054	$f\sigma_8(2.33)$	0.2964 ± 0.0043
A_{100}^{dust}	1.01 ± 0.20	Age/Gyr	13.86 ± 0.20	$\sigma_8(2.33)$	0.3056 ± 0.0047
A_{143}^{dust}	0.95 ± 0.17	z_*	1089.77 ± 0.39	f_{2000}^{143}	29 ± 3
A_{217}^{dust}	0.98 ± 0.10	r_*	145.4 ± 1.9	f_{2000}^{217}	106.4 ± 2.2
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	$100\theta_*$	1.04132 ± 0.00058	$f_{2000}^{143 \times 217}$	31.5 ± 2.4
c_{100}	0.9976 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.96 ± 0.18	χ_{lensing}^2	9.22 ± 0.77
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.57 ± 0.73	χ_{simall}^2	397.1 ± 1.8
c_{TE}	0.9963 ± 0.0051	r_{drag}	148.1 ± 2.0	χ_{lowl}^2	23.2 ± 1.1
c_{EE}	0.9916 ± 0.0055	k_D	0.1401 ± 0.0014	χ_{CamSpec}^2	11514.5 ± 5.8
H_0	67.3 ± 1.3	$100\theta_D$	0.16070 ± 0.00048	$\chi_{6\text{DF}}^2$	0.063 ± 0.075
Ω_Λ	0.6886 ± 0.0071	z_{eq}	3383 ± 26	χ_{MGS}^2	1.26 ± 0.47
Ω_m	0.3114 ± 0.0071	k_{eq}	0.01028 ± 0.00012	χ_{DR12BAO}^2	4.9 ± 1.6
$\Omega_m h^2$	0.1410 ± 0.0033	$100\theta_{\text{eq}}$	0.8167 ± 0.0049	χ_{prior}^2	7.7 ± 3.4
$\Omega_m h^3$	$0.0949^{+0.0036}_{-0.0040}$	$100\theta_{s,\text{eq}}$	0.4512 ± 0.0025	χ_{CMB}^2	11944.0 ± 5.9
σ_8	0.806 ± 0.010	$H(0.15)$	72.5 ± 1.3	χ_{BAO}^2	6.2 ± 1.3
S_8	0.821 ± 0.011	$D_M(0.15)$	644 ± 12		

$$\bar{\chi}_{\text{eff}}^2 = 11957.94; \Delta\bar{\chi}_{\text{eff}}^2 = 0.68; R - 1 = 0.01105$$

6.23 base_nnu_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_Aver15_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02230 ± 0.00018	$\sigma_8 \Omega_m^{0.5}$	0.4477 ± 0.0072	$H(0.38)$	82.6 ± 1.1
$\Omega_c h^2$	0.1177 ± 0.0028	$\sigma_8 \Omega_m^{0.25}$	0.5998 ± 0.0079	$D_M(0.38)$	1537 ± 23
$100\theta_{MC}$	1.04111 ± 0.00043	$\sigma_8/h^{0.5}$	0.980 ± 0.010	$H(0.51)$	89.3 ± 1.1
τ	$0.0549^{+0.0050}_{-0.0078}$	$r_{\text{drag}} h$	99.74 ± 0.86	$D_M(0.51)$	1991 ± 29
N_{eff}	2.97 ± 0.17	$\langle d^2 \rangle^{1/2}$	2.427 ± 0.024	$H(0.61)$	94.8 ± 1.2
$\ln(10^{10} A_s)$	$3.038^{+0.014}_{-0.017}$	z_{re}	$7.70^{+0.55}_{-0.79}$	$D_M(0.61)$	2317 ± 33
n_s	0.9654 ± 0.0065	$10^9 A_s$	$2.086^{+0.029}_{-0.036}$	$H(2.33)$	234.7 ± 2.4
y_{cal}	1.0005 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.869 ± 0.017	$D_M(2.33)$	5793 ± 70
A_{100}^{PS}	237 ± 25	D_{40}	1225 ± 13	$f\sigma_8(0.15)$	0.4524 ± 0.0069
A_{143}^{PS}	38 ± 8	D_{220}	5720 ± 38	$\sigma_8(0.15)$	0.7427 ± 0.0094
A_{217}^{PS}	102 ± 10	D_{810}	2533 ± 14	$f\sigma_8(0.38)$	0.4708 ± 0.0063
A_{217}^{CIB}	39 ± 7	D_{1420}	816.6 ± 5.0	$\sigma_8(0.38)$	0.6584 ± 0.0085
A_{143}^{tSZ}	$4.0^{+1.9}_{-2.5}$	D_{2000}	230.9 ± 1.9	$f\sigma_8(0.51)$	0.4695 ± 0.0060
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.14	$n_{s,0.002}$	0.9654 ± 0.0065	$\sigma_8(0.51)$	0.6163 ± 0.0080
$r_{143 \times 217}^{\text{CIB}}$	$0.56^{+0.41}_{-0.16}$	Y_P	0.2443 ± 0.0023	$f\sigma_8(0.61)$	0.4647 ± 0.0059
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	0.2457 ± 0.0023	$\sigma_8(0.61)$	0.5864 ± 0.0077
A^{kSZ}	< 6.05	$10^5 \text{D}/\text{H}$	2.574 ± 0.048	$f\sigma_8(2.33)$	0.2957 ± 0.0039
A_{100}^{dust}	1.01 ± 0.20	Age/Gyr	13.87 ± 0.17	$\sigma_8(2.33)$	0.3049 ± 0.0042
A_{143}^{dust}	0.96 ± 0.18	z_*	1089.73 ± 0.36	f_{2000}^{143}	28.9 ± 3.1
A_{217}^{dust}	0.98 ± 0.10	r_*	145.5 ± 1.6	f_{2000}^{217}	106.3 ± 2.1
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	$100\theta_*$	1.04135 ± 0.00051	$f_{2000}^{143 \times 217}$	31.5 ± 2.3
c_{100}	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.97 ± 0.15	χ_{simall}^2	396.9 ± 1.7
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.54 ± 0.63	χ_{lowl}^2	23.1 ± 1.0
c_{TE}	0.9963 ± 0.0051	r_{drag}	148.2 ± 1.7	χ_{CamSpec}^2	11514.8 ± 5.8
c_{EE}	0.9915 ± 0.0053	k_D	0.1400 ± 0.0012	χ_{Aver15}^2	0.36 ± 0.51
H_0	67.3 ± 1.1	$100\theta_D$	0.16068 ± 0.00042	$\chi_{6\text{DF}}^2$	0.054 ± 0.068
Ω_Λ	0.6895 ± 0.0069	z_{eq}	3379 ± 26	χ_{MGS}^2	1.33 ± 0.48
Ω_m	0.3105 ± 0.0069	k_{eq}	0.01026 ± 0.00011	χ_{DR12BAO}^2	4.7 ± 1.5
$\Omega_m h^2$	0.1406 ± 0.0029	$100\theta_{\text{eq}}$	0.8175 ± 0.0048	χ_{prior}^2	7.8 ± 3.4
$\Omega_m h^3$	0.0947 ± 0.0032	$100\theta_{s,\text{eq}}$	0.4516 ± 0.0025	χ_{BAO}^2	6.1 ± 1.2
σ_8	0.804 ± 0.010	$H(0.15)$	72.6 ± 1.1	χ_{CMB}^2	11934.7 ± 5.7
S_8	0.817 ± 0.013	$D_M(0.15)$	644 ± 10		

$$\bar{\chi}_{\text{eff}}^2 = 11948.97; R - 1 = 0.00928$$

6.24 base_nnu_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_Cooke17_Aver15_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02229 ± 0.00018	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6007 ± 0.0077	$H(0.51)$	89.4 ± 1.1
$\Omega_{\mathrm{c}}h^2$	0.1181 ± 0.0026	$\sigma_8/h^{0.5}$	0.9802 ± 0.0099	$D_{\mathrm{M}}(0.51)$	1988 ± 27
$100\theta_{\mathrm{MC}}$	1.04106 ± 0.00040	$r_{\mathrm{drag}}h$	99.75 ± 0.86	$H(0.61)$	95.0 ± 1.1
τ	$0.0549^{+0.0050}_{-0.0078}$	$\langle d^2 \rangle^{1/2}$	2.427 ± 0.024	$D_{\mathrm{M}}(0.61)$	2313 ± 31
N_{eff}	3.00 ± 0.15	z_{re}	$7.70^{+0.55}_{-0.78}$	$H(2.33)$	235.1 ± 2.3
$\ln(10^{10}A_{\mathrm{s}})$	$3.039^{+0.014}_{-0.017}$	$10^9 A_{\mathrm{s}}$	$2.088^{+0.029}_{-0.035}$	$D_{\mathrm{M}}(2.33)$	5783 ± 66
n_{s}	0.9661 ± 0.0063	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.871 ± 0.016	$f\sigma_8(0.15)$	0.4530 ± 0.0067
y_{cal}	1.0005 ± 0.0025	D_{40}	1224 ± 13	$\sigma_8(0.15)$	0.7439 ± 0.0090
A_{100}^{PS}	238 ± 25	D_{220}	5718 ± 38	$f\sigma_8(0.38)$	0.4715 ± 0.0061
A_{143}^{PS}	38 ± 8	D_{810}	2533 ± 14	$\sigma_8(0.38)$	0.6595 ± 0.0081
A_{217}^{PS}	102 ± 10	D_{1420}	816.2 ± 4.9	$f\sigma_8(0.51)$	0.4702 ± 0.0058
A_{217}^{CIB}	40 ± 7	D_{2000}	230.6 ± 1.8	$\sigma_8(0.51)$	0.6173 ± 0.0077
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	$n_{\mathrm{s},0.002}$	0.9661 ± 0.0063	$f\sigma_8(0.61)$	0.4654 ± 0.0056
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.14	Y_{P}	0.2447 ± 0.0021	$\sigma_8(0.61)$	0.5874 ± 0.0073
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56^{+0.42}_{-0.15}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.2460 ± 0.0021	$f\sigma_8(2.33)$	0.2962 ± 0.0038
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$10^5 \mathrm{D}/\mathrm{H}$	2.583 ± 0.043	$\sigma_8(2.33)$	0.3054 ± 0.0040
A^{kSZ}	$4.6^{+1.6}_{-4.5}$	$\mathrm{Age}/\mathrm{Gyr}$	13.85 ± 0.16	f_{2000}^{143}	29.2 ± 3.1
A_{100}^{dust}	1.01 ± 0.20	z_*	1089.80 ± 0.32	f_{2000}^{217}	106.5 ± 2.1
A_{143}^{dust}	0.96 ± 0.18	r_*	145.2 ± 1.5	$f_{2000}^{143 \times 217}$	31.7 ± 2.2
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04128 ± 0.00048	χ_{simall}^2	396.8 ± 1.7
$A_{143 \times 217}^{\mathrm{dust}}$	1.02 ± 0.16	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.95 ± 0.14	χ_{lowl}^2	23.01 ± 0.99
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.58 ± 0.62	$\chi_{\mathrm{CamSpec}}^2$	11514.7 ± 5.8
c_{217}	1.0011 ± 0.0016	r_{drag}	147.9 ± 1.6	χ_{Aver15}^2	0.36 ± 0.50
c_{TE}	0.9966 ± 0.0050	k_{D}	0.1401 ± 0.0011	$\chi_{\mathrm{Cooke17}}^2$	0.35 ± 0.45
c_{EE}	0.9920 ± 0.0052	$100\theta_{\mathrm{D}}$	0.16076 ± 0.00038	$\chi_{6\mathrm{DF}}^2$	0.054 ± 0.067
H_0	67.4 ± 1.1	z_{eq}	3378 ± 25	χ_{MGS}^2	1.34 ± 0.48
Ω_{Λ}	0.6897 ± 0.0069	k_{eq}	0.01027 ± 0.00010	$\chi_{\mathrm{DR12BAO}}^2$	4.7 ± 1.4
Ω_{m}	0.3103 ± 0.0069	$100\theta_{\mathrm{eq}}$	0.8176 ± 0.0048	χ_{prior}^2	7.8 ± 3.4
$\Omega_{\mathrm{m}}h^2$	0.1411 ± 0.0027	$100\theta_{\mathrm{s,eq}}$	0.4517 ± 0.0025	χ_{BAO}^2	6.1 ± 1.1
$\Omega_{\mathrm{m}}h^3$	0.0951 ± 0.0030	$H(0.15)$	72.7 ± 1.0	χ_{CMB}^2	11934.6 ± 5.7
σ_8	0.8049 ± 0.0096	$D_{\mathrm{M}}(0.15)$	643.1 ± 9.6	χ_{Abund}^2	0.71 ± 0.65
S_8	0.819 ± 0.013	$H(0.38)$	82.7 ± 1.1		
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4483 ± 0.0070	$D_{\mathrm{M}}(0.38)$	1534 ± 22		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11949.15; R - 1 = 0.01020$$

6.25 base_nnu_CamSpecHM_TTTEEE_lowl_lowE_Riess18

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022599	0.02261 ± 0.00018	S_8	0.8140	0.815 ± 0.016	$H(0.15)$	75.40	75.5 ± 1.2
$\Omega_c h^2$	0.12298	0.1231 ± 0.0031	$\sigma_8 \Omega_m^{0.5}$	0.4459	0.4462 ± 0.0085	$D_M(0.15)$	618.8	619 ± 10
$100\theta_{MC}$	1.040534	1.04053 ± 0.00042	$\sigma_8 \Omega_m^{0.25}$	0.6040	0.6044 ± 0.0091	$H(0.38)$	85.47	85.5 ± 1.2
τ	0.0553	0.0556 ± 0.0080	$\sigma_8/h^{0.5}$	0.9767	0.977 ± 0.012	$D_M(0.38)$	1479.3	1479 ± 24
N_{eff}	3.374	3.38 ± 0.18	$r_{\text{drag}} h$	101.37	101.4 ± 1.1	$H(0.51)$	92.18	92.2 ± 1.2
$\ln(10^{10} A_s)$	3.0526	3.053 ± 0.018	$\langle d^2 \rangle^{1/2}$	2.3988	2.399 ± 0.028	$D_M(0.51)$	1918.6	1918 ± 30
n_s	0.9799	0.9804 ± 0.0069	z_{re}	7.82	7.83 ± 0.81	$H(0.61)$	97.81	97.9 ± 1.3
y_{cal}	1.00057	1.0005 ± 0.0025	$10^9 A_s$	2.1171	2.119 ± 0.038	$D_M(0.61)$	2234.3	2233 ± 34
A_{100}^{PS}	246.6	247 ± 25	$10^9 A_s e^{-2\tau}$	1.8953	1.896 ± 0.017	$H(2.33)$	239.79	239.9 ± 2.6
A_{143}^{PS}	40.2	43 ± 9	D_{40}	1207.3	1207 ± 14	$D_M(2.33)$	5624	5621 ± 70
A_{217}^{PS}	98.5	101 ± 10	D_{220}	5726.2	5726 ± 39	$f\sigma_8(0.15)$	0.4516	0.4519 ± 0.0082
A_{217}^{CIB}	45.2	42 ± 7	D_{810}	2538.5	2539 ± 14	$\sigma_8(0.15)$	0.7575	0.758 ± 0.010
A_{143}^{tSZ}	4.90	$3.7_{-2.7}^{+1.7}$	D_{1420}	814.4	814.5 ± 5.1	$f\sigma_8(0.38)$	0.4734	0.4737 ± 0.0073
$r_{143 \times 217}^{\text{PS}}$	0.548	0.65 ± 0.12	D_{2000}	228.62	228.7 ± 2.0	$\sigma_8(0.38)$	0.6731	0.6736 ± 0.0092
$r_{143 \times 217}^{\text{CIB}}$	0.720	> 0.482	$n_{s,0.002}$	0.9799	0.9804 ± 0.0069	$f\sigma_8(0.51)$	0.4737	0.4740 ± 0.0069
$\xi^{\text{tSZ} \times \text{CIB}}$	0.00	—	Y_P	0.24977	0.2499 ± 0.0023	$\sigma_8(0.51)$	0.6306	0.6311 ± 0.0088
A^{kSZ}	3.05	$5.2_{-2.3}^{+3.8}$	Y_P^{BBN}	0.25111	0.2512 ± 0.0023	$f\sigma_8(0.61)$	0.4699	0.4702 ± 0.0066
A_{100}^{dust}	1.017	1.02 ± 0.20	$10^5 D/H$	2.656	2.657 ± 0.051	$\sigma_8(0.61)$	0.6004	0.6009 ± 0.0084
A_{143}^{dust}	0.980	0.98 ± 0.18	Age/Gyr	13.468	13.46 ± 0.17	$f\sigma_8(2.33)$	0.30330	0.3036 ± 0.0043
A_{217}^{dust}	0.960	0.97 ± 0.10	z_*	1090.205	1090.22 ± 0.39	$\sigma_8(2.33)$	0.31339	0.3137 ± 0.0046
$A_{143 \times 217}^{\text{dust}}$	1.004	1.03 ± 0.16	r_*	141.92	141.9 ± 1.6	f_{2000}^{143}	32.35	32.0 ± 3.3
c_{100}	0.99752	0.9975 ± 0.0011	$100\theta_*$	1.04050	1.04049 ± 0.00050	f_{2000}^{217}	108.57	108.4 ± 2.2
c_{217}	1.00146	1.0013 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.639	13.63 ± 0.15	$f_{2000}^{143 \times 217}$	33.94	34.0 ± 2.3
c_{TE}	0.9988	0.9990 ± 0.0050	z_{drag}	1060.92	1060.97 ± 0.65	χ_{small}^2	396.09	397.2 ± 1.9
c_{EE}	0.9965	0.9965 ± 0.0055	r_{drag}	144.47	144.4 ± 1.7	χ_{lowl}^2	21.47	21.54 ± 0.77
H_0	70.17	70.2 ± 1.2	k_D	0.14261	0.1427 ± 0.0013	χ_{CamSpec}^2	11505.1	11520.7 ± 6.6
Ω_Λ	0.7030	0.7030 ± 0.0083	$100\theta_D$	0.161517	0.16153 ± 0.00044	χ_{H073p45}^2	3.91	4.3 ± 3.0
Ω_m	0.2970	0.2970 ± 0.0083	z_{eq}	3332.1	3332 ± 31	χ_{prior}^2	2.43	7.9 ± 3.5
$\Omega_m h^2$	0.14622	0.1464 ± 0.0031	k_{eq}	0.010391	0.01040 ± 0.00012	χ_{CMB}^2	11922.6	11939.4 ± 6.5
$\Omega_m h^3$	0.10260	0.1028 ± 0.0036	$100\theta_{\text{eq}}$	0.8266	0.8267 ± 0.0062			
σ_8	0.8182	0.819 ± 0.011	$100\theta_{s,\text{eq}}$	0.45616	0.4562 ± 0.0031			

Best-fit $\chi_{\text{eff}}^2 = 11928.99$; $\bar{\chi}_{\text{eff}}^2 = 11951.65$; $\Delta\chi_{\text{eff}}^2 = -2.61$; $R - 1 = 0.01475$

χ_{eff}^2 : CMB - simall_100x143_offlike5_EE_Aplanck_B: 396.09 commander_dx12.v3.2.29: 21.47 CamSpec like_10.7HM_1400_unified: 11505.09 Hubble - H073p45: 3.91

6.26 base_nnu_CamSpecHM_TTTEEE_lowl_lowE_Riess18_post_BAO

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02256 ± 0.00017	$\sigma_8 \Omega_m^{0.5}$	0.4486 ± 0.0074	$H(0.38)$	85.2 ± 1.1
$\Omega_c h^2$	0.1232 ± 0.0031	$\sigma_8 \Omega_m^{0.25}$	0.6061 ± 0.0085	$D_M(0.38)$	1485 ± 21
$100\theta_{MC}$	1.04052 ± 0.00042	$\sigma_8/h^{0.5}$	0.980 ± 0.011	$H(0.51)$	91.9 ± 1.2
τ	0.0549 ± 0.0079	$r_{\text{drag}} h$	100.95 ± 0.81	$D_M(0.51)$	1926 ± 27
N_{eff}	3.35 ± 0.18	$\langle d^2 \rangle^{1/2}$	2.407 ± 0.025	$H(0.61)$	97.6 ± 1.2
$\ln(10^{10} A_s)$	3.052 ± 0.018	z_{re}	7.77 ± 0.80	$D_M(0.61)$	2243 ± 31
n_s	0.9784 ± 0.0062	$10^9 A_s$	2.116 ± 0.038	$H(2.33)$	239.8 ± 2.6
y_{cal}	1.0005 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.896 ± 0.017	$D_M(2.33)$	5635 ± 68
A_{100}^{PS}	246 ± 25	D_{40}	1210 ± 13	$f\sigma_8(0.15)$	0.4541 ± 0.0071
A_{143}^{PS}	43 ± 9	D_{220}	5723 ± 39	$\sigma_8(0.15)$	0.758 ± 0.010
A_{217}^{PS}	101 ± 10	D_{810}	2539 ± 14	$f\sigma_8(0.38)$	0.4752 ± 0.0068
A_{217}^{CIB}	42 ± 7	D_{1420}	814.4 ± 5.1	$\sigma_8(0.38)$	0.6729 ± 0.0092
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.6}$	D_{2000}	228.7 ± 2.0	$f\sigma_8(0.51)$	0.4751 ± 0.0065
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.12	$n_{s,0.002}$	0.9784 ± 0.0062	$\sigma_8(0.51)$	0.6303 ± 0.0086
$r_{143 \times 217}^{\text{CIB}}$	> 0.480	Y_P	0.2495 ± 0.0023	$f\sigma_8(0.61)$	0.4710 ± 0.0064
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	0.2508 ± 0.0023	$\sigma_8(0.61)$	0.6001 ± 0.0083
A^{kSZ}	$5.2^{+3.6}_{-2.5}$	$10^5 D/H$	2.656 ± 0.052	$f\sigma_8(2.33)$	0.3030 ± 0.0042
A_{100}^{dust}	1.02 ± 0.20	Age/Gyr	13.49 ± 0.16	$\sigma_8(2.33)$	0.3129 ± 0.0045
A_{143}^{dust}	0.97 ± 0.17	z_*	1090.25 ± 0.39	f_{2000}^{143}	31.9 ± 3.2
A_{217}^{dust}	0.97 ± 0.10	r_*	142.0 ± 1.6	f_{2000}^{217}	108.3 ± 2.2
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04050 ± 0.00051	$f_{2000}^{143 \times 217}$	33.9 ± 2.3
c_{100}	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.65 ± 0.15	χ_{simall}^2	397.1 ± 1.8
c_{217}	1.0013 ± 0.0016	z_{drag}	1060.84 ± 0.62	χ_{lowl}^2	21.73 ± 0.74
c_{TE}	0.9987 ± 0.0050	r_{drag}	144.6 ± 1.7	χ_{CamSpec}^2	11519.5 ± 6.3
c_{EE}	0.9960 ± 0.0054	k_D	0.1426 ± 0.0013	χ_{H073p45}^2	5.2 ± 2.9
H_0	69.8 ± 1.1	$100\theta_D$	0.16148 ± 0.00044	$\chi_{6\text{DF}}^2$	0.036 ± 0.050
Ω_Λ	0.6998 ± 0.0062	z_{eq}	3344 ± 24	χ_{MGS}^2	2.04 ± 0.52
Ω_m	0.3002 ± 0.0062	k_{eq}	0.01042 ± 0.00012	χ_{DR12BAO}^2	3.84 ± 0.59
$\Omega_m h^2$	0.1464 ± 0.0032	$100\theta_{\text{eq}}$	0.8243 ± 0.0046	χ_{prior}^2	7.9 ± 3.5
$\Omega_m h^3$	0.1022 ± 0.0035	$100\theta_{s,\text{eq}}$	0.4550 ± 0.0023	χ_{BAO}^2	5.92 ± 0.87
σ_8	0.819 ± 0.011	$H(0.15)$	75.1 ± 1.1	χ_{CMB}^2	11938.4 ± 6.2
S_8	0.819 ± 0.013	$D_M(0.15)$	621.7 ± 9.2		

$$\bar{\chi}_{\text{eff}}^2 = 11957.32; R - 1 = 0.01940$$

6.27 base_nnu_CamSpecHM_TTTEEE_lowl_lowE_Riess18_post_BAO_Pantheon18

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02256 ± 0.00016	$\sigma_8 \Omega_m^{0.5}$	0.4485 ± 0.0073	$H(0.38)$	85.2 ± 1.1
$\Omega_c h^2$	0.1232 ± 0.0031	$\sigma_8 \Omega_m^{0.25}$	0.6060 ± 0.0085	$D_M(0.38)$	1485 ± 21
$100\theta_{MC}$	1.04052 ± 0.00042	$\sigma_8/h^{0.5}$	0.980 ± 0.010	$H(0.51)$	92.0 ± 1.1
τ	0.0550 ± 0.0079	$r_{\text{drag}} h$	100.96 ± 0.78	$D_M(0.51)$	1926 ± 26
N_{eff}	3.36 ± 0.18	$\langle d^2 \rangle^{1/2}$	2.406 ± 0.024	$H(0.61)$	97.6 ± 1.2
$\ln(10^{10} A_s)$	3.052 ± 0.018	z_{re}	7.77 ± 0.80	$D_M(0.61)$	2242 ± 30
n_s	0.9785 ± 0.0061	$10^9 A_s$	2.116 ± 0.038	$H(2.33)$	239.8 ± 2.6
y_{cal}	1.0005 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.896 ± 0.017	$D_M(2.33)$	5635 ± 67
A_{100}^{PS}	246 ± 25	D_{40}	1210 ± 13	$f\sigma_8(0.15)$	0.4541 ± 0.0071
A_{143}^{PS}	43 ± 9	D_{220}	5723 ± 39	$\sigma_8(0.15)$	0.758 ± 0.010
A_{217}^{PS}	101 ± 10	D_{810}	2539 ± 14	$f\sigma_8(0.38)$	0.4751 ± 0.0067
A_{217}^{CIB}	42 ± 7	D_{1420}	814.4 ± 5.1	$\sigma_8(0.38)$	0.6730 ± 0.0092
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.6}$	D_{2000}	228.7 ± 2.0	$f\sigma_8(0.51)$	0.4751 ± 0.0065
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.12	$n_{s,0.002}$	0.9785 ± 0.0061	$\sigma_8(0.51)$	0.6303 ± 0.0086
$r_{143 \times 217}^{\text{CIB}}$	> 0.480	Y_P	0.2495 ± 0.0023	$f\sigma_8(0.61)$	0.4710 ± 0.0064
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	0.2508 ± 0.0023	$\sigma_8(0.61)$	0.6001 ± 0.0083
A^{kSZ}	$5.2^{+3.6}_{-2.5}$	$10^5 D/H$	2.656 ± 0.052	$f\sigma_8(2.33)$	0.3030 ± 0.0042
A_{100}^{dust}	1.02 ± 0.20	Age/Gyr	13.49 ± 0.16	$\sigma_8(2.33)$	0.3129 ± 0.0045
A_{143}^{dust}	0.97 ± 0.17	z_*	1090.25 ± 0.39	f_{2000}^{143}	31.9 ± 3.2
A_{217}^{dust}	0.97 ± 0.10	r_*	142.0 ± 1.6	f_{2000}^{217}	108.3 ± 2.2
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04050 ± 0.00051	$f_{2000}^{143 \times 217}$	33.9 ± 2.3
c_{100}	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.65 ± 0.15	χ_{simall}^2	397.1 ± 1.8
c_{217}	1.0013 ± 0.0016	z_{drag}	1060.85 ± 0.61	χ_{lowl}^2	21.73 ± 0.72
c_{TE}	0.9987 ± 0.0050	r_{drag}	144.6 ± 1.7	χ_{CamSpec}^2	11519.6 ± 6.3
c_{EE}	0.9960 ± 0.0054	k_D	0.1426 ± 0.0013	$\chi_{H073p45}^2$	5.1 ± 2.8
H_0	69.8 ± 1.0	$100\theta_D$	0.16149 ± 0.00044	χ_{JLA}^2	1034.81 ± 0.11
Ω_Λ	0.6999 ± 0.0059	z_{eq}	3344 ± 23	$\chi_{6\text{DF}}^2$	0.035 ± 0.048
Ω_m	0.3001 ± 0.0059	k_{eq}	0.01041 ± 0.00012	χ_{MGS}^2	2.05 ± 0.51
$\Omega_m h^2$	0.1464 ± 0.0032	$100\theta_{\text{eq}}$	0.8243 ± 0.0044	χ_{DR12BAO}^2	3.81 ± 0.55
$\Omega_m h^3$	0.1023 ± 0.0035	$100\theta_{s,\text{eq}}$	0.4550 ± 0.0022	χ_{prior}^2	7.9 ± 3.5
σ_8	0.819 ± 0.011	$H(0.15)$	75.1 ± 1.1	χ_{BAO}^2	5.90 ± 0.84
S_8	0.819 ± 0.013	$D_M(0.15)$	621.6 ± 9.1	χ_{CMB}^2	11938.4 ± 6.2
$\bar{\chi}_{\text{eff}}^2 = 12992.06; R - 1 = 0.01918$					

6.28 base_nnu_CamSpecHM_TTTEEE_lowl_lowE_Riess18_post_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02259 ± 0.00018	S_8	0.820 ± 0.012	$H(0.15)$	75.2 ± 1.2
$\Omega_c h^2$	0.1231 ± 0.0029	$\sigma_8 \Omega_m^{0.5}$	0.4489 ± 0.0068	$D_M(0.15)$	621 ± 10
$100\theta_{MC}$	1.04053 ± 0.00041	$\sigma_8 \Omega_m^{0.25}$	0.6071 ± 0.0072	$H(0.38)$	85.3 ± 1.2
τ	0.0576 ± 0.0078	$\sigma_8/h^{0.5}$	0.9815 ± 0.0089	$D_M(0.38)$	1483 ± 23
N_{eff}	3.36 ± 0.18	$r_{\text{drag}} h$	101.1 ± 1.0	$H(0.51)$	92.0 ± 1.2
$\ln(10^{10} A_s)$	3.058 ± 0.016	$\langle d^2 \rangle^{1/2}$	2.411 ± 0.022	$D_M(0.51)$	1923 ± 29
n_s	0.9788 ± 0.0068	z_{re}	8.04 ± 0.77	$H(0.61)$	97.7 ± 1.3
y_{cal}	1.0008 ± 0.0025	$10^9 A_s$	2.129 ± 0.035	$D_M(0.61)$	2240 ± 34
A_{100}^{PS}	247 ± 25	$10^9 A_s e^{-2\tau}$	1.897 ± 0.016	$H(2.33)$	239.8 ± 2.5
A_{143}^{PS}	43 ± 9	D_{40}	1211 ± 13	$D_M(2.33)$	5631 ± 70
A_{217}^{PS}	101 ± 10	D_{220}	5731 ± 39	$f\sigma_8(0.15)$	0.4545 ± 0.0064
A_{217}^{CIB}	41 ± 7	D_{810}	2541 ± 14	$\sigma_8(0.15)$	0.7598 ± 0.0091
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.6}$	D_{1420}	815.0 ± 5.1	$f\sigma_8(0.38)$	0.4759 ± 0.0058
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.12	D_{2000}	228.9 ± 2.0	$\sigma_8(0.38)$	0.6749 ± 0.0084
$r_{143 \times 217}^{\text{CIB}}$	> 0.473	$n_{s,0.002}$	0.9788 ± 0.0068	$f\sigma_8(0.51)$	0.4760 ± 0.0055
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P	0.2496 ± 0.0023	$\sigma_8(0.51)$	0.6322 ± 0.0081
A^{kSZ}	$5.1^{+3.5}_{-2.7}$	Y_P^{BBN}	0.2509 ± 0.0023	$f\sigma_8(0.61)$	0.4720 ± 0.0053
A_{100}^{dust}	1.01 ± 0.20	$10^5 D/H$	2.653 ± 0.051	$\sigma_8(0.61)$	0.6019 ± 0.0078
A_{143}^{dust}	0.96 ± 0.17	Age/Gyr	13.48 ± 0.17	$f\sigma_8(2.33)$	0.3040 ± 0.0041
A_{217}^{dust}	0.97 ± 0.10	z_*	1090.22 ± 0.38	$\sigma_8(2.33)$	0.3140 ± 0.0044
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	r_*	142.0 ± 1.6	f_{2000}^{143}	31.8 ± 3.2
c_{100}	0.9976 ± 0.0010	$100\theta_*$	1.04050 ± 0.00050	f_{2000}^{217}	108.3 ± 2.2
c_{217}	1.0013 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.64 ± 0.15	$f_{2000}^{143 \times 217}$	33.8 ± 2.3
c_{TE}	0.9986 ± 0.0050	z_{drag}	1060.90 ± 0.64	χ_{lensing}^2	9.92 ± 0.96
c_{EE}	0.9962 ± 0.0054	r_{drag}	144.5 ± 1.7	χ_{simall}^2	397.5 ± 2.1
H_0	70.0 ± 1.2	k_D	0.1426 ± 0.0012	χ_{lowl}^2	21.79 ± 0.80
Ω_Λ	0.7009 ± 0.0078	$100\theta_D$	0.16148 ± 0.00043	χ_{CamSpec}^2	11519.4 ± 6.4
Ω_m	0.2991 ± 0.0078	z_{eq}	3341 ± 29	χ_{H073p45}^2	5.0 ± 3.2
$\Omega_m h^2$	0.1463 ± 0.0030	k_{eq}	0.01041 ± 0.00011	χ_{prior}^2	7.8 ± 3.5
$\Omega_m h^3$	0.1024 ± 0.0036	$100\theta_{\text{eq}}$	0.8251 ± 0.0057	χ_{CMB}^2	11948.6 ± 6.6
σ_8	0.8209 ± 0.0096	$100\theta_{s,\text{eq}}$	0.4553 ± 0.0029		

$\bar{\chi}_{\text{eff}}^2 = 11961.40$; $\Delta\bar{\chi}_{\text{eff}}^2 = -2.22$; $R - 1 = 0.02109$

6.29 base_nnu_CamSpecHM_TTTEEE_lowl_lowE_Riess18_post_BAO_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02255 ± 0.00016	$\sigma_8 \Omega_m^{0.5}$	0.4501 ± 0.0060	$H(0.38)$	85.1 ± 1.1
$\Omega_c h^2$	0.1230 ± 0.0030	$\sigma_8 \Omega_m^{0.25}$	0.6076 ± 0.0070	$D_M(0.38)$	1488 ± 21
$100\theta_{MC}$	1.04053 ± 0.00042	$\sigma_8/h^{0.5}$	0.9826 ± 0.0084	$H(0.51)$	91.8 ± 1.1
τ	0.0568 ± 0.0074	$r_{\text{drag}} h$	100.82 ± 0.78	$D_M(0.51)$	1929 ± 26
N_{eff}	3.34 ± 0.17	$\langle d^2 \rangle^{1/2}$	2.415 ± 0.020	$H(0.61)$	97.5 ± 1.2
$\ln(10^{10} A_s)$	3.056 ± 0.016	z_{re}	7.96 ± 0.74	$D_M(0.61)$	2246 ± 30
n_s	0.9775 ± 0.0061	$10^9 A_s$	2.125 ± 0.033	$H(2.33)$	239.7 ± 2.5
y_{cal}	1.0007 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.897 ± 0.016	$D_M(2.33)$	5642 ± 67
A_{100}^{PS}	246 ± 25	D_{40}	1213 ± 12	$f\sigma_8(0.15)$	0.4556 ± 0.0058
A_{143}^{PS}	43 ± 9	D_{220}	5729 ± 39	$\sigma_8(0.15)$	0.7590 ± 0.0089
A_{217}^{PS}	101 ± 10	D_{810}	2540 ± 14	$f\sigma_8(0.38)$	0.4765 ± 0.0055
A_{217}^{CIB}	41_{-8}^{+7}	D_{1420}	814.9 ± 5.1	$\sigma_8(0.38)$	0.6740 ± 0.0082
A_{143}^{tSZ}	$3.7_{-2.6}^{+1.7}$	D_{2000}	229.0 ± 2.0	$f\sigma_8(0.51)$	0.4763 ± 0.0054
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.12	$n_{s,0.002}$	0.9775 ± 0.0061	$\sigma_8(0.51)$	0.6312 ± 0.0077
$r_{143 \times 217}^{\text{CIB}}$	> 0.471	Y_P	0.2493 ± 0.0022	$f\sigma_8(0.61)$	0.4721 ± 0.0053
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	0.2506 ± 0.0023	$\sigma_8(0.61)$	0.6009 ± 0.0074
A^{kSZ}	$5.1_{-2.8}^{+3.4}$	$10^5 D/H$	2.652 ± 0.051	$f\sigma_8(2.33)$	0.3034 ± 0.0039
A_{100}^{dust}	1.01 ± 0.20	Age/Gyr	13.51 ± 0.16	$\sigma_8(2.33)$	0.3133 ± 0.0041
A_{143}^{dust}	0.96 ± 0.17	z_*	1090.23 ± 0.38	f_{2000}^{143}	31.7 ± 3.2
A_{217}^{dust}	0.97 ± 0.10	r_*	142.1 ± 1.6	f_{2000}^{217}	108.2 ± 2.2
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04052 ± 0.00050	$f_{2000}^{143 \times 217}$	33.7 ± 2.3
c_{100}	0.9976 ± 0.0010	$D_M(z_*)/\text{Gpc}$	13.66 ± 0.15	χ_{lensing}^2	9.80 ± 0.83
c_{217}	1.0013 ± 0.0016	z_{drag}	1060.80 ± 0.60	χ_{simall}^2	397.3 ± 1.9
c_{TE}	0.9985 ± 0.0050	r_{drag}	144.7 ± 1.6	χ_{lowl}^2	21.90 ± 0.76
c_{EE}	0.9959 ± 0.0054	k_D	0.1425 ± 0.0012	χ_{CamSpec}^2	11518.7 ± 6.2
H_0	69.7 ± 1.1	$100\theta_D$	0.16144 ± 0.00043	χ_{H073p45}^2	5.5 ± 2.9
Ω_Λ	0.6988 ± 0.0060	z_{eq}	3348 ± 23	$\chi_{6\text{DF}}^2$	0.030 ± 0.042
Ω_m	0.3012 ± 0.0060	k_{eq}	0.01042 ± 0.00011	χ_{MGS}^2	1.96 ± 0.49
$\Omega_m h^2$	0.1462 ± 0.0030	$100\theta_{\text{eq}}$	0.8235 ± 0.0044	χ_{DR12BAO}^2	3.81 ± 0.55
$\Omega_m h^3$	0.1019 ± 0.0034	$100\theta_{s,\text{eq}}$	0.4546 ± 0.0022	χ_{prior}^2	7.8 ± 3.5
σ_8	0.8203 ± 0.0095	$H(0.15)$	75.0 ± 1.1	χ_{CMB}^2	11947.7 ± 6.3
S_8	0.822 ± 0.011	$D_M(0.15)$	622.9 ± 9.2	χ_{BAO}^2	5.80 ± 0.73

$$\bar{\chi}_{\text{eff}}^2 = 11966.84; \Delta\bar{\chi}_{\text{eff}}^2 = -1.97; R - 1 = 0.02276$$

6.30 base_nnu_CamSpecHM_TTTEEE_lowl_lowE_Riess18_post_BAO_lensing_Pantheon18

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_{\text{b}}h^2$	0.022562	0.02256 ± 0.00016	$\sigma_8\Omega_{\text{m}}^{0.25}$	0.6075	0.6076 ± 0.0070	$H(0.51)$	91.85	91.8 ± 1.1
$\Omega_{\text{c}}h^2$	0.12317	0.1231 ± 0.0030	$\sigma_8/h^{0.5}$	0.9821	0.9826 ± 0.0083	$D_{\text{M}}(0.51)$	1928.3	1929 ± 26
$100\theta_{\text{MC}}$	1.040535	1.04053 ± 0.00041	$r_{\text{drag}}h$	100.81	100.84 ± 0.75	$H(0.61)$	97.50	97.5 ± 1.2
τ	0.0560	0.0569 ± 0.0074	$\langle d^2 \rangle^{1/2}$	2.4134	2.415 ± 0.020	$D_{\text{M}}(0.61)$	2245.2	2246 ± 30
N_{eff}	3.343	3.34 ± 0.17	z_{re}	7.90	7.97 ± 0.73	$H(2.33)$	239.78	239.7 ± 2.5
$\ln(10^{10}A_{\text{s}})$	3.0548	3.056 ± 0.015	$10^9 A_{\text{s}}$	2.1216	2.125 ± 0.033	$D_{\text{M}}(2.33)$	5639	5641 ± 66
n_{s}	0.9775	0.9776 ± 0.0061	$10^9 A_{\text{s}}e^{-2\tau}$	1.8967	1.897 ± 0.016	$f\sigma_8(0.15)$	0.4555	0.4555 ± 0.0058
y_{cal}	1.00059	1.0007 ± 0.0025	D_{40}	1212.5	1213 ± 12	$\sigma_8(0.15)$	0.7587	0.7591 ± 0.0089
A_{100}^{PS}	245.5	246 ± 25	D_{220}	5727.4	5729 ± 39	$f\sigma_8(0.38)$	0.4763	0.4764 ± 0.0055
A_{143}^{PS}	40.5	43 ± 9	D_{810}	2539.4	2540 ± 14	$\sigma_8(0.38)$	0.6737	0.6741 ± 0.0081
A_{217}^{PS}	99.2	101 ± 10	D_{1420}	814.6	814.9 ± 5.1	$f\sigma_8(0.51)$	0.4762	0.4763 ± 0.0054
A_{217}^{CIB}	45.0	41_{-8}^{+7}	D_{2000}	228.83	229.0 ± 2.0	$\sigma_8(0.51)$	0.6309	0.6313 ± 0.0077
A_{143}^{tSZ}	5.07	$3.7_{-2.6}^{+1.7}$	$n_{\text{s},0.002}$	0.9775	0.9776 ± 0.0061	$f\sigma_8(0.61)$	0.4720	0.4721 ± 0.0053
$r_{143 \times 217}^{\text{PS}}$	0.557	0.65 ± 0.12	Y_{P}	0.24936	0.2493 ± 0.0022	$\sigma_8(0.61)$	0.6007	0.6010 ± 0.0074
$r_{143 \times 217}^{\text{CIB}}$	0.730	> 0.470	$Y_{\text{P}}^{\text{BBN}}$	0.25070	0.2506 ± 0.0022	$f\sigma_8(2.33)$	0.30324	0.3034 ± 0.0038
$\xi^{\text{tSZ} \times \text{CIB}}$	0.02	—	$10^5 D/H$	2.652	2.652 ± 0.051	$\sigma_8(2.33)$	0.31312	0.3133 ± 0.0041
A^{kSZ}	2.66	$5.1_{-2.8}^{+3.4}$	Age/Gyr	13.503	13.51 ± 0.16	f_{2000}^{143}	32.12	31.7 ± 3.2
A_{100}^{dust}	1.018	1.01 ± 0.20	z_*	1090.239	1090.23 ± 0.38	f_{2000}^{217}	108.40	108.2 ± 2.2
A_{143}^{dust}	0.976	0.96 ± 0.17	r_*	142.04	142.1 ± 1.6	$f_{2000}^{143 \times 217}$	33.80	33.7 ± 2.3
A_{217}^{dust}	0.965	0.97 ± 0.10	$100\theta_*$	1.04052	1.04051 ± 0.00050	χ_{lensing}^2	9.46	9.80 ± 0.83
$A_{143 \times 217}^{\text{dust}}$	1.004	1.03 ± 0.16	$D_{\text{M}}(z_*)/\text{Gpc}$	13.651	13.66 ± 0.15	χ_{small}^2	396.28	397.3 ± 1.9
c_{100}	0.99758	0.9976 ± 0.0010	z_{drag}	1060.85	1060.81 ± 0.60	χ_{lowl}^2	21.82	21.89 ± 0.75
c_{217}	1.00150	1.0013 ± 0.0016	r_{drag}	144.61	144.7 ± 1.6	χ_{CamSpec}^2	11503.8	11518.7 ± 6.2
c_{TE}	0.9983	0.9985 ± 0.0050	k_{D}	0.14254	0.1425 ± 0.0012	χ_{H073p45}^2	5.08	5.5 ± 2.9
c_{EE}	0.9957	0.9959 ± 0.0054	$100\theta_{\text{D}}$	0.161447	0.16144 ± 0.00043	χ_{JLA}^2	1034.7450	1034.81 ± 0.11
H_0	69.71	69.7 ± 1.0	z_{eq}	3349.1	3348 ± 22	$\chi_{6\text{DF}}^2$	0.0041	0.029 ± 0.040
Ω_{Λ}	0.6988	0.6990 ± 0.0058	k_{eq}	0.010423	0.01042 ± 0.00011	χ_{MGS}^2	1.892	1.97 ± 0.48
Ω_{m}	0.3012	0.3010 ± 0.0058	$100\theta_{\text{eq}}$	0.82337	0.8237 ± 0.0042	χ_{DR12BAO}^2	3.432	3.79 ± 0.52
$\Omega_{\text{m}}h^2$	0.14637	0.1463 ± 0.0030	$100\theta_{\text{s,eq}}$	0.45449	0.4546 ± 0.0021	χ_{prior}^2	2.36	7.8 ± 3.5
$\Omega_{\text{m}}h^3$	0.10204	0.1020 ± 0.0034	$H(0.15)$	74.98	75.0 ± 1.0	χ_{CMB}^2	11931.3	11947.7 ± 6.3
σ_8	0.8200	0.8203 ± 0.0095	$D_{\text{M}}(0.15)$	622.6	622.8 ± 9.0	χ_{BAO}^2	5.328	5.79 ± 0.70
S_8	0.8216	0.822 ± 0.011	$H(0.38)$	85.11	85.1 ± 1.1			
$\sigma_8\Omega_{\text{m}}^{0.5}$	0.4500	0.4501 ± 0.0060	$D_{\text{M}}(0.38)$	1487.3	1488 ± 21			

Best-fit $\chi_{\text{eff}}^2 = 12978.85$; $\bar{\chi}_{\text{eff}}^2 = 13001.59$; $\Delta\chi_{\text{eff}}^2 = -2.05$; $R - 1 = 0.02251$

χ_{eff}^2 : BAO - 6DF: 0.00 MGS: 1.89 DR12BAO: 3.43 CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p_teb_consext8: 9.46 small_100x143.offlike5_EE_Aplanck_B: 396.28 commander_dx12_v3_2_29: 21.82 CamSpec like_10.7HM_1400_unified: 11503.77 Hubble - H073p45: 5.08 SN - JLA Pantheon18: 1034.74

6.31 base_nnu_CamSpecHM_TTTEEE_lowl_lowE_Riess18_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02261 ± 0.00018	S_8	0.815 ± 0.015	$H(0.15)$	75.5 ± 1.2
$\Omega_c h^2$	0.1231 ± 0.0031	$\sigma_8 \Omega_m^{0.5}$	0.4464 ± 0.0085	$D_M(0.15)$	618 ± 10
$100\theta_{MC}$	1.04054 ± 0.00042	$\sigma_8 \Omega_m^{0.25}$	0.6048 ± 0.0089	$H(0.38)$	85.6 ± 1.2
τ	$0.0565^{+0.0060}_{-0.0083}$	$\sigma_8/h^{0.5}$	0.978 ± 0.011	$D_M(0.38)$	1478 ± 23
N_{eff}	3.38 ± 0.18	$r_{\text{drag}} h$	101.4 ± 1.1	$H(0.51)$	92.3 ± 1.2
$\ln(10^{10} A_s)$	$3.055^{+0.015}_{-0.018}$	$\langle d^2 \rangle^{1/2}$	2.401 ± 0.027	$D_M(0.51)$	1917 ± 30
n_s	0.9805 ± 0.0069	z_{re}	$7.92^{+0.65}_{-0.81}$	$H(0.61)$	97.9 ± 1.3
y_{cal}	1.0005 ± 0.0025	$10^9 A_s$	$2.123^{+0.031}_{-0.039}$	$D_M(0.61)$	2233 ± 34
A_{100}^{PS}	247 ± 25	$10^9 A_s e^{-2\tau}$	1.896 ± 0.017	$H(2.33)$	239.9 ± 2.6
A_{143}^{PS}	43 ± 9	D_{40}	1207 ± 14	$D_M(2.33)$	5620 ± 70
A_{217}^{PS}	101 ± 10	D_{220}	5726 ± 39	$f\sigma_8(0.15)$	0.4522 ± 0.0081
A_{217}^{CIB}	42 ± 7	D_{810}	2539 ± 14	$\sigma_8(0.15)$	0.7588 ± 0.0099
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.6}$	D_{1420}	814.5 ± 5.1	$f\sigma_8(0.38)$	0.4740 ± 0.0072
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.12	D_{2000}	228.7 ± 2.0	$\sigma_8(0.38)$	0.6742 ± 0.0090
$r_{143 \times 217}^{\text{CIB}}$	> 0.481	$n_{s,0.002}$	0.9805 ± 0.0069	$f\sigma_8(0.51)$	0.4744 ± 0.0067
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P	0.2499 ± 0.0023	$\sigma_8(0.51)$	0.6317 ± 0.0085
A^{kSZ}	$5.2^{+3.8}_{-2.3}$	Y_P^{BBN}	0.2512 ± 0.0023	$f\sigma_8(0.61)$	0.4706 ± 0.0064
A_{100}^{dust}	1.02 ± 0.20	$10^5 D/H$	2.657 ± 0.051	$\sigma_8(0.61)$	0.6015 ± 0.0081
A_{143}^{dust}	0.98 ± 0.18	Age/Gyr	13.46 ± 0.17	$f\sigma_8(2.33)$	0.3038 ± 0.0042
A_{217}^{dust}	0.97 ± 0.10	z_*	1090.21 ± 0.39	$\sigma_8(2.33)$	0.3140 ± 0.0045
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	r_*	141.8 ± 1.6	f_{2000}^{143}	32.0 ± 3.3
c_{100}	0.9975 ± 0.0011	$100\theta_*$	1.04049 ± 0.00050	f_{2000}^{217}	108.4 ± 2.2
c_{217}	1.0013 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.63 ± 0.15	$f_{2000}^{143 \times 217}$	33.9 ± 2.3
c_{TE}	0.9989 ± 0.0050	z_{drag}	1060.98 ± 0.64	χ_{simall}^2	397.1 ± 1.9
c_{EE}	0.9965 ± 0.0055	r_{drag}	144.4 ± 1.7	χ_{lowl}^2	21.54 ± 0.77
H_0	70.2 ± 1.2	k_D	0.1427 ± 0.0013	χ_{CamSpec}^2	11520.6 ± 6.6
Ω_Λ	0.7032 ± 0.0082	$100\theta_D$	0.16153 ± 0.00044	χ_{H073p45}^2	4.3 ± 3.0
Ω_m	0.2968 ± 0.0082	z_{eq}	3332 ± 31	χ_{prior}^2	7.9 ± 3.5
$\Omega_m h^2$	0.1464 ± 0.0031	k_{eq}	0.01040 ± 0.00012	χ_{CMB}^2	11939.3 ± 6.4
$\Omega_m h^3$	0.1029 ± 0.0036	$100\theta_{\text{eq}}$	0.8268 ± 0.0061		
σ_8	0.819 ± 0.011	$100\theta_{s,\text{eq}}$	0.4563 ± 0.0031		

$$\bar{\chi}_{\text{eff}}^2 = 11951.46; \Delta\bar{\chi}_{\text{eff}}^2 = -2.54; R - 1 = 0.01420$$

6.32 base_nnu_CamSpecHM_TTTEEE_lowl_lowE_Riess18_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02256 ± 0.00017	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4489 ± 0.0073	$H(0.38)$	85.2 ± 1.1
$\Omega_{\mathrm{c}}h^2$	0.1232 ± 0.0031	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6065 ± 0.0083	$D_{\mathrm{M}}(0.38)$	1485 ± 21
$100\theta_{\mathrm{MC}}$	1.04052 ± 0.00042	$\sigma_8/h^{0.5}$	0.981 ± 0.010	$H(0.51)$	92.0 ± 1.2
τ	$0.0559^{+0.0057}_{-0.0082}$	$r_{\mathrm{drag}}h$	100.97 ± 0.81	$D_{\mathrm{M}}(0.51)$	1926 ± 27
N_{eff}	3.35 ± 0.18	$\langle d^2 \rangle^{1/2}$	2.408 ± 0.024	$H(0.61)$	97.6 ± 1.2
$\ln(10^{10}A_{\mathrm{s}})$	$3.054^{+0.015}_{-0.018}$	z_{re}	$7.87^{+0.63}_{-0.82}$	$D_{\mathrm{M}}(0.61)$	2242 ± 31
n_{s}	0.9786 ± 0.0062	$10^9 A_{\mathrm{s}}$	$2.120^{+0.031}_{-0.038}$	$H(2.33)$	239.8 ± 2.6
y_{cal}	1.0005 ± 0.0025	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.896 ± 0.017	$D_{\mathrm{M}}(2.33)$	5635 ± 68
A_{100}^{PS}	246 ± 25	D_{40}	1210 ± 13	$f\sigma_8(0.15)$	0.4544 ± 0.0070
A_{143}^{PS}	43 ± 9	D_{220}	5723 ± 39	$\sigma_8(0.15)$	0.7584 ± 0.0099
A_{217}^{PS}	101 ± 10	D_{810}	2539 ± 14	$f\sigma_8(0.38)$	0.4756 ± 0.0066
A_{217}^{CIB}	42 ± 7	D_{1420}	814.4 ± 5.1	$\sigma_8(0.38)$	0.6736 ± 0.0089
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.6}$	D_{2000}	228.8 ± 2.0	$f\sigma_8(0.51)$	0.4755 ± 0.0064
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.12	$n_{\mathrm{s},0.002}$	0.9786 ± 0.0062	$\sigma_8(0.51)$	0.6309 ± 0.0084
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.478	Y_{P}	0.2495 ± 0.0023	$f\sigma_8(0.61)$	0.4714 ± 0.0062
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.2508 ± 0.0023	$\sigma_8(0.61)$	0.6006 ± 0.0080
A^{kSZ}	$5.2^{+3.6}_{-2.6}$	$10^5 \mathrm{D}/\mathrm{H}$	2.655 ± 0.052	$f\sigma_8(2.33)$	0.3033 ± 0.0041
A_{100}^{dust}	1.02 ± 0.20	$\mathrm{Age}/\mathrm{Gyr}$	13.49 ± 0.16	$\sigma_8(2.33)$	0.3132 ± 0.0043
A_{143}^{dust}	0.97 ± 0.17	z_*	1090.25 ± 0.39	f_{2000}^{143}	31.8 ± 3.2
A_{217}^{dust}	0.97 ± 0.10	r_*	142.0 ± 1.6	f_{2000}^{217}	108.3 ± 2.2
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04050 ± 0.00051	$f_{2000}^{143 \times 217}$	33.8 ± 2.3
c_{100}	0.9975 ± 0.0011	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.65 ± 0.15	χ_{simall}^2	397.0 ± 1.8
c_{217}	1.0013 ± 0.0016	z_{drag}	1060.85 ± 0.62	χ_{lowl}^2	21.74 ± 0.74
c_{TE}	0.9986 ± 0.0050	r_{drag}	144.6 ± 1.7	$\chi_{\mathrm{CamSpec}}^2$	11519.4 ± 6.3
c_{EE}	0.9960 ± 0.0054	k_{D}	0.1426 ± 0.0013	$\chi_{\mathrm{H073p45}}^2$	5.1 ± 2.9
H_0	69.8 ± 1.1	$100\theta_{\mathrm{D}}$	0.16148 ± 0.00044	$\chi_{6\mathrm{DF}}^2$	0.037 ± 0.050
Ω_{Λ}	0.6999 ± 0.0061	z_{eq}	3344 ± 24	χ_{MGS}^2	2.05 ± 0.52
Ω_{m}	0.3001 ± 0.0061	k_{eq}	0.01041 ± 0.00012	$\chi_{\mathrm{DR12BAO}}^2$	3.84 ± 0.59
$\Omega_{\mathrm{m}}h^2$	0.1464 ± 0.0032	$100\theta_{\mathrm{eq}}$	0.8244 ± 0.0045	χ_{prior}^2	7.9 ± 3.5
$\Omega_{\mathrm{m}}h^3$	0.1023 ± 0.0035	$100\theta_{\mathrm{s,eq}}$	0.4550 ± 0.0023	χ_{BAO}^2	5.93 ± 0.88
σ_8	0.820 ± 0.011	$H(0.15)$	75.1 ± 1.1	χ_{CMB}^2	11938.2 ± 6.2
S_8	0.820 ± 0.013	$D_{\mathrm{M}}(0.15)$	621.6 ± 9.2		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11957.12; R - 1 = 0.01923$$

6.33 base_nnu_CamSpecHM_TTTEEE_lowl_lowE_Riess18_post_BAO_Pantheon18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02257 ± 0.00016	$\sigma_8 \Omega_m^{0.5}$	0.4489 ± 0.0072	$H(0.38)$	85.2 ± 1.1
$\Omega_c h^2$	0.1232 ± 0.0031	$\sigma_8 \Omega_m^{0.25}$	0.6065 ± 0.0083	$D_M(0.38)$	1485 ± 21
$100\theta_{MC}$	1.04052 ± 0.00042	$\sigma_8/h^{0.5}$	0.981 ± 0.010	$H(0.51)$	92.0 ± 1.1
τ	$0.0559^{+0.0057}_{-0.0082}$	$r_{\text{drag}} h$	100.98 ± 0.78	$D_M(0.51)$	1925 ± 26
N_{eff}	3.36 ± 0.18	$\langle d^2 \rangle^{1/2}$	2.408 ± 0.023	$H(0.61)$	97.6 ± 1.2
$\ln(10^{10} A_s)$	$3.054^{+0.015}_{-0.018}$	z_{re}	$7.87^{+0.63}_{-0.82}$	$D_M(0.61)$	2242 ± 30
n_s	0.9786 ± 0.0061	$10^9 A_s$	$2.120^{+0.031}_{-0.038}$	$H(2.33)$	239.8 ± 2.6
y_{cal}	1.0005 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.896 ± 0.017	$D_M(2.33)$	5634 ± 67
A_{100}^{PS}	246 ± 25	D_{40}	1210 ± 13	$f\sigma_8(0.15)$	0.4544 ± 0.0070
A_{143}^{PS}	43 ± 9	D_{220}	5723 ± 39	$\sigma_8(0.15)$	0.7585 ± 0.0099
A_{217}^{PS}	101 ± 10	D_{810}	2539 ± 14	$f\sigma_8(0.38)$	0.4755 ± 0.0066
A_{217}^{CIB}	42 ± 7	D_{1420}	814.5 ± 5.1	$\sigma_8(0.38)$	0.6736 ± 0.0089
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.6}$	D_{2000}	228.8 ± 2.0	$f\sigma_8(0.51)$	0.4755 ± 0.0064
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.12	$n_{s,0.002}$	0.9786 ± 0.0061	$\sigma_8(0.51)$	0.6309 ± 0.0083
$r_{143 \times 217}^{\text{CIB}}$	> 0.478	Y_P	0.2495 ± 0.0023	$f\sigma_8(0.61)$	0.4714 ± 0.0062
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	0.2508 ± 0.0023	$\sigma_8(0.61)$	0.6007 ± 0.0080
A^{kSZ}	$5.2^{+3.6}_{-2.6}$	10^5D/H	2.656 ± 0.052	$f\sigma_8(2.33)$	0.3033 ± 0.0041
A_{100}^{dust}	1.02 ± 0.20	Age/Gyr	13.49 ± 0.16	$\sigma_8(2.33)$	0.3132 ± 0.0043
A_{143}^{dust}	0.97 ± 0.17	z_*	1090.24 ± 0.39	f_{2000}^{143}	31.8 ± 3.2
A_{217}^{dust}	0.97 ± 0.10	r_*	142.0 ± 1.6	f_{2000}^{217}	108.3 ± 2.2
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04049 ± 0.00051	$f_{2000}^{143 \times 217}$	33.8 ± 2.3
c_{100}	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.65 ± 0.15	χ_{simall}^2	397.0 ± 1.8
c_{217}	1.0013 ± 0.0016	z_{drag}	1060.85 ± 0.61	χ_{lowl}^2	21.73 ± 0.73
c_{TE}	0.9986 ± 0.0050	r_{drag}	144.6 ± 1.7	χ_{CamSpec}^2	11519.4 ± 6.3
c_{EE}	0.9960 ± 0.0054	k_D	0.1426 ± 0.0013	χ_{H073p45}^2	5.1 ± 2.8
H_0	69.9 ± 1.0	$100\theta_D$	0.16148 ± 0.00044	χ_{JLA}^2	1034.81 ± 0.11
Ω_Λ	0.7000 ± 0.0059	z_{eq}	3344 ± 23	$\chi_{6\text{DF}}^2$	0.035 ± 0.048
Ω_m	0.3000 ± 0.0059	k_{eq}	0.01041 ± 0.00012	χ_{MGS}^2	2.06 ± 0.50
$\Omega_m h^2$	0.1464 ± 0.0032	$100\theta_{\text{eq}}$	0.8244 ± 0.0044	χ_{DR12BAO}^2	3.81 ± 0.55
$\Omega_m h^3$	0.1023 ± 0.0035	$100\theta_{s,\text{eq}}$	0.4550 ± 0.0022	χ_{prior}^2	7.9 ± 3.5
σ_8	0.820 ± 0.011	$H(0.15)$	75.1 ± 1.1	χ_{BAO}^2	5.90 ± 0.84
S_8	0.820 ± 0.013	$D_M(0.15)$	621.5 ± 9.1	χ_{CMB}^2	11938.2 ± 6.2

$$\bar{\chi}_{\text{eff}}^2 = 12991.86; R - 1 = 0.01898$$

6.34 base_nnu_CamSpecHM_TTTEEE_lowl_lowE_Riess18_post_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02259 ± 0.00018	S_8	0.820 ± 0.012	$H(0.15)$	75.2 ± 1.2
$\Omega_c h^2$	0.1231 ± 0.0029	$\sigma_8 \Omega_m^{0.5}$	0.4489 ± 0.0068	$D_M(0.15)$	621 ± 10
$100\theta_{MC}$	1.04053 ± 0.00041	$\sigma_8 \Omega_m^{0.25}$	0.6072 ± 0.0072	$H(0.38)$	85.3 ± 1.2
τ	$0.0580^{+0.0064}_{-0.0081}$	$\sigma_8/h^{0.5}$	0.9817 ± 0.0088	$D_M(0.38)$	1483 ± 23
N_{eff}	3.36 ± 0.18	$r_{\text{drag}} h$	101.1 ± 1.0	$H(0.51)$	92.1 ± 1.2
$\ln(10^{10} A_s)$	$3.059^{+0.014}_{-0.016}$	$\langle d^2 \rangle^{1/2}$	2.412 ± 0.022	$D_M(0.51)$	1923 ± 29
n_s	0.9789 ± 0.0068	z_{re}	$8.08^{+0.68}_{-0.77}$	$H(0.61)$	97.7 ± 1.3
y_{cal}	1.0008 ± 0.0025	$10^9 A_s$	$2.131^{+0.030}_{-0.036}$	$D_M(0.61)$	2239 ± 34
A_{100}^{PS}	247 ± 25	$10^9 A_s e^{-2\tau}$	1.897 ± 0.016	$H(2.33)$	239.8 ± 2.5
A_{143}^{PS}	43 ± 9	D_{40}	1211 ± 13	$D_M(2.33)$	5631 ± 70
A_{217}^{PS}	101 ± 10	D_{220}	5731 ± 39	$f\sigma_8(0.15)$	0.4546 ± 0.0064
A_{217}^{CIB}	41 ± 7	D_{810}	2541 ± 14	$\sigma_8(0.15)$	0.7601 ± 0.0090
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.6}$	D_{1420}	815.0 ± 5.1	$f\sigma_8(0.38)$	0.4760 ± 0.0057
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.12	D_{2000}	228.9 ± 2.0	$\sigma_8(0.38)$	0.6752 ± 0.0083
$r_{143 \times 217}^{\text{CIB}}$	> 0.473	$n_{s,0.002}$	0.9789 ± 0.0068	$f\sigma_8(0.51)$	0.4761 ± 0.0055
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P	0.2496 ± 0.0023	$\sigma_8(0.51)$	0.6325 ± 0.0079
A^{kSZ}	$5.1^{+3.5}_{-2.7}$	Y_P^{BBN}	0.2509 ± 0.0023	$f\sigma_8(0.61)$	0.4721 ± 0.0053
A_{100}^{dust}	1.01 ± 0.20	$10^5 D/H$	2.653 ± 0.050	$\sigma_8(0.61)$	0.6022 ± 0.0076
A_{143}^{dust}	0.96 ± 0.17	Age/Gyr	13.48 ± 0.17	$f\sigma_8(2.33)$	0.3041 ± 0.0040
A_{217}^{dust}	0.97 ± 0.10	z_*	1090.21 ± 0.37	$\sigma_8(2.33)$	0.3141 ± 0.0044
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	r_*	142.0 ± 1.6	f_{2000}^{143}	31.7 ± 3.2
c_{100}	0.9976 ± 0.0010	$100\theta_*$	1.04050 ± 0.00050	f_{2000}^{217}	108.3 ± 2.2
c_{217}	1.0013 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.64 ± 0.15	$f_{2000}^{143 \times 217}$	33.8 ± 2.3
c_{TE}	0.9985 ± 0.0050	z_{drag}	1060.91 ± 0.64	χ_{lensing}^2	9.90 ± 0.93
c_{EE}	0.9963 ± 0.0054	r_{drag}	144.5 ± 1.7	χ_{simall}^2	397.5 ± 2.1
H_0	70.0 ± 1.2	k_D	0.1426 ± 0.0012	χ_{lowl}^2	21.78 ± 0.80
Ω_Λ	0.7010 ± 0.0077	$100\theta_D$	0.16148 ± 0.00043	χ_{CamSpec}^2	11519.4 ± 6.4
Ω_m	0.2990 ± 0.0077	z_{eq}	3340 ± 29	χ_{H073p45}^2	4.9 ± 3.2
$\Omega_m h^2$	0.1463 ± 0.0030	k_{eq}	0.01041 ± 0.00011	χ_{prior}^2	7.8 ± 3.5
$\Omega_m h^3$	0.1024 ± 0.0036	$100\theta_{\text{eq}}$	0.8252 ± 0.0056	χ_{CMB}^2	11948.5 ± 6.5
σ_8	0.8212 ± 0.0095	$100\theta_{s,\text{eq}}$	0.4554 ± 0.0028		

$$\bar{\chi}_{\text{eff}}^2 = 11961.28; \Delta\bar{\chi}_{\text{eff}}^2 = -2.23; R - 1 = 0.02116$$

6.35 base_nnu_CamSpecHM_TTTEEE_lowl_lowE_Riess18_post_BAO_lensing_Pantheon18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02256 ± 0.00016	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6077 ± 0.0069	$H(0.51)$	91.8 ± 1.1
$\Omega_{\mathrm{c}}h^2$	0.1230 ± 0.0029	$\sigma_8/h^{0.5}$	0.9828 ± 0.0082	$D_{\mathrm{M}}(0.51)$	1929 ± 26
$100\theta_{\mathrm{MC}}$	1.04053 ± 0.00041	$r_{\mathrm{drag}}h$	100.86 ± 0.74	$H(0.61)$	97.5 ± 1.2
τ	$0.0573^{+0.0061}_{-0.0077}$	$\langle d^2 \rangle^{1/2}$	2.415 ± 0.020	$D_{\mathrm{M}}(0.61)$	2246 ± 30
N_{eff}	3.34 ± 0.17	z_{re}	$8.01^{+0.65}_{-0.75}$	$H(2.33)$	239.7 ± 2.5
$\ln(10^{10}A_{\mathrm{s}})$	$3.057^{+0.014}_{-0.015}$	$10^9 A_{\mathrm{s}}$	$2.127^{+0.029}_{-0.033}$	$D_{\mathrm{M}}(2.33)$	5641 ± 66
n_{s}	0.9777 ± 0.0060	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.896 ± 0.016	$f\sigma_8(0.15)$	0.4556 ± 0.0058
y_{cal}	1.0007 ± 0.0025	D_{40}	1213 ± 12	$\sigma_8(0.15)$	0.7593 ± 0.0088
A_{100}^{PS}	246 ± 25	D_{220}	5729 ± 39	$f\sigma_8(0.38)$	0.4765 ± 0.0055
A_{143}^{PS}	43 ± 9	D_{810}	2540 ± 14	$\sigma_8(0.38)$	0.6743 ± 0.0080
A_{217}^{PS}	101 ± 10	D_{1420}	814.9 ± 5.1	$f\sigma_8(0.51)$	0.4764 ± 0.0053
A_{217}^{CIB}	41^{+7}_{-8}	D_{2000}	229.0 ± 2.0	$\sigma_8(0.51)$	0.6315 ± 0.0076
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.6}$	$n_{\mathrm{s},0.002}$	0.9777 ± 0.0060	$f\sigma_8(0.61)$	0.4722 ± 0.0052
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.12	Y_{P}	0.2493 ± 0.0022	$\sigma_8(0.61)$	0.6012 ± 0.0073
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.470	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.2506 ± 0.0022	$f\sigma_8(2.33)$	0.3035 ± 0.0038
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$10^5 \mathrm{D}/\mathrm{H}$	2.652 ± 0.051	$\sigma_8(2.33)$	0.3134 ± 0.0040
A^{kSZ}	$5.1^{+3.4}_{-2.8}$	$\mathrm{Age}/\mathrm{Gyr}$	13.51 ± 0.16	f_{2000}^{143}	31.7 ± 3.2
A_{100}^{dust}	1.01 ± 0.20	z_*	1090.23 ± 0.37	f_{2000}^{217}	108.2 ± 2.2
A_{143}^{dust}	0.96 ± 0.17	r_*	142.1 ± 1.6	$f_{2000}^{143 \times 217}$	33.7 ± 2.3
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04051 ± 0.00050	$\chi_{\mathrm{lensing}}^2$	9.77 ± 0.79
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.66 ± 0.15	χ_{simall}^2	397.3 ± 1.9
c_{100}	0.9976 ± 0.0010	z_{drag}	1060.81 ± 0.60	χ_{lowl}^2	21.89 ± 0.75
c_{217}	1.0013 ± 0.0016	r_{drag}	144.7 ± 1.6	$\chi_{\mathrm{CamSpec}}^2$	11518.7 ± 6.2
c_{TE}	0.9984 ± 0.0050	k_{D}	0.1425 ± 0.0012	$\chi_{\mathrm{H073p45}}^2$	5.5 ± 2.9
c_{EE}	0.9959 ± 0.0054	$100\theta_{\mathrm{D}}$	0.16144 ± 0.00043	χ_{JLA}^2	1034.81 ± 0.11
H_0	69.7 ± 1.0	z_{eq}	3347 ± 22	$\chi_{6\mathrm{DF}}^2$	0.029 ± 0.040
Ω_{Λ}	0.6991 ± 0.0057	k_{eq}	0.01041 ± 0.00011	χ_{MGS}^2	1.98 ± 0.48
Ω_{m}	0.3009 ± 0.0057	$100\theta_{\mathrm{eq}}$	0.8237 ± 0.0042	$\chi_{\mathrm{DR12BAO}}^2$	3.78 ± 0.51
$\Omega_{\mathrm{m}}h^2$	0.1462 ± 0.0030	$100\theta_{\mathrm{s,eq}}$	0.4547 ± 0.0021	χ_{prior}^2	7.8 ± 3.5
$\Omega_{\mathrm{m}}h^3$	0.1020 ± 0.0034	$H(0.15)$	75.0 ± 1.0	χ_{CMB}^2	11947.6 ± 6.2
σ_8	0.8206 ± 0.0093	$D_{\mathrm{M}}(0.15)$	622.7 ± 9.0	χ_{BAO}^2	5.79 ± 0.70
S_8	0.822 ± 0.011	$H(0.38)$	85.1 ± 1.1		
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4501 ± 0.0059	$D_{\mathrm{M}}(0.38)$	1488 ± 21		

$$\bar{\chi}_{\mathrm{eff}}^2 = 13001.46; \Delta\bar{\chi}_{\mathrm{eff}}^2 = -2.07; R - 1 = 0.02255$$

7 nnu+meffsterile

7.1 base_nnu_meffsterile_CamSpecHM_TTTEEE_lowl_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_{\text{b}} h^2$	0.022298	0.02237 ± 0.00017	$\Omega_{\text{m}} h^3$	0.09691	$0.09813^{+0.00067}_{-0.0022}$	$100\theta_{\text{eq}}$	0.8160	$0.8265^{+0.0054}_{-0.014}$
$\Omega_{\text{c}} h^2$	0.12021	$0.1198^{+0.0036}_{-0.0025}$	σ_8	0.8114	$0.778^{+0.031}_{-0.017}$	$100\theta_{\text{s,eq}}$	0.45084	$0.4563^{+0.0028}_{-0.0072}$
$100\theta_{\text{MC}}$	1.040842	$1.04068^{+0.00038}_{-0.00034}$	S_8	0.8281	$0.805^{+0.027}_{-0.019}$	$H(0.15)$	73.00	$72.79^{+0.56}_{-0.87}$
τ	0.0547	0.0528 ± 0.0080	$\sigma_8 \Omega_{\text{m}}^{0.5}$	0.4536	$0.441^{+0.015}_{-0.010}$	$D_{\text{M}}(0.15)$	640.4	$642.9^{+8.2}_{-6.0}$
$m_{\nu, \text{sterile}}^{\text{eff}} [\text{eV}]$	0.001	< 0.319	$\sigma_8 \Omega_{\text{m}}^{0.25}$	0.6067	$0.586^{+0.021}_{-0.013}$	$H(0.38)$	83.15	$83.14^{+0.35}_{-0.75}$
N_{eff}	3.089	< 3.21	$\sigma_8/h^{0.5}$	0.9862	$0.948^{+0.035}_{-0.019}$	$D_{\text{M}}(0.38)$	1527.0	1531^{+17}_{-11}
$\ln(10^{10} A_{\text{s}})$	3.0445	3.043 ± 0.017	$r_{\text{drag}} h$	99.44	$98.3^{+1.6}_{-1.3}$	$H(0.51)$	89.898	$90.00^{+0.26}_{-0.72}$
n_{s}	0.9671	$0.9674^{+0.0051}_{-0.0067}$	$\langle d^2 \rangle^{1/2}$	2.4372	2.430 ± 0.030	$D_{\text{M}}(0.51)$	1978.0	1982^{+21}_{-13}
y_{cal}	1.00062	1.0005 ± 0.0026	z_{re}	7.75	7.56 ± 0.82	$H(0.61)$	95.539	$95.73^{+0.23}_{-0.71}$
A_{100}^{PS}	238.8	244 ± 25	$10^9 A_{\text{s}}$	2.1000	2.096 ± 0.036	$D_{\text{M}}(0.61)$	2301.5	2305^{+23}_{-13}
A_{143}^{PS}	44.7	42 ± 8	$10^9 A_{\text{s}} e^{-2\tau}$	1.8822	$1.886^{+0.013}_{-0.014}$	$H(2.33)$	236.77	$238.6^{+1.3}_{-2.4}$
A_{217}^{PS}	102.0	101 ± 10	D_{40}	1225.7	1222 ± 15	$D_{\text{M}}(2.33)$	5749.0	5734^{+41}_{-13}
A_{217}^{CIB}	42.1	41 ± 7	D_{220}	5718.9	5717 ± 40	$f\sigma_8(0.15)$	0.4581	$0.445^{+0.015}_{-0.010}$
A_{143}^{tSZ}	4.79	$3.7^{+1.7}_{-2.7}$	D_{810}	2536.7	2536 ± 14	$\sigma_8(0.15)$	0.7497	$0.718^{+0.029}_{-0.016}$
$r_{143 \times 217}^{\text{PS}}$	0.682	0.65 ± 0.12	D_{1420}	815.34	814.4 ± 5.0	$f\sigma_8(0.38)$	0.4762	$0.460^{+0.016}_{-0.0098}$
$r_{143 \times 217}^{\text{CIB}}$	0.695	$0.58^{+0.40}_{-0.14}$	D_{2000}	229.99	229.0 ± 1.8	$\sigma_8(0.38)$	0.6645	$0.636^{+0.026}_{-0.015}$
$\xi^{\text{tSZ} \times \text{CIB}}$	0.55	—	$n_{\text{s}, 0.002}$	0.9671	$0.9674^{+0.0051}_{-0.0067}$	$f\sigma_8(0.51)$	0.4747	$0.458^{+0.016}_{-0.0097}$
A^{kSZ}	3.0	—	Y_{P}	0.24594	$0.24711^{+0.00054}_{-0.0017}$	$\sigma_8(0.51)$	0.6218	$0.595^{+0.025}_{-0.014}$
A_{100}^{dust}	1.006	1.01 ± 0.20	$Y_{\text{P}}^{\text{BBN}}$	0.24727	$0.24844^{+0.00054}_{-0.0017}$	$f\sigma_8(0.61)$	0.4697	$0.453^{+0.016}_{-0.0097}$
A_{143}^{dust}	0.969	0.97 ± 0.17	$10^5 \text{D}/\text{H}$	2.6141	$2.632^{+0.034}_{-0.045}$	$\sigma_8(0.61)$	0.5916	$0.566^{+0.024}_{-0.014}$
A_{217}^{dust}	0.966	0.97 ± 0.10	Age/Gyr	13.763	$13.726^{+0.098}_{-0.031}$	$f\sigma_8(2.33)$	0.2983	$0.285^{+0.012}_{-0.0071}$
$A_{143 \times 217}^{\text{dust}}$	1.021	1.03 ± 0.16	z_*	1090.071	$1090.25^{+0.32}_{-0.39}$	$\sigma_8(2.33)$	0.3075	$0.293^{+0.013}_{-0.0075}$
c_{100}	0.99762	0.9975 ± 0.0010	r_*	144.22	$143.3^{+1.3}_{-0.60}$	f_{2000}^{143}	30.60	31.4 ± 3.1
c_{217}	1.00124	1.0012 ± 0.0016	$100\theta_*$	1.041009	$1.04080^{+0.00043}_{-0.00034}$	f_{2000}^{217}	107.24	108.0 ± 2.1
c_{TE}	0.99690	0.9975 ± 0.0050	$D_{\text{M}}(z_*)/\text{Gpc}$	13.853	$13.77^{+0.12}_{-0.056}$	$f_{2000}^{143 \times 217}$	32.81	33.5 ± 2.2
c_{EE}	0.9933	0.9932 ± 0.0052	z_{drag}	1059.818	$1060.19^{+0.39}_{-0.53}$	χ_{simall}^2	396.18	397.0 ± 1.8
H_0	67.69	$67.37^{+0.71}_{-0.95}$	r_{drag}	146.90	$146.0^{+1.3}_{-0.61}$	χ_{lowl}^2	23.00	22.9 ± 1.1
Ω_{Λ}	0.6876	$0.679^{+0.013}_{-0.010}$	k_{D}	0.14085	$0.14163^{+0.00056}_{-0.0010}$	χ_{CamSpec}^2	11500.0	11517.5 ± 6.2
Ω_{m}	0.3124	$0.321^{+0.010}_{-0.013}$	$100\theta_{\text{D}}$	0.161005	$0.16107^{+0.00022}_{-0.00035}$	χ_{prior}^2	2.23	7.9 ± 3.5
$\Omega_{\text{m}} h^2$	0.14316	$0.1457^{+0.0019}_{-0.0032}$	z_{eq}	3385.9	3339^{+64}_{-29}	χ_{CMB}^2	11919.1	11937.4 ± 6.2
$\Omega_{\nu} h^2$	0.00065	$0.00349^{+0.00065}_{-0.0028}$	k_{eq}	0.010364	$0.01031^{+0.00019}_{-0.00011}$			

Best-fit $\chi_{\text{eff}}^2 = 11921.37$; $\Delta\chi_{\text{eff}}^2 = 0.61$; $\bar{\chi}_{\text{eff}}^2 = 11945.34$; $\Delta\bar{\chi}_{\text{eff}}^2 = 2.88$; $R - 1 = 0.02481$

χ_{eff}^2 : CMB - simall_100x143_offlike5_EE_Aplanck_B: 396.18 (Δ 0.28) commander_dx12_v3.2.29: 23.00 (Δ 0.00) CamSpec like_10.7HM_1400_unified: 11499.96 (Δ 0.31)

7.2 base_nnu_meffsterile_CamSpecHM_TTTEEE_lowl_lowE_post_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02234 ± 0.00016	$\Omega_m h^3$	$0.09796^{+0.00058}_{-0.0020}$	$100\theta_{\text{eq}}$	$0.8241^{+0.0046}_{-0.012}$
$\Omega_c h^2$	$0.1201^{+0.0033}_{-0.0024}$	σ_8	$0.783^{+0.025}_{-0.016}$	$100\theta_{\text{s,eq}}$	$0.4551^{+0.0024}_{-0.0062}$
$100\theta_{\text{MC}}$	$1.04066^{+0.00037}_{-0.00033}$	S_8	$0.812^{+0.021}_{-0.015}$	$H(0.15)$	$72.65^{+0.51}_{-0.79}$
τ	$0.0544^{+0.0069}_{-0.0078}$	$\sigma_8 \Omega_m^{0.5}$	$0.445^{+0.011}_{-0.0084}$	$D_{\text{M}}(0.15)$	$644.3^{+7.5}_{-5.5}$
$m_{\nu, \text{sterile}}^{\text{eff}} [\text{eV}]$	< 0.299	$\sigma_8 \Omega_m^{0.25}$	$0.590^{+0.017}_{-0.011}$	$H(0.38)$	$83.02^{+0.31}_{-0.68}$
N_{eff}	< 3.19	$\sigma_8/h^{0.5}$	$0.955^{+0.028}_{-0.017}$	$D_{\text{M}}(0.38)$	1534^{+16}_{-10}
$\ln(10^{10} A_s)$	3.047 ± 0.016	$r_{\text{drag}} h$	$98.1^{+1.5}_{-1.2}$	$H(0.51)$	$89.89^{+0.22}_{-0.65}$
n_s	$0.9663^{+0.0049}_{-0.0062}$	$\langle d^2 \rangle^{1/2}$	2.441 ± 0.024	$D_{\text{M}}(0.51)$	1985^{+19}_{-12}
y_{cal}	1.0007 ± 0.0025	z_{re}	7.73 ± 0.78	$H(0.61)$	$95.64^{+0.19}_{-0.65}$
A_{100}^{PS}	244 ± 25	$10^9 A_s$	$2.105^{+0.030}_{-0.034}$	$D_{\text{M}}(0.61)$	2309^{+21}_{-12}
A_{143}^{PS}	42 ± 8	$10^9 A_s e^{-2\tau}$	$1.888^{+0.012}_{-0.014}$	$H(2.33)$	$238.6^{+1.2}_{-2.3}$
A_{217}^{PS}	102 ± 10	D_{40}	1226 ± 13	$D_{\text{M}}(2.33)$	5739^{+38}_{-10}
A_{217}^{CIB}	41 ± 7	D_{220}	5720 ± 39	$f\sigma_8(0.15)$	$0.449^{+0.012}_{-0.0082}$
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.7}$	D_{810}	2538 ± 14	$\sigma_8(0.15)$	$0.723^{+0.024}_{-0.015}$
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.12	D_{1420}	814.7 ± 5.0	$f\sigma_8(0.38)$	$0.464^{+0.013}_{-0.0083}$
$r_{143 \times 217}^{\text{CIB}}$	$0.57^{+0.39}_{-0.16}$	D_{2000}	229.2 ± 1.8	$\sigma_8(0.38)$	$0.639^{+0.022}_{-0.014}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	$n_{\text{s}, 0.002}$	$0.9663^{+0.0049}_{-0.0062}$	$f\sigma_8(0.51)$	$0.461^{+0.013}_{-0.0085}$
A^{kSZ}	—	Y_{P}	$0.24696^{+0.00047}_{-0.0015}$	$\sigma_8(0.51)$	$0.598^{+0.021}_{-0.014}$
A_{100}^{dust}	1.01 ± 0.19	$Y_{\text{P}}^{\text{BBN}}$	$0.24829^{+0.00047}_{-0.0015}$	$f\sigma_8(0.61)$	$0.456^{+0.014}_{-0.0085}$
A_{143}^{dust}	0.97 ± 0.17	$10^5 \text{D}/\text{H}$	$2.632^{+0.033}_{-0.044}$	$\sigma_8(0.61)$	$0.569^{+0.020}_{-0.013}$
A_{217}^{dust}	0.97 ± 0.10	Age/Gyr	$13.737^{+0.090}_{-0.025}$	$f\sigma_8(2.33)$	$0.287^{+0.010}_{-0.0068}$
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	z_*	$1090.28^{+0.30}_{-0.38}$	$\sigma_8(2.33)$	$0.295^{+0.011}_{-0.0073}$
c_{100}	0.9975 ± 0.0011	r_*	$143.4^{+1.2}_{-0.55}$	f_{2000}^{143}	31.2 ± 3.1
c_{217}	1.0012 ± 0.0016	$100\theta_*$	$1.04079^{+0.00042}_{-0.00033}$	f_{2000}^{217}	108.0 ± 2.1
c_{TE}	0.9972 ± 0.0050	$D_{\text{M}}(z_*)/\text{Gpc}$	$13.77^{+0.11}_{-0.051}$	$f_{2000}^{143 \times 217}$	33.4 ± 2.2
c_{EE}	0.9931 ± 0.0051	z_{drag}	$1060.14^{+0.37}_{-0.49}$	χ_{lensing}^2	9.25 ± 0.93
H_0	$67.22^{+0.65}_{-0.86}$	r_{drag}	$146.0^{+1.2}_{-0.55}$	χ_{small}^2	397.1 ± 1.9
Ω_{Λ}	$0.677^{+0.012}_{-0.0094}$	k_{D}	$0.14161^{+0.00052}_{-0.00097}$	χ_{lowl}^2	23.2 ± 1.0
Ω_{m}	$0.3228^{+0.0094}_{-0.012}$	$100\theta_{\text{D}}$	$0.16106^{+0.00021}_{-0.00034}$	χ_{CamSpec}^2	11516.6 ± 5.8
$\Omega_{\text{m}} h^2$	$0.1458^{+0.0018}_{-0.0030}$	z_{eq}	3351^{+56}_{-25}	χ_{prior}^2	7.9 ± 3.5
$\Omega_{\nu} h^2$	$0.00329^{+0.00064}_{-0.0026}$	k_{eq}	$0.01034^{+0.00017}_{-0.00010}$	χ_{CMB}^2	11946.1 ± 6.1

$$\bar{\chi}_{\text{eff}}^2 = 11954.00; \Delta\bar{\chi}_{\text{eff}}^2 = 2.56; R - 1 = 0.02353$$

7.3 base_nnu_meffsterile_CamSpecHM_TTTEEE_lowl_lowE_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02237 ± 0.00017	$\Omega_m h^3$	$0.09816^{+0.00069}_{-0.0022}$	$100\theta_{\text{eq}}$	$0.8266^{+0.0054}_{-0.014}$
$\Omega_c h^2$	$0.1198^{+0.0036}_{-0.0025}$	σ_8	$0.779^{+0.031}_{-0.017}$	$100\theta_{\text{s,eq}}$	$0.4564^{+0.0028}_{-0.0071}$
$100\theta_{\text{MC}}$	$1.04068^{+0.00039}_{-0.00034}$	S_8	$0.806^{+0.027}_{-0.019}$	$H(0.15)$	$72.81^{+0.56}_{-0.87}$
τ	$0.0543^{+0.0048}_{-0.0082}$	$\sigma_8 \Omega_m^{0.5}$	$0.441^{+0.015}_{-0.010}$	$D_{\text{M}}(0.15)$	$642.7^{+8.3}_{-6.1}$
$m_{\nu, \text{sterile}}^{\text{eff}} [\text{eV}]$	< 0.318	$\sigma_8 \Omega_m^{0.25}$	$0.586^{+0.021}_{-0.012}$	$H(0.38)$	$83.16^{+0.35}_{-0.76}$
N_{eff}	< 3.21	$\sigma_8/h^{0.5}$	$0.949^{+0.035}_{-0.019}$	$D_{\text{M}}(0.38)$	1531^{+18}_{-11}
$\ln(10^{10} A_{\text{s}})$	$3.046^{+0.012}_{-0.017}$	$r_{\text{drag}} h$	$98.4^{+1.6}_{-1.3}$	$H(0.51)$	$90.01^{+0.26}_{-0.73}$
n_{s}	$0.9676^{+0.0051}_{-0.0067}$	$\langle d^2 \rangle^{1/2}$	2.433 ± 0.029	$D_{\text{M}}(0.51)$	1981^{+21}_{-13}
y_{cal}	1.0005 ± 0.0026	z_{re}	$7.72^{+0.54}_{-0.83}$	$H(0.61)$	$95.74^{+0.23}_{-0.72}$
A_{100}^{PS}	244 ± 25	$10^9 A_{\text{s}}$	$2.102^{+0.025}_{-0.036}$	$D_{\text{M}}(0.61)$	2304^{+24}_{-13}
A_{143}^{PS}	42 ± 8	$10^9 A_{\text{s}} e^{-2\tau}$	1.886 ± 0.014	$H(2.33)$	$238.6^{+1.4}_{-2.4}$
A_{217}^{PS}	101 ± 10	D_{40}	1222 ± 15	$D_{\text{M}}(2.33)$	5733^{+42}_{-13}
A_{217}^{CIB}	41 ± 7	D_{220}	5717 ± 40	$f\sigma_8(0.15)$	$0.445^{+0.015}_{-0.0099}$
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.7}$	D_{810}	2536 ± 14	$\sigma_8(0.15)$	$0.719^{+0.029}_{-0.016}$
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.12	D_{1420}	814.4 ± 5.0	$f\sigma_8(0.38)$	$0.461^{+0.016}_{-0.0097}$
$r_{143 \times 217}^{\text{CIB}}$	$0.58^{+0.40}_{-0.14}$	D_{2000}	229.1 ± 1.8	$\sigma_8(0.38)$	$0.637^{+0.026}_{-0.015}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	$n_{\text{s}, 0.002}$	$0.9676^{+0.0051}_{-0.0067}$	$f\sigma_8(0.51)$	$0.459^{+0.016}_{-0.0096}$
A^{kSZ}	—	Y_{P}	$0.24713^{+0.00055}_{-0.0017}$	$\sigma_8(0.51)$	$0.595^{+0.025}_{-0.014}$
A_{100}^{dust}	1.01 ± 0.20	$Y_{\text{P}}^{\text{BBN}}$	$0.24847^{+0.00055}_{-0.0017}$	$f\sigma_8(0.61)$	$0.453^{+0.016}_{-0.0095}$
A_{143}^{dust}	0.97 ± 0.17	$10^5 \text{D}/\text{H}$	$2.632^{+0.034}_{-0.045}$	$\sigma_8(0.61)$	$0.566^{+0.024}_{-0.013}$
A_{217}^{dust}	0.97 ± 0.10	Age/Gyr	$13.72^{+0.10}_{-0.031}$	$f\sigma_8(2.33)$	$0.286^{+0.012}_{-0.0069}$
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	z_*	$1090.24^{+0.32}_{-0.39}$	$\sigma_8(2.33)$	$0.294^{+0.013}_{-0.0074}$
c_{100}	0.9975 ± 0.0010	r_*	$143.3^{+1.3}_{-0.62}$	f_{2000}^{143}	31.4 ± 3.1
c_{217}	1.0012 ± 0.0016	$100\theta_*$	$1.04080^{+0.00043}_{-0.00034}$	f_{2000}^{217}	108.0 ± 2.1
c_{TE}	0.9974 ± 0.0050	$D_{\text{M}}(z_*)/\text{Gpc}$	$13.77^{+0.12}_{-0.058}$	$f_{2000}^{143 \times 217}$	33.5 ± 2.2
c_{EE}	0.9932 ± 0.0052	z_{drag}	$1060.20^{+0.40}_{-0.53}$	χ_{small}^2	396.9 ± 1.8
H_0	$67.39^{+0.71}_{-0.96}$	r_{drag}	$146.0^{+1.3}_{-0.63}$	χ_{lowl}^2	22.9 ± 1.1
Ω_{Λ}	$0.679^{+0.013}_{-0.010}$	k_{D}	$0.14164^{+0.00058}_{-0.0010}$	χ_{CamSpec}^2	11517.4 ± 6.1
Ω_{m}	$0.321^{+0.010}_{-0.013}$	$100\theta_{\text{D}}$	$0.16107^{+0.00022}_{-0.00035}$	χ_{prior}^2	7.9 ± 3.5
$\Omega_{\text{m}} h^2$	$0.1457^{+0.0020}_{-0.0032}$	z_{eq}	3339^{+63}_{-29}	χ_{CMB}^2	11937.2 ± 6.1
$\Omega_{\nu} h^2$	$0.00348^{+0.00065}_{-0.0028}$	k_{eq}	$0.01031^{+0.00019}_{-0.00011}$		

$$\bar{\chi}_{\text{eff}}^2 = 11945.16; \Delta\bar{\chi}_{\text{eff}}^2 = 2.97; R - 1 = 0.02558$$

7.4 base_nnu_meffsterile_CamSpecHM_TTTEEE_lowl_lowE_post_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02235 ± 0.00016	$\Omega_m h^3$	$0.09799^{+0.00060}_{-0.0020}$	$100\theta_{\text{eq}}$	$0.8243^{+0.0046}_{-0.012}$
$\Omega_c h^2$	$0.1201^{+0.0033}_{-0.0024}$	σ_8	$0.784^{+0.026}_{-0.016}$	$100\theta_{\text{s,eq}}$	$0.4552^{+0.0023}_{-0.0062}$
$100\theta_{\text{MC}}$	$1.04066^{+0.00038}_{-0.00033}$	S_8	$0.812^{+0.021}_{-0.015}$	$H(0.15)$	$72.67^{+0.51}_{-0.79}$
τ	$0.0553^{+0.0053}_{-0.0080}$	$\sigma_8 \Omega_m^{0.5}$	$0.445^{+0.012}_{-0.0083}$	$D_{\text{M}}(0.15)$	$644.1^{+7.5}_{-5.5}$
$m_{\nu, \text{sterile}}^{\text{eff}} [\text{eV}]$	< 0.298	$\sigma_8 \Omega_m^{0.25}$	$0.590^{+0.017}_{-0.011}$	$H(0.38)$	$83.04^{+0.30}_{-0.68}$
N_{eff}	< 3.19	$\sigma_8/h^{0.5}$	$0.955^{+0.028}_{-0.016}$	$D_{\text{M}}(0.38)$	1533^{+16}_{-10}
$\ln(10^{10} A_s)$	$3.049^{+0.012}_{-0.016}$	$r_{\text{drag}} h$	$98.2^{+1.5}_{-1.2}$	$H(0.51)$	$89.91^{+0.22}_{-0.65}$
n_s	$0.9665^{+0.0048}_{-0.0062}$	$\langle d^2 \rangle^{1/2}$	2.442 ± 0.023	$D_{\text{M}}(0.51)$	1985^{+19}_{-11}
y_{cal}	1.0007 ± 0.0025	z_{re}	$7.82^{+0.58}_{-0.81}$	$H(0.61)$	$95.65^{+0.18}_{-0.65}$
A_{100}^{PS}	244 ± 25	$10^9 A_s$	$2.109^{+0.025}_{-0.034}$	$D_{\text{M}}(0.61)$	2308^{+21}_{-12}
A_{143}^{PS}	42 ± 8	$10^9 A_s e^{-2\tau}$	$1.888^{+0.012}_{-0.014}$	$H(2.33)$	$238.6^{+1.2}_{-2.3}$
A_{217}^{PS}	102 ± 10	D_{40}	1226 ± 13	$D_{\text{M}}(2.33)$	5738^{+38}_{-10}
A_{217}^{CIB}	41 ± 7	D_{220}	5720 ± 39	$f\sigma_8(0.15)$	$0.449^{+0.012}_{-0.0081}$
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.7}$	D_{810}	2538 ± 14	$\sigma_8(0.15)$	$0.723^{+0.024}_{-0.015}$
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.12	D_{1420}	814.7 ± 5.0	$f\sigma_8(0.38)$	$0.464^{+0.013}_{-0.0082}$
$r_{143 \times 217}^{\text{CIB}}$	$0.57^{+0.39}_{-0.16}$	D_{2000}	229.2 ± 1.8	$\sigma_8(0.38)$	$0.640^{+0.022}_{-0.014}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	$n_{\text{s}, 0.002}$	$0.9665^{+0.0048}_{-0.0062}$	$f\sigma_8(0.51)$	$0.462^{+0.013}_{-0.0083}$
A^{kSZ}	—	Y_{P}	$0.24698^{+0.00049}_{-0.0015}$	$\sigma_8(0.51)$	$0.598^{+0.021}_{-0.013}$
A_{100}^{dust}	1.01 ± 0.19	$Y_{\text{P}}^{\text{BBN}}$	$0.24831^{+0.00049}_{-0.0015}$	$f\sigma_8(0.61)$	$0.456^{+0.014}_{-0.0084}$
A_{143}^{dust}	0.97 ± 0.17	$10^5 \text{D}/\text{H}$	$2.632^{+0.033}_{-0.044}$	$\sigma_8(0.61)$	$0.569^{+0.020}_{-0.013}$
A_{217}^{dust}	0.97 ± 0.10	Age/Gyr	$13.735^{+0.090}_{-0.025}$	$f\sigma_8(2.33)$	$0.287^{+0.010}_{-0.0067}$
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	z_*	$1090.27^{+0.30}_{-0.38}$	$\sigma_8(2.33)$	$0.295^{+0.011}_{-0.0072}$
c_{100}	0.9975 ± 0.0011	r_*	$143.4^{+1.2}_{-0.56}$	f_{2000}^{143}	31.2 ± 3.1
c_{217}	1.0012 ± 0.0016	$100\theta_*$	$1.04079^{+0.00042}_{-0.00033}$	f_{2000}^{217}	107.9 ± 2.1
c_{TE}	0.9972 ± 0.0050	$D_{\text{M}}(z_*)/\text{Gpc}$	$13.77^{+0.11}_{-0.052}$	$f_{2000}^{143 \times 217}$	33.4 ± 2.2
c_{EE}	0.9930 ± 0.0051	z_{drag}	$1060.15^{+0.37}_{-0.49}$	χ_{lensing}^2	9.21 ± 0.88
H_0	$67.24^{+0.64}_{-0.86}$	r_{drag}	$146.0^{+1.2}_{-0.57}$	χ_{small}^2	397.1 ± 1.9
Ω_{Λ}	$0.677^{+0.012}_{-0.0093}$	k_{D}	$0.14162^{+0.00053}_{-0.00098}$	χ_{lowl}^2	23.2 ± 1.0
Ω_{m}	$0.3226^{+0.0093}_{-0.012}$	$100\theta_{\text{D}}$	$0.16106^{+0.00021}_{-0.00034}$	χ_{CamSpec}^2	11516.5 ± 5.8
$\Omega_{\text{m}} h^2$	$0.1457^{+0.0018}_{-0.0031}$	z_{eq}	3350^{+56}_{-25}	χ_{prior}^2	7.9 ± 3.5
$\Omega_{\nu} h^2$	$0.00329^{+0.00065}_{-0.0026}$	k_{eq}	$0.01034^{+0.00017}_{-0.00010}$	χ_{CMB}^2	11946.0 ± 6.1

$$\bar{\chi}_{\text{eff}}^2 = 11953.86; \Delta\bar{\chi}_{\text{eff}}^2 = 2.61; R - 1 = 0.02344$$

7.5 base_nnu_meffsterile_CamSpecHM_TTTEEE_lowl_lowE_BAO

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022350	0.02243 ± 0.00016	σ_8	0.8062	$0.788^{+0.025}_{-0.015}$	$H(0.15)$	73.00	$73.42^{+0.38}_{-0.86}$
$\Omega_c h^2$	0.11484	$0.1187^{+0.0039}_{-0.0027}$	S_8	0.8184	$0.801^{+0.024}_{-0.016}$	$D_M(0.15)$	640.1	$636.6^{+7.8}_{-4.0}$
$100\theta_{MC}$	1.040969	$1.04082^{+0.00038}_{-0.00032}$	$\sigma_8 \Omega_m^{0.5}$	0.4483	$0.439^{+0.013}_{-0.0089}$	$H(0.38)$	83.07	$83.57^{+0.27}_{-0.85}$
τ	0.0538	0.0545 ± 0.0078	$\sigma_8 \Omega_m^{0.25}$	0.6012	$0.588^{+0.018}_{-0.011}$	$D_M(0.38)$	1527.2	$1519^{+17}_{-7.8}$
$m_{\nu, \text{sterile}}^{\text{eff}} [\text{eV}]$	0.380	< 0.210	$\sigma_8/h^{0.5}$	0.9795	$0.955^{+0.028}_{-0.015}$	$H(0.51)$	89.76	$90.32^{+0.22}_{-0.84}$
N_{eff}	3.047	< 3.18	$r_{\text{drag}} h$	99.86	99.70 ± 0.87	$D_M(0.51)$	1978.7	$1967^{+22}_{-9.0}$
$\ln(10^{10} A_s)$	3.0404	$3.044^{+0.016}_{-0.018}$	$\langle d^2 \rangle^{1/2}$	2.4251	2.415 ± 0.026	$H(0.61)$	95.36	$95.97^{+0.20}_{-0.84}$
n_s	0.9680	$0.9704^{+0.0048}_{-0.0064}$	z_{re}	7.62	7.70 ± 0.80	$D_M(0.61)$	2302.8	$2290^{+25}_{-9.6}$
y_{cal}	1.00091	1.0006 ± 0.0025	$10^9 A_s$	2.0913	$2.098^{+0.032}_{-0.037}$	$H(2.33)$	235.81	$237.47^{+0.82}_{-2.0}$
A_{100}^{PS}	234.6	243 ± 25	$10^9 A_s e^{-2\tau}$	1.8778	$1.881^{+0.012}_{-0.015}$	$D_M(2.33)$	5761.3	5725^{+47}_{-11}
A_{143}^{PS}	43.8	41 ± 8	D_{40}	1222.9	1218 ± 13	$f\sigma_8(0.15)$	0.4530	$0.444^{+0.013}_{-0.0087}$
A_{217}^{PS}	104.5	102 ± 10	D_{220}	5725.8	5723 ± 39	$\sigma_8(0.15)$	0.7452	$0.728^{+0.023}_{-0.014}$
A_{217}^{CIB}	41.8	41 ± 7	D_{810}	2538.5	2536 ± 14	$f\sigma_8(0.38)$	0.4718	$0.462^{+0.014}_{-0.0086}$
A_{143}^{tSZ}	5.70	$3.8^{+1.8}_{-2.6}$	D_{1420}	817.40	815.2 ± 4.9	$\sigma_8(0.38)$	0.6609	$0.646^{+0.020}_{-0.012}$
$r_{143 \times 217}^{\text{PS}}$	0.693	0.65 ± 0.13	D_{2000}	230.94	229.5 ± 1.7	$f\sigma_8(0.51)$	0.4707	$0.461^{+0.014}_{-0.0084}$
$r_{143 \times 217}^{\text{CIB}}$	0.709	$0.58^{+0.41}_{-0.13}$	$n_{s,0.002}$	0.9680	$0.9704^{+0.0048}_{-0.0064}$	$\sigma_8(0.51)$	0.6186	$0.604^{+0.019}_{-0.012}$
$\xi^{\text{tSZ} \times \text{CIB}}$	0.48	—	Y_P	0.24540	$0.24694^{+0.00037}_{-0.0015}$	$f\sigma_8(0.61)$	0.4659	$0.456^{+0.014}_{-0.0083}$
A^{kSZ}	1.2	—	Y_P^{BBN}	0.24673	$0.24827^{+0.00037}_{-0.0015}$	$\sigma_8(0.61)$	0.5886	$0.575^{+0.018}_{-0.011}$
A_{100}^{dust}	1.010	1.02 ± 0.20	$10^5 D/H$	2.5898	$2.615^{+0.029}_{-0.042}$	$f\sigma_8(2.33)$	0.2969	$0.2904^{+0.0094}_{-0.0057}$
A_{143}^{dust}	0.958	0.97 ± 0.17	Age/Gyr	13.793	$13.71^{+0.11}_{-0.027}$	$\sigma_8(2.33)$	0.3062	$0.2992^{+0.0098}_{-0.0061}$
A_{217}^{dust}	0.975	0.97 ± 0.10	z_*	1089.848	$1090.01^{+0.25}_{-0.31}$	f_{2000}^{143}	29.45	30.8 ± 3.0
$A_{143 \times 217}^{\text{dust}}$	1.030	1.03 ± 0.16	r_*	144.74	$143.7^{+1.2}_{-0.38}$	f_{2000}^{217}	106.55	107.6 ± 2.0
c_{100}	0.99777	0.9975 ± 0.0011	$100\theta_*$	1.041155	$1.04094^{+0.00044}_{-0.00031}$	$f_{2000}^{143 \times 217}$	31.94	33.0 ± 2.1
c_{217}	1.00120	1.0012 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.901	$13.81^{+0.11}_{-0.036}$	χ_{small}^2	395.95	397.1 ± 1.8
c_{TE}	0.99685	0.9975 ± 0.0050	z_{drag}	1059.818	$1060.20^{+0.37}_{-0.53}$	χ_{lowl}^2	22.71	22.47 ± 0.90
c_{EE}	0.9925	0.9936 ± 0.0052	r_{drag}	147.41	$146.4^{+1.2}_{-0.40}$	χ_{CamSpec}^2	11500.3	11517.3 ± 6.1
H_0	67.75	$68.11^{+0.46}_{-0.88}$	k_D	0.14051	$0.14129^{+0.00040}_{-0.00096}$	$\chi_{6\text{DF}}^2$	0.0162	0.058 ± 0.072
Ω_Λ	0.6909	0.6897 ± 0.0068	$100\theta_D$	0.160831	$0.16104^{+0.00021}_{-0.00037}$	χ_{MGS}^2	1.343	1.30 ± 0.48
Ω_m	0.3091	0.3103 ± 0.0068	z_{eq}	3277.8	3321^{+64}_{-18}	χ_{DR12BAO}^2	4.08	4.9 ± 1.6
$\Omega_m h^2$	0.14188	$0.1439^{+0.0012}_{-0.0026}$	k_{eq}	0.010078	$0.01024^{+0.00020}_{-0.00010}$	χ_{prior}^2	2.07	7.9 ± 3.5
$\Omega_\nu h^2$	0.00469	$0.00280^{+0.00020}_{-0.0022}$	$100\theta_{\text{eq}}$	0.8388	$0.8298^{+0.0031}_{-0.014}$	χ_{BAO}^2	5.44	6.2 ± 1.3
$\Omega_m h^3$	0.09612	$0.09804^{+0.00051}_{-0.0023}$	$100\theta_{s,\text{eq}}$	0.46280	$0.4580^{+0.0016}_{-0.0072}$	χ_{CMB}^2	11919.0	11936.9 ± 6.1

Best-fit $\chi_{\text{eff}}^2 = 11926.47$; $\bar{\chi}_{\text{eff}}^2 = 11950.99$; $\Delta\chi_{\text{eff}}^2 = 2.71$; $R - 1 = 0.01562$
 χ_{eff}^2 : BAO - 6DF: 0.02 MGS: 1.34 DR12BAO: 4.08 CMB - simall_100x143.offlike5_EE_Aplanck_B: 395.95 commander_dx12_v3.2.29: 22.71 CamSpec like_10.7HM_1400_unified: 11500.30

7.6 base_nnu_meffsterile_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_Pantheon18

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	$0.02243^{+0.00015}_{-0.00016}$	S_8	$0.801^{+0.024}_{-0.016}$	$H(0.38)$	$83.63^{+0.27}_{-0.86}$
$\Omega_c h^2$	$0.1186^{+0.0040}_{-0.0028}$	$\sigma_8 \Omega_m^{0.5}$	$0.438^{+0.013}_{-0.0087}$	$D_M(0.38)$	$1517^{+17}_{-7.6}$
$100\theta_{MC}$	$1.04083^{+0.00038}_{-0.00032}$	$\sigma_8 \Omega_m^{0.25}$	$0.588^{+0.018}_{-0.011}$	$H(0.51)$	$90.37^{+0.22}_{-0.86}$
τ	0.0547 ± 0.0078	$\sigma_8/h^{0.5}$	$0.955^{+0.028}_{-0.015}$	$D_M(0.51)$	$1966^{+22}_{-8.8}$
$m_{\nu, \text{sterile}}^{\text{eff}} [\text{eV}]$	< 0.201	$r_{\text{drag}} h$	99.82 ± 0.83	$H(0.61)$	$96.00^{+0.21}_{-0.86}$
N_{eff}	< 3.18	$\langle d^2 \rangle^{1/2}$	2.413 ± 0.025	$D_M(0.61)$	$2288^{+25}_{-9.4}$
$\ln(10^{10} A_s)$	$3.044^{+0.016}_{-0.018}$	z_{re}	7.71 ± 0.79	$H(2.33)$	$237.41^{+0.79}_{-2.1}$
n_s	$0.9708^{+0.0048}_{-0.0063}$	$10^9 A_s$	$2.099^{+0.032}_{-0.037}$	$D_M(2.33)$	5723^{+48}_{-12}
y_{cal}	1.0006 ± 0.0025	$10^9 A_s e^{-2\tau}$	$1.881^{+0.012}_{-0.015}$	$f\sigma_8(0.15)$	$0.443^{+0.013}_{-0.0085}$
A_{100}^{PS}	243 ± 25	D_{40}	1218 ± 13	$\sigma_8(0.15)$	$0.729^{+0.023}_{-0.014}$
A_{143}^{PS}	41 ± 8	D_{220}	5724 ± 39	$f\sigma_8(0.38)$	$0.462^{+0.014}_{-0.0084}$
A_{217}^{PS}	102 ± 10	D_{810}	2536 ± 14	$\sigma_8(0.38)$	$0.646^{+0.020}_{-0.012}$
A_{217}^{CIB}	41 ± 7	D_{1420}	815.3 ± 4.9	$f\sigma_8(0.51)$	$0.461^{+0.014}_{-0.0083}$
A_{143}^{tSZ}	$3.7^{+1.8}_{-2.6}$	D_{2000}	229.6 ± 1.7	$\sigma_8(0.51)$	$0.605^{+0.019}_{-0.012}$
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.13	$n_{s,0.002}$	$0.9708^{+0.0048}_{-0.0063}$	$f\sigma_8(0.61)$	$0.456^{+0.014}_{-0.0082}$
$r_{143 \times 217}^{\text{CIB}}$	$0.58^{+0.41}_{-0.13}$	Y_P	$0.24696^{+0.00037}_{-0.0016}$	$\sigma_8(0.61)$	$0.576^{+0.018}_{-0.011}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	$0.24829^{+0.00037}_{-0.0016}$	$f\sigma_8(2.33)$	$0.2907^{+0.0093}_{-0.0056}$
A^{kSZ}	—	$10^5 D/H$	$2.615^{+0.029}_{-0.042}$	$\sigma_8(2.33)$	$0.2996^{+0.0097}_{-0.0060}$
A_{100}^{dust}	1.02 ± 0.20	Age/Gyr	$13.70^{+0.11}_{-0.028}$	f_{2000}^{143}	30.8 ± 3.0
A_{143}^{dust}	0.96 ± 0.17	z_*	$1090.00^{+0.25}_{-0.32}$	f_{2000}^{217}	107.6 ± 2.0
A_{217}^{dust}	0.97 ± 0.10	r_*	$143.7^{+1.2}_{-0.37}$	$f_{2000}^{143 \times 217}$	33.0 ± 2.1
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$100\theta_*$	$1.04095^{+0.00044}_{-0.00032}$	χ_{small}^2	397.1 ± 1.8
c_{100}	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	$13.81^{+0.11}_{-0.035}$	χ_{lowl}^2	22.41 ± 0.88
c_{217}	1.0012 ± 0.0016	z_{drag}	$1060.21^{+0.36}_{-0.54}$	χ_{CamSpec}^2	11517.4 ± 6.1
c_{TE}	0.9975 ± 0.0050	r_{drag}	$146.4^{+1.3}_{-0.39}$	χ_{JLA}^2	1035.04 ± 0.30
c_{EE}	0.9937 ± 0.0051	k_D	$0.14127^{+0.00038}_{-0.00098}$	$\chi_{6\text{DF}}^2$	0.048 ± 0.062
H_0	$68.20^{+0.45}_{-0.88}$	$100\theta_D$	$0.16104^{+0.00021}_{-0.00038}$	χ_{MGS}^2	1.37 ± 0.47
Ω_Λ	0.6907 ± 0.0065	z_{eq}	3319^{+64}_{-17}	χ_{DR12BAO}^2	4.6 ± 1.4
Ω_m	0.3093 ± 0.0065	k_{eq}	$0.01024^{+0.00020}_{-0.00010}$	χ_{prior}^2	7.8 ± 3.5
$\Omega_m h^2$	$0.1438^{+0.0012}_{-0.0026}$	$100\theta_{\text{eq}}$	$0.8302^{+0.0030}_{-0.014}$	χ_{BAO}^2	6.1 ± 1.1
$\Omega_\nu h^2$	$0.00274^{+0.00021}_{-0.0021}$	$100\theta_{s,\text{eq}}$	$0.4582^{+0.0015}_{-0.0071}$	χ_{CMB}^2	11936.9 ± 6.1
$\Omega_m h^3$	$0.09809^{+0.00053}_{-0.0023}$	$H(0.15)$	$73.49^{+0.38}_{-0.87}$		
σ_8	$0.788^{+0.024}_{-0.014}$	$D_M(0.15)$	$635.9^{+7.8}_{-3.8}$		

$$\bar{\chi}_{\text{eff}}^2 = 12985.86; R - 1 = 0.01581$$

7.7 base_nnu_meffsterile_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_Aver15

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02241 ± 0.00015	S_8	$0.799^{+0.024}_{-0.016}$	$H(0.38)$	$83.38^{+0.26}_{-0.61}$
$\Omega_c h^2$	$0.1179^{+0.0038}_{-0.0022}$	$\sigma_8 \Omega_m^{0.5}$	$0.438^{+0.013}_{-0.0089}$	$D_M(0.38)$	$1522^{+13}_{-7.7}$
$100\theta_{MC}$	1.04087 ± 0.00033	$\sigma_8 \Omega_m^{0.25}$	$0.587^{+0.018}_{-0.011}$	$H(0.51)$	$90.12^{+0.20}_{-0.60}$
τ	0.0544 ± 0.0078	$\sigma_8/h^{0.5}$	$0.953^{+0.028}_{-0.016}$	$D_M(0.51)$	$1972^{+16}_{-8.9}$
$m_{\nu, \text{sterile}}^{\text{eff}} [\text{eV}]$	< 0.245	$r_{\text{drag}} h$	99.67 ± 0.84	$H(0.61)$	$95.76^{+0.15}_{-0.60}$
N_{eff}	< 3.14	$\langle d^2 \rangle^{1/2}$	2.417 ± 0.025	$D_M(0.61)$	$2295^{+18}_{-9.4}$
$\ln(10^{10} A_s)$	3.042 ± 0.017	z_{re}	7.68 ± 0.80	$H(2.33)$	$237.00^{+0.70}_{-1.6}$
n_s	$0.9693^{+0.0045}_{-0.0054}$	$10^9 A_s$	$2.095^{+0.032}_{-0.036}$	$D_M(2.33)$	$5737^{+34}_{-7.5}$
y_{cal}	1.0006 ± 0.0025	$10^9 A_s e^{-2\tau}$	$1.879^{+0.011}_{-0.013}$	$f\sigma_8(0.15)$	$0.443^{+0.013}_{-0.0087}$
A_{100}^{PS}	242 ± 25	D_{40}	1220 ± 13	$\sigma_8(0.15)$	$0.726^{+0.022}_{-0.013}$
A_{143}^{PS}	41 ± 8	D_{220}	5723 ± 39	$f\sigma_8(0.38)$	$0.461^{+0.014}_{-0.0084}$
A_{217}^{PS}	102 ± 10	D_{810}	2536 ± 14	$\sigma_8(0.38)$	$0.644^{+0.020}_{-0.012}$
A_{217}^{CIB}	40 ± 7	D_{1420}	815.3 ± 4.9	$f\sigma_8(0.51)$	$0.459^{+0.014}_{-0.0082}$
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	D_{2000}	229.7 ± 1.7	$\sigma_8(0.51)$	$0.603^{+0.019}_{-0.011}$
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.13	$n_{s,0.002}$	$0.9693^{+0.0045}_{-0.0054}$	$f\sigma_8(0.61)$	$0.455^{+0.014}_{-0.0081}$
$r_{143 \times 217}^{\text{CIB}}$	$0.58^{+0.42}_{-0.13}$	Y_P	$0.24651^{+0.00020}_{-0.0011}$	$\sigma_8(0.61)$	$0.573^{+0.018}_{-0.010}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	$0.24785^{+0.00020}_{-0.0011}$	$f\sigma_8(2.33)$	$0.2895^{+0.0092}_{-0.0053}$
A^{kSZ}	4.9 ± 2.7	$10^5 D/H$	$2.608^{+0.028}_{-0.035}$	$\sigma_8(2.33)$	$0.2983^{+0.0096}_{-0.0056}$
A_{100}^{dust}	1.02 ± 0.20	Age/Gyr	$13.735^{+0.081}_{-0.017}$	f_{2000}^{143}	30.6 ± 2.9
A_{143}^{dust}	0.96 ± 0.17	z_*	$1089.96^{+0.24}_{-0.28}$	f_{2000}^{217}	107.4 ± 2.0
A_{217}^{dust}	0.97 ± 0.10	r_*	$144.03^{+0.89}_{-0.27}$	$f_{2000}^{143 \times 217}$	32.8 ± 2.1
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$100\theta_*$	$1.04101^{+0.00037}_{-0.00030}$	χ_{simall}^2	397.1 ± 1.8
c_{100}	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	$13.836^{+0.083}_{-0.026}$	χ_{lowl}^2	22.60 ± 0.88
c_{217}	1.0012 ± 0.0016	z_{drag}	$1060.09^{+0.34}_{-0.45}$	χ_{CamSpec}^2	11516.9 ± 6.0
c_{TE}	0.9973 ± 0.0050	r_{drag}	$146.68^{+0.92}_{-0.28}$	χ_{Aver15}^2	0.61 ± 0.54
c_{EE}	0.9932 ± 0.0050	k_D	$0.14106^{+0.00034}_{-0.00074}$	$\chi_{6\text{DF}}^2$	0.058 ± 0.071
H_0	$67.95^{+0.46}_{-0.69}$	$100\theta_D$	$0.16097^{+0.00020}_{-0.00029}$	χ_{MGS}^2	1.29 ± 0.46
Ω_Λ	0.6894 ± 0.0066	z_{eq}	3316^{+71}_{-21}	χ_{DR12BAO}^2	4.9 ± 1.5
Ω_m	0.3106 ± 0.0066	k_{eq}	$0.01021^{+0.00020}_{-0.000095}$	χ_{prior}^2	7.8 ± 3.5
$\Omega_m h^2$	$0.1434^{+0.0011}_{-0.0020}$	$100\theta_{\text{eq}}$	$0.8308^{+0.0037}_{-0.015}$	χ_{BAO}^2	6.2 ± 1.3
$\Omega_\nu h^2$	$0.00303^{+0.00027}_{-0.0024}$	$100\theta_{s,\text{eq}}$	$0.4585^{+0.0019}_{-0.0080}$	χ_{CMB}^2	11936.5 ± 6.0
$\Omega_m h^3$	$0.09742^{+0.00031}_{-0.0016}$	$H(0.15)$	$73.25^{+0.38}_{-0.65}$		
σ_8	$0.786^{+0.024}_{-0.014}$	$D_M(0.15)$	$638.1^{+6.0}_{-3.9}$		

$$\bar{\chi}_{\text{eff}}^2 = 11951.21; R - 1 = 0.01810$$

7.8 base_nnu_meffsterile_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_Cooke17_Aver15

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02240 ± 0.00015	S_8	$0.799^{+0.024}_{-0.016}$	$H(0.38)$	$83.37^{+0.26}_{-0.61}$
$\Omega_c h^2$	$0.1179^{+0.0038}_{-0.0021}$	$\sigma_8 \Omega_m^{0.5}$	$0.438^{+0.013}_{-0.0088}$	$D_M(0.38)$	$1522^{+13}_{-7.6}$
$100\theta_{MC}$	1.04087 ± 0.00032	$\sigma_8 \Omega_m^{0.25}$	$0.587^{+0.017}_{-0.011}$	$H(0.51)$	$90.11^{+0.20}_{-0.60}$
τ	0.0544 ± 0.0078	$\sigma_8/h^{0.5}$	$0.953^{+0.028}_{-0.015}$	$D_M(0.51)$	$1972^{+16}_{-8.8}$
$m_{\nu, \text{sterile}}^{\text{eff}} [\text{eV}]$	< 0.245	$r_{\text{drag}} h$	99.66 ± 0.83	$H(0.61)$	$95.74^{+0.16}_{-0.59}$
N_{eff}	< 3.14	$\langle d^2 \rangle^{1/2}$	2.417 ± 0.025	$D_M(0.61)$	$2295^{+18}_{-9.3}$
$\ln(10^{10} A_s)$	3.042 ± 0.017	z_{re}	7.67 ± 0.80	$H(2.33)$	$236.98^{+0.71}_{-1.5}$
n_s	$0.9692^{+0.0045}_{-0.0054}$	$10^9 A_s$	$2.095^{+0.032}_{-0.036}$	$D_M(2.33)$	$5738^{+34}_{-7.6}$
y_{cal}	1.0006 ± 0.0025	$10^9 A_s e^{-2\tau}$	$1.879^{+0.011}_{-0.013}$	$f\sigma_8(0.15)$	$0.443^{+0.013}_{-0.0086}$
A_{100}^{PS}	243 ± 25	D_{40}	1220 ± 13	$\sigma_8(0.15)$	$0.726^{+0.023}_{-0.013}$
A_{143}^{PS}	41 ± 8	D_{220}	5722 ± 39	$f\sigma_8(0.38)$	$0.461^{+0.014}_{-0.0083}$
A_{217}^{PS}	102 ± 10	D_{810}	2535 ± 14	$\sigma_8(0.38)$	$0.644^{+0.020}_{-0.011}$
A_{217}^{CIB}	40 ± 7	D_{1420}	815.3 ± 4.9	$f\sigma_8(0.51)$	$0.459^{+0.014}_{-0.0081}$
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	D_{2000}	229.7 ± 1.7	$\sigma_8(0.51)$	$0.603^{+0.019}_{-0.011}$
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.13	$n_{s,0.002}$	$0.9692^{+0.0045}_{-0.0054}$	$f\sigma_8(0.61)$	$0.455^{+0.014}_{-0.0080}$
$r_{143 \times 217}^{\text{CIB}}$	$0.58^{+0.42}_{-0.13}$	Y_P	$0.24650^{+0.00021}_{-0.0011}$	$\sigma_8(0.61)$	$0.573^{+0.018}_{-0.010}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	$0.24783^{+0.00022}_{-0.0011}$	$f\sigma_8(2.33)$	$0.2894^{+0.0092}_{-0.0052}$
A^{kSZ}	—	$10^5 D/H$	$2.609^{+0.027}_{-0.033}$	$\sigma_8(2.33)$	$0.2982^{+0.0096}_{-0.0055}$
A_{100}^{dust}	1.02 ± 0.20	Age/Gyr	$13.737^{+0.079}_{-0.017}$	f_{2000}^{143}	30.6 ± 2.9
A_{143}^{dust}	0.96 ± 0.17	z_*	1089.97 ± 0.25	f_{2000}^{217}	107.5 ± 1.9
A_{217}^{dust}	0.97 ± 0.10	r_*	$144.05^{+0.87}_{-0.28}$	$f_{2000}^{143 \times 217}$	32.8 ± 2.0
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$100\theta_*$	$1.04102^{+0.00036}_{-0.00030}$	χ_{simall}^2	397.1 ± 1.8
c_{100}	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	$13.837^{+0.081}_{-0.026}$	χ_{lowl}^2	22.61 ± 0.88
c_{217}	1.0012 ± 0.0016	z_{drag}	$1060.08^{+0.34}_{-0.44}$	χ_{CamSpec}^2	11516.8 ± 5.9
c_{TE}	0.9973 ± 0.0050	r_{drag}	$146.69^{+0.91}_{-0.29}$	χ_{Aver15}^2	0.60 ± 0.51
c_{EE}	0.9933 ± 0.0050	k_D	$0.14105^{+0.00034}_{-0.00073}$	χ_{Cooke17}^2	0.12 ± 0.17
H_0	$67.94^{+0.45}_{-0.68}$	$100\theta_D$	$0.16097^{+0.00019}_{-0.00028}$	$\chi_{6\text{DF}}^2$	0.058 ± 0.071
Ω_Λ	0.6893 ± 0.0065	z_{eq}	3317^{+71}_{-21}	χ_{MGS}^2	1.28 ± 0.46
Ω_m	0.3107 ± 0.0065	k_{eq}	$0.01021^{+0.00020}_{-0.000092}$	χ_{DR12BAO}^2	4.9 ± 1.5
$\Omega_m h^2$	$0.1434^{+0.0011}_{-0.0020}$	$100\theta_{\text{eq}}$	$0.8308^{+0.0037}_{-0.015}$	χ_{prior}^2	7.8 ± 3.5
$\Omega_\nu h^2$	$0.00303^{+0.00027}_{-0.0024}$	$100\theta_{s,\text{eq}}$	$0.4585^{+0.0019}_{-0.0080}$	χ_{BAO}^2	6.2 ± 1.3
$\Omega_m h^3$	$0.09739^{+0.00033}_{-0.0016}$	$H(0.15)$	$73.23^{+0.38}_{-0.65}$	χ_{CMB}^2	11936.5 ± 6.0
σ_8	$0.786^{+0.024}_{-0.014}$	$D_M(0.15)$	$638.3^{+6.0}_{-3.8}$	χ_{Abund}^2	0.72 ± 0.57

$$\bar{\chi}_{\text{eff}}^2 = 11951.25; R - 1 = 0.01822$$

7.9 base_nnu_meffsterile_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02243 ± 0.00016	σ_8	$0.789^{+0.024}_{-0.015}$	$H(0.15)$	$73.43^{+0.38}_{-0.86}$
$\Omega_c h^2$	$0.1187^{+0.0039}_{-0.0027}$	S_8	$0.802^{+0.024}_{-0.016}$	$D_M(0.15)$	$636.5^{+7.8}_{-3.9}$
$100\theta_{MC}$	$1.04082^{+0.00038}_{-0.00031}$	$\sigma_8 \Omega_m^{0.5}$	$0.439^{+0.013}_{-0.0089}$	$H(0.38)$	$83.58^{+0.27}_{-0.85}$
τ	$0.0556^{+0.0056}_{-0.0080}$	$\sigma_8 \Omega_m^{0.25}$	$0.589^{+0.017}_{-0.011}$	$D_M(0.38)$	$1518^{+17}_{-7.7}$
$m_{\nu, \text{sterile}}^{\text{eff}} [\text{eV}]$	< 0.209	$\sigma_8/h^{0.5}$	$0.956^{+0.028}_{-0.015}$	$H(0.51)$	$90.33^{+0.22}_{-0.85}$
N_{eff}	< 3.18	$r_{\text{drag}} h$	99.71 ± 0.87	$D_M(0.51)$	$1967^{+22}_{-8.9}$
$\ln(10^{10} A_s)$	$3.046^{+0.012}_{-0.018}$	$\langle d^2 \rangle^{1/2}$	2.417 ± 0.025	$H(0.61)$	$95.97^{+0.20}_{-0.84}$
n_s	$0.9705^{+0.0048}_{-0.0064}$	z_{re}	$7.81^{+0.61}_{-0.80}$	$D_M(0.61)$	$2289^{+25}_{-9.5}$
y_{cal}	1.0006 ± 0.0025	$10^9 A_s$	$2.103^{+0.026}_{-0.037}$	$H(2.33)$	$237.47^{+0.83}_{-2.1}$
A_{100}^{PS}	243 ± 25	$10^9 A_s e^{-2\tau}$	$1.881^{+0.012}_{-0.015}$	$D_M(2.33)$	5725^{+47}_{-11}
A_{143}^{PS}	41 ± 8	D_{40}	1218 ± 13	$f\sigma_8(0.15)$	$0.444^{+0.013}_{-0.0087}$
A_{217}^{PS}	102 ± 10	D_{220}	5723 ± 39	$\sigma_8(0.15)$	$0.729^{+0.023}_{-0.014}$
A_{217}^{CIB}	41 ± 7	D_{810}	2536 ± 14	$f\sigma_8(0.38)$	$0.462^{+0.014}_{-0.0085}$
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.7}$	D_{1420}	815.2 ± 4.9	$\sigma_8(0.38)$	$0.646^{+0.020}_{-0.012}$
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.13	D_{2000}	229.6 ± 1.7	$f\sigma_8(0.51)$	$0.461^{+0.014}_{-0.0084}$
$r_{143 \times 217}^{\text{CIB}}$	$0.58^{+0.40}_{-0.14}$	$n_{s,0.002}$	$0.9705^{+0.0048}_{-0.0064}$	$\sigma_8(0.51)$	$0.605^{+0.019}_{-0.012}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P	$0.24695^{+0.00037}_{-0.0015}$	$f\sigma_8(0.61)$	$0.456^{+0.014}_{-0.0083}$
A^{kSZ}	—	Y_P^{BBN}	$0.24828^{+0.00037}_{-0.0016}$	$\sigma_8(0.61)$	$0.576^{+0.018}_{-0.011}$
A_{100}^{dust}	1.02 ± 0.20	$10^5 D/H$	$2.615^{+0.029}_{-0.042}$	$f\sigma_8(2.33)$	$0.2907^{+0.0093}_{-0.0057}$
A_{143}^{dust}	0.97 ± 0.17	Age/Gyr	$13.71^{+0.11}_{-0.027}$	$\sigma_8(2.33)$	$0.2995^{+0.0097}_{-0.0061}$
A_{217}^{dust}	0.97 ± 0.10	z_*	$1090.01^{+0.25}_{-0.31}$	f_{2000}^{143}	30.8 ± 3.0
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	r_*	$143.7^{+1.2}_{-0.38}$	f_{2000}^{217}	107.6 ± 2.0
c_{100}	0.9975 ± 0.0011	$100\theta_*$	$1.04094^{+0.00044}_{-0.00031}$	$f_{2000}^{143 \times 217}$	33.0 ± 2.1
c_{217}	1.0012 ± 0.0016	$D_M(z_*)/\text{Gpc}$	$13.81^{+0.11}_{-0.036}$	χ_{small}^2	397.0 ± 1.8
c_{TE}	0.9974 ± 0.0050	z_{drag}	$1060.20^{+0.37}_{-0.53}$	χ_{lowl}^2	22.48 ± 0.90
c_{EE}	0.9936 ± 0.0052	r_{drag}	$146.4^{+1.2}_{-0.40}$	χ_{CamSpec}^2	11517.2 ± 6.0
H_0	$68.13^{+0.46}_{-0.88}$	k_D	$0.14129^{+0.00040}_{-0.00097}$	$\chi_{6\text{DF}}^2$	0.057 ± 0.072
Ω_Λ	0.6898 ± 0.0068	$100\theta_D$	$0.16104^{+0.00021}_{-0.00037}$	χ_{MGS}^2	1.31 ± 0.48
Ω_m	0.3102 ± 0.0068	z_{eq}	3321^{+64}_{-18}	χ_{DR12BAO}^2	4.9 ± 1.6
$\Omega_m h^2$	$0.1439^{+0.0012}_{-0.0026}$	k_{eq}	$0.01024^{+0.00020}_{-0.00010}$	χ_{prior}^2	7.9 ± 3.5
$\Omega_\nu h^2$	$0.00278^{+0.00032}_{-0.0023}$	$100\theta_{\text{eq}}$	$0.8298^{+0.0032}_{-0.014}$	χ_{BAO}^2	6.2 ± 1.3
$\Omega_m h^3$	$0.09806^{+0.00052}_{-0.0023}$	$100\theta_{s,\text{eq}}$	$0.4580^{+0.0016}_{-0.0071}$	χ_{CMB}^2	11936.7 ± 6.0

$$\bar{\chi}_{\text{eff}}^2 = 11950.77; \Delta\bar{\chi}_{\text{eff}}^2 = 2.78; R - 1 = 0.01713$$

7.10 base_nnu_meffsterile_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_Pantheon18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02244 ± 0.00016	S_8	$0.801^{+0.023}_{-0.016}$	$H(0.38)$	$83.64^{+0.27}_{-0.86}$
$\Omega_c h^2$	$0.1187^{+0.0039}_{-0.0028}$	$\sigma_8 \Omega_m^{0.5}$	$0.439^{+0.013}_{-0.0087}$	$D_M(0.38)$	$1517^{+18}_{-7.5}$
$100\theta_{MC}$	$1.04083^{+0.00038}_{-0.00032}$	$\sigma_8 \Omega_m^{0.25}$	$0.589^{+0.017}_{-0.011}$	$H(0.51)$	$90.38^{+0.22}_{-0.86}$
τ	$0.0557^{+0.0056}_{-0.0079}$	$\sigma_8/h^{0.5}$	$0.956^{+0.027}_{-0.015}$	$D_M(0.51)$	$1965^{+22}_{-8.7}$
$m_{\nu, \text{sterile}}^{\text{eff}} [\text{eV}]$	< 0.201	$r_{\text{drag}} h$	99.83 ± 0.83	$H(0.61)$	$96.01^{+0.21}_{-0.86}$
N_{eff}	< 3.18	$\langle d^2 \rangle^{1/2}$	2.415 ± 0.024	$D_M(0.61)$	$2287^{+25}_{-9.4}$
$\ln(10^{10} A_s)$	$3.046^{+0.013}_{-0.018}$	z_{re}	$7.82^{+0.61}_{-0.79}$	$H(2.33)$	$237.41^{+0.80}_{-2.1}$
n_s	$0.9709^{+0.0048}_{-0.0064}$	$10^9 A_s$	$2.103^{+0.026}_{-0.037}$	$D_M(2.33)$	5723^{+49}_{-12}
y_{cal}	1.0006 ± 0.0025	$10^9 A_s e^{-2\tau}$	$1.881^{+0.012}_{-0.015}$	$f\sigma_8(0.15)$	$0.444^{+0.013}_{-0.0085}$
A_{100}^{PS}	243 ± 25	D_{40}	1218 ± 13	$\sigma_8(0.15)$	$0.730^{+0.022}_{-0.014}$
A_{143}^{PS}	41 ± 8	D_{220}	5724 ± 39	$f\sigma_8(0.38)$	$0.462^{+0.014}_{-0.0084}$
A_{217}^{PS}	102 ± 10	D_{810}	2536 ± 14	$\sigma_8(0.38)$	$0.647^{+0.020}_{-0.012}$
A_{217}^{CIB}	41 ± 7	D_{1420}	815.3 ± 4.9	$f\sigma_8(0.51)$	$0.461^{+0.014}_{-0.0083}$
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	D_{2000}	229.6 ± 1.7	$\sigma_8(0.51)$	$0.606^{+0.019}_{-0.011}$
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.13	$n_{s,0.002}$	$0.9709^{+0.0048}_{-0.0064}$	$f\sigma_8(0.61)$	$0.456^{+0.014}_{-0.0081}$
$r_{143 \times 217}^{\text{CIB}}$	$0.58^{+0.40}_{-0.14}$	Y_P	$0.24698^{+0.00038}_{-0.0016}$	$\sigma_8(0.61)$	$0.576^{+0.018}_{-0.011}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	$0.24831^{+0.00038}_{-0.0016}$	$f\sigma_8(2.33)$	$0.2910^{+0.0092}_{-0.0056}$
A^{kSZ}	—	$10^5 D/H$	$2.614^{+0.029}_{-0.042}$	$\sigma_8(2.33)$	$0.2999^{+0.0096}_{-0.0059}$
A_{100}^{dust}	1.02 ± 0.19	Age/Gyr	$13.70^{+0.11}_{-0.028}$	f_{2000}^{143}	30.8 ± 3.0
A_{143}^{dust}	0.96 ± 0.17	z_*	$1089.99^{+0.25}_{-0.32}$	f_{2000}^{217}	107.6 ± 2.0
A_{217}^{dust}	0.97 ± 0.10	r_*	$143.7^{+1.2}_{-0.38}$	$f_{2000}^{143 \times 217}$	33.0 ± 2.1
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$100\theta_*$	$1.04095^{+0.00044}_{-0.00032}$	χ_{small}^2	397.0 ± 1.8
c_{100}	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	$13.81^{+0.11}_{-0.036}$	χ_{lowl}^2	22.42 ± 0.89
c_{217}	1.0012 ± 0.0016	z_{drag}	$1060.21^{+0.37}_{-0.54}$	χ_{CamSpec}^2	11517.3 ± 6.0
c_{TE}	0.9974 ± 0.0050	r_{drag}	$146.4^{+1.3}_{-0.40}$	χ_{JLA}^2	1035.04 ± 0.30
c_{EE}	0.9936 ± 0.0052	k_D	$0.14128^{+0.00039}_{-0.00099}$	χ_{6DF}^2	0.047 ± 0.061
H_0	$68.21^{+0.45}_{-0.88}$	$100\theta_D$	$0.16104^{+0.00021}_{-0.00038}$	χ_{MGS}^2	1.37 ± 0.47
Ω_Λ	0.6908 ± 0.0065	z_{eq}	3319^{+63}_{-18}	χ_{DR12BAO}^2	4.6 ± 1.4
Ω_m	0.3092 ± 0.0065	k_{eq}	$0.01024^{+0.00020}_{-0.00010}$	χ_{prior}^2	7.8 ± 3.5
$\Omega_m h^2$	$0.1438^{+0.0012}_{-0.0026}$	$100\theta_{\text{eq}}$	$0.8302^{+0.0030}_{-0.013}$	χ_{BAO}^2	6.1 ± 1.1
$\Omega_\nu h^2$	$0.00272^{+0.00029}_{-0.0022}$	$100\theta_{s,\text{eq}}$	$0.4582^{+0.0015}_{-0.0070}$	χ_{CMB}^2	11936.7 ± 6.0
$\Omega_m h^3$	$0.09811^{+0.00055}_{-0.0023}$	$H(0.15)$	$73.50^{+0.37}_{-0.87}$		
σ_8	$0.789^{+0.024}_{-0.014}$	$D_M(0.15)$	$635.8^{+7.8}_{-3.8}$		

$$\bar{\chi}_{\text{eff}}^2 = 12985.64; R - 1 = 0.01787$$

7.11 base_nnu_meffsterile_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_Aver15_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02241 ± 0.00015	S_8	$0.800^{+0.024}_{-0.016}$	$H(0.38)$	$83.39^{+0.26}_{-0.61}$
$\Omega_c h^2$	$0.1179^{+0.0038}_{-0.0023}$	$\sigma_8 \Omega_m^{0.5}$	$0.438^{+0.013}_{-0.0089}$	$D_M(0.38)$	$1522^{+13}_{-7.6}$
$100\theta_{MC}$	$1.04087^{+0.00034}_{-0.00031}$	$\sigma_8 \Omega_m^{0.25}$	$0.587^{+0.017}_{-0.011}$	$H(0.51)$	$90.13^{+0.20}_{-0.60}$
τ	$0.0556^{+0.0055}_{-0.0079}$	$\sigma_8/h^{0.5}$	$0.954^{+0.028}_{-0.016}$	$D_M(0.51)$	$1972^{+16}_{-8.8}$
$m_{\nu, \text{sterile}}^{\text{eff}} [\text{eV}]$	< 0.244	$r_{\text{drag}} h$	99.68 ± 0.84	$H(0.61)$	$95.76^{+0.16}_{-0.60}$
N_{eff}	< 3.14	$\langle d^2 \rangle^{1/2}$	2.419 ± 0.024	$D_M(0.61)$	$2294^{+18}_{-9.4}$
$\ln(10^{10} A_s)$	$3.044^{+0.012}_{-0.017}$	z_{re}	$7.80^{+0.60}_{-0.79}$	$H(2.33)$	$237.00^{+0.70}_{-1.6}$
n_s	$0.9694^{+0.0045}_{-0.0054}$	$10^9 A_s$	$2.100^{+0.025}_{-0.036}$	$D_M(2.33)$	$5737^{+34}_{-7.5}$
y_{cal}	1.0006 ± 0.0025	$10^9 A_s e^{-2\tau}$	$1.879^{+0.011}_{-0.013}$	$f\sigma_8(0.15)$	$0.443^{+0.013}_{-0.0087}$
A_{100}^{PS}	242 ± 25	D_{40}	1220 ± 13	$\sigma_8(0.15)$	$0.727^{+0.022}_{-0.013}$
A_{143}^{PS}	41 ± 8	D_{220}	5722 ± 39	$f\sigma_8(0.38)$	$0.461^{+0.014}_{-0.0085}$
A_{217}^{PS}	102 ± 10	D_{810}	2535 ± 14	$\sigma_8(0.38)$	$0.645^{+0.020}_{-0.012}$
A_{217}^{CIB}	40 ± 7	D_{1420}	815.3 ± 4.9	$f\sigma_8(0.51)$	$0.460^{+0.014}_{-0.0082}$
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	D_{2000}	229.7 ± 1.7	$\sigma_8(0.51)$	$0.603^{+0.019}_{-0.011}$
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.13	$n_{s,0.002}$	$0.9694^{+0.0045}_{-0.0054}$	$f\sigma_8(0.61)$	$0.455^{+0.014}_{-0.0080}$
$r_{143 \times 217}^{\text{CIB}}$	$0.58^{+0.40}_{-0.15}$	Y_P	$0.24652^{+0.00021}_{-0.0011}$	$\sigma_8(0.61)$	$0.574^{+0.018}_{-0.010}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	$0.24785^{+0.00021}_{-0.0011}$	$f\sigma_8(2.33)$	$0.2898^{+0.0091}_{-0.0053}$
A^{kSZ}	—	$10^5 D/H$	$2.608^{+0.028}_{-0.035}$	$\sigma_8(2.33)$	$0.2986^{+0.0095}_{-0.0056}$
A_{100}^{dust}	1.02 ± 0.20	Age/Gyr	$13.734^{+0.081}_{-0.017}$	f_{2000}^{143}	30.6 ± 2.9
A_{143}^{dust}	0.96 ± 0.17	z_*	$1089.96^{+0.24}_{-0.28}$	f_{2000}^{217}	107.4 ± 2.0
A_{217}^{dust}	0.97 ± 0.10	r_*	$144.03^{+0.90}_{-0.27}$	$f_{2000}^{143 \times 217}$	32.8 ± 2.1
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$100\theta_*$	$1.04101^{+0.00037}_{-0.00030}$	χ_{simall}^2	397.0 ± 1.8
c_{100}	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	$13.836^{+0.084}_{-0.026}$	χ_{lowl}^2	22.61 ± 0.88
c_{217}	1.0012 ± 0.0016	z_{drag}	$1060.10^{+0.35}_{-0.44}$	χ_{CamSpec}^2	11516.7 ± 5.9
c_{TE}	0.9972 ± 0.0050	r_{drag}	$146.68^{+0.93}_{-0.28}$	χ_{Aver15}^2	0.62 ± 0.54
c_{EE}	0.9932 ± 0.0050	k_D	$0.14107^{+0.00035}_{-0.00074}$	$\chi_{6\text{DF}}^2$	0.057 ± 0.070
H_0	$67.96^{+0.45}_{-0.69}$	$100\theta_D$	$0.16097^{+0.00020}_{-0.00029}$	χ_{MGS}^2	1.29 ± 0.46
Ω_Λ	0.6895 ± 0.0066	z_{eq}	3316^{+71}_{-21}	χ_{DR12BAO}^2	4.9 ± 1.5
Ω_m	0.3105 ± 0.0066	k_{eq}	$0.01021^{+0.00020}_{-0.000096}$	χ_{prior}^2	7.8 ± 3.5
$\Omega_m h^2$	$0.1434^{+0.0011}_{-0.0020}$	$100\theta_{\text{eq}}$	$0.8308^{+0.0037}_{-0.015}$	χ_{BAO}^2	6.2 ± 1.2
$\Omega_\nu h^2$	$0.00301^{+0.00027}_{-0.0024}$	$100\theta_{s,\text{eq}}$	$0.4585^{+0.0019}_{-0.0079}$	χ_{CMB}^2	11936.3 ± 5.9
$\Omega_m h^3$	$0.09744^{+0.00032}_{-0.0016}$	$H(0.15)$	$73.26^{+0.38}_{-0.65}$		
σ_8	$0.787^{+0.024}_{-0.014}$	$D_M(0.15)$	$638.0^{+6.0}_{-3.9}$		

$$\bar{\chi}_{\text{eff}}^2 = 11950.98; R - 1 = 0.01936$$

7.12 base_nnu_meffsterile_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_Cooke17_Aver15_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02240 ± 0.00015	S_8	$0.800^{+0.023}_{-0.016}$	$H(0.38)$	$83.38^{+0.26}_{-0.61}$
$\Omega_c h^2$	$0.1179^{+0.0038}_{-0.0022}$	$\sigma_8 \Omega_m^{0.5}$	$0.438^{+0.013}_{-0.0088}$	$D_M(0.38)$	$1522^{+13}_{-7.5}$
$100\theta_{MC}$	1.04087 ± 0.00032	$\sigma_8 \Omega_m^{0.25}$	$0.587^{+0.017}_{-0.011}$	$H(0.51)$	$90.12^{+0.20}_{-0.60}$
τ	$0.0555^{+0.0055}_{-0.0079}$	$\sigma_8/h^{0.5}$	$0.954^{+0.028}_{-0.015}$	$D_M(0.51)$	$1972^{+16}_{-8.7}$
$m_{\nu, \text{sterile}}^{\text{eff}} [\text{eV}]$	< 0.244	$r_{\text{drag}} h$	99.67 ± 0.83	$H(0.61)$	$95.75^{+0.16}_{-0.60}$
N_{eff}	< 3.14	$\langle d^2 \rangle^{1/2}$	2.419 ± 0.024	$D_M(0.61)$	$2295^{+18}_{-9.3}$
$\ln(10^{10} A_s)$	$3.044^{+0.012}_{-0.017}$	z_{re}	$7.80^{+0.60}_{-0.79}$	$H(2.33)$	$236.98^{+0.72}_{-1.5}$
n_s	$0.9693^{+0.0045}_{-0.0054}$	$10^9 A_s$	$2.100^{+0.025}_{-0.036}$	$D_M(2.33)$	$5737^{+34}_{-7.7}$
y_{cal}	1.0006 ± 0.0025	$10^9 A_s e^{-2\tau}$	$1.879^{+0.011}_{-0.013}$	$f\sigma_8(0.15)$	$0.443^{+0.013}_{-0.0086}$
A_{100}^{PS}	242 ± 25	D_{40}	1220 ± 13	$\sigma_8(0.15)$	$0.727^{+0.022}_{-0.013}$
A_{143}^{PS}	41 ± 8	D_{220}	5722 ± 39	$f\sigma_8(0.38)$	$0.461^{+0.014}_{-0.0083}$
A_{217}^{PS}	102 ± 10	D_{810}	2535 ± 14	$\sigma_8(0.38)$	$0.645^{+0.020}_{-0.011}$
A_{217}^{CIB}	40 ± 7	D_{1420}	815.3 ± 4.9	$f\sigma_8(0.51)$	$0.460^{+0.014}_{-0.0081}$
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	D_{2000}	229.7 ± 1.7	$\sigma_8(0.51)$	$0.603^{+0.019}_{-0.011}$
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.13	$n_{s,0.002}$	$0.9693^{+0.0045}_{-0.0054}$	$f\sigma_8(0.61)$	$0.455^{+0.014}_{-0.0080}$
$r_{143 \times 217}^{\text{CIB}}$	$0.58^{+0.40}_{-0.14}$	Y_P	$0.24651^{+0.00022}_{-0.0011}$	$\sigma_8(0.61)$	$0.574^{+0.018}_{-0.010}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	$0.24784^{+0.00022}_{-0.0011}$	$f\sigma_8(2.33)$	$0.2898^{+0.0091}_{-0.0052}$
A^{kSZ}	—	$10^5 D/H$	$2.608^{+0.027}_{-0.033}$	$\sigma_8(2.33)$	$0.2986^{+0.0095}_{-0.0055}$
A_{100}^{dust}	1.02 ± 0.20	Age/Gyr	$13.736^{+0.080}_{-0.018}$	f_{2000}^{143}	30.6 ± 2.9
A_{143}^{dust}	0.96 ± 0.17	z_*	$1089.96^{+0.23}_{-0.26}$	f_{2000}^{217}	107.4 ± 1.9
A_{217}^{dust}	0.97 ± 0.10	r_*	$144.04^{+0.88}_{-0.28}$	$f_{2000}^{143 \times 217}$	32.8 ± 2.0
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$100\theta_*$	$1.04101^{+0.00036}_{-0.00030}$	χ_{simall}^2	397.0 ± 1.8
c_{100}	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	$13.837^{+0.082}_{-0.027}$	χ_{lowl}^2	22.62 ± 0.88
c_{217}	1.0012 ± 0.0016	z_{drag}	$1060.08^{+0.34}_{-0.44}$	χ_{CamSpec}^2	11516.6 ± 5.9
c_{TE}	0.9972 ± 0.0050	r_{drag}	$146.69^{+0.92}_{-0.29}$	χ_{Aver15}^2	0.61 ± 0.51
c_{EE}	0.9932 ± 0.0050	k_D	$0.14105^{+0.00035}_{-0.00073}$	χ_{Cooke17}^2	0.12 ± 0.17
H_0	$67.95^{+0.45}_{-0.68}$	$100\theta_D$	$0.16097^{+0.00019}_{-0.00028}$	χ_{6DF}^2	0.057 ± 0.070
Ω_Λ	0.6894 ± 0.0065	z_{eq}	3317^{+71}_{-21}	χ_{MGS}^2	1.29 ± 0.46
Ω_m	0.3106 ± 0.0065	k_{eq}	$0.01021^{+0.00020}_{-0.000093}$	χ_{DR12BAO}^2	4.9 ± 1.5
$\Omega_m h^2$	$0.1434^{+0.0011}_{-0.0020}$	$100\theta_{\text{eq}}$	$0.8308^{+0.0037}_{-0.015}$	χ_{prior}^2	7.8 ± 3.5
$\Omega_\nu h^2$	$0.00301^{+0.00027}_{-0.0024}$	$100\theta_{s,\text{eq}}$	$0.4585^{+0.0019}_{-0.0079}$	χ_{BAO}^2	6.2 ± 1.2
$\Omega_m h^3$	$0.09740^{+0.00034}_{-0.0016}$	$H(0.15)$	$73.24^{+0.37}_{-0.65}$	χ_{CMB}^2	11936.2 ± 5.9
σ_8	$0.787^{+0.024}_{-0.014}$	$D_M(0.15)$	$638.2^{+6.0}_{-3.8}$	χ_{Abund}^2	0.73 ± 0.57

$$\bar{\chi}_{\text{eff}}^2 = 11951.02; R - 1 = 0.01932$$

7.13 base_nnu_meffsterile_CamSpecHM_TTTEEE_lowl_lowE_lensing_BAO

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022343	$0.02241^{+0.00015}_{-0.00016}$	S_8	0.8223	$0.809^{+0.019}_{-0.013}$	$H(0.38)$	83.003	$83.44^{+0.24}_{-0.75}$
$\Omega_c h^2$	0.11905	$0.1192^{+0.0031}_{-0.0025}$	$\sigma_8 \Omega_m^{0.5}$	0.4504	$0.443^{+0.011}_{-0.0070}$	$D_M(0.38)$	1529.1	$1522^{+16}_{-7.2}$
$100\theta_{MC}$	1.040943	$1.04081^{+0.00036}_{-0.00032}$	$\sigma_8 \Omega_m^{0.25}$	0.6032	$0.593^{+0.014}_{-0.0085}$	$H(0.51)$	89.714	$90.20^{+0.18}_{-0.75}$
τ	0.0546	$0.0564^{+0.0067}_{-0.0078}$	$\sigma_8/h^{0.5}$	0.9824	$0.963^{+0.022}_{-0.012}$	$D_M(0.51)$	1980.9	$1971^{+20}_{-8.2}$
$m_{\nu, \text{sterile}}^{\text{eff}} [\text{eV}]$	0.011	< 0.174	$r_{\text{drag}} h$	99.64	99.47 ± 0.84	$H(0.61)$	95.328	$95.85^{+0.16}_{-0.74}$
N_{eff}	3.046	< 3.16	$\langle d^2 \rangle^{1/2}$	2.4294	2.427 ± 0.021	$D_M(0.61)$	2305.2	$2294^{+22}_{-8.7}$
$\ln(10^{10} A_s)$	3.0410	$3.048^{+0.014}_{-0.016}$	z_{re}	7.70	7.90 ± 0.74	$H(2.33)$	235.99	$237.48^{+0.74}_{-1.9}$
n_s	0.9673	$0.9693^{+0.0045}_{-0.0060}$	$10^9 A_s$	2.0926	$2.109^{+0.030}_{-0.034}$	$D_M(2.33)$	5762.6	$5731^{+42}_{-9.0}$
y_{cal}	1.00024	1.0008 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.8762	$1.883^{+0.012}_{-0.014}$	$f\sigma_8(0.15)$	0.4550	$0.448^{+0.011}_{-0.0068}$
A_{100}^{PS}	235.8	243 ± 25	D_{40}	1223.1	1222 ± 13	$\sigma_8(0.15)$	0.7466	$0.733^{+0.019}_{-0.011}$
A_{143}^{PS}	47.5	41 ± 8	D_{220}	5717.3	5726 ± 39	$f\sigma_8(0.38)$	0.4735	$0.466^{+0.011}_{-0.0067}$
A_{217}^{PS}	103.5	102 ± 10	D_{810}	2535.0	2538 ± 13	$\sigma_8(0.38)$	0.6619	$0.650^{+0.017}_{-0.010}$
A_{217}^{CIB}	39.8	40 ± 7	D_{1420}	816.09	815.6 ± 4.8	$f\sigma_8(0.51)$	0.4722	$0.465^{+0.011}_{-0.0066}$
A_{143}^{tSZ}	4.40	$3.8^{+1.8}_{-2.5}$	D_{2000}	230.54	229.8 ± 1.7	$\sigma_8(0.51)$	0.6194	$0.608^{+0.016}_{-0.0098}$
$r_{143 \times 217}^{\text{PS}}$	0.725	0.65 ± 0.13	$n_{s,0.002}$	0.9673	$0.9693^{+0.0045}_{-0.0060}$	$f\sigma_8(0.61)$	0.4672	$0.460^{+0.011}_{-0.0066}$
$r_{143 \times 217}^{\text{CIB}}$	0.726	$0.57^{+0.40}_{-0.15}$	Y_P	0.24539	$0.24675^{+0.00025}_{-0.0014}$	$\sigma_8(0.61)$	0.5894	$0.579^{+0.015}_{-0.0094}$
$\xi^{\text{tSZ} \times \text{CIB}}$	0.94	—	Y_P^{BBN}	0.24671	$0.24808^{+0.00025}_{-0.0014}$	$f\sigma_8(2.33)$	0.2972	$0.2922^{+0.0077}_{-0.0049}$
A^{kSZ}	3.41	4.9 ± 2.7	$10^5 \text{D}/\text{H}$	2.5905	$2.615^{+0.029}_{-0.041}$	$\sigma_8(2.33)$	0.3064	$0.3010^{+0.0081}_{-0.0052}$
A_{100}^{dust}	1.022	1.01 ± 0.20	Age/Gyr	13.796	$13.72^{+0.10}_{-0.021}$	f_{2000}^{143}	29.69	30.5 ± 3.0
A_{143}^{dust}	0.975	0.96 ± 0.17	z_*	1089.881	$1090.04^{+0.24}_{-0.31}$	f_{2000}^{217}	106.44	107.5 ± 2.0
A_{217}^{dust}	0.982	0.97 ± 0.10	r_*	144.66	$143.8^{+1.1}_{-0.31}$	$f_{2000}^{143 \times 217}$	31.97	32.8 ± 2.1
$A_{143 \times 217}^{\text{dust}}$	1.019	1.03 ± 0.16	$100\theta_*$	1.041131	$1.04094^{+0.00041}_{-0.00032}$	χ_{lensing}^2	8.94	9.5 ± 1.0
c_{100}	0.99765	0.9976 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.895	$13.81^{+0.10}_{-0.030}$	χ_{small}^2	396.07	397.3 ± 2.0
c_{217}	1.00128	1.0012 ± 0.0016	z_{drag}	1059.818	$1060.15^{+0.35}_{-0.49}$	χ_{lowl}^2	22.86	22.72 ± 0.89
c_{TE}	0.99640	0.9971 ± 0.0049	r_{drag}	147.34	$146.4^{+1.1}_{-0.33}$	χ_{CamSpec}^2	11500.0	11516.1 ± 5.8
c_{EE}	0.9920	0.9934 ± 0.0051	k_D	0.14058	$0.14127^{+0.00037}_{-0.00087}$	$\chi_{6\text{DF}}^2$	0.0297	0.073 ± 0.082
H_0	67.63	$67.94^{+0.43}_{-0.80}$	$100\theta_D$	0.160825	$0.16102^{+0.00019}_{-0.00035}$	χ_{MGS}^2	1.217	1.18 ± 0.44
Ω_Λ	0.6892	0.6879 ± 0.0066	z_{eq}	3378.9	3338^{+51}_{-19}	χ_{DR12BAO}^2	4.42	5.2 ± 1.8
Ω_m	0.3108	0.3121 ± 0.0066	k_{eq}	0.010315	$0.01028^{+0.00016}_{-0.000097}$	χ_{prior}^2	2.13	7.8 ± 3.4
$\Omega_m h^2$	0.14216	$0.1440^{+0.0011}_{-0.0024}$	$100\theta_{\text{eq}}$	0.8175	$0.8262^{+0.0033}_{-0.011}$	χ_{CMB}^2	11927.8	11945.6 ± 6.0
$\Omega_\nu h^2$	0.00077	$0.00240^{+0.00029}_{-0.0018}$	$100\theta_{s,\text{eq}}$	0.45160	$0.4561^{+0.0016}_{-0.0057}$	χ_{BAO}^2	5.67	6.5 ± 1.5
$\Omega_m h^3$	0.09614	$0.09784^{+0.00039}_{-0.0020}$	$H(0.15)$	72.90	$73.26^{+0.35}_{-0.78}$			
σ_8	0.8079	$0.794^{+0.020}_{-0.012}$	$D_M(0.15)$	641.1	$638.2^{+7.1}_{-3.7}$			

Best-fit $\chi_{\text{eff}}^2 = 11935.63$; $\bar{\chi}_{\text{eff}}^2 = 11959.89$; $\Delta\bar{\chi}_{\text{eff}}^2 = 2.49$; $R - 1 = 0.03604$

χ_{eff}^2 : BAO - 6DF: 0.03 MGS: 1.22 DR12BAO: 4.42 CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p_teb_consext8: 8.94 small_100x143_offlike5_EE_Aplanck_B: 396.07 commander_dx12_v3_2_29: 22.86 CamSpec like_10.7HM_1400_unified: 11499.95

7.14 base_nnu_meffsterile_CamSpecHM_TTTEEE_lowl_lowE_lensing_BAO_post_Pantheon18

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022368	$0.02241^{+0.00015}_{-0.00016}$	S_8	0.8213	$0.809^{+0.019}_{-0.013}$	$H(0.38)$	83.34	$83.50^{+0.24}_{-0.78}$
$\Omega_c h^2$	0.11974	$0.1192^{+0.0030}_{-0.0026}$	$\sigma_8 \Omega_m^{0.5}$	0.4499	$0.443^{+0.010}_{-0.0069}$	$D_M(0.38)$	1522.2	$1520^{+16}_{-7.0}$
$100\theta_{MC}$	1.040861	$1.04082^{+0.00037}_{-0.00032}$	$\sigma_8 \Omega_m^{0.25}$	0.6034	$0.593^{+0.014}_{-0.0085}$	$H(0.51)$	90.050	$90.25^{+0.19}_{-0.77}$
τ	0.0548	$0.0568^{+0.0067}_{-0.0078}$	$\sigma_8/h^{0.5}$	0.9816	$0.964^{+0.022}_{-0.011}$	$D_M(0.51)$	1972.3	$1969^{+20}_{-8.2}$
$m_{\nu, \text{sterile}}^{\text{eff}} [\text{eV}]$	0.000	< 0.163	$r_{\text{drag}} h$	99.87	99.60 ± 0.80	$H(0.61)$	95.667	$95.90^{+0.17}_{-0.77}$
N_{eff}	3.093	< 3.16	$\langle d^2 \rangle^{1/2}$	2.4283	2.426 ± 0.021	$D_M(0.61)$	2295.3	$2292^{+23}_{-8.7}$
$\ln(10^{10} A_s)$	3.0433	3.049 ± 0.015	z_{re}	7.73	7.93 ± 0.74	$H(2.33)$	236.54	$237.42^{+0.71}_{-1.9}$
n_s	0.9679	$0.9698^{+0.0045}_{-0.0060}$	$10^9 A_s$	2.0974	$2.110^{+0.030}_{-0.034}$	$D_M(2.33)$	5743.1	$5729^{+44}_{-9.8}$
y_{cal}	1.00049	1.0008 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.8796	$1.883^{+0.012}_{-0.014}$	$f\sigma_8(0.15)$	0.4547	$0.448^{+0.010}_{-0.0068}$
A_{100}^{PS}	240.3	243 ± 25	D_{40}	1224.1	1221 ± 13	$\sigma_8(0.15)$	0.7481	$0.734^{+0.018}_{-0.011}$
A_{143}^{PS}	40.6	41 ± 8	D_{220}	5725.1	5727 ± 39	$f\sigma_8(0.38)$	0.4735	$0.466^{+0.011}_{-0.0067}$
A_{217}^{PS}	100.4	102 ± 10	D_{810}	2535.3	2538 ± 13	$\sigma_8(0.38)$	0.6634	$0.651^{+0.016}_{-0.010}$
A_{217}^{CIB}	44.6	40 ± 7	D_{1420}	815.17	815.7 ± 4.8	$f\sigma_8(0.51)$	0.4724	$0.465^{+0.011}_{-0.0066}$
A_{143}^{tSZ}	5.93	$3.7^{+1.8}_{-2.5}$	D_{2000}	229.98	229.8 ± 1.7	$\sigma_8(0.51)$	0.6209	$0.609^{+0.015}_{-0.0097}$
$r_{143 \times 217}^{\text{PS}}$	0.577	0.65 ± 0.13	$n_{s,0.002}$	0.9679	$0.9698^{+0.0045}_{-0.0060}$	$f\sigma_8(0.61)$	0.4677	$0.460^{+0.011}_{-0.0066}$
$r_{143 \times 217}^{\text{CIB}}$	0.778	$0.57^{+0.41}_{-0.15}$	Y_P	0.24602	$0.24678^{+0.00025}_{-0.0014}$	$\sigma_8(0.61)$	0.5909	$0.580^{+0.015}_{-0.0093}$
$\xi^{\text{tSZ} \times \text{CIB}}$	0.11	—	Y_P^{BBN}	0.24735	$0.24811^{+0.00025}_{-0.0014}$	$f\sigma_8(2.33)$	0.2980	$0.2927^{+0.0075}_{-0.0048}$
A^{kSZ}	1.10	4.9 ± 2.7	$10^5 \text{D}/\text{H}$	2.6020	$2.614^{+0.028}_{-0.042}$	$\sigma_8(2.33)$	0.3074	$0.3016^{+0.0079}_{-0.0052}$
A_{100}^{dust}	1.005	1.01 ± 0.20	Age/Gyr	13.750	$13.71^{+0.10}_{-0.023}$	f_{2000}^{143}	30.85	30.5 ± 3.0
A_{143}^{dust}	0.980	0.96 ± 0.18	z_*	1089.946	$1090.02^{+0.23}_{-0.31}$	f_{2000}^{217}	107.29	107.5 ± 2.0
A_{217}^{dust}	0.974	0.97 ± 0.10	r_*	144.27	$143.8^{+1.1}_{-0.30}$	$f_{2000}^{143 \times 217}$	32.61	32.8 ± 2.1
$A_{143 \times 217}^{\text{dust}}$	1.006	1.03 ± 0.16	$100\theta_*$	1.041020	$1.04094^{+0.00042}_{-0.00032}$	χ_{lensing}^2	9.02	9.5 ± 1.0
c_{100}	0.99761	0.9976 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.858	$13.81^{+0.10}_{-0.029}$	χ_{simall}^2	396.12	397.4 ± 2.1
c_{217}	1.00143	1.0012 ± 0.0016	z_{drag}	1059.933	$1060.16^{+0.35}_{-0.50}$	χ_{lowl}^2	22.86	22.66 ± 0.88
c_{TE}	0.99648	0.9972 ± 0.0050	r_{drag}	146.93	$146.4^{+1.2}_{-0.32}$	χ_{CamSpec}^2	11500.0	11516.2 ± 5.8
c_{EE}	0.9929	0.9934 ± 0.0051	k_D	0.14086	$0.14126^{+0.00037}_{-0.00090}$	χ_{JLA}^2	1034.942	1035.11 ± 0.33
H_0	67.97	$68.03^{+0.42}_{-0.82}$	$100\theta_D$	0.160938	$0.16102^{+0.00019}_{-0.00036}$	$\chi_{6\text{DF}}^2$	0.0161	0.060 ± 0.071
Ω_Λ	0.6910	0.6890 ± 0.0063	z_{eq}	3374.7	3337^{+50}_{-18}	χ_{MGS}^2	1.343	1.25 ± 0.43
Ω_m	0.3090	0.3110 ± 0.0063	k_{eq}	0.010332	$0.01028^{+0.00016}_{-0.000099}$	χ_{DR12BAO}^2	4.09	5.0 ± 1.5
$\Omega_m h^2$	0.14275	$0.1439^{+0.0011}_{-0.0024}$	$100\theta_{\text{eq}}$	0.8182	$0.8264^{+0.0032}_{-0.010}$	χ_{prior}^2	2.29	7.8 ± 3.5
$\Omega_\nu h^2$	0.00065	$0.00231^{+0.00025}_{-0.0018}$	$100\theta_{s,\text{eq}}$	0.45196	$0.4562^{+0.0016}_{-0.0055}$	χ_{CMB}^2	11928.1	11945.8 ± 6.1
$\Omega_m h^3$	0.09703	$0.09790^{+0.00041}_{-0.0021}$	$H(0.15)$	73.24	$73.34^{+0.35}_{-0.79}$	χ_{BAO}^2	5.45	6.3 ± 1.3
σ_8	0.8093	$0.795^{+0.019}_{-0.012}$	$D_M(0.15)$	638.0	$637.4^{+7.2}_{-3.6}$			

Best-fit $\chi_{\text{eff}}^2 = 12970.74$; $\Delta\chi_{\text{eff}}^2 = 0.26$; $\bar{\chi}_{\text{eff}}^2 = 12994.91$; $\Delta\bar{\chi}_{\text{eff}}^2 = 2.52$; $R - 1 = 0.03797$
 χ_{eff}^2 : BAO - 6DF: 0.02 (Δ -0.01) MGS: 1.34 (Δ 0.06) DR12BAO: 4.09 (Δ -0.14) CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p.teb.consext8: 9.02 (Δ 0.06) simall_100x143_offlike5_EE_Aplanck 396.12 (Δ 0.07) commander_dx12.v3.2.29: 22.86 (Δ 0.09) CamSpec like_10.7HM_1400_unified: 11500.05 (Δ -0.12) SN - JLA Pantheon18: 1034.94 (Δ -0.04)

7.15 base_nnu_meffsterile_CamSpecHM_TTTEEE_lowl_lowE_lensing_BAO_post_Aver15

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02239 ± 0.00015	S_8	$0.808^{+0.019}_{-0.013}$	$H(0.38)$	$83.28^{+0.25}_{-0.57}$
$\Omega_c h^2$	$0.1186^{+0.0030}_{-0.0020}$	$\sigma_8 \Omega_m^{0.5}$	$0.443^{+0.010}_{-0.0071}$	$D_M(0.38)$	$1525^{+12}_{-7.2}$
$100\theta_{MC}$	1.04085 ± 0.00032	$\sigma_8 \Omega_m^{0.25}$	$0.592^{+0.014}_{-0.0083}$	$H(0.51)$	$90.03^{+0.18}_{-0.55}$
τ	$0.0563^{+0.0067}_{-0.0077}$	$\sigma_8/h^{0.5}$	$0.962^{+0.022}_{-0.012}$	$D_M(0.51)$	$1975^{+15}_{-8.3}$
$m_{\nu, \text{sterile}}^{\text{eff}} [\text{eV}]$	< 0.191	$r_{\text{drag}} h$	99.44 ± 0.81	$H(0.61)$	$95.68^{+0.15}_{-0.55}$
N_{eff}	< 3.13	$\langle d^2 \rangle^{1/2}$	2.429 ± 0.021	$D_M(0.61)$	$2298^{+17}_{-8.9}$
$\ln(10^{10} A_s)$	3.047 ± 0.015	z_{re}	7.87 ± 0.74	$H(2.33)$	$237.10^{+0.70}_{-1.5}$
n_s	$0.9684^{+0.0044}_{-0.0052}$	$10^9 A_s$	$2.106^{+0.030}_{-0.033}$	$D_M(2.33)$	$5741^{+31}_{-7.3}$
y_{cal}	1.0008 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.881 ± 0.012	$f\sigma_8(0.15)$	$0.447^{+0.011}_{-0.0069}$
A_{100}^{PS}	242 ± 25	D_{40}	1223 ± 13	$\sigma_8(0.15)$	$0.732^{+0.018}_{-0.010}$
A_{143}^{PS}	41 ± 8	D_{220}	5726 ± 39	$f\sigma_8(0.38)$	$0.465^{+0.011}_{-0.0066}$
A_{217}^{PS}	102 ± 10	D_{810}	2537 ± 13	$\sigma_8(0.38)$	$0.649^{+0.016}_{-0.0095}$
A_{217}^{CIB}	40 ± 7	D_{1420}	815.7 ± 4.8	$f\sigma_8(0.51)$	$0.464^{+0.011}_{-0.0064}$
A_{143}^{tSZ}	$3.7^{+1.8}_{-2.5}$	D_{2000}	229.9 ± 1.6	$\sigma_8(0.51)$	$0.607^{+0.015}_{-0.0090}$
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.13	$n_{s,0.002}$	$0.9684^{+0.0044}_{-0.0052}$	$f\sigma_8(0.61)$	$0.459^{+0.011}_{-0.0063}$
$r_{143 \times 217}^{\text{CIB}}$	$0.57^{+0.40}_{-0.16}$	Y_P	$0.24641^{+0.00018}_{-0.0010}$	$\sigma_8(0.61)$	$0.578^{+0.015}_{-0.0086}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	$0.24774^{+0.00018}_{-0.0010}$	$f\sigma_8(2.33)$	$0.2915^{+0.0075}_{-0.0045}$
A^{kSZ}	$4.9^{+2.8}_{-3.5}$	$10^5 D/H$	$2.609^{+0.027}_{-0.035}$	$\sigma_8(2.33)$	$0.3004^{+0.0078}_{-0.0048}$
A_{100}^{dust}	1.01 ± 0.20	Age/Gyr	$13.743^{+0.074}_{-0.017}$	f_{2000}^{143}	30.3 ± 2.9
A_{143}^{dust}	0.96 ± 0.18	z_*	$1090.00^{+0.23}_{-0.27}$	f_{2000}^{217}	107.3 ± 2.0
A_{217}^{dust}	0.97 ± 0.10	r_*	$144.02^{+0.83}_{-0.27}$	$f_{2000}^{143 \times 217}$	32.6 ± 2.0
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	$100\theta_*$	$1.04100^{+0.00036}_{-0.00031}$	χ_{lensing}^2	9.4 ± 1.0
c_{100}	0.9976 ± 0.0011	$D_M(z_*)/\text{Gpc}$	$13.834^{+0.077}_{-0.026}$	χ_{simall}^2	397.3 ± 2.0
c_{217}	1.0012 ± 0.0016	z_{drag}	$1060.06^{+0.34}_{-0.41}$	χ_{lowl}^2	22.83 ± 0.87
c_{TE}	0.9970 ± 0.0049	r_{drag}	$146.67^{+0.86}_{-0.29}$	χ_{CamSpec}^2	11515.7 ± 5.7
c_{EE}	0.9930 ± 0.0050	k_D	$0.14109^{+0.00036}_{-0.00068}$	χ_{Aver15}^2	0.56 ± 0.48
H_0	$67.80^{+0.43}_{-0.65}$	$100\theta_D$	$0.16096^{+0.00019}_{-0.00028}$	$\chi_{6\text{DF}}^2$	0.074 ± 0.081
Ω_Λ	0.6876 ± 0.0064	z_{eq}	3336^{+55}_{-20}	χ_{MGS}^2	1.16 ± 0.43
Ω_m	0.3124 ± 0.0064	k_{eq}	$0.01026^{+0.00016}_{-0.000089}$	χ_{DR12BAO}^2	5.3 ± 1.7
$\Omega_m h^2$	$0.1436^{+0.0011}_{-0.0019}$	$100\theta_{\text{eq}}$	$0.8266^{+0.0035}_{-0.012}$	χ_{prior}^2	7.8 ± 3.5
$\Omega_\nu h^2$	$0.00252^{+0.00019}_{-0.0019}$	$100\theta_{s,\text{eq}}$	$0.4564^{+0.0018}_{-0.0061}$	χ_{CMB}^2	11945.3 ± 6.0
$\Omega_m h^3$	$0.09734^{+0.00032}_{-0.0015}$	$H(0.15)$	$73.11^{+0.36}_{-0.62}$	χ_{BAO}^2	6.5 ± 1.5
σ_8	$0.792^{+0.019}_{-0.011}$	$D_M(0.15)$	$639.4^{+5.7}_{-3.7}$		

$$\bar{\chi}_{\text{eff}}^2 = 11960.11; R - 1 = 0.03672$$

7.16 base_nnu_meffsterile_CamSpecHM_TTTEEE_lowl_lowE_lensing_BAO_post_Cooke17_Aver15

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02238 ± 0.00015	$\sigma_8 \Omega_m^{0.5}$	$0.443^{+0.010}_{-0.0070}$	$H(0.51)$	$90.02^{+0.18}_{-0.55}$
$\Omega_c h^2$	$0.1186^{+0.0030}_{-0.0020}$	$\sigma_8 \Omega_m^{0.25}$	$0.592^{+0.014}_{-0.0082}$	$D_M(0.51)$	$1975^{+15}_{-8.2}$
$100\theta_{MC}$	1.04085 ± 0.00032	$\sigma_8/h^{0.5}$	$0.962^{+0.022}_{-0.012}$	$H(0.61)$	$95.67^{+0.15}_{-0.54}$
τ	$0.0562^{+0.0068}_{-0.0077}$	$r_{\text{drag}} h$	99.43 ± 0.81	$D_M(0.61)$	$2298^{+17}_{-8.7}$
$m_{\nu, \text{sterile}}^{\text{eff}} [\text{eV}]$	< 0.192	$\langle d^2 \rangle^{1/2}$	2.429 ± 0.021	$H(2.33)$	$237.09^{+0.71}_{-1.4}$
N_{eff}	< 3.13	z_{re}	7.87 ± 0.74	$D_M(2.33)$	$5741^{+31}_{-7.4}$
$\ln(10^{10} A_s)$	3.047 ± 0.015	$10^9 A_s$	$2.105^{+0.030}_{-0.033}$	$f\sigma_8(0.15)$	$0.447^{+0.011}_{-0.0068}$
n_s	$0.9683^{+0.0044}_{-0.0052}$	$10^9 A_s e^{-2\tau}$	1.881 ± 0.012	$\sigma_8(0.15)$	$0.732^{+0.018}_{-0.010}$
y_{cal}	1.0008 ± 0.0025	D_{40}	1223 ± 13	$f\sigma_8(0.38)$	$0.465^{+0.011}_{-0.0065}$
A_{100}^{PS}	242 ± 25	D_{220}	5725 ± 39	$\sigma_8(0.38)$	$0.649^{+0.016}_{-0.0095}$
A_{143}^{PS}	41 ± 8	D_{810}	2537 ± 13	$f\sigma_8(0.51)$	$0.464^{+0.011}_{-0.0064}$
A_{217}^{PS}	102 ± 10	D_{1420}	815.7 ± 4.7	$\sigma_8(0.51)$	$0.607^{+0.015}_{-0.0090}$
A_{217}^{CIB}	40 ± 7	D_{2000}	229.9 ± 1.6	$f\sigma_8(0.61)$	$0.459^{+0.011}_{-0.0063}$
A_{143}^{tSZ}	$3.7^{+1.8}_{-2.5}$	$n_{s,0.002}$	$0.9683^{+0.0044}_{-0.0052}$	$\sigma_8(0.61)$	$0.578^{+0.015}_{-0.0086}$
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.13	Y_{P}	$0.24639^{+0.00019}_{-0.00099}$	$f\sigma_8(2.33)$	$0.2915^{+0.0075}_{-0.0045}$
$r_{143 \times 217}^{\text{CIB}}$	$0.57^{+0.40}_{-0.16}$	$Y_{\text{P}}^{\text{BBN}}$	$0.24772^{+0.00019}_{-0.00099}$	$\sigma_8(2.33)$	$0.3003^{+0.0078}_{-0.0048}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	$10^5 \text{D}/\text{H}$	$2.609^{+0.027}_{-0.033}$	f_{2000}^{143}	30.4 ± 2.9
A^{kSZ}	$4.9^{+2.8}_{-3.5}$	Age/Gyr	$13.745^{+0.072}_{-0.017}$	f_{2000}^{217}	107.4 ± 2.0
A_{100}^{dust}	1.01 ± 0.20	z_*	$1090.00^{+0.22}_{-0.26}$	$f_{2000}^{143 \times 217}$	32.6 ± 2.0
A_{143}^{dust}	0.96 ± 0.18	r_*	$144.03^{+0.81}_{-0.28}$	χ_{lensing}^2	9.4 ± 1.0
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	$1.04100^{+0.00036}_{-0.00031}$	χ_{simall}^2	397.3 ± 2.0
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	$D_M(z_*)/\text{Gpc}$	$13.835^{+0.076}_{-0.027}$	χ_{lowl}^2	22.84 ± 0.87
c_{100}	0.9976 ± 0.0011	z_{drag}	$1060.05^{+0.34}_{-0.41}$	χ_{CamSpec}^2	11515.6 ± 5.7
c_{217}	1.0012 ± 0.0016	r_{drag}	$146.68^{+0.84}_{-0.30}$	χ_{Aver15}^2	0.55 ± 0.45
c_{TE}	0.9970 ± 0.0049	k_{D}	$0.14107^{+0.00036}_{-0.00068}$	χ_{Cooke17}^2	0.12 ± 0.16
c_{EE}	0.9930 ± 0.0050	$100\theta_{\text{D}}$	$0.16096^{+0.00018}_{-0.00027}$	$\chi_{6\text{DF}}^2$	0.074 ± 0.081
H_0	$67.79^{+0.43}_{-0.65}$	z_{eq}	3336^{+55}_{-19}	χ_{MGS}^2	1.16 ± 0.42
Ω_{Λ}	0.6875 ± 0.0064	k_{eq}	$0.01026^{+0.00016}_{-0.000087}$	χ_{DR12BAO}^2	5.3 ± 1.7
Ω_{m}	0.3125 ± 0.0064	$100\theta_{\text{eq}}$	$0.8266^{+0.0035}_{-0.012}$	χ_{prior}^2	7.8 ± 3.5
$\Omega_{\text{m}} h^2$	$0.1435^{+0.0011}_{-0.0019}$	$100\theta_{\text{s,eq}}$	$0.4564^{+0.0018}_{-0.0061}$	χ_{CMB}^2	11945.2 ± 5.9
$\Omega_{\nu} h^2$	$0.00254^{+0.00019}_{-0.0019}$	$H(0.15)$	$73.10^{+0.35}_{-0.61}$	χ_{BAO}^2	6.5 ± 1.4
$\Omega_{\text{m}} h^3$	$0.09731^{+0.00034}_{-0.0015}$	$D_M(0.15)$	$639.5^{+5.7}_{-3.6}$	χ_{Abund}^2	0.67 ± 0.51
σ_8	$0.792^{+0.019}_{-0.011}$	$H(0.38)$	$83.27^{+0.24}_{-0.56}$		
S_8	$0.808^{+0.019}_{-0.013}$	$D_M(0.38)$	$1525^{+12}_{-7.1}$		

$$\bar{\chi}_{\text{eff}}^2 = 11960.15; R - 1 = 0.03562$$

7.17 base_nnu_meffsterile_CamSpecHM_TTTEEE_lowl_lowE_lensing_BAO_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	$0.02241^{+0.00015}_{-0.00016}$	S_8	$0.810^{+0.019}_{-0.013}$	$H(0.38)$	$83.44^{+0.24}_{-0.76}$
$\Omega_c h^2$	$0.1192^{+0.0031}_{-0.0025}$	$\sigma_8 \Omega_m^{0.5}$	$0.443^{+0.011}_{-0.0070}$	$D_M(0.38)$	$1522^{+16}_{-7.2}$
$100\theta_{MC}$	$1.04081^{+0.00036}_{-0.00032}$	$\sigma_8 \Omega_m^{0.25}$	$0.593^{+0.014}_{-0.0085}$	$H(0.51)$	$90.21^{+0.19}_{-0.75}$
τ	$0.0569^{+0.0058}_{-0.0079}$	$\sigma_8/h^{0.5}$	$0.963^{+0.022}_{-0.011}$	$D_M(0.51)$	$1971^{+20}_{-8.2}$
$m_{\nu, \text{sterile}}^{\text{eff}} [\text{eV}]$	< 0.174	$r_{\text{drag}} h$	99.48 ± 0.83	$H(0.61)$	$95.86^{+0.16}_{-0.75}$
N_{eff}	< 3.16	$\langle d^2 \rangle^{1/2}$	2.428 ± 0.021	$D_M(0.61)$	$2293^{+22}_{-8.7}$
$\ln(10^{10} A_s)$	$3.049^{+0.013}_{-0.016}$	z_{re}	$7.95^{+0.62}_{-0.78}$	$H(2.33)$	$237.48^{+0.75}_{-1.9}$
n_s	$0.9694^{+0.0045}_{-0.0060}$	$10^9 A_s$	$2.110^{+0.027}_{-0.035}$	$D_M(2.33)$	$5730^{+42}_{-9.2}$
y_{cal}	1.0008 ± 0.0025	$10^9 A_s e^{-2\tau}$	$1.883^{+0.012}_{-0.014}$	$f\sigma_8(0.15)$	$0.448^{+0.011}_{-0.0068}$
A_{100}^{PS}	243 ± 25	D_{40}	1222 ± 13	$\sigma_8(0.15)$	$0.734^{+0.019}_{-0.011}$
A_{143}^{PS}	41 ± 8	D_{220}	5726 ± 39	$f\sigma_8(0.38)$	$0.466^{+0.011}_{-0.0066}$
A_{217}^{PS}	102 ± 10	D_{810}	2538 ± 13	$\sigma_8(0.38)$	$0.650^{+0.017}_{-0.010}$
A_{217}^{CIB}	40 ± 7	D_{1420}	815.6 ± 4.8	$f\sigma_8(0.51)$	$0.465^{+0.011}_{-0.0066}$
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.5}$	D_{2000}	229.8 ± 1.7	$\sigma_8(0.51)$	$0.609^{+0.016}_{-0.0097}$
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.13	$n_{s,0.002}$	$0.9694^{+0.0045}_{-0.0060}$	$f\sigma_8(0.61)$	$0.460^{+0.011}_{-0.0065}$
$r_{143 \times 217}^{\text{CIB}}$	$0.57^{+0.40}_{-0.15}$	Y_P	$0.24676^{+0.00026}_{-0.0014}$	$\sigma_8(0.61)$	$0.579^{+0.015}_{-0.0093}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	$0.24809^{+0.00026}_{-0.0014}$	$f\sigma_8(2.33)$	$0.2923^{+0.0077}_{-0.0048}$
A^{kSZ}	4.9 ± 2.7	$10^5 D/H$	$2.614^{+0.029}_{-0.041}$	$\sigma_8(2.33)$	$0.3012^{+0.0081}_{-0.0052}$
A_{100}^{dust}	1.01 ± 0.20	Age/Gyr	$13.72^{+0.10}_{-0.022}$	f_{2000}^{143}	30.5 ± 3.0
A_{143}^{dust}	0.96 ± 0.17	z_*	$1090.04^{+0.24}_{-0.31}$	f_{2000}^{217}	107.5 ± 2.0
A_{217}^{dust}	0.97 ± 0.10	r_*	$143.8^{+1.1}_{-0.32}$	$f_{2000}^{143 \times 217}$	32.8 ± 2.1
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$100\theta_*$	$1.04094^{+0.00041}_{-0.00032}$	χ_{lensing}^2	9.46 ± 0.99
c_{100}	0.9976 ± 0.0010	$D_M(z_*)/\text{Gpc}$	$13.81^{+0.10}_{-0.030}$	χ_{small}^2	397.3 ± 2.1
c_{217}	1.0012 ± 0.0016	z_{drag}	$1060.15^{+0.35}_{-0.49}$	χ_{lowl}^2	22.72 ± 0.89
c_{TE}	0.9971 ± 0.0049	r_{drag}	$146.4^{+1.1}_{-0.34}$	χ_{CamSpec}^2	11516.0 ± 5.8
c_{EE}	0.9933 ± 0.0051	k_D	$0.14127^{+0.00038}_{-0.00088}$	$\chi_{6\text{DF}}^2$	0.071 ± 0.081
H_0	$67.95^{+0.43}_{-0.80}$	$100\theta_D$	$0.16102^{+0.00020}_{-0.00035}$	χ_{MGS}^2	1.19 ± 0.44
Ω_Λ	0.6880 ± 0.0066	z_{eq}	3338^{+51}_{-18}	χ_{DR12BAO}^2	5.2 ± 1.7
Ω_m	0.3120 ± 0.0066	k_{eq}	$0.01028^{+0.00016}_{-0.000096}$	χ_{prior}^2	7.8 ± 3.4
$\Omega_m h^2$	$0.1440^{+0.0011}_{-0.0024}$	$100\theta_{\text{eq}}$	$0.8263^{+0.0032}_{-0.011}$	χ_{CMB}^2	11945.5 ± 6.0
$\Omega_\nu h^2$	$0.00240^{+0.00029}_{-0.0018}$	$100\theta_{s,\text{eq}}$	$0.4562^{+0.0016}_{-0.0056}$	χ_{BAO}^2	6.5 ± 1.4
$\Omega_m h^3$	$0.09786^{+0.00041}_{-0.0021}$	$H(0.15)$	$73.27^{+0.35}_{-0.78}$		
σ_8	$0.794^{+0.020}_{-0.012}$	$D_M(0.15)$	$638.1^{+7.1}_{-3.7}$		

$$\bar{\chi}_{\text{eff}}^2 = 11959.80; \Delta\bar{\chi}_{\text{eff}}^2 = 2.54; R - 1 = 0.03599$$

7.18 base_nnu_meffsterile_CamSpecHM_TTTEEE_lowl_lowE_lensing_BAO_post_Pantheon18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	$0.02242^{+0.00015}_{-0.00016}$	S_8	$0.809^{+0.019}_{-0.013}$	$H(0.38)$	$83.51^{+0.24}_{-0.78}$
$\Omega_c h^2$	$0.1192^{+0.0030}_{-0.0026}$	$\sigma_8 \Omega_m^{0.5}$	$0.443^{+0.010}_{-0.0069}$	$D_M(0.38)$	$1520^{+16}_{-7.1}$
$100\theta_{MC}$	$1.04082^{+0.00037}_{-0.00032}$	$\sigma_8 \Omega_m^{0.25}$	$0.594^{+0.014}_{-0.0084}$	$H(0.51)$	$90.26^{+0.20}_{-0.78}$
τ	$0.0572^{+0.0059}_{-0.0079}$	$\sigma_8/h^{0.5}$	$0.964^{+0.022}_{-0.011}$	$D_M(0.51)$	$1969^{+20}_{-8.2}$
$m_{\nu, \text{sterile}}^{\text{eff}} [\text{eV}]$	< 0.163	$r_{\text{drag}} h$	99.62 ± 0.80	$H(0.61)$	$95.91^{+0.18}_{-0.78}$
N_{eff}	< 3.16	$\langle d^2 \rangle^{1/2}$	2.426 ± 0.021	$D_M(0.61)$	$2291^{+23}_{-8.8}$
$\ln(10^{10} A_s)$	$3.050^{+0.013}_{-0.016}$	z_{re}	$7.97^{+0.62}_{-0.78}$	$H(2.33)$	$237.42^{+0.72}_{-1.9}$
n_s	$0.9699^{+0.0045}_{-0.0060}$	$10^9 A_s$	$2.111^{+0.027}_{-0.035}$	$D_M(2.33)$	5728^{+44}_{-10}
y_{cal}	1.0008 ± 0.0025	$10^9 A_s e^{-2\tau}$	$1.883^{+0.012}_{-0.014}$	$f\sigma_8(0.15)$	$0.448^{+0.010}_{-0.0067}$
A_{100}^{PS}	243 ± 25	D_{40}	1221 ± 13	$\sigma_8(0.15)$	$0.735^{+0.018}_{-0.011}$
A_{143}^{PS}	41 ± 8	D_{220}	5727 ± 39	$f\sigma_8(0.38)$	$0.466^{+0.011}_{-0.0066}$
A_{217}^{PS}	102 ± 10	D_{810}	2538 ± 13	$\sigma_8(0.38)$	$0.651^{+0.016}_{-0.010}$
A_{217}^{CIB}	40 ± 7	D_{1420}	815.7 ± 4.8	$f\sigma_8(0.51)$	$0.465^{+0.011}_{-0.0066}$
A_{143}^{tSZ}	$3.7^{+1.8}_{-2.5}$	D_{2000}	229.8 ± 1.7	$\sigma_8(0.51)$	$0.610^{+0.015}_{-0.0096}$
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.13	$n_{s,0.002}$	$0.9699^{+0.0045}_{-0.0060}$	$f\sigma_8(0.61)$	$0.460^{+0.011}_{-0.0065}$
$r_{143 \times 217}^{\text{CIB}}$	$0.57^{+0.41}_{-0.15}$	Y_P	$0.24679^{+0.00026}_{-0.0014}$	$\sigma_8(0.61)$	$0.580^{+0.015}_{-0.0092}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	$0.24813^{+0.00026}_{-0.0014}$	$f\sigma_8(2.33)$	$0.2928^{+0.0075}_{-0.0048}$
A^{kSZ}	4.9 ± 2.7	$10^5 D/H$	$2.614^{+0.028}_{-0.042}$	$\sigma_8(2.33)$	$0.3017^{+0.0079}_{-0.0051}$
A_{100}^{dust}	1.01 ± 0.20	Age/Gyr	$13.71^{+0.10}_{-0.023}$	f_{2000}^{143}	30.5 ± 3.0
A_{143}^{dust}	0.96 ± 0.17	z_*	$1090.02^{+0.23}_{-0.31}$	f_{2000}^{217}	107.4 ± 2.0
A_{217}^{dust}	0.97 ± 0.10	r_*	$143.8^{+1.1}_{-0.31}$	$f_{2000}^{143 \times 217}$	32.7 ± 2.1
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$100\theta_*$	$1.04094^{+0.00042}_{-0.00032}$	χ_{lensing}^2	9.5 ± 1.0
c_{100}	0.9976 ± 0.0010	$D_M(z_*)/\text{Gpc}$	$13.81^{+0.11}_{-0.029}$	χ_{small}^2	397.4 ± 2.1
c_{217}	1.0012 ± 0.0016	z_{drag}	$1060.17^{+0.35}_{-0.50}$	χ_{lowl}^2	22.66 ± 0.88
c_{TE}	0.9971 ± 0.0050	r_{drag}	$146.4^{+1.2}_{-0.33}$	χ_{CamSpec}^2	11516.1 ± 5.8
c_{EE}	0.9934 ± 0.0051	k_D	$0.14126^{+0.00037}_{-0.00091}$	χ_{JLA}^2	1035.11 ± 0.33
H_0	$68.04^{+0.42}_{-0.82}$	$100\theta_D$	$0.16102^{+0.00019}_{-0.00036}$	χ_{6DF}^2	0.059 ± 0.070
Ω_Λ	0.6891 ± 0.0063	z_{eq}	3337^{+50}_{-18}	χ_{MGS}^2	1.25 ± 0.43
Ω_m	0.3109 ± 0.0063	k_{eq}	$0.01028^{+0.00016}_{-0.000099}$	χ_{DR12BAO}^2	4.9 ± 1.5
$\Omega_m h^2$	$0.1439^{+0.0011}_{-0.0024}$	$100\theta_{\text{eq}}$	$0.8265^{+0.0031}_{-0.010}$	χ_{prior}^2	7.8 ± 3.5
$\Omega_\nu h^2$	$0.00231^{+0.00025}_{-0.0018}$	$100\theta_{s,\text{eq}}$	$0.4563^{+0.0016}_{-0.0055}$	χ_{CMB}^2	11945.7 ± 6.1
$\Omega_m h^3$	$0.09792^{+0.00042}_{-0.0021}$	$H(0.15)$	$73.35^{+0.35}_{-0.80}$	χ_{BAO}^2	6.3 ± 1.2
σ_8	$0.795^{+0.019}_{-0.012}$	$D_M(0.15)$	$637.3^{+7.2}_{-3.6}$		

$$\bar{\chi}_{\text{eff}}^2 = 12994.82; \Delta\bar{\chi}_{\text{eff}}^2 = 2.57; R - 1 = 0.03782$$

7.19 base_nnu_meffsterile_CamSpecHM_TTTEEE_lowl_lowE_lensing_BAO_post_Aver15_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02239 ± 0.00015	S_8	$0.809^{+0.019}_{-0.013}$	$H(0.38)$	$83.29^{+0.25}_{-0.57}$
$\Omega_c h^2$	$0.1186^{+0.0029}_{-0.0020}$	$\sigma_8 \Omega_m^{0.5}$	$0.443^{+0.010}_{-0.0071}$	$D_M(0.38)$	$1525^{+12}_{-7.2}$
$100\theta_{MC}$	1.04085 ± 0.00032	$\sigma_8 \Omega_m^{0.25}$	$0.592^{+0.014}_{-0.0083}$	$H(0.51)$	$90.04^{+0.19}_{-0.56}$
τ	$0.0568^{+0.0058}_{-0.0078}$	$\sigma_8/h^{0.5}$	$0.962^{+0.022}_{-0.012}$	$D_M(0.51)$	$1975^{+15}_{-8.4}$
$m_{\nu, \text{sterile}}^{\text{eff}} [\text{eV}]$	< 0.191	$r_{\text{drag}} h$	99.45 ± 0.81	$H(0.61)$	$95.69^{+0.15}_{-0.55}$
N_{eff}	< 3.13	$\langle d^2 \rangle^{1/2}$	2.429 ± 0.020	$D_M(0.61)$	$2298^{+17}_{-8.9}$
$\ln(10^{10} A_s)$	$3.048^{+0.013}_{-0.016}$	z_{re}	$7.93^{+0.62}_{-0.77}$	$H(2.33)$	$237.10^{+0.70}_{-1.5}$
n_s	$0.9685^{+0.0044}_{-0.0052}$	$10^9 A_s$	$2.108^{+0.026}_{-0.033}$	$D_M(2.33)$	$5740^{+31}_{-7.4}$
y_{cal}	1.0008 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.881 ± 0.012	$f\sigma_8(0.15)$	$0.447^{+0.011}_{-0.0068}$
A_{100}^{PS}	242 ± 25	D_{40}	1223 ± 13	$\sigma_8(0.15)$	$0.732^{+0.018}_{-0.010}$
A_{143}^{PS}	41 ± 8	D_{220}	5726 ± 39	$f\sigma_8(0.38)$	$0.465^{+0.011}_{-0.0066}$
A_{217}^{PS}	102 ± 10	D_{810}	2537 ± 13	$\sigma_8(0.38)$	$0.649^{+0.016}_{-0.0094}$
A_{217}^{CIB}	40 ± 7	D_{1420}	815.7 ± 4.7	$f\sigma_8(0.51)$	$0.464^{+0.011}_{-0.0064}$
A_{143}^{tSZ}	$3.7^{+1.8}_{-2.5}$	D_{2000}	229.9 ± 1.6	$\sigma_8(0.51)$	$0.607^{+0.015}_{-0.0089}$
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.13	$n_{s,0.002}$	$0.9685^{+0.0044}_{-0.0052}$	$f\sigma_8(0.61)$	$0.459^{+0.011}_{-0.0063}$
$r_{143 \times 217}^{\text{CIB}}$	$0.57^{+0.40}_{-0.16}$	Y_P	$0.24641^{+0.00019}_{-0.0010}$	$\sigma_8(0.61)$	$0.578^{+0.015}_{-0.0085}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	$0.24774^{+0.00019}_{-0.0010}$	$f\sigma_8(2.33)$	$0.2917^{+0.0074}_{-0.0044}$
A^{kSZ}	4.9 ± 2.7	$10^5 D/H$	$2.609^{+0.028}_{-0.035}$	$\sigma_8(2.33)$	$0.3005^{+0.0078}_{-0.0047}$
A_{100}^{dust}	1.01 ± 0.20	Age/Gyr	$13.743^{+0.074}_{-0.017}$	f_{2000}^{143}	30.3 ± 2.9
A_{143}^{dust}	0.96 ± 0.17	z_*	$1090.00^{+0.23}_{-0.27}$	f_{2000}^{217}	107.3 ± 2.0
A_{217}^{dust}	0.97 ± 0.10	r_*	$144.01^{+0.83}_{-0.27}$	$f_{2000}^{143 \times 217}$	32.6 ± 2.0
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	$100\theta_*$	$1.04099^{+0.00037}_{-0.00031}$	χ_{lensing}^2	9.41 ± 0.96
c_{100}	0.9976 ± 0.0010	$D_M(z_*)/\text{Gpc}$	$13.834^{+0.078}_{-0.027}$	χ_{simall}^2	397.3 ± 2.0
c_{217}	1.0012 ± 0.0016	z_{drag}	$1060.07^{+0.35}_{-0.42}$	χ_{lowl}^2	22.83 ± 0.87
c_{TE}	0.9970 ± 0.0049	r_{drag}	$146.66^{+0.87}_{-0.29}$	χ_{CamSpec}^2	11515.7 ± 5.7
c_{EE}	0.9930 ± 0.0050	k_D	$0.14109^{+0.00037}_{-0.00069}$	χ_{Aver15}^2	0.57 ± 0.48
H_0	$67.81^{+0.43}_{-0.65}$	$100\theta_D$	$0.16096^{+0.00019}_{-0.00029}$	$\chi_{6\text{DF}}^2$	0.072 ± 0.080
Ω_Λ	0.6877 ± 0.0064	z_{eq}	3336^{+54}_{-19}	χ_{MGS}^2	1.17 ± 0.43
Ω_m	0.3123 ± 0.0064	k_{eq}	$0.01026^{+0.00016}_{-0.000088}$	χ_{DR12BAO}^2	5.2 ± 1.7
$\Omega_m h^2$	$0.1436^{+0.0011}_{-0.0019}$	$100\theta_{\text{eq}}$	$0.8267^{+0.0034}_{-0.011}$	χ_{prior}^2	7.8 ± 3.5
$\Omega_\nu h^2$	$0.00253^{+0.00019}_{-0.0019}$	$100\theta_{s,\text{eq}}$	$0.4564^{+0.0018}_{-0.0060}$	χ_{CMB}^2	11945.2 ± 5.9
$\Omega_m h^3$	$0.09735^{+0.00033}_{-0.0015}$	$H(0.15)$	$73.12^{+0.36}_{-0.62}$	χ_{BAO}^2	6.5 ± 1.4
σ_8	$0.793^{+0.019}_{-0.011}$	$D_M(0.15)$	$639.3^{+5.7}_{-3.7}$		

$$\bar{\chi}_{\text{eff}}^2 = 11960.01; R - 1 = 0.03614$$

7.20 base_nnu_meffsterile_CamSpecHM_TTTEEE_lowl_lowE_lensing_BAO_post_Cooke17_Aver15_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02239 ± 0.00015	$\sigma_8 \Omega_m^{0.5}$	$0.443^{+0.010}_{-0.0070}$	$H(0.51)$	$90.03^{+0.18}_{-0.55}$
$\Omega_c h^2$	$0.1186^{+0.0030}_{-0.0020}$	$\sigma_8 \Omega_m^{0.25}$	$0.592^{+0.014}_{-0.0082}$	$D_M(0.51)$	$1975^{+15}_{-8.2}$
$100\theta_{MC}$	1.04085 ± 0.00032	$\sigma_8/h^{0.5}$	$0.962^{+0.022}_{-0.012}$	$H(0.61)$	$95.68^{+0.15}_{-0.54}$
τ	$0.0567^{+0.0058}_{-0.0078}$	$r_{\text{drag}} h$	99.44 ± 0.81	$D_M(0.61)$	$2298^{+17}_{-8.8}$
$m_{\nu, \text{sterile}}^{\text{eff}} [\text{eV}]$	< 0.192	$\langle d^2 \rangle^{1/2}$	2.430 ± 0.020	$H(2.33)$	$237.08^{+0.71}_{-1.4}$
N_{eff}	< 3.13	z_{re}	$7.92^{+0.62}_{-0.77}$	$D_M(2.33)$	$5741^{+31}_{-7.5}$
$\ln(10^{10} A_s)$	$3.048^{+0.013}_{-0.016}$	$10^9 A_s$	$2.107^{+0.026}_{-0.033}$	$f\sigma_8(0.15)$	$0.447^{+0.010}_{-0.0068}$
n_s	$0.9684^{+0.0044}_{-0.0052}$	$10^9 A_s e^{-2\tau}$	1.881 ± 0.012	$\sigma_8(0.15)$	$0.732^{+0.018}_{-0.010}$
y_{cal}	1.0008 ± 0.0025	D_{40}	1223 ± 13	$f\sigma_8(0.38)$	$0.465^{+0.011}_{-0.0065}$
A_{100}^{PS}	242 ± 25	D_{220}	5725 ± 39	$\sigma_8(0.38)$	$0.649^{+0.016}_{-0.0094}$
A_{143}^{PS}	41 ± 8	D_{810}	2537 ± 13	$f\sigma_8(0.51)$	$0.464^{+0.011}_{-0.0063}$
A_{217}^{PS}	102 ± 10	D_{1420}	815.7 ± 4.7	$\sigma_8(0.51)$	$0.607^{+0.015}_{-0.0089}$
A_{217}^{CIB}	40 ± 7	D_{2000}	229.9 ± 1.6	$f\sigma_8(0.61)$	$0.459^{+0.011}_{-0.0062}$
A_{143}^{tSZ}	$3.7^{+1.8}_{-2.5}$	$n_{s,0.002}$	$0.9684^{+0.0044}_{-0.0052}$	$\sigma_8(0.61)$	$0.578^{+0.015}_{-0.0085}$
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.13	Y_{P}	$0.24640^{+0.00020}_{-0.0010}$	$f\sigma_8(2.33)$	$0.2916^{+0.0075}_{-0.0044}$
$r_{143 \times 217}^{\text{CIB}}$	$0.57^{+0.40}_{-0.16}$	$Y_{\text{P}}^{\text{BBN}}$	$0.24773^{+0.00020}_{-0.0010}$	$\sigma_8(2.33)$	$0.3004^{+0.0078}_{-0.0047}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	$10^5 \text{D}/\text{H}$	$2.609^{+0.027}_{-0.033}$	f_{2000}^{143}	30.3 ± 2.9
A^{kSZ}	4.9 ± 2.7	Age/Gyr	$13.744^{+0.073}_{-0.017}$	f_{2000}^{217}	107.3 ± 2.0
A_{100}^{dust}	1.01 ± 0.20	z_*	$1090.00^{+0.22}_{-0.26}$	$f_{2000}^{143 \times 217}$	32.6 ± 2.0
A_{143}^{dust}	0.96 ± 0.17	r_*	$144.03^{+0.82}_{-0.28}$	χ_{lensing}^2	9.40 ± 0.96
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	$1.04100^{+0.00036}_{-0.00031}$	χ_{simall}^2	397.3 ± 2.0
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	$D_M(z_*)/\text{Gpc}$	$13.835^{+0.077}_{-0.027}$	χ_{lowl}^2	22.84 ± 0.87
c_{100}	0.9976 ± 0.0010	z_{drag}	$1060.05^{+0.34}_{-0.41}$	χ_{CamSpec}^2	11515.6 ± 5.7
c_{217}	1.0012 ± 0.0016	r_{drag}	$146.68^{+0.85}_{-0.30}$	χ_{Aver15}^2	0.56 ± 0.46
c_{TE}	0.9970 ± 0.0049	k_{D}	$0.14108^{+0.00037}_{-0.00068}$	χ_{Cooke17}^2	0.12 ± 0.16
c_{EE}	0.9930 ± 0.0050	$100\theta_{\text{D}}$	$0.16096^{+0.00018}_{-0.00027}$	$\chi_{6\text{DF}}^2$	0.073 ± 0.080
H_0	$67.80^{+0.42}_{-0.65}$	z_{eq}	3336^{+55}_{-19}	χ_{MGS}^2	1.16 ± 0.42
Ω_{Λ}	0.6876 ± 0.0063	k_{eq}	$0.01026^{+0.00016}_{-0.000086}$	χ_{DR12BAO}^2	5.3 ± 1.7
Ω_{m}	0.3124 ± 0.0063	$100\theta_{\text{eq}}$	$0.8267^{+0.0034}_{-0.012}$	χ_{prior}^2	7.8 ± 3.5
$\Omega_{\text{m}} h^2$	$0.1435^{+0.0011}_{-0.0019}$	$100\theta_{\text{s,eq}}$	$0.4564^{+0.0017}_{-0.0061}$	χ_{CMB}^2	11945.1 ± 5.9
$\Omega_{\nu} h^2$	$0.00254^{+0.00032}_{-0.0019}$	$H(0.15)$	$73.11^{+0.35}_{-0.61}$	χ_{BAO}^2	6.5 ± 1.4
$\Omega_{\text{m}} h^3$	$0.09732^{+0.00034}_{-0.0015}$	$D_M(0.15)$	$639.4^{+5.7}_{-3.6}$	χ_{Abund}^2	0.67 ± 0.52
σ_8	$0.792^{+0.019}_{-0.011}$	$H(0.38)$	$83.28^{+0.24}_{-0.57}$		
S_8	$0.808^{+0.019}_{-0.013}$	$D_M(0.38)$	$1525^{+12}_{-7.1}$		

$$\bar{\chi}_{\text{eff}}^2 = 11960.05; R - 1 = 0.03510$$

8 nnu+mnu

8.1 base_nnu_mnu_CamSpecHM_TT_lowl_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022059	$0.02190^{+0.00039}_{-0.00035}$	σ_8	0.8196	$0.776^{+0.053}_{-0.017}$	$100\theta_{\text{eq}}$	0.8085	0.804 ± 0.013
$\Omega_c h^2$	0.11906	$0.1190^{+0.0038}_{-0.0043}$	S_8	0.8432	0.835 ± 0.026	$100\theta_{\text{s,eq}}$	0.4471	0.4451 ± 0.0068
$100\theta_{\text{MC}}$	1.04106	1.04090 ± 0.00061	$\sigma_8 \Omega_{\text{m}}^{0.5}$	0.4619	0.457 ± 0.014	$H(0.15)$	71.97	$69.8^{+3.7}_{-2.7}$
τ	0.0516	0.0507 ± 0.0081	$\sigma_8 \Omega_{\text{m}}^{0.25}$	0.6153	$0.596^{+0.027}_{-0.013}$	$D_{\text{M}}(0.15)$	649.8	675^{+24}_{-41}
$\Sigma m_\nu [\text{eV}]$	0.001	< 0.240	$\sigma_8/h^{0.5}$	1.0038	$0.969^{+0.045}_{-0.018}$	$H(0.38)$	82.12	$80.3^{+3.2}_{-2.6}$
N_{eff}	2.934	2.88 ± 0.30	$r_{\text{drag}} h$	98.85	$95.4^{+5.0}_{-2.5}$	$D_{\text{M}}(0.38)$	1548	1599^{+53}_{-86}
$\ln(10^{10} A_{\text{s}})$	3.0333	3.030 ± 0.021	$\langle d^2 \rangle^{1/2}$	2.4661	2.460 ± 0.048	$H(0.51)$	88.85	$87.3^{+2.9}_{-2.6}$
n_{s}	0.9589	0.954 ± 0.015	z_{re}	7.43	7.37 ± 0.86	$D_{\text{M}}(0.51)$	2005	2065^{+66}_{-100}
y_{cal}	0.99999	1.0004 ± 0.0025	$10^9 A_{\text{s}}$	2.0766	2.071 ± 0.044	$H(0.61)$	94.48	93.1 ± 2.7
A_{100}^{PS}	237.8	241 ± 26	$10^9 A_{\text{s}} e^{-2\tau}$	1.8731	1.871 ± 0.024	$D_{\text{M}}(0.61)$	2332	2398^{+75}_{-120}
A_{143}^{PS}	39.2	40 ± 9	D_{40}	1235.8	1240 ± 23	$H(2.33)$	234.94	235.7 ± 3.8
A_{217}^{PS}	100.4	102 ± 10	D_{220}	5700.8	5700 ± 42	$D_{\text{M}}(2.33)$	5811	5892^{+140}_{-170}
A_{217}^{CIB}	43.8	40 ± 7	D_{810}	2530.1	2532 ± 15	$f\sigma_8(0.15)$	0.4652	$0.460^{+0.014}_{-0.013}$
A_{143}^{tSZ}	5.44	$3.8^{+1.8}_{-2.6}$	D_{1420}	813.7	814.6 ± 5.3	$\sigma_8(0.15)$	0.7566	$0.714^{+0.051}_{-0.016}$
$r_{143 \times 217}^{\text{PS}}$	0.593	0.65 ± 0.13	D_{2000}	229.96	229.9 ± 2.4	$f\sigma_8(0.38)$	0.4822	$0.470^{+0.019}_{-0.0098}$
$r_{143 \times 217}^{\text{CIB}}$	0.722	$0.57^{+0.40}_{-0.16}$	$n_{\text{s},0.002}$	0.9589	0.954 ± 0.015	$\sigma_8(0.38)$	0.6698	$0.630^{+0.049}_{-0.016}$
$\xi^{\text{tSZ} \times \text{CIB}}$	0.13	—	Y_{P}	0.24375	0.2428 ± 0.0042	$f\sigma_8(0.51)$	0.4800	$0.464^{+0.021}_{-0.0084}$
A^{kSZ}	1.9	—	$Y_{\text{P}}^{\text{BBN}}$	0.24507	0.2441 ± 0.0042	$\sigma_8(0.51)$	0.6264	$0.588^{+0.047}_{-0.015}$
A_{100}^{dust}	1.001	1.01 ± 0.20	$10^5 D/\text{H}$	2.605	2.615 ± 0.072	$f\sigma_8(0.61)$	0.4744	$0.457^{+0.023}_{-0.0079}$
A_{143}^{dust}	0.978	0.97 ± 0.18	Age/Gyr	13.911	$14.10^{+0.34}_{-0.41}$	$\sigma_8(0.61)$	0.5958	$0.559^{+0.045}_{-0.015}$
A_{217}^{dust}	0.957	0.97 ± 0.10	z_*	1090.12	$1090.29^{+0.52}_{-0.57}$	$f\sigma_8(2.33)$	0.2992	$0.282^{+0.022}_{-0.0072}$
$A_{143 \times 217}^{\text{dust}}$	0.996	1.03 ± 0.16	r_*	145.49	145.9 ± 2.7	$\sigma_8(2.33)$	0.3087	$0.289^{+0.025}_{-0.0086}$
c_{100}	0.99751	0.9975 ± 0.0011	$100\theta_*$	1.04130	1.04131 ± 0.00074	f_{2000}^{143}	30.30	30 ± 4
c_{217}	1.00118	1.0012 ± 0.0016	$D_{\text{M}}(z_*)/\text{Gpc}$	13.972	14.01 ± 0.25	f_{2000}^{217}	106.89	107.3 ± 2.5
H_0	66.67	$64.2^{+4.1}_{-2.8}$	z_{drag}	1059.06	1058.6 ± 1.2	$f_{2000}^{143 \times 217}$	32.32	32.7 ± 2.8
Ω_Λ	0.6825	$0.649^{+0.048}_{-0.018}$	r_{drag}	148.27	148.8 ± 2.8	χ_{simall}^2	395.79	396.9 ± 1.7
Ω_{m}	0.3175	$0.351^{+0.018}_{-0.048}$	k_{D}	0.13982	0.1395 ± 0.0020	χ_{lowl}^2	24.32	25.0 ± 2.6
$\Omega_{\text{m}} h^2$	0.14113	$0.1431^{+0.0043}_{-0.0050}$	$100\theta_{\text{D}}$	0.16082	0.16076 ± 0.00068	χ_{CamSpec}^2	7048.9	7064.2 ± 6.0
$\Omega_\nu h^2$	0.00001	< 0.00243	z_{eq}	3424	3447 ± 73	χ_{prior}^2	2.09	7.6 ± 3.5
$\Omega_{\text{m}} h^3$	0.0941	0.0918 ± 0.0062	k_{eq}	0.010371	0.01040 ± 0.00016	χ_{CMB}^2	7469.0	7486.0 ± 6.0

Best-fit $\chi_{\text{eff}}^2 = 7471.08$; $\Delta\chi_{\text{eff}}^2 = -0.66$; $\bar{\chi}_{\text{eff}}^2 = 7493.68$; $\Delta\bar{\chi}_{\text{eff}}^2 = 2.14$; $R - 1 = 0.00504$

χ_{eff}^2 : CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.79 (Δ -0.04) commander_dx12_v3_2_29: 24.32 (Δ 0.92) CamSpec like_10.7HM: 7048.88 (Δ -1.46)

8.2 base_nnu_mnu_CamSpecHM_TT_lowl_lowE_post_lensing

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022041	$0.02187^{+0.00038}_{-0.00033}$	S_8	0.8351	0.840 ± 0.017	$H(0.15)$	71.80	$69.5^{+3.4}_{-2.7}$
$\Omega_c h^2$	0.11764	$0.1184^{+0.0037}_{-0.0042}$	$\sigma_8 \Omega_m^{0.5}$	0.4574	0.4601 ± 0.0095	$D_M(0.15)$	651.3	677^{+24}_{-38}
$100\theta_{MC}$	1.04112	1.04096 ± 0.00061	$\sigma_8 \Omega_m^{0.25}$	0.6103	$0.599^{+0.016}_{-0.0094}$	$H(0.38)$	81.87	$80.0^{+2.9}_{-2.6}$
τ	0.0506	0.0511 ± 0.0080	$\sigma_8/h^{0.5}$	0.9982	$0.975^{+0.028}_{-0.013}$	$D_M(0.38)$	1552	1605^{+54}_{-79}
Σm_ν [eV]	0.002	< 0.230	$r_{\text{drag}} h$	99.11	$95.4^{+4.7}_{-2.4}$	$H(0.51)$	88.55	87.0 ± 2.6
N_{eff}	2.879	$2.82^{+0.27}_{-0.31}$	$\langle d^2 \rangle^{1/2}$	2.4570	$2.470^{+0.034}_{-0.040}$	$D_M(0.51)$	2010	2073^{+68}_{-96}
$\ln(10^{10} A_s)$	3.0281	3.030 ± 0.021	z_{re}	7.30	7.40 ± 0.84	$H(0.61)$	94.14	92.8 ± 2.5
n_s	0.9579	0.952 ± 0.014	$10^9 A_s$	2.0657	2.070 ± 0.043	$D_M(0.61)$	2339	2407^{+77}_{-110}
y_{cal}	1.00019	1.0004 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.8670	1.869 ± 0.023	$H(2.33)$	233.80	234.9 ± 3.7
A_{100}^{PS}	236.6	240 ± 26	D_{40}	1235.9	1245 ± 21	$D_M(2.33)$	5833	5912 ± 150
A_{143}^{PS}	37.9	40 ± 9	D_{220}	5706.1	5700 ± 42	$f\sigma_8(0.15)$	0.4609	0.4625 ± 0.0082
A_{217}^{PS}	100.5	102 ± 10	D_{810}	2529.6	2532 ± 15	$\sigma_8(0.15)$	0.7519	$0.717^{+0.042}_{-0.018}$
A_{217}^{CIB}	43.8	40^{+7}_{-8}	D_{1420}	814.3	814.9 ± 5.2	$f\sigma_8(0.38)$	0.4782	$0.472^{+0.011}_{-0.0069}$
A_{143}^{tSZ}	5.73	$3.8^{+1.8}_{-2.6}$	D_{2000}	230.32	230.3 ± 2.3	$\sigma_8(0.38)$	0.6658	$0.633^{+0.040}_{-0.018}$
$r_{143 \times 217}^{\text{PS}}$	0.594	0.66 ± 0.13	$n_{s,0.002}$	0.9579	0.952 ± 0.014	$f\sigma_8(0.51)$	0.4763	$0.467^{+0.014}_{-0.0068}$
$r_{143 \times 217}^{\text{CIB}}$	0.699	$0.56^{+0.40}_{-0.17}$	Y_P	0.24299	0.2420 ± 0.0041	$\sigma_8(0.51)$	0.6228	$0.591^{+0.039}_{-0.017}$
$\xi^{\text{tSZ} \times \text{CIB}}$	0.08	—	Y_P^{BBN}	0.24431	0.2433 ± 0.0041	$f\sigma_8(0.61)$	0.4709	$0.459^{+0.016}_{-0.0071}$
A^{kSZ}	1.42	$4.8^{+2.2}_{-4.2}$	$10^5 D/H$	2.589	2.601 ± 0.070	$\sigma_8(0.61)$	0.5924	$0.561^{+0.038}_{-0.017}$
A_{100}^{dust}	1.009	1.00 ± 0.20	Age/Gyr	13.963	14.15 ± 0.36	$f\sigma_8(2.33)$	0.2976	$0.283^{+0.018}_{-0.0085}$
A_{143}^{dust}	0.970	0.97 ± 0.18	z_*	1089.96	$1090.22^{+0.50}_{-0.57}$	$\sigma_8(2.33)$	0.3071	$0.290^{+0.021}_{-0.0099}$
A_{217}^{dust}	0.962	0.97 ± 0.10	r_*	146.16	146.4 ± 2.6	f_{2000}^{143}	29.86	30 ± 4
$A_{143 \times 217}^{\text{dust}}$	1.011	1.03 ± 0.16	$100\theta_*$	1.04142	1.04140 ± 0.00073	f_{2000}^{217}	106.59	106.9 ± 2.5
c_{100}	0.99757	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	14.035	14.06 ± 0.24	$f_{2000}^{143 \times 217}$	32.02	32.2 ± 2.7
c_{217}	1.00119	1.0011 ± 0.0016	z_{drag}	1058.87	1058.5 ± 1.2	χ_{lensing}^2	8.77	9.2 ± 1.1
H_0	66.54	$63.9^{+3.7}_{-2.8}$	r_{drag}	148.96	149.3 ± 2.7	χ_{small}^2	395.68	396.9 ± 1.7
Ω_Λ	0.6845	$0.649^{+0.045}_{-0.018}$	k_D	0.13931	0.1391 ± 0.0019	χ_{lowl}^2	24.30	25.4 ± 2.5
Ω_m	0.3155	$0.351^{+0.018}_{-0.045}$	$100\theta_D$	0.16068	0.16063 ± 0.00066	χ_{CamSpec}^2	7049.2	7063.1 ± 5.6
$\Omega_m h^2$	0.13970	$0.1422^{+0.0042}_{-0.0049}$	z_{eq}	3415	3459^{+60}_{-74}	χ_{prior}^2	2.03	7.6 ± 3.5
$\Omega_\nu h^2$	0.00002	< 0.00230	k_{eq}	0.010304	$0.01039^{+0.00015}_{-0.00016}$	χ_{CMB}^2	7477.9	7494.7 ± 6.0
$\Omega_m h^3$	0.0930	$0.0909^{+0.0055}_{-0.0063}$	$100\theta_{\text{eq}}$	0.8102	$0.802^{+0.013}_{-0.012}$			
σ_8	0.8143	$0.780^{+0.042}_{-0.018}$	$100\theta_{s,\text{eq}}$	0.4480	$0.4440^{+0.0067}_{-0.0059}$			

Best-fit $\chi_{\text{eff}}^2 = 7479.93$; $\Delta\chi_{\text{eff}}^2 = -0.75$; $\bar{\chi}_{\text{eff}}^2 = 7502.27$; $\Delta\bar{\chi}_{\text{eff}}^2 = 2.03$; $R - 1 = 0.00874$

χ_{eff}^2 : CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p.teb.consext8: 8.77 (Δ -0.14) small_100x143_offlike5_EE_Aplanck_B: 395.68 (Δ -0.19) commander_dx12_v3_2_29: 24.30 (Δ 0.88) CamSpec like_10.7HM: 7049.15 (Δ -1.03)

8.3 base_nnu_mnu_CamSpecHM_TTTEEE_lowl_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022207	0.02216 ± 0.00024	$\Omega_m h^3$	0.09344	$0.0930^{+0.0042}_{-0.0047}$	$100\theta_{\text{eq}}$	0.8125	0.8114 ± 0.0077
$\Omega_c h^2$	0.11732	0.1178 ± 0.0034	σ_8	0.8148	$0.789^{+0.033}_{-0.014}$	$100\theta_{\text{s,eq}}$	0.44907	0.4485 ± 0.0039
$100\theta_{\text{MC}}$	1.041148	1.04106 ± 0.00049	S_8	0.8299	0.823 ± 0.018	$H(0.15)$	72.19	$71.2^{+2.1}_{-1.8}$
τ	0.0522	0.0522 ± 0.0079	$\sigma_8 \Omega_m^{0.5}$	0.4546	0.4506 ± 0.0098	$D_{\text{M}}(0.15)$	647.5	659^{+16}_{-22}
$\Sigma m_\nu [\text{eV}]$	0.001	< 0.157	$\sigma_8 \Omega_m^{0.25}$	0.6086	$0.596^{+0.017}_{-0.010}$	$H(0.38)$	82.20	81.4 ± 1.9
N_{eff}	2.893	2.90 ± 0.23	$\sigma_8/h^{0.5}$	0.9957	$0.972^{+0.029}_{-0.014}$	$D_{\text{M}}(0.38)$	1544.2	1567^{+37}_{-47}
$\ln(10^{10} A_s)$	3.0320	3.032 ± 0.020	$r_{\text{drag}} h$	99.62	$97.8^{+2.7}_{-1.5}$	$H(0.51)$	88.85	88.2 ± 1.8
n_s	0.9615	0.9599 ± 0.0096	$\langle d^2 \rangle^{1/2}$	2.4479	2.437 ± 0.032	$D_{\text{M}}(0.51)$	2000	2027^{+46}_{-57}
y_{cal}	1.00052	1.0005 ± 0.0026	z_{re}	7.43	7.44 ± 0.82	$H(0.61)$	94.42	93.9 ± 1.8
A_{100}^{PS}	227.1	237 ± 25	$10^9 A_s$	2.0740	2.074 ± 0.040	$D_{\text{M}}(0.61)$	2328	2357^{+52}_{-64}
A_{143}^{PS}	44.4	38 ± 9	$10^9 A_s e^{-2\tau}$	1.8684	1.868 ± 0.020	$H(2.33)$	233.80	234.8 ± 3.2
A_{217}^{PS}	105.7	103 ± 10	D_{40}	1230.8	1233 ± 16	$D_{\text{M}}(2.33)$	5818	5846 ± 110
A_{217}^{CIB}	41.2	39 ± 7	D_{220}	5716.7	5717 ± 40	$f\sigma_8(0.15)$	0.4584	0.4546 ± 0.0094
A_{143}^{tSZ}	6.46	$3.9^{+1.9}_{-2.5}$	D_{810}	2534.3	2533 ± 14	$\sigma_8(0.15)$	0.7528	$0.727^{+0.032}_{-0.014}$
$r_{143 \times 217}^{\text{PS}}$	0.695	0.66 ± 0.13	D_{1420}	817.4	816.5 ± 5.2	$f\sigma_8(0.38)$	0.4767	$0.469^{+0.012}_{-0.0078}$
$r_{143 \times 217}^{\text{CIB}}$	0.821	$0.54^{+0.38}_{-0.20}$	D_{2000}	231.57	230.9 ± 2.1	$\sigma_8(0.38)$	0.6671	$0.643^{+0.030}_{-0.013}$
$\xi^{\text{tSZ} \times \text{CIB}}$	0.58	—	$n_{\text{s},0.002}$	0.9615	0.9599 ± 0.0096	$f\sigma_8(0.51)$	0.4753	$0.466^{+0.013}_{-0.0074}$
A^{kSZ}	0.01	$4.6^{+1.7}_{-4.4}$	Y_{P}	0.24326	0.2433 ± 0.0032	$\sigma_8(0.51)$	0.6242	$0.602^{+0.028}_{-0.012}$
A_{100}^{dust}	1.002	1.01 ± 0.20	$Y_{\text{P}}^{\text{BBN}}$	0.24458	0.2446 ± 0.0032	$f\sigma_8(0.61)$	0.4702	$0.460^{+0.014}_{-0.0073}$
A_{143}^{dust}	0.970	0.96 ± 0.18	$10^5 \text{D}/\text{H}$	2.563	2.575 ± 0.058	$\sigma_8(0.61)$	0.5939	$0.572^{+0.027}_{-0.012}$
A_{217}^{dust}	0.984	0.98 ± 0.10	Age/Gyr	13.928	13.99 ± 0.25	$f\sigma_8(2.33)$	0.2985	$0.289^{+0.013}_{-0.0059}$
$A_{143 \times 217}^{\text{dust}}$	1.005	1.02 ± 0.16	z_*	1089.733	1089.85 ± 0.43	$\sigma_8(2.33)$	0.3082	$0.297^{+0.015}_{-0.0066}$
c_{100}	0.99775	0.9975 ± 0.0011	r_*	146.04	145.9 ± 2.1	f_{2000}^{143}	28.41	29 ± 3
c_{217}	1.00114	1.0010 ± 0.0016	$100\theta_*$	1.04142	1.04140 ± 0.00062	f_{2000}^{217}	105.61	106.3 ± 2.3
c_{TE}	0.9954	0.9962 ± 0.0051	$D_{\text{M}}(z_*)/\text{Gpc}$	14.023	14.01 ± 0.20	$f_{2000}^{143 \times 217}$	30.84	31.5 ± 2.5
c_{EE}	0.9902	0.9904 ± 0.0057	z_{drag}	1059.25	1059.18 ± 0.87	χ_{simall}^2	395.79	396.9 ± 1.7
H_0	66.96	$65.8^{+2.3}_{-1.9}$	r_{drag}	148.78	148.7 ± 2.2	χ_{lowl}^2	23.66	23.9 ± 1.5
Ω_Λ	0.6888	$0.672^{+0.023}_{-0.012}$	k_{D}	0.13956	0.1396 ± 0.0016	χ_{CamSpec}^2	11498.0	11515.4 ± 6.1
Ω_{m}	0.3112	$0.328^{+0.012}_{-0.023}$	$100\theta_{\text{D}}$	0.16052	0.16058 ± 0.00053	χ_{prior}^2	2.03	8.0 ± 3.5
$\Omega_{\text{m}} h^2$	0.13955	$0.1413^{+0.0036}_{-0.0040}$	z_{eq}	3404.3	3411 ± 41	χ_{CMB}^2	11917.5	11936.2 ± 6.2
$\Omega_\nu h^2$	0.00001	< 0.00161	k_{eq}	0.010283	0.01031 ± 0.00013			

Best-fit $\chi_{\text{eff}}^2 = 11919.53$; $\Delta\chi_{\text{eff}}^2 = -1.23$; $\bar{\chi}_{\text{eff}}^2 = 11944.15$; $\Delta\bar{\chi}_{\text{eff}}^2 = 1.69$; $R - 1 = 0.00883$

χ_{eff}^2 : CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.79 (Δ -0.11) commander_dx12_v3_2_29: 23.66 (Δ 0.66) CamSpec like_10.7HM_1400_unified: 11498.05 (Δ -1.60)

8.4 base_nnu_mnu_CamSpecHM_TTTEEE_lowl_lowE_post_lensing

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022166	0.02215 ± 0.00023	$\Omega_m h^3$	0.09210	$0.0926^{+0.0041}_{-0.0045}$	$100\theta_{\text{eq}}$	0.8111	0.8102 ± 0.0073
$\Omega_c h^2$	0.11632	0.1175 ± 0.0033	σ_8	0.8108	$0.795^{+0.023}_{-0.014}$	$100\theta_{\text{s,eq}}$	0.44840	0.4479 ± 0.0037
$100\theta_{\text{MC}}$	1.041280	1.04111 ± 0.00048	S_8	0.8283	0.828 ± 0.013	$H(0.15)$	71.73	71.1 ± 1.8
τ	0.0509	0.0532 ± 0.0077	$\sigma_8 \Omega_m^{0.5}$	0.4537	0.4534 ± 0.0071	$D_{\text{M}}(0.15)$	651.8	659^{+16}_{-19}
Σm_ν [eV]	0.000	< 0.127	$\sigma_8 \Omega_m^{0.25}$	0.6065	$0.600^{+0.011}_{-0.0081}$	$H(0.38)$	81.72	81.4 ± 1.7
N_{eff}	2.823	2.87 ± 0.22	$\sigma_8/h^{0.5}$	0.9942	$0.980^{+0.018}_{-0.011}$	$D_{\text{M}}(0.38)$	1554.0	1567^{+36}_{-42}
$\ln(10^{10} A_s)$	3.0266	3.034 ± 0.019	$r_{\text{drag}} h$	99.40	$98.0^{+2.3}_{-1.5}$	$H(0.51)$	88.36	88.1 ± 1.7
n_s	0.9585	0.9585 ± 0.0093	$\langle d^2 \rangle^{1/2}$	2.4498	2.447 ± 0.026	$D_{\text{M}}(0.51)$	2012.8	2028 ± 49
y_{cal}	1.00047	1.0006 ± 0.0026	z_{re}	7.28	7.54 ± 0.79	$H(0.61)$	93.91	93.8 ± 1.7
A_{100}^{PS}	226.9	236 ± 25	$10^9 A_s$	2.0627	$2.077^{+0.036}_{-0.041}$	$D_{\text{M}}(0.61)$	2342	2358 ± 55
A_{143}^{PS}	45.0	37 ± 9	$10^9 A_s e^{-2\tau}$	1.8630	1.868 ± 0.020	$H(2.33)$	232.86	234.3 ± 3.1
A_{217}^{PS}	105.5	103 ± 10	D_{40}	1234.8	1237 ± 16	$D_{\text{M}}(2.33)$	5848	5854 ± 100
A_{217}^{CIB}	41.1	39 ± 7	D_{220}	5719.5	5719 ± 40	$f\sigma_8(0.15)$	0.4574	0.4572 ± 0.0066
A_{143}^{tSZ}	6.43	$4.0^{+2.0}_{-2.5}$	D_{810}	2532.9	2534 ± 14	$\sigma_8(0.15)$	0.7489	$0.733^{+0.022}_{-0.013}$
$r_{143 \times 217}^{\text{PS}}$	0.713	0.67 ± 0.13	D_{1420}	817.6	816.9 ± 5.2	$f\sigma_8(0.38)$	0.4752	$0.4723^{+0.0072}_{-0.0061}$
$r_{143 \times 217}^{\text{CIB}}$	0.826	$0.54^{+0.38}_{-0.22}$	D_{2000}	231.86	231.2 ± 2.1	$\sigma_8(0.38)$	0.6635	$0.649^{+0.021}_{-0.013}$
$\xi^{\text{tSZ} \times \text{CIB}}$	0.66	—	$n_{\text{s},0.002}$	0.9585	0.9585 ± 0.0093	$f\sigma_8(0.51)$	0.4735	$0.4694^{+0.0081}_{-0.0062}$
A^{kSZ}	0.04	< 5.95	Y_{P}	0.24227	0.2429 ± 0.0031	$\sigma_8(0.51)$	0.6207	$0.607^{+0.020}_{-0.012}$
A_{100}^{dust}	1.006	1.00 ± 0.20	$Y_{\text{P}}^{\text{BBN}}$	0.24359	0.2442 ± 0.0031	$f\sigma_8(0.61)$	0.4683	$0.4635^{+0.0088}_{-0.0063}$
A_{143}^{dust}	0.977	0.95 ± 0.17	$10^5 \text{D}/\text{H}$	2.546	2.566 ± 0.057	$\sigma_8(0.61)$	0.5905	$0.577^{+0.020}_{-0.012}$
A_{217}^{dust}	0.982	0.98 ± 0.10	Age/Gyr	14.000	14.01 ± 0.24	$f\sigma_8(2.33)$	0.2967	$0.2911^{+0.0092}_{-0.0060}$
$A_{143 \times 217}^{\text{dust}}$	1.005	1.02 ± 0.16	z_*	1089.625	1089.81 ± 0.41	$\sigma_8(2.33)$	0.3063	$0.299^{+0.011}_{-0.0068}$
c_{100}	0.99776	0.9976 ± 0.0011	r_*	146.71	146.2 ± 2.1	f_{2000}^{143}	28.11	28 ± 3
c_{217}	1.00115	1.0010 ± 0.0016	$100\theta_*$	1.04160	1.04146 ± 0.00061	f_{2000}^{217}	105.39	106.0 ± 2.3
c_{TE}	0.9951	0.9957 ± 0.0051	$D_{\text{M}}(z_*)/\text{Gpc}$	14.085	14.04 ± 0.19	$f_{2000}^{143 \times 217}$	30.63	31.2 ± 2.5
c_{EE}	0.9894	0.9900 ± 0.0056	z_{drag}	1059.02	1059.09 ± 0.85	χ_{lensing}^2	8.57	9.19 ± 0.93
H_0	66.50	65.8 ± 1.9	r_{drag}	149.47	149.0 ± 2.2	χ_{small}^2	395.68	397.0 ± 1.7
Ω_Λ	0.6869	$0.674^{+0.020}_{-0.012}$	k_{D}	0.13909	0.1395 ± 0.0015	χ_{lowl}^2	24.10	24.2 ± 1.5
Ω_{m}	0.3131	$0.326^{+0.012}_{-0.020}$	$100\theta_{\text{D}}$	0.16036	0.16050 ± 0.00052	χ_{CamSpec}^2	11497.8	11514.2 ± 5.8
$\Omega_{\text{m}} h^2$	0.13848	0.1407 ± 0.0037	z_{eq}	3411.5	3417 ± 39	χ_{prior}^2	2.06	8.0 ± 3.5
$\Omega_\nu h^2$	0.00000	< 0.00129	k_{eq}	0.010255	0.01030 ± 0.00012	χ_{CMB}^2	11926.1	11944.6 ± 6.2

Best-fit $\chi_{\text{eff}}^2 = 11928.16$; $\Delta\chi_{\text{eff}}^2 = -1.50$; $\bar{\chi}_{\text{eff}}^2 = 11952.59$; $\Delta\bar{\chi}_{\text{eff}}^2 = 1.14$; $R - 1 = 0.01252$

χ_{eff}^2 : CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p.teb.consext8: 8.57 (Δ -0.26) small.100x143_offlike5_EE_Aplanck_B: 395.68 (Δ -0.19) commander_dx12_v3_2_29: 24.10 (Δ 0.88) CamSpec like_10.7HM_1400.unified: 11497.75 (Δ -1.90)

8.5 base_nnu_mnu_CamSpecHM_TT_lowl_lowE_BAO

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022176	0.02224 ± 0.00024	$\sigma_8 \Omega_m^{0.5}$	0.4540	0.450 ± 0.010	$H(0.38)$	83.24	83.2 ± 1.6
$\Omega_c h^2$	0.11946	0.1196 ± 0.0041	$\sigma_8 \Omega_m^{0.25}$	0.6101	$0.603^{+0.013}_{-0.011}$	$D_M(0.38)$	1523.1	1525 ± 31
$100\theta_{MC}$	1.04098	1.04099 ± 0.00059	$\sigma_8/h^{0.5}$	0.9945	$0.982^{+0.020}_{-0.014}$	$H(0.51)$	89.91	90.0 ± 1.6
τ	0.0520	0.0537 ± 0.0080	$r_{\text{drag}} h$	100.22	99.9 ± 1.1	$D_M(0.51)$	1973.8	1975 ± 39
Σm_ν [eV]	0.0004	< 0.0807	$\langle d^2 \rangle^{1/2}$	2.4376	2.422 ± 0.033	$H(0.61)$	95.49	95.6 ± 1.7
N_{eff}	3.051	3.09 ± 0.24	z_{re}	7.47	7.62 ± 0.82	$D_M(0.61)$	2297.4	2299 ± 45
$\ln(10^{10} A_s)$	3.0359	3.040 ± 0.020	$10^9 A_s$	2.0820	2.090 ± 0.042	$H(2.33)$	235.71	236.3 ± 3.6
n_s	0.9659	0.9685 ± 0.0090	$10^9 A_s e^{-2\tau}$	1.8764	1.877 ± 0.022	$D_M(2.33)$	5755	5751 ± 98
y_{cal}	1.00023	1.0005 ± 0.0025	D_{40}	1224.3	1221 ± 16	$f\sigma_8(0.15)$	0.4582	0.4545 ± 0.0096
A_{100}^{PS}	242.8	243 ± 26	D_{220}	5704.9	5709 ± 40	$\sigma_8(0.15)$	0.7581	$0.748^{+0.018}_{-0.014}$
A_{143}^{PS}	39.7	41 ± 9	D_{810}	2531.3	2534 ± 14	$f\sigma_8(0.38)$	0.4777	$0.4734^{+0.0099}_{-0.0088}$
A_{217}^{PS}	98.0	101 ± 10	D_{1420}	813.6	814.8 ± 5.4	$\sigma_8(0.38)$	0.6723	$0.663^{+0.016}_{-0.013}$
A_{217}^{CIB}	45.0	41 ± 8	D_{2000}	229.42	229.7 ± 2.3	$f\sigma_8(0.51)$	0.4768	$0.4722^{+0.0098}_{-0.0086}$
A_{143}^{tSZ}	5.21	$3.7^{+1.8}_{-2.6}$	$n_{s,0.002}$	0.9659	0.9685 ± 0.0090	$\sigma_8(0.51)$	0.6293	$0.620^{+0.015}_{-0.012}$
$r_{143 \times 217}^{\text{PS}}$	0.582	0.65 ± 0.13	Y_P	0.24539	0.2458 ± 0.0033	$f\sigma_8(0.61)$	0.4722	$0.4675^{+0.0097}_{-0.0084}$
$r_{143 \times 217}^{\text{CIB}}$	0.714	$0.59^{+0.41}_{-0.13}$	Y_P^{BBN}	0.24671	0.2472 ± 0.0033	$\sigma_8(0.61)$	0.5988	$0.590^{+0.014}_{-0.012}$
$\xi^{\text{tSZ} \times \text{CIB}}$	0.09	—	$10^5 \text{D}/\text{H}$	2.624	2.624 ± 0.070	$f\sigma_8(2.33)$	0.3012	$0.2979^{+0.0066}_{-0.0058}$
A^{kSZ}	2.3	—	Age/Gyr	13.779	13.77 ± 0.23	$\sigma_8(2.33)$	0.3111	$0.3072^{+0.0073}_{-0.0063}$
A_{100}^{dust}	1.010	1.01 ± 0.20	z_*	1090.12	1090.08 ± 0.51	f_{2000}^{143}	31.14	31 ± 4
A_{143}^{dust}	0.979	0.98 ± 0.18	r_*	144.70	144.5 ± 2.3	f_{2000}^{217}	107.59	107.6 ± 2.5
A_{217}^{dust}	0.966	0.97 ± 0.10	$100\theta_*$	1.04115	1.04117 ± 0.00071	$f_{2000}^{143 \times 217}$	33.11	33.0 ± 2.7
$A_{143 \times 217}^{\text{dust}}$	1.023	1.03 ± 0.16	$D_M(z_*)/\text{Gpc}$	13.898	13.88 ± 0.22	χ_{simall}^2	395.81	397.0 ± 1.7
c_{100}	0.99757	0.9975 ± 0.0011	z_{drag}	1059.44	1059.63 ± 0.90	χ_{lowl}^2	23.10	22.8 ± 1.3
c_{217}	1.00164	1.0012 ± 0.0016	r_{drag}	147.43	147.2 ± 2.4	χ_{CamSpec}^2	7050.2	7064.9 ± 5.8
H_0	67.98	67.9 ± 1.5	k_D	0.14033	0.1405 ± 0.0017	$\chi_{6\text{DF}}^2$	0.0030	0.060 ± 0.083
Ω_Λ	0.6935	0.6907 ± 0.0084	$100\theta_D$	0.16108	0.16111 ± 0.00061	χ_{MGS}^2	1.54	1.44 ± 0.59
Ω_m	0.3065	0.3093 ± 0.0084	z_{eq}	3382.3	3371 ± 35	χ_{DR12BAO}^2	3.66	4.7 ± 1.7
$\Omega_m h^2$	0.14164	0.1425 ± 0.0043	k_{eq}	0.010327	0.01031 ± 0.00015	χ_{prior}^2	2.36	7.7 ± 3.5
$\Omega_\nu h^2$	$0.5 \cdot 10^{-5}$	< 0.000853	$100\theta_{\text{eq}}$	0.8163	0.8187 ± 0.0065	χ_{BAO}^2	5.20	6.2 ± 1.4
$\Omega_m h^3$	0.09628	0.0968 ± 0.0047	$100\theta_{s,\text{eq}}$	0.45111	0.4523 ± 0.0033	χ_{CMB}^2	7469.1	7484.7 ± 5.7
σ_8	0.8200	$0.809^{+0.019}_{-0.015}$	$H(0.15)$	73.21	73.2 ± 1.5			
S_8	0.8289	0.821 ± 0.018	$D_M(0.15)$	638.1	639 ± 13			

Best-fit $\chi_{\text{eff}}^2 = 7476.70$; $\bar{\chi}_{\text{eff}}^2 = 7498.64$; $\Delta\bar{\chi}_{\text{eff}}^2 = 1.09$; $R - 1 = 0.00711$

χ_{eff}^2 : BAO - 6DF: 0.00 MGS: 1.54 DR12BAO: 3.66 CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.81 commander_dx12_v3.2_29: 23.10 CamSpec like_10.7HM: 7050.23

8.6 base_nnu_mnu_CamSpecHM_TT_lowl_lowE_BAO_post_Pantheon18

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022227	0.02226 ± 0.00023	$\sigma_8 \Omega_m^{0.5}$	0.4538	0.4491 ± 0.0099	$H(0.38)$	83.49	83.4 ± 1.5
$\Omega_c h^2$	0.11973	0.1197 ± 0.0040	$\sigma_8 \Omega_m^{0.25}$	0.6107	$0.603^{+0.013}_{-0.011}$	$D_M(0.38)$	1517.7	1521 ± 30
$100\theta_{MC}$	1.04101	1.04098 ± 0.00059	$\sigma_8/h^{0.5}$	0.9950	$0.981^{+0.020}_{-0.014}$	$H(0.51)$	90.16	90.1 ± 1.6
τ	0.0532	0.0538 ± 0.0080	$r_{\text{drag}} h$	100.44	100.07 ± 0.99	$D_M(0.51)$	1967.1	1971 ± 38
Σm_ν [eV]	0.0000	< 0.0789	$\langle d^2 \rangle^{1/2}$	2.4347	2.420 ± 0.032	$H(0.61)$	95.74	95.7 ± 1.6
N_{eff}	3.079	3.10 ± 0.24	z_{re}	7.59	$7.64^{+0.83}_{-0.75}$	$D_M(0.61)$	2289.8	2294 ± 43
$\ln(10^{10} A_s)$	3.0394	3.040 ± 0.020	$10^9 A_s$	2.0893	2.092 ± 0.042	$H(2.33)$	236.02	236.4 ± 3.6
n_s	0.9682	0.9693 ± 0.0087	$10^9 A_s e^{-2\tau}$	1.8785	1.878 ± 0.022	$D_M(2.33)$	5741	5744 ± 96
y_{cal}	1.00038	1.0005 ± 0.0025	D_{40}	1220.8	1220 ± 15	$f\sigma_8(0.15)$	0.4582	0.4541 ± 0.0094
A_{100}^{PS}	238.1	243 ± 25	D_{220}	5704.1	5709 ± 40	$\sigma_8(0.15)$	0.7601	$0.748^{+0.017}_{-0.014}$
A_{143}^{PS}	39.6	41 ± 9	D_{810}	2533.4	2534 ± 14	$f\sigma_8(0.38)$	0.4781	$0.4732^{+0.0097}_{-0.0088}$
A_{217}^{PS}	100.6	101 ± 10	D_{1420}	814.6	814.8 ± 5.4	$\sigma_8(0.38)$	0.6743	$0.664^{+0.015}_{-0.013}$
A_{217}^{CIB}	45.5	41 ± 8	D_{2000}	229.76	229.6 ± 2.3	$f\sigma_8(0.51)$	0.4774	$0.4722^{+0.0096}_{-0.0085}$
A_{143}^{tSZ}	6.22	$3.7^{+1.8}_{-2.6}$	$n_{s,0.002}$	0.9682	0.9693 ± 0.0087	$\sigma_8(0.51)$	0.6312	$0.621^{+0.014}_{-0.012}$
$r_{143 \times 217}^{\text{PS}}$	0.571	0.65 ± 0.13	Y_P	0.24577	0.2460 ± 0.0033	$f\sigma_8(0.61)$	0.4729	$0.4675^{+0.0095}_{-0.0084}$
$r_{143 \times 217}^{\text{CIB}}$	0.771	> 0.467	Y_P^{BBN}	0.24710	0.2474 ± 0.0033	$\sigma_8(0.61)$	0.6007	$0.591^{+0.014}_{-0.012}$
$\xi^{\text{tSZ} \times \text{CIB}}$	0.02	—	10^5D/H	2.624	2.625 ± 0.070	$f\sigma_8(2.33)$	0.3022	0.2984 ± 0.0062
A^{kSZ}	0.5	—	Age/Gyr	13.746	13.75 ± 0.23	$\sigma_8(2.33)$	0.3123	$0.3077^{+0.0071}_{-0.0062}$
A_{100}^{dust}	1.014	1.01 ± 0.19	z_*	1090.10	1090.08 ± 0.50	f_{2000}^{143}	30.85	31 ± 4
A_{143}^{dust}	0.990	0.98 ± 0.18	r_*	144.45	144.4 ± 2.3	f_{2000}^{217}	107.43	107.6 ± 2.5
A_{217}^{dust}	0.963	0.97 ± 0.10	$100\theta_*$	1.04115	1.04115 ± 0.00071	$f_{2000}^{143 \times 217}$	32.82	33.0 ± 2.7
$A_{143 \times 217}^{\text{dust}}$	1.000	1.03 ± 0.16	$D_M(z_*)/\text{Gpc}$	13.875	13.87 ± 0.21	χ_{simall}^2	395.87	397.0 ± 1.8
c_{100}	0.99755	0.9975 ± 0.0011	z_{drag}	1059.59	1059.69 ± 0.88	χ_{lowl}^2	22.77	22.7 ± 1.2
c_{217}	1.00139	1.0012 ± 0.0016	r_{drag}	147.17	147.1 ± 2.4	χ_{CamSpec}^2	7050.7	7065.1 ± 5.8
H_0	68.25	68.1 ± 1.4	k_D	0.14055	0.1406 ± 0.0017	χ_{JLA}^2	1034.804	1035.02 ± 0.34
Ω_Λ	0.6952	0.6920 ± 0.0078	$100\theta_D$	0.16111	0.16113 ± 0.00060	$\chi_{6\text{DF}}^2$	0.0001	0.048 ± 0.066
Ω_m	0.3048	0.3080 ± 0.0078	z_{eq}	3377.4	3367 ± 33	χ_{MGS}^2	1.68	1.52 ± 0.57
$\Omega_m h^2$	0.14195	0.1426 ± 0.0042	k_{eq}	0.010331	0.01031 ± 0.00015	χ_{DR12BAO}^2	3.50	4.4 ± 1.4
$\Omega_\nu h^2$	$0.1 \cdot 10^{-5}$	< 0.000835	$100\theta_{\text{eq}}$	0.8174	0.8195 ± 0.0062	χ_{prior}^2	2.15	7.7 ± 3.5
$\Omega_m h^3$	0.09688	0.0971 ± 0.0047	$100\theta_{s,\text{eq}}$	0.45163	0.4527 ± 0.0032	χ_{BAO}^2	5.18	6.0 ± 1.1
σ_8	0.8220	$0.809^{+0.018}_{-0.015}$	$H(0.15)$	73.47	73.3 ± 1.4	χ_{CMB}^2	7469.3	7484.8 ± 5.7
S_8	0.8285	0.820 ± 0.018	$D_M(0.15)$	635.7	638 ± 13			

Best-fit $\chi_{\text{eff}}^2 = 8511.44$; $\bar{\chi}_{\text{eff}}^2 = 8533.53$; $R - 1 = 0.00839$
 χ_{eff}^2 : BAO - 6DF: 0.00 MGS: 1.68 DR12BAO: 3.50 CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.87 commander_dx12_v3.2.29: 22.77 CamSpec like_10.7HM: 7050.67
SN - JLA Pantheon18: 1034.80

8.7 base_nnu_mnu_CamSpecHM_TT_lowl_lowE_BAO_post_Aver15

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022168	0.02221 ± 0.00022	$\sigma_8 \Omega_m^{0.5}$	0.4537	0.4491 ± 0.0099	$H(0.38)$	82.82	82.8 ± 1.2
$\Omega_c h^2$	0.11839	0.1185 ± 0.0032	$\sigma_8 \Omega_m^{0.25}$	0.6092	$0.602^{+0.013}_{-0.011}$	$D_M(0.38)$	1531.1	1532 ± 25
$100\theta_{MC}$	1.04116	1.04109 ± 0.00053	$\sigma_8/h^{0.5}$	0.9949	$0.981^{+0.020}_{-0.014}$	$H(0.51)$	89.47	89.5 ± 1.3
τ	0.0531	0.0535 ± 0.0079	$r_{\text{drag}} h$	100.10	99.8 ± 1.0	$D_M(0.51)$	1984.0	1985 ± 31
Σm_ν [eV]	0.0006	< 0.0759	$\langle d^2 \rangle^{1/2}$	2.4414	2.425 ± 0.032	$H(0.61)$	95.04	95.1 ± 1.3
N_{eff}	2.982	3.02 ± 0.19	z_{re}	7.56	$7.59^{+0.83}_{-0.74}$	$D_M(0.61)$	2309.2	2310 ± 36
$\ln(10^{10} A_s)$	3.0354	3.037 ± 0.019	$10^9 A_s$	2.0808	2.084 ± 0.039	$H(2.33)$	234.77	235.3 ± 2.8
n_s	0.9643	0.9664 ± 0.0075	$10^9 A_s e^{-2\tau}$	1.8713	1.873 ± 0.019	$D_M(2.33)$	5782	5777 ± 77
y_{cal}	1.00029	1.0005 ± 0.0025	D_{40}	1226.0	1223 ± 15	$f\sigma_8(0.15)$	0.4578	0.4538 ± 0.0093
A_{100}^{PS}	238.2	241 ± 25	D_{220}	5705.3	5709 ± 40	$\sigma_8(0.15)$	0.7561	$0.745^{+0.016}_{-0.012}$
A_{143}^{PS}	38.0	40 ± 9	D_{810}	2531.0	2533 ± 14	$f\sigma_8(0.38)$	0.4770	$0.4724^{+0.0094}_{-0.0082}$
A_{217}^{PS}	99.4	101 ± 10	D_{1420}	814.7	815.2 ± 5.3	$\sigma_8(0.38)$	0.6705	$0.661^{+0.015}_{-0.011}$
A_{217}^{CIB}	44.4	41 ± 7	D_{2000}	230.15	230.1 ± 2.1	$f\sigma_8(0.51)$	0.4760	$0.4712^{+0.0093}_{-0.0079}$
A_{143}^{tSZ}	5.35	$3.8^{+1.8}_{-2.5}$	$n_{s,0.002}$	0.9643	0.9664 ± 0.0075	$\sigma_8(0.51)$	0.6275	$0.619^{+0.014}_{-0.010}$
$r_{143 \times 217}^{\text{PS}}$	0.573	0.65 ± 0.13	Y_P	0.24446	0.2449 ± 0.0026	$f\sigma_8(0.61)$	0.4713	$0.4663^{+0.0091}_{-0.0076}$
$r_{143 \times 217}^{\text{CIB}}$	0.704	$0.58^{+0.40}_{-0.14}$	Y_P^{BBN}	0.24578	0.2463 ± 0.0026	$\sigma_8(0.61)$	0.5971	$0.589^{+0.013}_{-0.0099}$
$\xi^{\text{tSZ} \times \text{CIB}}$	0.05	—	$10^5 \text{D}/\text{H}$	2.602	2.608 ± 0.059	$f\sigma_8(2.33)$	0.3002	$0.2969^{+0.0059}_{-0.0049}$
A^{kSZ}	1.83	4.9 ± 2.7	Age/Gyr	13.842	13.83 ± 0.18	$\sigma_8(2.33)$	0.3102	$0.3061^{+0.0066}_{-0.0053}$
A_{100}^{dust}	1.006	1.01 ± 0.19	z_*	1089.966	1089.97 ± 0.43	f_{2000}^{143}	30.28	30 ± 3
A_{143}^{dust}	0.981	0.98 ± 0.18	r_*	145.33	145.1 ± 1.8	f_{2000}^{217}	106.91	107.2 ± 2.3
A_{217}^{dust}	0.956	0.97 ± 0.10	$100\theta_*$	1.04137	1.04131 ± 0.00061	$f_{2000}^{143 \times 217}$	32.24	32.5 ± 2.5
$A_{143 \times 217}^{\text{dust}}$	1.003	1.03 ± 0.16	$D_M(z_*)/\text{Gpc}$	13.956	13.94 ± 0.17	χ_{small}^2	395.88	397.0 ± 1.7
c_{100}	0.99744	0.9975 ± 0.0011	z_{drag}	1059.28	1059.42 ± 0.75	χ_{lowl}^2	23.28	23.0 ± 1.2
c_{217}	1.00128	1.0012 ± 0.0016	r_{drag}	148.08	147.8 ± 1.9	χ_{CamSpec}^2	7050.0	7064.4 ± 5.7
H_0	67.60	67.5 ± 1.2	k_D	0.13992	0.1401 ± 0.0014	χ_{Aver15}^2	0.049	0.52 ± 0.71
Ω_Λ	0.6924	0.6898 ± 0.0081	$100\theta_D$	0.160885	0.16096 ± 0.00050	$\chi_{6\text{DF}}^2$	0.0061	0.063 ± 0.083
Ω_m	0.3076	0.3102 ± 0.0081	z_{eq}	3387.9	3375 ± 33	χ_{MGS}^2	1.47	1.38 ± 0.57
$\Omega_m h^2$	0.14057	0.1414 ± 0.0034	k_{eq}	0.010296	0.01028 ± 0.00013	χ_{DR12BAO}^2	3.76	4.8 ± 1.7
$\Omega_\nu h^2$	$0.6 \cdot 10^{-5}$	< 0.000798	$100\theta_{\text{eq}}$	0.8154	0.8179 ± 0.0062	χ_{prior}^2	2.20	7.7 ± 3.5
$\Omega_m h^3$	0.09502	0.0955 ± 0.0036	$100\theta_{s,\text{eq}}$	0.45062	0.4519 ± 0.0032	χ_{BAO}^2	5.23	6.2 ± 1.4
σ_8	0.8180	$0.806^{+0.018}_{-0.013}$	$H(0.15)$	72.82	72.8 ± 1.2	χ_{CMB}^2	7469.2	7484.4 ± 5.6
S_8	0.8283	0.820 ± 0.018	$D_M(0.15)$	641.6	642 ± 11			

Best-fit $\chi_{\text{eff}}^2 = 7476.67$; $\bar{\chi}_{\text{eff}}^2 = 7498.80$; $R - 1 = 0.00899$
 χ_{eff}^2 : Abund - Yp_Aver2015: 0.05 BAO - 6DF: 0.01 MGS: 1.47 DR12BAO: 3.76 CMB - small_100x143_offlike5_EE_Aplanck_B: 395.88 commander_dx12_v3.2.29: 23.28
CamSpec like_10.7HM: 7050.02

8.8 base_nnu_mnu_CamSpecHM_TT_lowl_lowE_BAO_post_Cooke17_Aver15

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022178	0.02220 ± 0.00022	$\sigma_8 \Omega_m^{0.25}$	0.6102	$0.602^{+0.013}_{-0.010}$	$H(0.51)$	89.46	89.6 ± 1.2
$\Omega_c h^2$	0.11854	0.1186 ± 0.0029	$\sigma_8/h^{0.5}$	0.9962	$0.982^{+0.019}_{-0.014}$	$D_M(0.51)$	1984.9	1984 ± 30
$100\theta_{MC}$	1.04111	1.04107 ± 0.00050	$r_{drag}h$	99.99	99.8 ± 1.0	$H(0.61)$	95.03	95.2 ± 1.2
τ	0.0530	0.0535 ± 0.0079	$\langle d^2 \rangle^{1/2}$	2.4445	2.425 ± 0.032	$D_M(0.61)$	2310.1	2309 ± 34
Σm_ν [eV]	0.0020	< 0.0758	z_{re}	7.55	$7.59^{+0.83}_{-0.74}$	$H(2.33)$	234.88	235.4 ± 2.6
N_{eff}	2.983	3.03 ± 0.17	$10^9 A_s$	2.0837	2.085 ± 0.038	$D_M(2.33)$	5782	5774 ± 72
$\ln(10^{10} A_s)$	3.0367	3.037 ± 0.018	$10^9 A_s e^{-2\tau}$	1.8742	1.873 ± 0.018	$f\sigma_8(0.15)$	0.4588	0.4540 ± 0.0092
n_s	0.9642	0.9666 ± 0.0072	D_{40}	1227.8	1223 ± 14	$\sigma_8(0.15)$	0.7568	$0.746^{+0.016}_{-0.012}$
y_{cal}	1.00061	1.0005 ± 0.0025	D_{220}	5712.2	5709 ± 40	$f\sigma_8(0.38)$	0.4779	$0.4726^{+0.0093}_{-0.0080}$
A_{100}^{PS}	233.9	242 ± 25	D_{810}	2534.3	2533 ± 14	$\sigma_8(0.38)$	0.6710	$0.661^{+0.014}_{-0.011}$
A_{143}^{PS}	45.4	40 ± 9	D_{1420}	815.8	815.1 ± 5.2	$f\sigma_8(0.51)$	0.4768	$0.4713^{+0.0091}_{-0.0076}$
A_{217}^{PS}	103.4	101 ± 10	D_{2000}	230.50	230.0 ± 2.0	$\sigma_8(0.51)$	0.6280	$0.619^{+0.013}_{-0.0099}$
A_{217}^{CIB}	41.7	41 ± 7	$n_{s,0.002}$	0.9642	0.9666 ± 0.0072	$f\sigma_8(0.61)$	0.4719	$0.4665^{+0.0090}_{-0.0073}$
A_{143}^{tSZ}	5.45	$3.8^{+1.8}_{-2.5}$	Y_P	0.24448	0.2450 ± 0.0023	$\sigma_8(0.61)$	0.5975	$0.589^{+0.013}_{-0.0095}$
$r_{143 \times 217}^{PS}$	0.695	0.65 ± 0.13	Y_P^{BBN}	0.24580	0.2464 ± 0.0023	$f\sigma_8(2.33)$	0.3004	$0.2970^{+0.0058}_{-0.0047}$
$r_{143 \times 217}^{CIB}$	0.763	$0.58^{+0.40}_{-0.14}$	$10^5 D/H$	2.600	2.610 ± 0.050	$\sigma_8(2.33)$	0.3103	$0.3062^{+0.0065}_{-0.0051}$
$\xi^{tSZ \times CIB}$	0.63	—	Age/Gyr	13.842	13.82 ± 0.17	f_{2000}^{143}	29.93	30.3 ± 3.2
A^{kSZ}	2.09	4.9 ± 2.7	z_*	1089.966	1089.99 ± 0.37	f_{2000}^{217}	106.81	107.3 ± 2.2
A_{100}^{dust}	1.006	1.01 ± 0.19	r_*	145.28	145.0 ± 1.7	$f_{2000}^{143 \times 217}$	32.23	32.6 ± 2.3
A_{143}^{dust}	0.984	0.98 ± 0.18	$100\theta_*$	1.04132	1.04129 ± 0.00057	χ_{small}^2	395.86	397.0 ± 1.7
A_{217}^{dust}	0.975	0.97 ± 0.10	$D_M(z_*)/Gpc$	13.952	13.93 ± 0.16	χ_{lowl}^2	23.35	23.0 ± 1.1
$A_{143 \times 217}^{dust}$	1.017	1.03 ± 0.16	z_{drag}	1059.32	1059.43 ± 0.74	$\chi_{CamSpec}^2$	7050.2	7064.2 ± 5.6
c_{100}	0.99769	0.9975 ± 0.0011	r_{drag}	148.02	147.8 ± 1.7	χ_{Aver15}^2	0.051	0.47 ± 0.63
c_{217}	1.00127	1.0012 ± 0.0016	k_D	0.13998	0.1401 ± 0.0013	$\chi_{Cooke17}^2$	0.036	0.29 ± 0.41
H_0	67.55	67.6 ± 1.2	$100\theta_D$	0.160864	0.16098 ± 0.00043	χ_{6DF}^2	0.0102	0.063 ± 0.083
Ω_Λ	0.6916	0.6898 ± 0.0081	z_{eq}	3391.1	3375 ± 33	χ_{MGS}^2	1.41	1.39 ± 0.57
Ω_m	0.3084	0.3102 ± 0.0081	k_{eq}	0.010306	0.01028 ± 0.00013	$\chi_{DR12BAO}^2$	3.89	4.8 ± 1.7
$\Omega_m h^2$	0.14074	0.1415 ± 0.0031	$100\theta_{eq}$	0.8148	0.8179 ± 0.0061	χ_{prior}^2	2.01	7.7 ± 3.4
$\Omega_\nu h^2$	0.000021	< 0.000800	$100\theta_{s,eq}$	0.45031	0.4519 ± 0.0032	χ_{BAO}^2	5.30	6.2 ± 1.4
$\Omega_m h^3$	0.09507	0.0956 ± 0.0034	$H(0.15)$	72.78	72.8 ± 1.1	χ_{CMB}^2	7469.4	7484.2 ± 5.5
σ_8	0.8188	$0.807^{+0.017}_{-0.013}$	$D_M(0.15)$	642.0	642 ± 10	χ_{Abund}^2	0.087	0.76 ± 0.84
S_8	0.8302	0.820 ± 0.018	$H(0.38)$	82.80	82.9 ± 1.2			
$\sigma_8 \Omega_m^{0.5}$	0.4547	0.4493 ± 0.0098	$D_M(0.38)$	1531.9	1531 ± 24			

Best-fit $\chi_{eff}^2 = 7476.77$; $\bar{\chi}_{eff}^2 = 7498.82$; $R - 1 = 0.00839$

χ_{eff}^2 : Abund - Yp_Aver2015: 0.05 D_Cooke2017: 0.04 BAO - 6DF: 0.01 MGS: 1.41 DR12BAO: 3.88 CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.86 commander_dx12_v3_2_29: 23.35 CamSpec like_10.7HM: 7050.16

8.9 base_nnu_mnu_CamSpecHM_TT_lowl_lowE_BAO_post_Pantheon18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02227 ± 0.00023	$\sigma_8 \Omega_m^{0.5}$	0.4495 ± 0.0099	$H(0.38)$	83.4 ± 1.5
$\Omega_c h^2$	0.1197 ± 0.0040	$\sigma_8 \Omega_m^{0.25}$	$0.604^{+0.013}_{-0.011}$	$D_M(0.38)$	1521 ± 30
$100\theta_{MC}$	1.04098 ± 0.00059	$\sigma_8/h^{0.5}$	$0.982^{+0.019}_{-0.013}$	$H(0.51)$	90.1 ± 1.6
τ	$0.0552^{+0.0054}_{-0.0079}$	$r_{\text{drag}} h$	100.09 ± 0.99	$D_M(0.51)$	1971 ± 38
$\Sigma m_\nu [\text{eV}]$	< 0.0799	$\langle d^2 \rangle^{1/2}$	2.423 ± 0.031	$H(0.61)$	95.7 ± 1.6
N_{eff}	3.10 ± 0.24	z_{re}	$7.78^{+0.60}_{-0.80}$	$D_M(0.61)$	2294 ± 43
$\ln(10^{10} A_s)$	$3.043^{+0.016}_{-0.019}$	$10^9 A_s$	$2.098^{+0.034}_{-0.040}$	$H(2.33)$	236.4 ± 3.6
n_s	0.9695 ± 0.0087	$10^9 A_s e^{-2\tau}$	1.878 ± 0.022	$D_M(2.33)$	5742 ± 96
y_{cal}	1.0005 ± 0.0025	D_{40}	1220 ± 15	$f\sigma_8(0.15)$	0.4545 ± 0.0094
A_{100}^{PS}	243 ± 26	D_{220}	5709 ± 41	$\sigma_8(0.15)$	$0.749^{+0.017}_{-0.014}$
A_{143}^{PS}	41 ± 9	D_{810}	2534 ± 14	$f\sigma_8(0.38)$	$0.4737^{+0.0096}_{-0.0086}$
A_{217}^{PS}	101 ± 10	D_{1420}	814.8 ± 5.4	$\sigma_8(0.38)$	$0.665^{+0.015}_{-0.012}$
A_{217}^{CIB}	41^{+7}_{-8}	D_{2000}	229.6 ± 2.3	$f\sigma_8(0.51)$	$0.4727^{+0.0095}_{-0.0084}$
A_{143}^{tSZ}	$3.7^{+1.8}_{-2.6}$	$n_{s,0.002}$	0.9695 ± 0.0087	$\sigma_8(0.51)$	$0.622^{+0.014}_{-0.012}$
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.13	Y_P	0.2461 ± 0.0032	$f\sigma_8(0.61)$	$0.4681^{+0.0094}_{-0.0082}$
$r_{143 \times 217}^{\text{CIB}}$	> 0.464	Y_P^{BBN}	0.2474 ± 0.0033	$\sigma_8(0.61)$	$0.592^{+0.014}_{-0.011}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	$10^5 \text{D}/\text{H}$	2.625 ± 0.070	$f\sigma_8(2.33)$	$0.2988^{+0.0063}_{-0.0057}$
A^{kSZ}	—	Age/Gyr	13.75 ± 0.23	$\sigma_8(2.33)$	$0.3081^{+0.0070}_{-0.0061}$
A_{100}^{dust}	1.01 ± 0.19	z_*	1090.08 ± 0.50	f_{2000}^{143}	31 ± 4
A_{143}^{dust}	0.98 ± 0.18	r_*	144.4 ± 2.3	f_{2000}^{217}	107.6 ± 2.4
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04114 ± 0.00071	$f_{2000}^{143 \times 217}$	33.0 ± 2.7
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$D_M(z_*)/\text{Gpc}$	13.87 ± 0.21	χ_{simall}^2	397.0 ± 1.8
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.71 ± 0.88	χ_{lowl}^2	22.7 ± 1.2
c_{217}	1.0012 ± 0.0016	r_{drag}	147.1 ± 2.4	χ_{CamSpec}^2	7064.9 ± 5.8
H_0	68.1 ± 1.4	k_D	0.1406 ± 0.0017	χ_{JLA}^2	1035.02 ± 0.34
Ω_Λ	0.6921 ± 0.0078	$100\theta_D$	0.16114 ± 0.00060	$\chi_{6\text{DF}}^2$	0.047 ± 0.065
Ω_m	0.3079 ± 0.0078	z_{eq}	3366 ± 33	χ_{MGS}^2	1.54 ± 0.57
$\Omega_m h^2$	0.1426 ± 0.0042	k_{eq}	0.01031 ± 0.00015	χ_{DR12BAO}^2	4.4 ± 1.4
$\Omega_\nu h^2$	< 0.000846	$100\theta_{\text{eq}}$	0.8196 ± 0.0062	χ_{prior}^2	7.7 ± 3.5
$\Omega_m h^3$	0.0972 ± 0.0047	$100\theta_{s,\text{eq}}$	0.4528 ± 0.0032	χ_{BAO}^2	6.0 ± 1.1
σ_8	$0.810^{+0.018}_{-0.015}$	$H(0.15)$	73.3 ± 1.4	χ_{CMB}^2	7484.6 ± 5.6
S_8	0.821 ± 0.018	$D_M(0.15)$	637 ± 13		

$$\bar{\chi}_{\text{eff}}^2 = 8533.27; R - 1 = 0.00802$$

8.10 base_nnu_mnu_CamSpecHM_TTTEEE_lowl_lowE_BAO

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022242	0.02230 ± 0.00019	σ_8	0.8138	$0.806^{+0.016}_{-0.013}$	$H(0.15)$	72.47	72.7 ± 1.3
$\Omega_c h^2$	0.11694	0.1181 ± 0.0034	S_8	0.8240	0.819 ± 0.015	$D_M(0.15)$	644.7	643 ± 12
$100\theta_{MC}$	1.041220	1.04106 ± 0.00048	$\sigma_8 \Omega_m^{0.5}$	0.4513	0.4487 ± 0.0082	$H(0.38)$	82.42	82.7 ± 1.4
τ	0.0531	0.0532 ± 0.0079	$\sigma_8 \Omega_m^{0.25}$	0.6060	$0.601^{+0.011}_{-0.0096}$	$D_M(0.38)$	1538.6	1534 ± 27
Σm_ν [eV]	0.0023	< 0.0731	$\sigma_8/h^{0.5}$	0.9922	$0.981^{+0.017}_{-0.012}$	$H(0.51)$	89.04	89.4 ± 1.4
N_{eff}	2.904	2.99 ± 0.21	$r_{\text{drag}} h$	100.10	99.77 ± 0.96	$D_M(0.51)$	1993.7	1988 ± 35
$\ln(10^{10} A_s)$	3.0327	3.036 ± 0.019	$\langle d^2 \rangle^{1/2}$	2.4388	2.426 ± 0.028	$H(0.61)$	94.58	95.0 ± 1.4
n_s	0.9633	0.9655 ± 0.0079	z_{re}	7.51	7.53 ± 0.81	$D_M(0.61)$	2320.4	2313 ± 40
y_{cal}	1.00041	1.0005 ± 0.0025	$10^9 A_s$	2.0753	2.082 ± 0.039	$H(2.33)$	233.63	235.1 ± 3.1
A_{100}^{PS}	226.8	238 ± 25	$10^9 A_s e^{-2\tau}$	1.8662	1.872 ± 0.020	$D_M(2.33)$	5810	5784 ± 86
A_{143}^{PS}	47.3	38 ± 9	D_{40}	1227.0	1226 ± 14	$f\sigma_8(0.15)$	0.4555	0.4534 ± 0.0078
A_{217}^{PS}	105.8	102 ± 10	D_{220}	5716.1	5721 ± 39	$\sigma_8(0.15)$	0.7522	$0.745^{+0.015}_{-0.013}$
A_{217}^{CIB}	40.9	39 ± 7	D_{810}	2533.4	2534 ± 14	$f\sigma_8(0.38)$	0.4746	0.4719 ± 0.0078
A_{143}^{tSZ}	6.33	$3.9^{+1.9}_{-2.5}$	D_{1420}	817.5	816.4 ± 5.0	$\sigma_8(0.38)$	0.6670	$0.660^{+0.013}_{-0.012}$
$r_{143 \times 217}^{\text{PS}}$	0.725	0.66 ± 0.13	D_{2000}	231.58	230.7 ± 2.1	$f\sigma_8(0.51)$	0.4736	0.4706 ± 0.0078
$r_{143 \times 217}^{\text{CIB}}$	0.849	$0.56^{+0.39}_{-0.19}$	$n_{s,0.002}$	0.9633	0.9655 ± 0.0079	$\sigma_8(0.51)$	0.6243	$0.618^{+0.013}_{-0.011}$
$\xi^{\text{tSZ} \times \text{CIB}}$	0.76	—	Y_{P}	0.24342	0.2446 ± 0.0029	$f\sigma_8(0.61)$	0.4689	0.4658 ± 0.0078
A^{kSZ}	0.15	$4.6^{+1.7}_{-4.4}$	$Y_{\text{P}}^{\text{BBN}}$	0.24474	0.2459 ± 0.0029	$\sigma_8(0.61)$	0.5941	$0.588^{+0.012}_{-0.011}$
A_{100}^{dust}	1.019	1.01 ± 0.20	10^5D/H	2.560	2.581 ± 0.057	$f\sigma_8(2.33)$	0.2987	0.2965 ± 0.0056
A_{143}^{dust}	0.984	0.96 ± 0.18	Age/Gyr	13.910	13.85 ± 0.21	$\sigma_8(2.33)$	0.3086	0.3057 ± 0.0061
A_{217}^{dust}	0.988	0.98 ± 0.10	z_*	1089.669	1089.79 ± 0.41	f_{2000}^{143}	28.53	29 ± 3
$A_{143 \times 217}^{\text{dust}}$	1.012	1.02 ± 0.16	r_*	146.06	145.3 ± 2.0	f_{2000}^{217}	105.56	106.5 ± 2.3
c_{100}	0.99774	0.9975 ± 0.0011	$100\theta_*$	1.04148	1.04129 ± 0.00060	$f_{2000}^{143 \times 217}$	30.91	31.7 ± 2.4
c_{217}	1.00116	1.0011 ± 0.0016	$D_M(z_*)/\text{Gpc}$	14.024	13.95 ± 0.19	χ_{small}^2	395.84	396.9 ± 1.7
c_{TE}	0.9957	0.9965 ± 0.0051	z_{drag}	1059.28	1059.59 ± 0.76	χ_{lowl}^2	23.33	23.1 ± 1.2
c_{EE}	0.9908	0.9918 ± 0.0055	r_{drag}	148.79	148.0 ± 2.1	χ_{CamSpec}^2	11498.5	11515.1 ± 6.0
H_0	67.27	67.4 ± 1.3	k_{D}	0.13954	0.1401 ± 0.0015	$\chi_{6\text{DF}}^2$	0.0063	0.059 ± 0.078
Ω_Λ	0.6924	0.6897 ± 0.0077	$100\theta_{\text{D}}$	0.16054	0.16073 ± 0.00050	χ_{MGS}^2	1.47	1.36 ± 0.53
Ω_{m}	0.3076	0.3103 ± 0.0077	z_{eq}	3390.8	3380 ± 29	χ_{DR12BAO}^2	3.77	4.8 ± 1.6
$\Omega_{\text{m}} h^2$	0.13921	0.1411 ± 0.0036	k_{eq}	0.010249	0.01028 ± 0.00013	χ_{prior}^2	1.99	7.8 ± 3.4
$\Omega_\nu h^2$	0.000024	< 0.000766	$100\theta_{\text{eq}}$	0.8151	0.8171 ± 0.0054	χ_{BAO}^2	5.25	6.2 ± 1.3
$\Omega_{\text{m}} h^3$	0.09365	0.0952 ± 0.0040	$100\theta_{\text{s,eq}}$	0.45039	0.4514 ± 0.0028	χ_{CMB}^2	11917.7	11935.2 ± 6.0

Best-fit $\chi_{\text{eff}}^2 = 11924.95$; $\bar{\chi}_{\text{eff}}^2 = 11949.25$; $\Delta\chi_{\text{eff}}^2 = 0.97$; $R - 1 = 0.00978$
 χ_{eff}^2 : BAO - 6DF: 0.01 MGS: 1.47 DR12BAO: 3.77 CMB - simall_100x143.offlike5_EE_Aplanck_B: 395.84 commander_dx12_v3_2_29: 23.33 CamSpec like_10.7HM_1400_unified: 11498.54

8.11 base_nnu_mnu_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_Pantheon18

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022281	0.02232 ± 0.00019	S_8	0.8234	0.818 ± 0.015	$H(0.38)$	82.67	82.9 ± 1.3
$\Omega_c h^2$	0.11745	0.1183 ± 0.0034	$\sigma_8 \Omega_m^{0.5}$	0.4510	0.4483 ± 0.0081	$D_M(0.38)$	1533.4	1531 ± 27
$100\theta_{MC}$	1.041163	1.04105 ± 0.00048	$\sigma_8 \Omega_m^{0.25}$	0.6061	$0.601^{+0.011}_{-0.0096}$	$H(0.51)$	89.30	89.6 ± 1.4
τ	0.0525	$0.0534^{+0.0072}_{-0.0081}$	$\sigma_8/h^{0.5}$	0.9914	$0.981^{+0.016}_{-0.012}$	$D_M(0.51)$	1987.2	1984 ± 34
Σm_ν [eV]	0.0004	< 0.0699	$r_{\text{drag}} h$	100.22	99.93 ± 0.90	$H(0.61)$	94.84	95.1 ± 1.4
N_{eff}	2.938	3.01 ± 0.21	$\langle d^2 \rangle^{1/2}$	2.4364	2.424 ± 0.028	$D_M(0.61)$	2313.0	2309 ± 39
$\ln(10^{10} A_s)$	3.0329	3.037 ± 0.019	z_{re}	7.45	7.55 ± 0.81	$H(2.33)$	234.11	235.2 ± 3.1
n_s	0.9640	0.9663 ± 0.0077	$10^9 A_s$	2.0756	2.084 ± 0.039	$D_M(2.33)$	5794	5776 ± 85
y_{cal}	1.00039	1.0006 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.8689	1.872 ± 0.020	$f\sigma_8(0.15)$	0.4552	0.4530 ± 0.0078
A_{100}^{PS}	229.2	239 ± 25	D_{40}	1226.8	1225 ± 14	$\sigma_8(0.15)$	0.7531	$0.746^{+0.014}_{-0.013}$
A_{143}^{PS}	43.1	39 ± 9	D_{220}	5720.4	5722 ± 39	$f\sigma_8(0.38)$	0.4746	0.4719 ± 0.0078
A_{217}^{PS}	104.4	102 ± 10	D_{810}	2533.7	2534 ± 14	$\sigma_8(0.38)$	0.6679	$0.661^{+0.013}_{-0.011}$
A_{217}^{CIB}	42.2	40 ± 7	D_{1420}	817.1	816.3 ± 5.0	$f\sigma_8(0.51)$	0.4737	0.4708 ± 0.0077
A_{143}^{tSZ}	6.53	$3.9^{+1.9}_{-2.5}$	D_{2000}	231.29	230.7 ± 2.1	$\sigma_8(0.51)$	0.6251	$0.619^{+0.012}_{-0.011}$
$r_{143 \times 217}^{\text{PS}}$	0.675	0.66 ± 0.13	$n_{s,0.002}$	0.9640	0.9663 ± 0.0077	$f\sigma_8(0.61)$	0.4691	0.4660 ± 0.0077
$r_{143 \times 217}^{\text{CIB}}$	0.804	$0.56^{+0.39}_{-0.18}$	Y_P	0.24391	0.2448 ± 0.0028	$\sigma_8(0.61)$	0.5949	$0.589^{+0.012}_{-0.010}$
$\xi^{\text{tSZ} \times \text{CIB}}$	0.45	—	Y_P^{BBN}	0.24523	0.2461 ± 0.0029	$f\sigma_8(2.33)$	0.2992	0.2970 ± 0.0054
A^{kSZ}	0.00	$4.6^{+1.9}_{-4.3}$	10^5D/H	2.565	2.583 ± 0.057	$\sigma_8(2.33)$	0.3091	0.3063 ± 0.0060
A_{100}^{dust}	1.009	1.01 ± 0.20	Age/Gyr	13.873	13.83 ± 0.20	f_{2000}^{143}	28.79	29 ± 3
A_{143}^{dust}	0.974	0.96 ± 0.18	z_*	1089.696	1089.79 ± 0.41	f_{2000}^{217}	105.86	106.6 ± 2.3
A_{217}^{dust}	0.980	0.98 ± 0.10	r_*	145.72	145.2 ± 2.0	$f_{2000}^{143 \times 217}$	31.17	31.8 ± 2.5
$A_{143 \times 217}^{\text{dust}}$	1.011	1.03 ± 0.16	$100\theta_*$	1.04140	1.04127 ± 0.00059	χ_{small}^2	395.79	397.0 ± 1.8
c_{100}	0.99775	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.993	13.94 ± 0.19	χ_{lowl}^2	23.28	23.0 ± 1.1
c_{217}	1.00120	1.0011 ± 0.0016	z_{drag}	1059.44	1059.65 ± 0.75	χ_{CamSpec}^2	11498.6	11515.2 ± 6.0
c_{TE}	0.9957	0.9966 ± 0.0051	r_{drag}	148.43	147.9 ± 2.1	χ_{JLA}^2	1034.853	1035.05 ± 0.34
c_{EE}	0.9909	0.9920 ± 0.0055	k_D	0.13981	0.1402 ± 0.0015	$\chi_{6\text{DF}}^2$	0.0030	0.047 ± 0.064
H_0	67.52	67.6 ± 1.3	$100\theta_D$	0.16059	0.16076 ± 0.00050	χ_{MGS}^2	1.54	1.44 ± 0.51
Ω_Λ	0.6935	0.6910 ± 0.0073	z_{eq}	3388.0	3377 ± 28	χ_{DR12BAO}^2	3.67	4.5 ± 1.4
Ω_m	0.3065	0.3090 ± 0.0073	k_{eq}	0.010265	0.01028 ± 0.00013	χ_{prior}^2	2.03	7.9 ± 3.5
$\Omega_m h^2$	0.13973	0.1412 ± 0.0036	$100\theta_{\text{eq}}$	0.8156	0.8178 ± 0.0052	χ_{BAO}^2	5.21	6.0 ± 1.1
$\Omega_\nu h^2$	$0.4 \cdot 10^{-5}$	< 0.000732	$100\theta_{s,\text{eq}}$	0.45067	0.4518 ± 0.0027	χ_{CMB}^2	11917.7	11935.2 ± 6.0
$\Omega_m h^3$	0.09434	$0.0955^{+0.0038}_{-0.0042}$	$H(0.15)$	72.71	72.8 ± 1.3			
σ_8	0.8146	$0.807^{+0.015}_{-0.013}$	$D_M(0.15)$	642.5	642 ± 12			

Best-fit $\chi_{\text{eff}}^2 = 12959.81$; $\bar{\chi}_{\text{eff}}^2 = 12984.10$; $R - 1 = 0.01027$
 χ_{eff}^2 : BAO - 6DF: 0.00 MGS: 1.54 DR12BAO: 3.67 CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.79 commander_dx12_v3_2_29: 23.28 CamSpec like_10.7HM_1400_unified: 11498.65 SN - JLA Pantheon18: 1034.85

8.12 base_nnu_mnu_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_Aver15

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022260	0.02228 ± 0.00018	S_8	0.8258	0.819 ± 0.015	$H(0.38)$	82.46	82.6 ± 1.1
$\Omega_c h^2$	0.11727	0.1177 ± 0.0028	$\sigma_8 \Omega_m^{0.5}$	0.4523	0.4484 ± 0.0081	$D_M(0.38)$	1538.1	1537 ± 23
$100\theta_{MC}$	1.041159	1.04111 ± 0.00043	$\sigma_8 \Omega_m^{0.25}$	0.6070	$0.601^{+0.011}_{-0.0091}$	$H(0.51)$	89.09	89.2 ± 1.2
τ	0.0529	0.0532 ± 0.0079	$\sigma_8/h^{0.5}$	0.9931	$0.981^{+0.017}_{-0.012}$	$D_M(0.51)$	1993.0	1991 ± 29
Σm_ν [eV]	0.0025	< 0.0715	$r_{\text{drag}} h$	99.99	99.73 ± 0.93	$H(0.61)$	94.64	94.8 ± 1.2
N_{eff}	2.915	2.97 ± 0.17	$\langle d^2 \rangle^{1/2}$	2.4417	2.427 ± 0.028	$D_M(0.61)$	2319.6	2317 ± 33
$\ln(10^{10} A_s)$	3.0333	3.035 ± 0.018	z_{re}	7.49	7.52 ± 0.80	$H(2.33)$	233.90	234.7 ± 2.5
n_s	0.9630	0.9647 ± 0.0068	$10^9 A_s$	2.0767	2.080 ± 0.037	$D_M(2.33)$	5806	5794 ± 70
y_{cal}	1.00043	1.0006 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.8682	1.870 ± 0.017	$f\sigma_8(0.15)$	0.4564	0.4531 ± 0.0077
A_{100}^{PS}	227.9	238 ± 25	D_{40}	1228.6	1226 ± 14	$\sigma_8(0.15)$	0.7529	$0.744^{+0.014}_{-0.011}$
A_{143}^{PS}	44.6	38 ± 8	D_{220}	5720.0	5721 ± 39	$f\sigma_8(0.38)$	0.4754	$0.4715^{+0.0079}_{-0.0071}$
A_{217}^{PS}	104.8	102 ± 10	D_{810}	2534.0	2533 ± 14	$\sigma_8(0.38)$	0.6675	$0.659^{+0.013}_{-0.010}$
A_{217}^{CIB}	41.7	39 ± 7	D_{1420}	817.39	816.6 ± 5.0	$f\sigma_8(0.51)$	0.4743	$0.4702^{+0.0078}_{-0.0068}$
A_{143}^{tSZ}	6.48	$3.9^{+1.9}_{-2.5}$	D_{2000}	231.51	230.9 ± 1.9	$\sigma_8(0.51)$	0.6248	$0.617^{+0.012}_{-0.0097}$
$r_{143 \times 217}^{\text{PS}}$	0.700	0.66 ± 0.13	$n_{s,0.002}$	0.9630	0.9647 ± 0.0068	$f\sigma_8(0.61)$	0.4695	$0.4654^{+0.0077}_{-0.0067}$
$r_{143 \times 217}^{\text{CIB}}$	0.821	$0.55^{+0.39}_{-0.19}$	Y_P	0.24358	0.2443 ± 0.0023	$\sigma_8(0.61)$	0.5945	$0.587^{+0.011}_{-0.0093}$
$\xi^{\text{tSZ} \times \text{CIB}}$	0.59	—	Y_P^{BBN}	0.24490	0.2456 ± 0.0023	$f\sigma_8(2.33)$	0.29892	$0.2961^{+0.0052}_{-0.0047}$
A^{kSZ}	0.01	$4.5^{+1.6}_{-4.4}$	$10^5 D/H$	2.5607	2.575 ± 0.049	$\sigma_8(2.33)$	0.3087	$0.3053^{+0.0059}_{-0.0051}$
A_{100}^{dust}	1.007	1.01 ± 0.20	Age/Gyr	13.899	13.87 ± 0.17	f_{2000}^{143}	28.46	29.0 ± 3.2
A_{143}^{dust}	0.973	0.96 ± 0.18	z_*	1089.684	1089.75 ± 0.37	f_{2000}^{217}	105.58	106.4 ± 2.2
A_{217}^{dust}	0.981	0.98 ± 0.10	r_*	145.90	145.5 ± 1.7	$f_{2000}^{143 \times 217}$	30.92	31.5 ± 2.3
$A_{143 \times 217}^{\text{dust}}$	1.006	1.02 ± 0.16	$100\theta_*$	1.04141	1.04135 ± 0.00052	χ_{small}^2	395.83	396.9 ± 1.7
c_{100}	0.99779	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	14.010	13.97 ± 0.15	χ_{lowl}^2	23.45	23.2 ± 1.1
c_{217}	1.00120	1.0011 ± 0.0016	z_{drag}	1059.36	1059.50 ± 0.64	χ_{CamSpec}^2	11498.3	11514.7 ± 5.9
c_{TE}	0.9955	0.9963 ± 0.0050	r_{drag}	148.62	148.2 ± 1.7	χ_{Aver15}^2	0.000	0.37 ± 0.52
c_{EE}	0.9906	0.9915 ± 0.0053	k_D	0.13968	0.1399 ± 0.0012	$\chi_{6\text{DF}}^2$	0.0102	0.060 ± 0.077
H_0	67.28	67.3 ± 1.1	$100\theta_D$	0.160534	0.16068 ± 0.00043	χ_{MGS}^2	1.41	1.33 ± 0.51
Ω_Λ	0.6917	0.6894 ± 0.0075	z_{eq}	3394.3	3382 ± 27	χ_{DR12BAO}^2	3.90	4.8 ± 1.6
Ω_m	0.3083	0.3106 ± 0.0075	k_{eq}	0.010268	0.01027 ± 0.00011	χ_{prior}^2	2.00	7.8 ± 3.4
$\Omega_m h^2$	0.13956	0.1406 ± 0.0030	$100\theta_{\text{eq}}$	0.8144	0.8168 ± 0.0052	χ_{BAO}^2	5.31	6.2 ± 1.3
$\Omega_\nu h^2$	0.000026	< 0.000747	$100\theta_{s,\text{eq}}$	0.45006	0.4513 ± 0.0026	χ_{CMB}^2	11917.6	11934.8 ± 5.9
$\Omega_m h^3$	0.09389	0.0947 ± 0.0033	$H(0.15)$	72.48	72.5 ± 1.1			
σ_8	0.8146	$0.805^{+0.015}_{-0.012}$	$D_M(0.15)$	644.6	644 ± 10			

Best-fit $\chi_{\text{eff}}^2 = 11924.93$; $\bar{\chi}_{\text{eff}}^2 = 11949.22$; $R - 1 = 0.01005$

χ_{eff}^2 : Abund - Yp_Aver2015: 0.00 BAO - 6DF: 0.01 MGS: 1.41 DR12BAO: 3.90 CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.83 commander_dx12_v3.2.29: 23.45 CamSpec like_10.7HM.1400_unified: 11498.32

8.13 base_nnu_mnu_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_Cooke17_Aver15

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022251	0.02228 ± 0.00018	S_8	0.8282	0.820 ± 0.015	$H(0.38)$	82.70	82.7 ± 1.1
$\Omega_c h^2$	0.11809	0.1182 ± 0.0026	$\sigma_8 \Omega_m^{0.5}$	0.4536	0.4490 ± 0.0081	$D_M(0.38)$	1533.6	1535 ± 22
$100\theta_{MC}$	1.041077	1.04105 ± 0.00040	$\sigma_8 \Omega_m^{0.25}$	0.6088	$0.601^{+0.011}_{-0.0089}$	$H(0.51)$	89.35	89.4 ± 1.1
τ	0.0531	0.0531 ± 0.0078	$\sigma_8/h^{0.5}$	0.9946	$0.981^{+0.017}_{-0.012}$	$D_M(0.51)$	1987.1	1988 ± 28
Σm_ν [eV]	0.0034	< 0.0723	$r_{\text{drag}} h$	99.99	99.74 ± 0.93	$H(0.61)$	94.92	95.0 ± 1.1
N_{eff}	2.959	2.99 ± 0.16	$\langle d^2 \rangle^{1/2}$	2.4422	2.427 ± 0.028	$D_M(0.61)$	2312.7	2313 ± 31
$\ln(10^{10} A_s)$	3.0355	3.036 ± 0.018	z_{re}	7.53	7.52 ± 0.80	$H(2.33)$	234.58	235.1 ± 2.3
n_s	0.9642	0.9654 ± 0.0066	$10^9 A_s$	2.0810	2.082 ± 0.037	$D_M(2.33)$	5789	5784 ± 66
y_{cal}	1.00034	1.0005 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.8715	1.872 ± 0.016	$f\sigma_8(0.15)$	0.4578	0.4536 ± 0.0077
A_{100}^{PS}	229.6	239 ± 25	D_{40}	1226.9	1226 ± 14	$\sigma_8(0.15)$	0.7552	$0.745^{+0.014}_{-0.011}$
A_{143}^{PS}	44.4	39 ± 8	D_{220}	5714.7	5720 ± 39	$f\sigma_8(0.38)$	0.4768	$0.4721^{+0.0078}_{-0.0069}$
A_{217}^{PS}	103.9	102 ± 10	D_{810}	2533.7	2534 ± 14	$\sigma_8(0.38)$	0.6695	$0.660^{+0.013}_{-0.0099}$
A_{217}^{CIB}	42.7	39 ± 7	D_{1420}	816.54	816.2 ± 4.9	$f\sigma_8(0.51)$	0.4757	$0.4708^{+0.0077}_{-0.0067}$
A_{143}^{tSZ}	6.51	$3.9^{+1.9}_{-2.5}$	D_{2000}	231.02	230.6 ± 1.8	$\sigma_8(0.51)$	0.6266	$0.618^{+0.012}_{-0.0094}$
$r_{143 \times 217}^{\text{PS}}$	0.676	0.66 ± 0.13	$n_{s,0.002}$	0.9642	0.9654 ± 0.0066	$f\sigma_8(0.61)$	0.4709	$0.4660^{+0.0076}_{-0.0065}$
$r_{143 \times 217}^{\text{CIB}}$	0.833	$0.56^{+0.39}_{-0.18}$	Y_{P}	0.24418	0.2446 ± 0.0022	$\sigma_8(0.61)$	0.5963	$0.588^{+0.011}_{-0.0090}$
$\xi^{\text{tSZ} \times \text{CIB}}$	0.49	—	$Y_{\text{P}}^{\text{BBN}}$	0.24550	0.2459 ± 0.0022	$f\sigma_8(2.33)$	0.29983	$0.2965^{+0.0052}_{-0.0045}$
A^{kSZ}	0.00	$4.6^{+2.0}_{-4.1}$	$10^5 \text{D}/\text{H}$	2.5780	2.584 ± 0.044	$\sigma_8(2.33)$	0.3097	$0.3057^{+0.0059}_{-0.0049}$
A_{100}^{dust}	1.008	1.01 ± 0.20	Age/Gyr	13.859	13.85 ± 0.16	f_{2000}^{143}	29.13	29.3 ± 3.1
A_{143}^{dust}	0.974	0.96 ± 0.18	z_*	1089.813	1089.81 ± 0.33	f_{2000}^{217}	106.06	106.6 ± 2.1
A_{217}^{dust}	0.978	0.98 ± 0.10	r_*	145.46	145.3 ± 1.5	$f_{2000}^{143 \times 217}$	31.41	31.8 ± 2.2
$A_{143 \times 217}^{\text{dust}}$	1.000	1.03 ± 0.16	$100\theta_*$	1.041302	1.04128 ± 0.00048	χ_{small}^2	395.85	396.9 ± 1.7
c_{100}	0.99775	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.970	13.95 ± 0.14	χ_{lowl}^2	23.31	23.1 ± 1.1
c_{217}	1.00127	1.0011 ± 0.0016	z_{drag}	1059.44	1059.55 ± 0.63	χ_{CamSpec}^2	11498.5	11514.7 ± 5.9
c_{TE}	0.9960	0.9966 ± 0.0050	r_{drag}	148.18	148.0 ± 1.6	χ_{Aver15}^2	0.023	0.36 ± 0.50
c_{EE}	0.9914	0.9920 ± 0.0052	k_{D}	0.13996	0.1401 ± 0.0012	χ_{Cooke17}^2	0.182	0.35 ± 0.45
H_0	67.48	67.4 ± 1.1	$100\theta_{\text{D}}$	0.160679	0.16075 ± 0.00038	$\chi_{6\text{DF}}^2$	0.0102	0.059 ± 0.077
Ω_Λ	0.6917	0.6895 ± 0.0075	z_{eq}	3393.0	3381 ± 27	χ_{MGS}^2	1.41	1.33 ± 0.51
Ω_{m}	0.3083	0.3105 ± 0.0075	k_{eq}	0.010295	0.01028 ± 0.00011	χ_{DR12BAO}^2	3.90	4.8 ± 1.6
$\Omega_{\text{m}} h^2$	0.14037	0.1411 ± 0.0028	$100\theta_{\text{eq}}$	0.8146	0.8170 ± 0.0052	χ_{prior}^2	2.04	7.8 ± 3.4
$\Omega_\nu h^2$	0.000036	< 0.000760	$100\theta_{\text{s,eq}}$	0.45016	0.4514 ± 0.0026	χ_{BAO}^2	5.32	6.2 ± 1.3
$\Omega_{\text{m}} h^3$	0.09472	0.0951 ± 0.0031	$H(0.15)$	72.70	72.7 ± 1.1	χ_{CMB}^2	11917.6	11934.7 ± 5.8
σ_8	0.8170	$0.806^{+0.015}_{-0.012}$	$D_M(0.15)$	642.7	643.3 ± 9.8	χ_{Abund}^2	0.205	0.71 ± 0.67

Best-fit $\chi_{\text{eff}}^2 = 11925.20$; $\bar{\chi}_{\text{eff}}^2 = 11949.45$; $R - 1 = 0.01051$

χ_{eff}^2 : Abund - Yp_Aver2015: 0.02 D_Cooke2017: 0.18 BAO - 6DF: 0.01 MGS: 1.41 DR12BAO: 3.90 CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.85 commander_dx12_v3.2.29: 23.31 CamSpec like_10.7HM_1400_unified: 11498.48

8.14 base_nnu_mnu_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_Pantheon18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02232 ± 0.00019	S_8	0.819 ± 0.015	$H(0.38)$	82.9 ± 1.3
$\Omega_c h^2$	0.1183 ± 0.0034	$\sigma_8 \Omega_m^{0.5}$	0.4488 ± 0.0080	$D_M(0.38)$	1531 ± 27
$100\theta_{MC}$	1.04105 ± 0.00048	$\sigma_8 \Omega_m^{0.25}$	$0.602^{+0.011}_{-0.0094}$	$H(0.51)$	89.6 ± 1.4
τ	$0.0548^{+0.0047}_{-0.0085}$	$\sigma_8/h^{0.5}$	$0.982^{+0.016}_{-0.012}$	$D_M(0.51)$	1983 ± 34
Σm_ν [eV]	< 0.0705	$r_{\text{drag}} h$	99.95 ± 0.91	$H(0.61)$	95.2 ± 1.4
N_{eff}	3.01 ± 0.21	$\langle d^2 \rangle^{1/2}$	2.427 ± 0.027	$D_M(0.61)$	2308 ± 39
$\ln(10^{10} A_s)$	$3.039^{+0.015}_{-0.019}$	z_{re}	$7.70^{+0.53}_{-0.85}$	$H(2.33)$	235.2 ± 3.1
n_s	0.9665 ± 0.0077	$10^9 A_s$	$2.090^{+0.031}_{-0.039}$	$D_M(2.33)$	5775 ± 85
y_{cal}	1.0006 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.872 ± 0.020	$f\sigma_8(0.15)$	0.4535 ± 0.0076
A_{100}^{PS}	239 ± 25	D_{40}	1224 ± 14	$\sigma_8(0.15)$	$0.747^{+0.014}_{-0.012}$
A_{143}^{PS}	38 ± 9	D_{220}	5722 ± 39	$f\sigma_8(0.38)$	0.4724 ± 0.0076
A_{217}^{PS}	102 ± 10	D_{810}	2534 ± 14	$\sigma_8(0.38)$	$0.662^{+0.013}_{-0.011}$
A_{217}^{CIB}	39 ± 7	D_{1420}	816.3 ± 5.0	$f\sigma_8(0.51)$	0.4713 ± 0.0076
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	D_{2000}	230.7 ± 2.1	$\sigma_8(0.51)$	$0.620^{+0.012}_{-0.011}$
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	$n_{s,0.002}$	0.9665 ± 0.0077	$f\sigma_8(0.61)$	0.4666 ± 0.0075
$r_{143 \times 217}^{\text{CIB}}$	$0.56^{+0.39}_{-0.18}$	Y_P	0.2449 ± 0.0028	$\sigma_8(0.61)$	$0.590^{+0.012}_{-0.010}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	0.2462 ± 0.0029	$f\sigma_8(2.33)$	0.2974 ± 0.0053
A^{kSZ}	$4.6^{+1.8}_{-4.3}$	$10^5 D/H$	2.583 ± 0.057	$\sigma_8(2.33)$	0.3067 ± 0.0059
A_{100}^{dust}	1.01 ± 0.20	Age/Gyr	13.83 ± 0.20	f_{2000}^{143}	29 ± 3
A_{143}^{dust}	0.96 ± 0.18	z_*	1089.79 ± 0.42	f_{2000}^{217}	106.5 ± 2.3
A_{217}^{dust}	0.98 ± 0.10	r_*	145.1 ± 2.0	$f_{2000}^{143 \times 217}$	31.7 ± 2.5
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04126 ± 0.00059	χ_{simall}^2	396.9 ± 1.8
c_{100}	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.94 ± 0.19	χ_{lowl}^2	23.0 ± 1.1
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.66 ± 0.75	χ_{CamSpec}^2	11515.1 ± 6.0
c_{TE}	0.9965 ± 0.0051	r_{drag}	147.8 ± 2.1	χ_{JLA}^2	1035.04 ± 0.33
c_{EE}	0.9920 ± 0.0055	k_D	0.1402 ± 0.0015	$\chi_{6\text{DF}}^2$	0.046 ± 0.063
H_0	67.6 ± 1.3	$100\theta_D$	0.16076 ± 0.00050	χ_{MGS}^2	1.45 ± 0.52
Ω_Λ	0.6912 ± 0.0073	z_{eq}	3376 ± 27	χ_{DR12BAO}^2	4.5 ± 1.3
Ω_m	0.3088 ± 0.0073	k_{eq}	0.01028 ± 0.00013	χ_{prior}^2	7.9 ± 3.5
$\Omega_m h^2$	0.1412 ± 0.0036	$100\theta_{\text{eq}}$	0.8179 ± 0.0052	χ_{BAO}^2	6.0 ± 1.1
$\Omega_\nu h^2$	< 0.000738	$100\theta_{s,\text{eq}}$	0.4518 ± 0.0027	χ_{CMB}^2	11935.0 ± 5.9
$\Omega_m h^3$	0.0955 ± 0.0040	$H(0.15)$	72.9 ± 1.3		
σ_8	$0.808^{+0.015}_{-0.013}$	$D_M(0.15)$	641 ± 12		

$$\bar{\chi}_{\text{eff}}^2 = 12983.89; R - 1 = 0.01046$$

8.15 base_nnu_mnu_CamSpecHM_TT_lowl_lowE_lensing_BAO

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022197	0.02221 ± 0.00023	$\sigma_8 \Omega_m^{0.5}$	0.4546	0.4519 ± 0.0071	$H(0.38)$	83.07	83.0 ± 1.5
$\Omega_c h^2$	0.11915	0.1191 ± 0.0038	$\sigma_8 \Omega_m^{0.25}$	0.6104	0.6057 ± 0.0087	$D_M(0.38)$	1526.5	1530 ± 30
$100\theta_{MC}$	1.04103	1.04104 ± 0.00058	$\sigma_8/h^{0.5}$	0.9955	$0.987^{+0.012}_{-0.010}$	$H(0.51)$	89.74	89.7 ± 1.6
τ	0.0530	$0.0548^{+0.0070}_{-0.0077}$	$r_{\text{drag}} h$	100.10	99.8 ± 1.0	$D_M(0.51)$	1978.1	1982 ± 39
$\Sigma m_\nu [\text{eV}]$	0.0026	< 0.0640	$\langle d^2 \rangle^{1/2}$	2.4429	2.434 ± 0.024	$H(0.61)$	95.32	95.3 ± 1.6
N_{eff}	3.024	3.04 ± 0.24	z_{re}	7.56	7.73 ± 0.77	$D_M(0.61)$	2302.3	2306 ± 44
$\ln(10^{10} A_s)$	3.0373	3.041 ± 0.018	$10^9 A_s$	2.0848	2.093 ± 0.038	$H(2.33)$	235.44	235.7 ± 3.4
n_s	0.9647	0.9663 ± 0.0088	$10^9 A_s e^{-2\tau}$	1.8752	1.876 ± 0.021	$D_M(2.33)$	5765	5768 ± 96
y_{cal}	1.00039	1.0006 ± 0.0025	D_{40}	1227.0	1225 ± 15	$f\sigma_8(0.15)$	0.4588	0.4566 ± 0.0068
A_{100}^{PS}	243.8	242 ± 25	D_{220}	5710.1	5713 ± 40	$\sigma_8(0.15)$	0.7578	0.750 ± 0.012
A_{143}^{PS}	37.1	40 ± 9	D_{810}	2531.6	2534 ± 14	$f\sigma_8(0.38)$	0.4781	0.4752 ± 0.0066
A_{217}^{PS}	99.5	101 ± 10	D_{1420}	814.0	815.1 ± 5.3	$\sigma_8(0.38)$	0.6719	0.665 ± 0.011
A_{217}^{CIB}	42.6	41 ± 7	D_{2000}	229.75	230.0 ± 2.3	$f\sigma_8(0.51)$	0.4770	0.4740 ± 0.0066
A_{143}^{tSZ}	4.28	$3.8^{+1.8}_{-2.5}$	$n_{s,0.002}$	0.9647	0.9663 ± 0.0088	$\sigma_8(0.51)$	0.6289	0.623 ± 0.011
$r_{143 \times 217}^{\text{PS}}$	0.542	0.65 ± 0.13	Y_P	0.24503	0.2452 ± 0.0032	$f\sigma_8(0.61)$	0.4723	0.4691 ± 0.0066
$r_{143 \times 217}^{\text{CIB}}$	0.657	$0.58^{+0.41}_{-0.14}$	Y_P^{BBN}	0.24636	0.2465 ± 0.0032	$\sigma_8(0.61)$	0.5984	0.592 ± 0.010
$\xi^{\text{tSZ} \times \text{CIB}}$	0.00	—	$10^5 \text{D}/\text{H}$	2.611	2.613 ± 0.068	$f\sigma_8(2.33)$	0.3010	0.2986 ± 0.0052
A^{kSZ}	3.7	—	Age/Gyr	13.802	13.81 ± 0.23	$\sigma_8(2.33)$	0.3109	0.3080 ± 0.0057
A_{100}^{dust}	0.999	1.01 ± 0.19	z_*	1090.039	1090.03 ± 0.48	f_{2000}^{143}	30.81	30 ± 4
A_{143}^{dust}	0.977	0.97 ± 0.18	r_*	144.90	144.9 ± 2.2	f_{2000}^{217}	107.42	107.3 ± 2.4
A_{217}^{dust}	0.974	0.97 ± 0.10	$100\theta_*$	1.04122	1.04124 ± 0.00070	$f_{2000}^{143 \times 217}$	32.56	32.7 ± 2.7
$A_{143 \times 217}^{\text{dust}}$	1.009	1.03 ± 0.16	$D_M(z_*)/\text{Gpc}$	13.916	13.91 ± 0.21	χ_{lensing}^2	8.90	9.51 ± 0.92
c_{100}	0.99736	0.9975 ± 0.0011	z_{drag}	1059.44	1059.49 ± 0.87	χ_{small}^2	395.85	397.1 ± 1.9
c_{217}	1.00127	1.0012 ± 0.0016	r_{drag}	147.63	147.6 ± 2.3	χ_{lowl}^2	23.31	23.2 ± 1.3
H_0	67.80	67.6 ± 1.5	k_D	0.14025	0.1403 ± 0.0017	χ_{CamSpec}^2	7049.9	7063.7 ± 5.4
Ω_Λ	0.6925	0.6899 ± 0.0082	$100\theta_D$	0.16096	0.16100 ± 0.00059	$\chi_{6\text{DF}}^2$	0.0062	0.062 ± 0.083
Ω_m	0.3075	0.3101 ± 0.0082	z_{eq}	3387.5	3380 ± 31	χ_{MGS}^2	1.47	1.38 ± 0.56
$\Omega_m h^2$	0.14137	0.1419 ± 0.0040	k_{eq}	0.010324	0.01031 ± 0.00014	χ_{DR12BAO}^2	3.77	4.8 ± 1.7
$\Omega_\nu h^2$	$2.8 \cdot 10^{-5}$	< 0.000673	$100\theta_{\text{eq}}$	0.8155	0.8171 ± 0.0058	χ_{prior}^2	2.33	7.6 ± 3.4
$\Omega_m h^3$	0.09586	$0.0960^{+0.0042}_{-0.0048}$	$100\theta_{s,\text{eq}}$	0.45065	0.4515 ± 0.0029	χ_{CMB}^2	7478.0	7493.5 ± 5.7
σ_8	0.8198	0.812 ± 0.013	$H(0.15)$	73.04	72.9 ± 1.5	χ_{BAO}^2	5.25	6.2 ± 1.4
S_8	0.8299	0.825 ± 0.013	$D_M(0.15)$	639.7	641 ± 13			

Best-fit $\chi_{\text{eff}}^2 = 7485.59$; $\bar{\chi}_{\text{eff}}^2 = 7507.28$; $\Delta\bar{\chi}_{\text{eff}}^2 = 0.80$; $R - 1 = 0.00494$
 χ_{eff}^2 : BAO - 6DF: 0.01 MGS: 1.47 DR12BAO: 3.77 CMB - smicadx12_Dec5.ftl_mv2_ndclpp_p.teb_consext8: 8.90 small_100x143.offlike5_EE_Aplanck_B: 395.85 comman-
der_dx12_v3_2_29: 23.31 CamSpec like_10.7HM: 7049.94

8.16 base_nnu_mnu_CamSpecHM_TT_lowl_lowE_lensing_BAO_post_Pantheon18

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022187	0.02223 ± 0.00023	$\sigma_8 \Omega_m^{0.5}$	0.4533	0.4515 ± 0.0070	$H(0.38)$	83.01	83.1 ± 1.5
$\Omega_c h^2$	0.11869	0.1192 ± 0.0038	$\sigma_8 \Omega_m^{0.25}$	0.6092	0.6057 ± 0.0087	$D_M(0.38)$	1527.3	1526 ± 29
$100\theta_{MC}$	1.04110	1.04103 ± 0.00058	$\sigma_8/h^{0.5}$	0.9944	$0.987^{+0.012}_{-0.010}$	$H(0.51)$	89.66	89.8 ± 1.5
τ	0.0530	0.0550 ± 0.0075	$r_{\text{drag}} h$	100.22	99.97 ± 0.95	$D_M(0.51)$	1979.3	1977 ± 37
Σm_ν [eV]	0.0013	< 0.0616	$\langle d^2 \rangle^{1/2}$	2.4402	2.432 ± 0.023	$H(0.61)$	95.23	95.4 ± 1.6
N_{eff}	3.008	3.06 ± 0.23	z_{re}	7.56	7.76 ± 0.76	$D_M(0.61)$	2303.8	2301 ± 43
$\ln(10^{10} A_s)$	3.0365	3.042 ± 0.018	$10^9 A_s$	2.0833	2.095 ± 0.038	$H(2.33)$	235.07	235.9 ± 3.4
n_s	0.9648	0.9672 ± 0.0086	$10^9 A_s e^{-2\tau}$	1.8737	1.877 ± 0.020	$D_M(2.33)$	5771	5759 ± 94
y_{cal}	1.00044	1.0006 ± 0.0025	D_{40}	1226.4	1224 ± 15	$f\sigma_8(0.15)$	0.4576	0.4562 ± 0.0067
A_{100}^{PS}	238.6	242 ± 25	D_{220}	5710.6	5714 ± 40	$\sigma_8(0.15)$	0.7569	0.751 ± 0.012
A_{143}^{PS}	38.8	41 ± 9	D_{810}	2532.1	2534 ± 14	$f\sigma_8(0.38)$	0.4770	0.4752 ± 0.0066
A_{217}^{PS}	99.7	101 ± 10	D_{1420}	814.6	815.1 ± 5.3	$\sigma_8(0.38)$	0.6712	0.666 ± 0.011
A_{217}^{CIB}	45.3	41 ± 7	D_{2000}	229.98	229.9 ± 2.3	$f\sigma_8(0.51)$	0.4761	0.4741 ± 0.0066
A_{143}^{tSZ}	6.10	$3.8^{+1.8}_{-2.6}$	$n_{s,0.002}$	0.9648	0.9672 ± 0.0086	$\sigma_8(0.51)$	0.6283	0.623 ± 0.011
$r_{143 \times 217}^{\text{PS}}$	0.559	0.65 ± 0.13	Y_P	0.24481	0.2454 ± 0.0032	$f\sigma_8(0.61)$	0.4714	0.4693 ± 0.0066
$r_{143 \times 217}^{\text{CIB}}$	0.764	$0.58^{+0.42}_{-0.13}$	Y_P^{BBN}	0.24613	0.2468 ± 0.0032	$\sigma_8(0.61)$	0.5979	0.593 ± 0.010
$\xi^{\text{tSZ} \times \text{CIB}}$	0.01	—	$10^5 \text{D}/\text{H}$	2.607	2.615 ± 0.068	$f\sigma_8(2.33)$	0.3007	0.2992 ± 0.0050
A^{kSZ}	0.9	—	Age/Gyr	13.817	13.79 ± 0.22	$\sigma_8(2.33)$	0.3106	0.3086 ± 0.0055
A_{100}^{dust}	1.018	1.01 ± 0.19	z_*	1089.993	1090.03 ± 0.48	f_{2000}^{143}	30.80	31 ± 4
A_{143}^{dust}	0.986	0.97 ± 0.18	r_*	145.11	144.7 ± 2.2	f_{2000}^{217}	107.29	107.4 ± 2.4
A_{217}^{dust}	0.963	0.97 ± 0.10	$100\theta_*$	1.04129	1.04121 ± 0.00069	$f_{2000}^{143 \times 217}$	32.61	32.8 ± 2.7
$A_{143 \times 217}^{\text{dust}}$	1.004	1.03 ± 0.16	$D_M(z_*)/\text{Gpc}$	13.936	13.90 ± 0.21	χ_{lensing}^2	8.87	9.55 ± 0.93
c_{100}	0.99757	0.9975 ± 0.0011	z_{drag}	1059.40	1059.56 ± 0.86	χ_{small}^2	395.85	397.1 ± 1.9
c_{217}	1.00137	1.0012 ± 0.0016	r_{drag}	147.84	147.4 ± 2.3	χ_{lowl}^2	23.25	23.0 ± 1.2
H_0	67.79	67.8 ± 1.4	k_D	0.14008	0.1404 ± 0.0017	χ_{CamSpec}^2	7050.1	7063.8 ± 5.5
Ω_Λ	0.6934	0.6912 ± 0.0076	$100\theta_D$	0.16094	0.16103 ± 0.00059	χ_{JLA}^2	1034.856	1035.05 ± 0.35
Ω_m	0.3066	0.3088 ± 0.0076	z_{eq}	3383.9	3376 ± 29	$\chi_{6\text{DF}}^2$	0.0030	0.049 ± 0.067
$\Omega_m h^2$	0.14089	0.1420 ± 0.0040	k_{eq}	0.010301	0.01031 ± 0.00014	χ_{MGS}^2	1.54	1.47 ± 0.54
$\Omega_\nu h^2$	$1.4 \cdot 10^{-5}$	< 0.000648	$100\theta_{\text{eq}}$	0.8161	0.8178 ± 0.0055	χ_{DR12BAO}^2	3.65	4.5 ± 1.4
$\Omega_m h^3$	0.09550	$0.0964^{+0.0042}_{-0.0047}$	$100\theta_{s,\text{eq}}$	0.45100	0.4518 ± 0.0028	χ_{prior}^2	2.17	7.6 ± 3.4
σ_8	0.8187	0.813 ± 0.013	$H(0.15)$	73.00	73.1 ± 1.4	χ_{CMB}^2	7478.0	7493.5 ± 5.7
S_8	0.8277	0.824 ± 0.013	$D_M(0.15)$	639.9	640 ± 13	χ_{BAO}^2	5.20	6.0 ± 1.1

Best-fit $\chi_{\text{eff}}^2 = 8520.27$; $\Delta\chi_{\text{eff}}^2 = -1.61$; $\bar{\chi}_{\text{eff}}^2 = 8542.17$; $\Delta\bar{\chi}_{\text{eff}}^2 = 0.67$; $R - 1 = 0.00504$
 χ_{eff}^2 : BAO - 6DF: 0.00 (Δ -0.02) MGS: 1.54 (Δ 0.26) DR12BAO: 3.65 (Δ -0.53) CMB - smicadx12_Dec5_ftl_mv2_ndclpp-p.teb.consext8: 8.87 (Δ -0.15) small_100x143_offlike5_EE_Aplanc
395.85 (Δ -0.38) commander_dx12_v3.2_29: 23.25 (Δ 0.40) CamSpec like_10.7HM: 7050.07 (Δ -1.10) SN - JLA Pantheon18: 1034.86 (Δ -0.14)

8.17 base_nnu_mnu_CamSpecHM_TT_lowl_lowE_lensing_BAO_post_Aver15

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022135	0.02219 ± 0.00022	$\sigma_8 \Omega_m^{0.5}$	0.4536	0.4516 ± 0.0070	$H(0.38)$	82.61	82.7 ± 1.2
$\Omega_c h^2$	0.11799	0.1183 ± 0.0030	$\sigma_8 \Omega_m^{0.25}$	0.6086	0.6048 ± 0.0082	$D_M(0.38)$	1535.5	1536 ± 25
$100\theta_{MC}$	1.04120	1.04111 ± 0.00053	$\sigma_8/h^{0.5}$	0.9947	$0.987^{+0.012}_{-0.010}$	$H(0.51)$	89.25	89.4 ± 1.2
τ	0.0529	0.0547 ± 0.0075	$r_{\text{drag}} h$	99.98	99.72 ± 0.97	$D_M(0.51)$	1989.6	1989 ± 31
Σm_ν [eV]	0.0008	< 0.0610	$\langle d^2 \rangle^{1/2}$	2.4437	2.436 ± 0.023	$H(0.61)$	94.82	94.9 ± 1.3
N_{eff}	2.953	2.99 ± 0.18	z_{re}	7.54	7.70 ± 0.76	$D_M(0.61)$	2315.5	2315 ± 35
$\ln(10^{10} A_s)$	3.0338	3.039 ± 0.017	$10^9 A_s$	2.0776	$2.089^{+0.033}_{-0.037}$	$H(2.33)$	234.38	235.0 ± 2.7
n_s	0.9628	0.9647 ± 0.0073	$10^9 A_s e^{-2\tau}$	1.8690	1.872 ± 0.018	$D_M(2.33)$	5795	5787 ± 76
y_{cal}	1.00022	1.0006 ± 0.0025	D_{40}	1228.0	1227 ± 14	$f\sigma_8(0.15)$	0.4577	0.4561 ± 0.0066
A_{100}^{PS}	239.2	241 ± 25	D_{220}	5705.1	5713 ± 40	$\sigma_8(0.15)$	0.7547	0.749 ± 0.011
A_{143}^{PS}	38.0	40 ± 9	D_{810}	2529.9	2533 ± 14	$f\sigma_8(0.38)$	0.4766	0.4746 ± 0.0062
A_{217}^{PS}	99.8	101 ± 10	D_{1420}	814.4	815.4 ± 5.2	$\sigma_8(0.38)$	0.6691	0.664 ± 0.010
A_{217}^{CIB}	44.5	40 ± 7	D_{2000}	230.13	230.3 ± 2.1	$f\sigma_8(0.51)$	0.4755	0.4732 ± 0.0061
A_{143}^{tSZ}	5.75	$3.8^{+1.8}_{-2.5}$	$n_{s,0.002}$	0.9628	0.9647 ± 0.0073	$\sigma_8(0.51)$	0.6262	0.6211 ± 0.0095
$r_{143 \times 217}^{\text{PS}}$	0.568	0.65 ± 0.13	Y_P	0.24405	0.2446 ± 0.0025	$f\sigma_8(0.61)$	0.4707	0.4683 ± 0.0060
$r_{143 \times 217}^{\text{CIB}}$	0.742	$0.57^{+0.41}_{-0.15}$	Y_P^{BBN}	0.24537	0.2459 ± 0.0025	$\sigma_8(0.61)$	0.5958	0.5910 ± 0.0092
$\xi^{\text{tSZ} \times \text{CIB}}$	0.04	—	$10^5 \text{D}/\text{H}$	2.598	2.602 ± 0.058	$f\sigma_8(2.33)$	0.29956	0.2979 ± 0.0045
A^{kSZ}	1.45	$4.8^{+2.6}_{-3.6}$	Age/Gyr	13.873	13.85 ± 0.18	$\sigma_8(2.33)$	0.30941	0.3072 ± 0.0050
A_{100}^{dust}	1.010	1.01 ± 0.19	z_*	1089.945	1089.95 ± 0.42	f_{2000}^{143}	30.35	30 ± 3
A_{143}^{dust}	0.992	0.97 ± 0.17	r_*	145.61	145.3 ± 1.8	f_{2000}^{217}	106.97	107.0 ± 2.2
A_{217}^{dust}	0.961	0.97 ± 0.10	$100\theta_*$	1.04143	1.04135 ± 0.00061	$f_{2000}^{143 \times 217}$	32.31	32.4 ± 2.5
$A_{143 \times 217}^{\text{dust}}$	0.9998	1.03 ± 0.16	$D_M(z_*)/\text{Gpc}$	13.982	13.95 ± 0.16	χ_{lensing}^2	8.80	9.41 ± 0.87
c_{100}	0.99755	0.9975 ± 0.0011	z_{drag}	1059.17	1059.34 ± 0.73	χ_{simall}^2	395.86	397.1 ± 1.8
c_{217}	1.00120	1.0012 ± 0.0016	r_{drag}	148.37	148.1 ± 1.8	χ_{lowl}^2	23.49	23.3 ± 1.2
H_0	67.39	67.4 ± 1.2	k_D	0.13970	0.1399 ± 0.0013	χ_{CamSpec}^2	7050.0	7063.3 ± 5.3
Ω_Λ	0.6914	0.6891 ± 0.0078	$100\theta_D$	0.160838	0.16089 ± 0.00049	χ_{Aver15}^2	0.014	0.45 ± 0.64
Ω_m	0.3086	0.3109 ± 0.0078	z_{eq}	3390.8	3383 ± 29	$\chi_{6\text{DF}}^2$	0.0105	0.064 ± 0.083
$\Omega_m h^2$	0.14014	0.1410 ± 0.0032	k_{eq}	0.010284	0.01029 ± 0.00012	χ_{MGS}^2	1.41	1.33 ± 0.53
$\Omega_\nu h^2$	$0.8 \cdot 10^{-5}$	< 0.000639	$100\theta_{\text{eq}}$	0.8148	0.8164 ± 0.0054	χ_{DR12BAO}^2	3.87	4.8 ± 1.7
$\Omega_m h^3$	0.09443	0.0950 ± 0.0035	$100\theta_{s,\text{eq}}$	0.45033	0.4511 ± 0.0027	χ_{prior}^2	2.06	7.5 ± 3.4
σ_8	0.8166	0.810 ± 0.012	$H(0.15)$	72.61	72.6 ± 1.2	χ_{CMB}^2	7478.1	7493.1 ± 5.5
S_8	0.8282	0.825 ± 0.013	$D_M(0.15)$	643.5	644 ± 11	χ_{BAO}^2	5.29	6.2 ± 1.4

Best-fit $\chi_{\text{eff}}^2 = 7485.47$; $\bar{\chi}_{\text{eff}}^2 = 7507.32$; $R - 1 = 0.00578$
 χ_{eff}^2 : Abund - Yp_Aver2015: 0.01 BAO - 6DF: 0.01 MGS: 1.41 DR12BAO: 3.88 CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p_teb.consext8: 8.80 simall_100x143_offlike5_EE_Aplanck_B: 395.86 commander_dx12_v3_2_29: 23.49 CamSpec like_10.7HM: 7049.95

8.18 base_nnu_mnu_CamSpecHM_TT_lowl_lowE_lensing_BAO_post_Cooke17_Aver15

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_{\mathrm{b}}h^2$	0.022159	0.02218 ± 0.00022	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6086	0.6051 ± 0.0079	$H(0.51)$	89.40	89.4 ± 1.2
$\Omega_{\mathrm{c}}h^2$	0.11818	0.1185 ± 0.0028	$\sigma_8/h^{0.5}$	0.9943	$0.987^{+0.012}_{-0.010}$	$D_{\mathrm{M}}(0.51)$	1985.6	1988 ± 30
$100\theta_{\mathrm{MC}}$	1.041106	1.04109 ± 0.00050	$r_{\mathrm{drag}}h$	100.09	99.72 ± 0.97	$H(0.61)$	94.97	95.0 ± 1.2
τ	0.0530	0.0546 ± 0.0075	$\langle d^2 \rangle^{1/2}$	2.4415	2.436 ± 0.023	$D_{\mathrm{M}}(0.61)$	2311.0	2313 ± 34
Σm_{ν} [eV]	0.0024	< 0.0613	z_{re}	7.55	7.70 ± 0.76	$H(2.33)$	234.59	235.2 ± 2.5
N_{eff}	2.973	3.00 ± 0.17	$10^9 A_{\mathrm{s}}$	2.0802	$2.090^{+0.033}_{-0.037}$	$D_{\mathrm{M}}(2.33)$	5786	5783 ± 71
$\ln(10^{10} A_{\mathrm{s}})$	3.0351	3.039 ± 0.017	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.8711	1.873 ± 0.017	$f\sigma_8(0.15)$	0.4574	0.4563 ± 0.0064
n_{s}	0.9638	0.9650 ± 0.0071	D_{40}	1227.1	1227 ± 14	$\sigma_8(0.15)$	0.7554	$0.749^{+0.011}_{-0.0099}$
y_{cal}	1.00059	1.0006 ± 0.0025	D_{220}	5708.9	5712 ± 39	$f\sigma_8(0.38)$	0.4766	0.4748 ± 0.0060
A_{100}^{PS}	237.8	242 ± 25	D_{810}	2531.7	2533 ± 14	$\sigma_8(0.38)$	0.6698	$0.664^{+0.010}_{-0.0091}$
A_{143}^{PS}	37.8	40 ± 9	D_{1420}	814.9	815.2 ± 5.1	$f\sigma_8(0.51)$	0.4756	0.4735 ± 0.0059
A_{217}^{PS}	99.2	101 ± 10	D_{2000}	230.21	230.2 ± 1.9	$\sigma_8(0.51)$	0.6269	$0.6214^{+0.0096}_{-0.0086}$
A_{217}^{CIB}	45.2	40 ± 7	$n_{\mathrm{s},0.002}$	0.9638	0.9650 ± 0.0071	$f\sigma_8(0.61)$	0.4708	0.4686 ± 0.0058
A_{143}^{tSZ}	6.05	$3.8^{+1.8}_{-2.5}$	Y_{P}	0.24433	0.2447 ± 0.0023	$\sigma_8(0.61)$	0.5965	$0.5913^{+0.0092}_{-0.0083}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.542	0.65 ± 0.13	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.24565	0.2460 ± 0.0023	$f\sigma_8(2.33)$	0.29998	0.2980 ± 0.0044
$r_{143 \times 217}^{\mathrm{CIB}}$	0.794	$0.57^{+0.41}_{-0.15}$	$10^5 \mathrm{D}/\mathrm{H}$	2.6004	2.606 ± 0.049	$\sigma_8(2.33)$	0.30987	0.3073 ± 0.0048
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	0.01	—	Age/Gyr	13.853	13.85 ± 0.17	f_{2000}^{143}	30.44	30.2 ± 3.2
A^{kSZ}	1.06	$4.9^{+2.7}_{-3.5}$	z_*	1089.951	1089.98 ± 0.36	f_{2000}^{217}	107.02	107.1 ± 2.1
A_{100}^{dust}	1.010	1.01 ± 0.19	r_*	145.44	145.2 ± 1.6	$f_{2000}^{143 \times 217}$	32.25	32.5 ± 2.3
A_{143}^{dust}	0.995	0.97 ± 0.18	$100\theta_*$	1.04133	1.04132 ± 0.00057	$\chi_{\mathrm{lensing}}^2$	8.82	9.42 ± 0.85
A_{217}^{dust}	0.963	0.97 ± 0.10	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.967	13.95 ± 0.15	χ_{simall}^2	395.85	397.0 ± 1.8
$A_{143 \times 217}^{\mathrm{dust}}$	0.982	1.03 ± 0.16	z_{drag}	1059.25	1059.35 ± 0.72	χ_{lowl}^2	23.32	23.3 ± 1.1
c_{100}	0.99752	0.9975 ± 0.0011	r_{drag}	148.19	148.0 ± 1.7	$\chi_{\mathrm{CamSpec}}^2$	7049.98	7063.1 ± 5.3
c_{217}	1.00128	1.0012 ± 0.0016	k_{D}	0.13983	0.1400 ± 0.0013	χ_{Aver15}^2	0.036	0.41 ± 0.57
H_0	67.54	67.4 ± 1.1	$100\theta_{\mathrm{D}}$	0.160864	0.16093 ± 0.00042	$\chi_{\mathrm{Cooke17}}^2$	0.035	0.29 ± 0.41
Ω_{Λ}	0.6923	0.6891 ± 0.0078	z_{eq}	3386.7	3382 ± 28	$\chi_{6\mathrm{DF}}^2$	0.0064	0.064 ± 0.083
Ω_{m}	0.3077	0.3109 ± 0.0078	k_{eq}	0.010286	0.01029 ± 0.00011	χ_{MGS}^2	1.47	1.33 ± 0.53
$\Omega_{\mathrm{m}}h^2$	0.14037	0.1412 ± 0.0030	$100\theta_{\mathrm{eq}}$	0.8155	0.8165 ± 0.0053	$\chi_{\mathrm{DR12BAO}}^2$	3.76	4.8 ± 1.7
$\Omega_{\nu}h^2$	$2.6 \cdot 10^{-5}$	< 0.000644	$100\theta_{\mathrm{s,eq}}$	0.45070	0.4512 ± 0.0027	χ_{prior}^2	2.22	7.6 ± 3.4
$\Omega_{\mathrm{m}}h^3$	0.09481	0.0952 ± 0.0033	$H(0.15)$	72.76	72.7 ± 1.1	χ_{CMB}^2	7478.0	7492.9 ± 5.5
σ_8	0.8172	$0.810^{+0.012}_{-0.010}$	$D_{\mathrm{M}}(0.15)$	642.1	643 ± 10	χ_{BAO}^2	5.24	6.2 ± 1.4
S_8	0.8276	0.825 ± 0.012	$H(0.38)$	82.76	82.7 ± 1.1	χ_{Abund}^2	0.071	0.70 ± 0.78
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4533	0.4518 ± 0.0068	$D_{\mathrm{M}}(0.38)$	1532.3	1534 ± 23			

Best-fit $\chi_{\mathrm{eff}}^2 = 7485.51$; $\bar{\chi}_{\mathrm{eff}}^2 = 7507.35$; $R - 1 = 0.00593$

χ_{eff}^2 : Abund - Yp_Aver2015: 0.04 D_Cooke2017: 0.04 BAO - 6DF: 0.01 MGS: 1.47 DR12BAO: 3.76 CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p_teb_consext8: 8.82
simall_100x143_offlike5_EE_Aplanck_B: 395.85 commander_dx12_v3.2_29: 23.32 CamSpec like_10.7HM: 7049.98

8.19 base_nnu_mnu_CamSpecHM_TT_lowl_lowE_lensing_BAO_post_Pantheon18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02224 ± 0.00023	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4515 ± 0.0070	$H(0.38)$	83.2 ± 1.5
$\Omega_{\mathrm{c}}h^2$	0.1192 ± 0.0038	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6059 ± 0.0087	$D_{\mathrm{M}}(0.38)$	1526 ± 29
$100\theta_{\mathrm{MC}}$	1.04102 ± 0.00058	$\sigma_8/h^{0.5}$	$0.987^{+0.012}_{-0.010}$	$H(0.51)$	89.9 ± 1.5
τ	$0.0558^{+0.0055}_{-0.0079}$	$r_{\mathrm{drag}}h$	100.00 ± 0.95	$D_{\mathrm{M}}(0.51)$	1977 ± 37
$\Sigma m_{\nu} [\mathrm{eV}]$	< 0.0629	$\langle d^2 \rangle^{1/2}$	2.433 ± 0.023	$H(0.61)$	95.5 ± 1.6
N_{eff}	3.06 ± 0.23	z_{re}	$7.84^{+0.60}_{-0.78}$	$D_{\mathrm{M}}(0.61)$	2301 ± 43
$\ln(10^{10}A_{\mathrm{s}})$	$3.044^{+0.015}_{-0.018}$	$10^9 A_{\mathrm{s}}$	$2.099^{+0.032}_{-0.039}$	$H(2.33)$	235.9 ± 3.4
n_{s}	0.9674 ± 0.0085	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.877 ± 0.020	$D_{\mathrm{M}}(2.33)$	5758 ± 94
y_{cal}	1.0006 ± 0.0025	D_{40}	1224 ± 15	$f\sigma_8(0.15)$	0.4563 ± 0.0067
A_{100}^{PS}	242 ± 25	D_{220}	5713 ± 40	$\sigma_8(0.15)$	0.752 ± 0.012
A_{143}^{PS}	40 ± 9	D_{810}	2534 ± 14	$f\sigma_8(0.38)$	0.4753 ± 0.0066
A_{217}^{PS}	101 ± 10	D_{1420}	815.0 ± 5.3	$\sigma_8(0.38)$	0.666 ± 0.011
A_{217}^{CIB}	41 ± 7	D_{2000}	229.9 ± 2.3	$f\sigma_8(0.51)$	0.4743 ± 0.0066
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	$n_{\mathrm{s},0.002}$	0.9674 ± 0.0085	$\sigma_8(0.51)$	0.624 ± 0.010
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	Y_{P}	0.2455 ± 0.0032	$f\sigma_8(0.61)$	0.4695 ± 0.0066
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.58^{+0.41}_{-0.14}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.2468 ± 0.0032	$\sigma_8(0.61)$	0.594 ± 0.010
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$10^5 \mathrm{D}/\mathrm{H}$	2.615 ± 0.067	$f\sigma_8(2.33)$	0.2994 ± 0.0050
A^{kSZ}	—	$\mathrm{Age}/\mathrm{Gyr}$	13.79 ± 0.22	$\sigma_8(2.33)$	0.3088 ± 0.0055
A_{100}^{dust}	1.01 ± 0.19	z_*	1090.03 ± 0.48	f_{2000}^{143}	30 ± 4
A_{143}^{dust}	0.97 ± 0.18	r_*	144.7 ± 2.2	f_{2000}^{217}	107.4 ± 2.4
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04121 ± 0.00069	$f_{2000}^{143 \times 217}$	32.7 ± 2.7
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.90 ± 0.21	$\chi_{\mathrm{lensing}}^2$	9.52 ± 0.91
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.58 ± 0.86	χ_{simall}^2	397.1 ± 1.9
c_{217}	1.0012 ± 0.0016	r_{drag}	147.4 ± 2.3	χ_{lowl}^2	23.0 ± 1.2
H_0	67.8 ± 1.4	k_{D}	0.1404 ± 0.0017	$\chi_{\mathrm{CamSpec}}^2$	7063.8 ± 5.5
Ω_{Λ}	0.6914 ± 0.0076	$100\theta_{\mathrm{D}}$	0.16103 ± 0.00059	χ_{JLA}^2	1035.04 ± 0.34
Ω_{m}	0.3086 ± 0.0076	z_{eq}	3374 ± 29	$\chi_{6\mathrm{DF}}^2$	0.047 ± 0.065
$\Omega_{\mathrm{m}}h^2$	0.1420 ± 0.0040	k_{eq}	0.01031 ± 0.00014	χ_{MGS}^2	1.48 ± 0.55
$\Omega_{\nu}h^2$	< 0.000663	$100\theta_{\mathrm{eq}}$	0.8180 ± 0.0055	$\chi_{\mathrm{DR12BAO}}^2$	4.5 ± 1.4
$\Omega_{\mathrm{m}}h^3$	$0.0964^{+0.0043}_{-0.0047}$	$100\theta_{\mathrm{s,eq}}$	0.4520 ± 0.0028	χ_{prior}^2	7.6 ± 3.5
σ_8	0.813 ± 0.013	$H(0.15)$	73.1 ± 1.4	χ_{CMB}^2	7493.4 ± 5.6
S_8	0.824 ± 0.013	$D_{\mathrm{M}}(0.15)$	639 ± 13	χ_{BAO}^2	6.0 ± 1.1

$\bar{\chi}_{\mathrm{eff}}^2 = 8542.04$; $\Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.69$; $R - 1 = 0.00589$

8.20 base_nnu_mnu_CamSpecHM_TTTEEE_lowl_lowE_lensing_BAO

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022261	0.02228 ± 0.00019	S_8	0.8250	0.822 ± 0.011	$H(0.38)$	82.32	82.6 ± 1.3
$\Omega_c h^2$	0.11682	0.1178 ± 0.0033	$\sigma_8 \Omega_m^{0.5}$	0.4519	0.4504 ± 0.0062	$D_M(0.38)$	1540.8	1537 ± 27
$100\theta_{MC}$	1.041213	1.04111 ± 0.00047	$\sigma_8 \Omega_m^{0.25}$	0.6064	0.6034 ± 0.0079	$H(0.51)$	88.94	89.2 ± 1.4
τ	0.0531	0.0545 ± 0.0073	$\sigma_8/h^{0.5}$	0.9929	$0.985^{+0.012}_{-0.0094}$	$D_M(0.51)$	1996.5	1992 ± 34
Σm_ν [eV]	0.0008	< 0.0604	$r_{\text{drag}} h$	99.99	99.73 ± 0.92	$H(0.61)$	94.48	94.8 ± 1.4
N_{eff}	2.889	2.96 ± 0.20	$\langle d^2 \rangle^{1/2}$	2.4431	2.435 ± 0.022	$D_M(0.61)$	2323.6	2318 ± 39
$\ln(10^{10} A_s)$	3.0331	3.038 ± 0.017	z_{re}	7.51	7.65 ± 0.74	$H(2.33)$	233.51	234.7 ± 3.0
n_s	0.9621	0.9641 ± 0.0077	$10^9 A_s$	2.0762	2.087 ± 0.036	$D_M(2.33)$	5815	5794 ± 84
y_{cal}	1.00066	1.0007 ± 0.0024	$10^9 A_s e^{-2\tau}$	1.8669	1.871 ± 0.019	$f\sigma_8(0.15)$	0.4559	0.4550 ± 0.0060
A_{100}^{PS}	226.8	238 ± 25	D_{40}	1230.5	1229 ± 13	$\sigma_8(0.15)$	0.7521	0.747 ± 0.011
A_{143}^{PS}	45.8	38 ± 9	D_{220}	5725.4	5725 ± 38	$f\sigma_8(0.38)$	0.4749	0.4734 ± 0.0059
A_{217}^{PS}	105.8	103 ± 10	D_{810}	2534.8	2535 ± 13	$\sigma_8(0.38)$	0.6668	0.662 ± 0.011
A_{217}^{CIB}	41.1	39 ± 7	D_{1420}	817.99	816.8 ± 5.0	$f\sigma_8(0.51)$	0.4737	0.4721 ± 0.0060
A_{143}^{tSZ}	6.50	$3.9^{+1.9}_{-2.5}$	D_{2000}	231.81	231.0 ± 2.0	$\sigma_8(0.51)$	0.6240	0.620 ± 0.010
$r_{143 \times 217}^{\text{PS}}$	0.715	0.66 ± 0.13	$n_{s,0.002}$	0.9621	0.9641 ± 0.0077	$f\sigma_8(0.61)$	0.4690	0.4672 ± 0.0060
$r_{143 \times 217}^{\text{CIB}}$	0.841	$0.54^{+0.37}_{-0.21}$	Y_P	0.24322	0.2442 ± 0.0028	$\sigma_8(0.61)$	0.5938	0.5897 ± 0.0096
$\xi^{\text{tSZ} \times \text{CIB}}$	0.69	—	Y_P^{BBN}	0.24454	0.2455 ± 0.0028	$f\sigma_8(2.33)$	0.29854	0.2972 ± 0.0048
A^{kSZ}	0.01	< 6.00	$10^5 D/H$	2.552	2.573 ± 0.055	$\sigma_8(2.33)$	0.3084	0.3065 ± 0.0053
A_{100}^{dust}	0.9995	1.01 ± 0.20	Age/Gyr	13.923	13.87 ± 0.20	f_{2000}^{143}	28.30	29 ± 3
A_{143}^{dust}	0.973	0.96 ± 0.18	z_*	1089.618	1089.75 ± 0.40	f_{2000}^{217}	105.51	106.3 ± 2.2
A_{217}^{dust}	0.983	0.98 ± 0.10	r_*	146.15	145.5 ± 2.0	$f_{2000}^{143 \times 217}$	30.75	31.4 ± 2.4
$A_{143 \times 217}^{\text{dust}}$	1.001	1.02 ± 0.16	$100\theta_*$	1.04148	1.04135 ± 0.00058	χ_{lensing}^2	8.62	9.27 ± 0.82
c_{100}	0.99780	0.9976 ± 0.0010	$D_M(z_*)/\text{Gpc}$	14.033	13.97 ± 0.18	χ_{small}^2	395.85	397.0 ± 1.7
c_{217}	1.00113	1.0011 ± 0.0016	z_{drag}	1059.32	1059.50 ± 0.75	χ_{lowl}^2	23.58	23.4 ± 1.2
c_{TE}	0.9954	0.9961 ± 0.0051	r_{drag}	148.88	148.2 ± 2.0	χ_{CamSpec}^2	11498.2	11514.1 ± 5.7
c_{EE}	0.9901	0.9914 ± 0.0055	k_D	0.13952	0.1400 ± 0.0014	$\chi_{6\text{DF}}^2$	0.0104	0.059 ± 0.077
H_0	67.16	67.3 ± 1.3	$100\theta_D$	0.160455	0.16066 ± 0.00049	χ_{MGS}^2	1.407	1.33 ± 0.50
Ω_Λ	0.6916	0.6893 ± 0.0074	z_{eq}	3395.2	3386 ± 26	χ_{DR12BAO}^2	3.90	4.8 ± 1.6
Ω_m	0.3084	0.3107 ± 0.0074	k_{eq}	0.010252	0.01028 ± 0.00012	χ_{prior}^2	2.01	7.8 ± 3.4
$\Omega_m h^2$	0.13909	0.1406 ± 0.0035	$100\theta_{\text{eq}}$	0.8143	0.8160 ± 0.0050	χ_{CMB}^2	11926.3	11943.7 ± 5.9
$\Omega_\nu h^2$	$0.9 \cdot 10^{-5}$	< 0.000630	$100\theta_{s,\text{eq}}$	0.44999	0.4509 ± 0.0025	χ_{BAO}^2	5.31	6.2 ± 1.3
$\Omega_m h^3$	0.09341	0.0947 ± 0.0039	$H(0.15)$	72.36	72.5 ± 1.3			
σ_8	0.8137	0.808 ± 0.012	$D_M(0.15)$	645.7	645 ± 12			

Best-fit $\chi_{\text{eff}}^2 = 11933.58$; $\bar{\chi}_{\text{eff}}^2 = 11957.66$; $\Delta\chi_{\text{eff}}^2 = 0.26$; $R - 1 = 0.00614$

χ_{eff}^2 : BAO - 6DF: 0.01 MGS: 1.41 DR12BAO: 3.90 CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p_teb_consext8: 8.62 small_100x143.offlike5_EE_Aplanck_B: 395.85 commander_dx12_v3.2.29: 23.58 CamSpec like_10.7HM_1400_unified: 11498.22

8.21 base_nnu_mnu_CamSpecHM_TTTEEE_lowl_lowE_lensing_BAO_post_Pantheon18

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022256	0.02230 ± 0.00019	S_8	0.8240	0.822 ± 0.011	$H(0.38)$	82.43	82.7 ± 1.3
$\Omega_c h^2$	0.11693	0.1180 ± 0.0033	$\sigma_8 \Omega_m^{0.5}$	0.4513	0.4501 ± 0.0062	$D_M(0.38)$	1538.4	1534 ± 26
$100\theta_{MC}$	1.041216	1.04109 ± 0.00047	$\sigma_8 \Omega_m^{0.25}$	0.6061	0.6035 ± 0.0078	$H(0.51)$	89.05	89.4 ± 1.4
τ	0.0532	0.0547 ± 0.0073	$\sigma_8/h^{0.5}$	0.9922	$0.985^{+0.011}_{-0.0093}$	$D_M(0.51)$	1993.5	1988 ± 33
Σm_ν [eV]	0.0006	< 0.0576	$r_{\text{drag}} h$	100.10	99.87 ± 0.86	$H(0.61)$	94.58	95.0 ± 1.4
N_{eff}	2.903	2.98 ± 0.20	$\langle d^2 \rangle^{1/2}$	2.4400	2.434 ± 0.022	$D_M(0.61)$	2320.2	2313 ± 38
$\ln(10^{10} A_s)$	3.0331	3.039 ± 0.017	z_{re}	7.52	7.68 ± 0.74	$H(2.33)$	233.63	234.8 ± 2.9
n_s	0.9629	0.9648 ± 0.0075	$10^9 A_s$	2.0761	2.088 ± 0.036	$D_M(2.33)$	5810	5787 ± 83
y_{cal}	1.00048	1.0007 ± 0.0024	$10^9 A_s e^{-2\tau}$	1.8665	1.872 ± 0.019	$f\sigma_8(0.15)$	0.4554	0.4547 ± 0.0059
A_{100}^{PS}	228.2	238 ± 25	D_{40}	1228.3	1228 ± 13	$\sigma_8(0.15)$	0.7523	0.748 ± 0.011
A_{143}^{PS}	42.6	38 ± 9	D_{220}	5720.4	5726 ± 38	$f\sigma_8(0.38)$	0.4746	0.4734 ± 0.0059
A_{217}^{PS}	104.7	103 ± 10	D_{810}	2533.7	2535 ± 14	$\sigma_8(0.38)$	0.6671	0.663 ± 0.010
A_{217}^{CIB}	41.7	39^{+7}_{-8}	D_{1420}	817.5	816.7 ± 5.0	$f\sigma_8(0.51)$	0.4736	0.4723 ± 0.0059
A_{143}^{tSZ}	6.47	$3.9^{+1.9}_{-2.5}$	D_{2000}	231.58	231.0 ± 2.1	$\sigma_8(0.51)$	0.6244	0.6207 ± 0.0097
$r_{143 \times 217}^{\text{PS}}$	0.680	0.66 ± 0.13	$n_{s,0.002}$	0.9629	0.9648 ± 0.0075	$f\sigma_8(0.61)$	0.4689	0.4675 ± 0.0060
$r_{143 \times 217}^{\text{CIB}}$	0.790	$0.55^{+0.38}_{-0.21}$	Y_P	0.24341	0.2444 ± 0.0028	$\sigma_8(0.61)$	0.5941	0.5907 ± 0.0094
$\xi^{\text{tSZ} \times \text{CIB}}$	0.47	—	Y_P^{BBN}	0.24473	0.2457 ± 0.0028	$f\sigma_8(2.33)$	0.29875	0.2977 ± 0.0046
A^{kSZ}	0.01	< 6.01	$10^5 D/H$	2.557	2.575 ± 0.055	$\sigma_8(2.33)$	0.3086	0.3071 ± 0.0051
A_{100}^{dust}	1.006	1.01 ± 0.20	Age/Gyr	13.909	13.86 ± 0.20	f_{2000}^{143}	28.37	29 ± 3
A_{143}^{dust}	0.967	0.96 ± 0.18	z_*	1089.650	1089.76 ± 0.40	f_{2000}^{217}	105.61	106.4 ± 2.2
A_{217}^{dust}	0.982	0.98 ± 0.10	r_*	146.06	145.4 ± 2.0	$f_{2000}^{143 \times 217}$	30.84	31.5 ± 2.4
$A_{143 \times 217}^{\text{dust}}$	1.011	1.03 ± 0.16	$100\theta_*$	1.04147	1.04132 ± 0.00058	χ_{lensing}^2	8.66	9.30 ± 0.83
c_{100}	0.99774	0.9976 ± 0.0010	$D_M(z_*)/\text{Gpc}$	14.024	13.96 ± 0.18	χ_{simall}^2	395.86	397.0 ± 1.7
c_{217}	1.00119	1.0011 ± 0.0016	z_{drag}	1059.32	1059.56 ± 0.74	χ_{lowl}^2	23.43	23.3 ± 1.1
c_{TE}	0.9954	0.9962 ± 0.0051	r_{drag}	148.78	148.1 ± 2.0	χ_{CamSpec}^2	11498.3	11514.2 ± 5.7
c_{EE}	0.9904	0.9916 ± 0.0054	k_D	0.13956	0.1400 ± 0.0014	χ_{JLA}^2	1034.885	1035.06 ± 0.33
H_0	67.28	67.5 ± 1.3	$100\theta_D$	0.160512	0.16069 ± 0.00049	$\chi_{6\text{DF}}^2$	0.0061	0.047 ± 0.063
Ω_Λ	0.6925	0.6905 ± 0.0070	z_{eq}	3391.2	3383 ± 25	χ_{MGS}^2	1.473	1.40 ± 0.49
Ω_m	0.3075	0.3095 ± 0.0070	k_{eq}	0.010250	0.01028 ± 0.00012	χ_{DR12BAO}^2	3.77	4.5 ± 1.3
$\Omega_m h^2$	0.13919	0.1407 ± 0.0035	$100\theta_{\text{eq}}$	0.81501	0.8167 ± 0.0048	χ_{prior}^2	2.07	7.8 ± 3.4
$\Omega_\nu h^2$	$0.6 \cdot 10^{-5}$	< 0.000600	$100\theta_{s,\text{eq}}$	0.45036	0.4512 ± 0.0024	χ_{CMB}^2	11926.3	11943.8 ± 5.9
$\Omega_m h^3$	0.09365	0.0950 ± 0.0039	$H(0.15)$	72.47	72.7 ± 1.3	χ_{BAO}^2	5.245	6.0 ± 1.1
σ_8	0.8139	0.809 ± 0.012	$D_M(0.15)$	644.6	643 ± 12			

Best-fit $\chi_{\text{eff}}^2 = 12968.49$; $\Delta\chi_{\text{eff}}^2 = -2.00$; $\bar{\chi}_{\text{eff}}^2 = 12992.58$; $\Delta\bar{\chi}_{\text{eff}}^2 = 0.19$; $R - 1 = 0.00612$
 χ_{eff}^2 : BAO - 6DF: 0.01 (Δ -0.02) MGS: 1.47 (Δ 0.19) DR12BAO: 3.77 (Δ -0.46) CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p_teb.consext8: 8.66 (Δ -0.31) simall_100x143_offlike5_EE_Aplanc
395.86 (Δ -0.19) commander_dx12_v3.2_29: 23.43 (Δ 0.66) CamSpec like_10.7HM.1400.unified: 11498.34 (Δ -1.83) SN - JLA Pantheon18: 1034.88 (Δ -0.10)

8.22 base_nnu_mnu_CamSpecHM_TTTEEE_lowl_lowE_lensing_BAO_post_Aver15

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022234	0.02227 ± 0.00018	S_8	0.8245	0.822 ± 0.011	$H(0.38)$	82.26	82.5 ± 1.1
$\Omega_c h^2$	0.11665	0.1176 ± 0.0027	$\sigma_8 \Omega_m^{0.5}$	0.4516	0.4503 ± 0.0062	$D_M(0.38)$	1542.0	1539 ± 23
$100\theta_{MC}$	1.041261	1.04113 ± 0.00042	$\sigma_8 \Omega_m^{0.25}$	0.6059	0.6031 ± 0.0076	$H(0.51)$	88.88	89.1 ± 1.1
τ	0.0531	0.0544 ± 0.0073	$\sigma_8/h^{0.5}$	0.9925	$0.985_{-0.0094}^{+0.012}$	$D_M(0.51)$	1998.0	1994 ± 29
Σm_ν [eV]	0.0022	< 0.0590	$r_{\text{drag}} h$	99.99	99.70 ± 0.88	$H(0.61)$	94.41	94.7 ± 1.2
N_{eff}	2.881	2.95 ± 0.17	$\langle d^2 \rangle^{1/2}$	2.4419	2.436 ± 0.022	$D_M(0.61)$	2325.3	2320 ± 33
$\ln(10^{10} A_s)$	3.0323	3.037 ± 0.016	z_{re}	7.51	7.64 ± 0.74	$H(2.33)$	233.35	234.5 ± 2.5
n_s	0.9621	0.9636 ± 0.0067	$10^9 A_s$	2.0744	2.085 ± 0.034	$D_M(2.33)$	5820	5801 ± 70
y_{cal}	1.00037	1.0007 ± 0.0024	$10^9 A_s e^{-2\tau}$	1.8653	1.870 ± 0.016	$f\sigma_8(0.15)$	0.4557	0.4548 ± 0.0059
A_{100}^{PS}	224.9	237 ± 25	D_{40}	1229.3	1229 ± 13	$\sigma_8(0.15)$	0.7515	$0.746_{-0.0097}^{+0.011}$
A_{143}^{PS}	49.7	38 ± 8	D_{220}	5719.8	5725 ± 38	$f\sigma_8(0.38)$	0.4746	0.4732 ± 0.0057
A_{217}^{PS}	106.4	103 ± 10	D_{810}	2533.7	2534 ± 13	$\sigma_8(0.38)$	0.6663	$0.6617_{-0.0089}^{+0.0099}$
A_{217}^{CIB}	40.5	39_{-7}^{+7}	D_{1420}	817.72	816.9 ± 4.9	$f\sigma_8(0.51)$	0.4734	0.4719 ± 0.0057
A_{143}^{tSZ}	6.50	$3.9_{-2.5}^{+1.9}$	D_{2000}	231.74	231.1 ± 1.9	$\sigma_8(0.51)$	0.6236	$0.6193_{-0.0085}^{+0.0094}$
$r_{143 \times 217}^{\text{PS}}$	0.752	0.66 ± 0.13	$n_{s,0.002}$	0.9621	0.9636 ± 0.0067	$f\sigma_8(0.61)$	0.4686	0.4670 ± 0.0056
$r_{143 \times 217}^{\text{CIB}}$	0.895	$0.54_{-0.21}^{+0.37}$	Y_P	0.24310	0.2440 ± 0.0023	$\sigma_8(0.61)$	0.5933	0.5893 ± 0.0088
$\xi^{\text{tSZ} \times \text{CIB}}$	0.93	—	Y_P^{BBN}	0.24441	0.2453 ± 0.0023	$f\sigma_8(2.33)$	0.29834	0.2970 ± 0.0043
A^{kSZ}	0.01	< 5.96	$10^5 D/H$	2.5537	2.570 ± 0.049	$\sigma_8(2.33)$	0.30815	0.3063 ± 0.0048
A_{100}^{dust}	1.010	1.01 ± 0.20	Age/Gyr	13.933	13.89 ± 0.17	f_{2000}^{143}	28.40	28.7 ± 3.1
A_{143}^{dust}	0.979	0.96 ± 0.18	z_*	1089.628	1089.73 ± 0.35	f_{2000}^{217}	105.40	106.2 ± 2.1
A_{217}^{dust}	0.991	0.98 ± 0.10	r_*	146.26	145.7 ± 1.6	$f_{2000}^{143 \times 217}$	30.79	31.3 ± 2.3
$A_{143 \times 217}^{\text{dust}}$	1.005	1.03 ± 0.16	$100\theta_*$	1.04153	1.04139 ± 0.00051	χ_{lensing}^2	8.62	9.24 ± 0.81
c_{100}	0.99787	0.9976 ± 0.0010	$D_M(z_*)/\text{Gpc}$	14.043	13.99 ± 0.15	χ_{small}^2	395.85	397.0 ± 1.7
c_{217}	1.00123	1.0011 ± 0.0016	z_{drag}	1059.25	1059.45 ± 0.64	χ_{lowl}^2	23.55	23.5 ± 1.1
c_{TE}	0.9956	0.9960 ± 0.0050	r_{drag}	149.00	148.4 ± 1.7	χ_{CamSpec}^2	11498.3	11513.7 ± 5.6
c_{EE}	0.9905	0.9912 ± 0.0053	k_D	0.13941	0.1398 ± 0.0012	χ_{Aver15}^2	0.014	0.35 ± 0.48
H_0	67.11	67.2 ± 1.1	$100\theta_D$	0.160472	0.16062 ± 0.00042	$\chi_{6\text{DF}}^2$	0.0102	0.058 ± 0.076
Ω_Λ	0.6916	0.6891 ± 0.0071	z_{eq}	3394.4	3387 ± 25	χ_{MGS}^2	1.407	1.31 ± 0.48
Ω_m	0.3084	0.3109 ± 0.0071	k_{eq}	0.010244	0.01027 ± 0.00010	χ_{DR12BAO}^2	3.88	4.8 ± 1.6
$\Omega_m h^2$	0.13891	0.1404 ± 0.0029	$100\theta_{\text{eq}}$	0.81439	0.8158 ± 0.0047	χ_{prior}^2	1.92	7.8 ± 3.4
$\Omega_\nu h^2$	$2.3 \cdot 10^{-5}$	< 0.000612	$100\theta_{s,\text{eq}}$	0.45006	0.4507 ± 0.0024	χ_{CMB}^2	11926.4	11943.4 ± 5.8
$\Omega_m h^3$	0.09322	0.0943 ± 0.0032	$H(0.15)$	72.30	72.4 ± 1.1	χ_{BAO}^2	5.30	6.1 ± 1.3
σ_8	0.8131	$0.808_{-0.010}^{+0.011}$	$D_M(0.15)$	646.2	645 ± 10			

Best-fit $\chi_{\text{eff}}^2 = 11933.58$; $\bar{\chi}_{\text{eff}}^2 = 11957.68$; $R - 1 = 0.00718$

χ_{eff}^2 : Abund - Yp_Aver2015: 0.01 BAO - 6DF: 0.01 MGS: 1.41 DR12BAO: 3.88 CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p_teb.consext8: 8.62 small_100x143.offlike5_EE_Aplanck_B: 395.85 commander_dx12_v3.2.29: 23.55 CamSpec like_10.7HM_1400.unified: 11498.33

8.23 base_nnu_mnu_CamSpecHM_TTTEEE_lowl_lowE_lensing_BAO_post_Cooke17_Aver15

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022234	0.02227 ± 0.00018	$\sigma_8 \Omega_m^{0.5}$	0.4525	0.4508 ± 0.0061	$H(0.51)$	89.13	89.3 ± 1.1
$\Omega_c h^2$	0.11744	0.1181 ± 0.0026	$\sigma_8 \Omega_m^{0.25}$	0.6073	0.6039 ± 0.0074	$D_M(0.51)$	1992.1	1990 ± 27
$100\theta_{MC}$	1.041130	1.04107 ± 0.00040	$\sigma_8/h^{0.5}$	0.9934	$0.986^{+0.012}_{-0.0093}$	$H(0.61)$	94.69	94.9 ± 1.1
τ	0.0531	0.0543 ± 0.0073	$r_{\text{drag}} h$	99.99	99.72 ± 0.88	$D_M(0.61)$	2318.5	2316 ± 31
$\Sigma m_\nu [\text{eV}]$	0.0012	< 0.0598	$\langle d^2 \rangle^{1/2}$	2.4418	2.435 ± 0.022	$H(2.33)$	234.01	234.9 ± 2.3
N_{eff}	2.925	2.98 ± 0.16	z_{re}	7.52	7.64 ± 0.74	$D_M(2.33)$	5803	5790 ± 66
$\ln(10^{10} A_s)$	3.0332	3.038 ± 0.016	$10^9 A_s$	2.0765	2.087 ± 0.034	$f\sigma_8(0.15)$	0.4566	0.4554 ± 0.0058
n_s	0.9629	0.9644 ± 0.0065	$10^9 A_s e^{-2\tau}$	1.8672	1.872 ± 0.016	$\sigma_8(0.15)$	0.7533	$0.748^{+0.011}_{-0.0094}$
y_{cal}	1.00013	1.0006 ± 0.0024	D_{40}	1227.8	1228 ± 13	$f\sigma_8(0.38)$	0.4756	0.4738 ± 0.0056
A_{100}^{PS}	230.5	238 ± 25	D_{220}	5713.7	5723 ± 38	$\sigma_8(0.38)$	0.6679	$0.6627^{+0.0099}_{-0.0086}$
A_{143}^{PS}	42.3	38 ± 8	D_{810}	2531.4	2534 ± 13	$f\sigma_8(0.51)$	0.4745	0.4725 ± 0.0055
A_{217}^{PS}	103.4	103 ± 10	D_{1420}	816.14	816.5 ± 4.9	$\sigma_8(0.51)$	0.6250	$0.6202^{+0.0094}_{-0.0082}$
A_{217}^{CIB}	42.8	39^{+7}_{-7}	D_{2000}	231.02	230.8 ± 1.8	$f\sigma_8(0.61)$	0.4697	0.4676 ± 0.0055
A_{143}^{tSZ}	6.50	$3.9^{+1.9}_{-2.5}$	$n_{s,0.002}$	0.9629	0.9644 ± 0.0065	$\sigma_8(0.61)$	0.5947	$0.5901^{+0.0090}_{-0.0079}$
$r_{143 \times 217}^{\text{PS}}$	0.661	0.66 ± 0.13	Y_P	0.24370	0.2444 ± 0.0022	$f\sigma_8(2.33)$	0.29904	0.2974 ± 0.0042
$r_{143 \times 217}^{\text{CIB}}$	0.794	$0.55^{+0.38}_{-0.20}$	Y_P^{BBN}	0.24502	0.2457 ± 0.0022	$\sigma_8(2.33)$	0.30888	0.3067 ± 0.0047
$\xi^{\text{tSZ} \times \text{CIB}}$	0.38	—	$10^5 \text{D}/\text{H}$	2.5692	2.580 ± 0.044	f_{2000}^{143}	28.95	29.1 ± 3.0
A^{kSZ}	0.02	< 6.04	Age/Gyr	13.893	13.86 ± 0.16	f_{2000}^{217}	105.93	106.4 ± 2.1
A_{100}^{dust}	0.998	1.01 ± 0.20	z_*	1089.741	1089.80 ± 0.32	$f_{2000}^{143 \times 217}$	31.29	31.6 ± 2.2
A_{143}^{dust}	0.972	0.96 ± 0.18	r_*	145.83	145.4 ± 1.5	χ_{lensing}^2	8.70	9.28 ± 0.79
A_{217}^{dust}	0.974	0.98 ± 0.10	$100\theta_*$	1.041376	1.04131 ± 0.00048	χ_{small}^2	395.85	396.9 ± 1.7
$A_{143 \times 217}^{\text{dust}}$	1.008	1.03 ± 0.16	$D_M(z_*)/\text{Gpc}$	14.003	13.96 ± 0.14	χ_{lowl}^2	23.46	23.4 ± 1.0
c_{100}	0.99768	0.9976 ± 0.0010	z_{drag}	1059.32	1059.51 ± 0.63	χ_{CamSpec}^2	11498.3	11513.7 ± 5.6
c_{217}	1.00121	1.0011 ± 0.0016	r_{drag}	148.55	148.1 ± 1.6	χ_{Aver15}^2	0.001	0.33 ± 0.46
c_{TE}	0.99580	0.9963 ± 0.0050	k_D	0.13969	0.1400 ± 0.0011	χ_{Cooke17}^2	0.269	0.38 ± 0.48
c_{EE}	0.9910	0.9918 ± 0.0051	$100\theta_D$	0.160600	0.16071 ± 0.00038	$\chi_{6\text{DF}}^2$	0.0101	0.057 ± 0.075
H_0	67.31	67.3 ± 1.1	z_{eq}	3392.9	3386 ± 25	χ_{MGS}^2	1.407	1.32 ± 0.48
Ω_Λ	0.6917	$0.6893^{+0.0073}_{-0.0066}$	k_{eq}	0.010271	0.010284 ± 0.000098	χ_{DR12BAO}^2	3.89	4.8 ± 1.6
Ω_m	0.3083	0.3107 ± 0.0071	$100\theta_{\text{eq}}$	0.81459	0.8160 ± 0.0047	χ_{prior}^2	2.09	7.8 ± 3.4
$\Omega_m h^2$	0.13969	0.1408 ± 0.0027	$100\theta_{s,\text{eq}}$	0.45016	0.4509 ± 0.0024	χ_{CMB}^2	11926.3	11943.3 ± 5.8
$\Omega_\nu h^2$	$1.2 \cdot 10^{-5}$	< 0.000628	$H(0.15)$	72.52	72.6 ± 1.0	χ_{BAO}^2	5.31	6.1 ± 1.3
$\Omega_m h^3$	0.09402	0.0949 ± 0.0031	$D_M(0.15)$	644.3	644.0 ± 9.7	χ_{Abund}^2	0.270	0.72 ± 0.67
σ_8	0.8150	$0.809^{+0.011}_{-0.0099}$	$H(0.38)$	82.50	82.6 ± 1.1			
S_8	0.8262	0.823 ± 0.011	$D_M(0.38)$	1537.4	1536 ± 22			

Best-fit $\chi_{\text{eff}}^2 = 11933.95$; $\bar{\chi}_{\text{eff}}^2 = 11957.95$; $R - 1 = 0.00786$
 χ_{eff}^2 : Abund - Yp_Aver2015: 0.00 D.Cooke2017: 0.27 BAO - 6DF: 0.01 MGS: 1.41 DR12BAO: 3.89 CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p.teb_consext8: 8.70
small_100x143_offlike5_EE_Aplanck_B: 395.85 commander_dx12_v3_2_29: 23.46 CamSpec like_10.7HM_1400_unified: 11498.26

8.24 base_nnu_mnu_CamSpecHM_TTTEEE_lowl_lowE_lensing_BAO_post_Pantheon18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02230 ± 0.00019	S_8	0.822 ± 0.011	$H(0.38)$	82.7 ± 1.3
$\Omega_c h^2$	0.1180 ± 0.0032	$\sigma_8 \Omega_m^{0.5}$	0.4502 ± 0.0062	$D_M(0.38)$	1534 ± 26
$100\theta_{MC}$	1.04109 ± 0.00047	$\sigma_8 \Omega_m^{0.25}$	0.6037 ± 0.0078	$H(0.51)$	89.4 ± 1.4
τ	$0.0555^{+0.0054}_{-0.0076}$	$\sigma_8/h^{0.5}$	$0.986^{+0.011}_{-0.0092}$	$D_M(0.51)$	1987 ± 33
Σm_ν [eV]	< 0.0589	$r_{\text{drag}} h$	99.89 ± 0.86	$H(0.61)$	95.0 ± 1.4
N_{eff}	2.98 ± 0.20	$\langle d^2 \rangle^{1/2}$	2.435 ± 0.022	$D_M(0.61)$	2313 ± 38
$\ln(10^{10} A_s)$	$3.040^{+0.014}_{-0.017}$	z_{re}	$7.76^{+0.58}_{-0.76}$	$H(2.33)$	234.8 ± 2.9
n_s	0.9650 ± 0.0075	$10^9 A_s$	$2.092^{+0.029}_{-0.037}$	$D_M(2.33)$	5786 ± 83
y_{cal}	1.0007 ± 0.0024	$10^9 A_s e^{-2\tau}$	1.872 ± 0.018	$f\sigma_8(0.15)$	0.4548 ± 0.0059
A_{100}^{PS}	238 ± 25	D_{40}	1228 ± 13	$\sigma_8(0.15)$	0.748 ± 0.011
A_{143}^{PS}	38 ± 9	D_{220}	5725 ± 38	$f\sigma_8(0.38)$	0.4736 ± 0.0059
A_{217}^{PS}	103 ± 10	D_{810}	2535 ± 13	$\sigma_8(0.38)$	0.664 ± 0.010
A_{217}^{CIB}	39^{+7}_{-8}	D_{1420}	816.7 ± 5.0	$f\sigma_8(0.51)$	0.4725 ± 0.0059
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	D_{2000}	231.0 ± 2.0	$\sigma_8(0.51)$	0.6211 ± 0.0097
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	$n_{s,0.002}$	0.9650 ± 0.0075	$f\sigma_8(0.61)$	0.4677 ± 0.0059
$r_{143 \times 217}^{\text{CIB}}$	$0.54^{+0.38}_{-0.21}$	Y_P	0.2444 ± 0.0028	$\sigma_8(0.61)$	0.5910 ± 0.0093
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	0.2458 ± 0.0028	$f\sigma_8(2.33)$	0.2979 ± 0.0046
A^{kSZ}	< 6.01	$10^5 D/H$	2.575 ± 0.055	$\sigma_8(2.33)$	0.3073 ± 0.0051
A_{100}^{dust}	1.01 ± 0.20	Age/Gyr	13.85 ± 0.20	f_{2000}^{143}	29 ± 3
A_{143}^{dust}	0.96 ± 0.18	z_*	1089.75 ± 0.40	f_{2000}^{217}	106.4 ± 2.2
A_{217}^{dust}	0.98 ± 0.10	r_*	145.4 ± 2.0	$f_{2000}^{143 \times 217}$	31.5 ± 2.4
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04132 ± 0.00058	χ_{lensing}^2	9.25 ± 0.78
c_{100}	0.9976 ± 0.0010	$D_M(z_*)/\text{Gpc}$	13.96 ± 0.18	χ_{simall}^2	397.0 ± 1.7
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.57 ± 0.74	χ_{lowl}^2	23.3 ± 1.1
c_{TE}	0.9961 ± 0.0051	r_{drag}	148.1 ± 2.0	χ_{CamSpec}^2	11514.1 ± 5.7
c_{EE}	0.9916 ± 0.0054	k_D	0.1401 ± 0.0014	χ_{JLA}^2	1035.05 ± 0.33
H_0	67.5 ± 1.3	$100\theta_D$	0.16069 ± 0.00049	$\chi_{6\text{DF}}^2$	0.045 ± 0.062
Ω_Λ	0.6907 ± 0.0069	z_{eq}	3382 ± 25	χ_{MGS}^2	1.41 ± 0.49
Ω_m	0.3093 ± 0.0069	k_{eq}	0.01027 ± 0.00012	χ_{DR12BAO}^2	4.5 ± 1.3
$\Omega_m h^2$	0.1408 ± 0.0035	$100\theta_{\text{eq}}$	0.8168 ± 0.0048	χ_{prior}^2	7.8 ± 3.4
$\Omega_\nu h^2$	< 0.000614	$100\theta_{s,\text{eq}}$	0.4513 ± 0.0024	χ_{CMB}^2	11943.7 ± 5.9
$\Omega_m h^3$	0.0950 ± 0.0039	$H(0.15)$	72.7 ± 1.3	χ_{BAO}^2	5.9 ± 1.0
σ_8	0.810 ± 0.012	$D_M(0.15)$	643 ± 12		

$$\bar{\chi}_{\text{eff}}^2 = 12992.45; \Delta\bar{\chi}_{\text{eff}}^2 = 0.20; R - 1 = 0.00689$$

9 nnu+yhe

9.1 base_nnu_yhe_CamSpecHM_TTTEEE_lowl_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022190	0.02222 ± 0.00023	$\Omega_m h^3$	0.0905	$0.0915^{+0.0049}_{-0.0059}$	$100\theta_{\text{eq}}$	0.8098	0.8107 ± 0.0079
$\Omega_c h^2$	0.11508	$0.1157^{+0.0044}_{-0.0050}$	σ_8	0.7983	0.800 ± 0.013	$100\theta_{\text{s,eq}}$	0.44771	0.4481 ± 0.0040
$100\theta_{\text{MC}}$	1.04185	1.0419 ± 0.0014	S_8	0.8246	0.824 ± 0.016	$H(0.15)$	70.90	71.2 ± 1.9
τ	0.0527	0.0525 ± 0.0080	$\sigma_8 \Omega_m^{0.5}$	0.4516	0.4515 ± 0.0089	$D_{\text{M}}(0.15)$	659.9	657 ± 18
N_{eff}	2.738	$2.78^{+0.28}_{-0.33}$	$\sigma_8 \Omega_m^{0.25}$	0.6004	0.6009 ± 0.0094	$H(0.38)$	80.96	81.3 ± 1.9
Y_{P}	0.2548	$0.256^{+0.024}_{-0.021}$	$\sigma_8/h^{0.5}$	0.9853	0.985 ± 0.012	$D_{\text{M}}(0.38)$	1571.6	1566 ± 41
$\ln(10^{10} A_{\text{s}})$	3.0295	3.031 ± 0.020	$r_{\text{drag}} h$	98.58	98.8 ± 1.3	$H(0.51)$	87.63	$88.0^{+1.8}_{-2.1}$
n_{s}	0.9609	0.9620 ± 0.0097	$\langle d^2 \rangle^{1/2}$	2.4401	2.438 ± 0.031	$D_{\text{M}}(0.51)$	2034	2027 ± 51
y_{cal}	1.00029	1.0005 ± 0.0025	z_{re}	7.50	7.47 ± 0.83	$H(0.61)$	93.20	$93.5^{+1.9}_{-2.1}$
A_{100}^{PS}	232.0	240 ± 26	$10^9 A_{\text{s}}$	2.0687	2.072 ± 0.041	$D_{\text{M}}(0.61)$	2366	2358 ± 58
A_{143}^{PS}	44.4	40 ± 9	$10^9 A_{\text{s}} e^{-2\tau}$	1.8617	1.865 ± 0.021	$H(2.33)$	232.16	$232.7^{+3.9}_{-4.4}$
A_{217}^{PS}	106.8	102 ± 10	D_{40}	1228.2	1228 ± 18	$D_{\text{M}}(2.33)$	5889	5872 ± 120
A_{217}^{CIB}	39.8	40 ± 7	D_{220}	5711.3	5715 ± 39	$f\sigma_8(0.15)$	0.4555	0.4555 ± 0.0084
A_{143}^{tSZ}	5.46	$3.8^{+1.9}_{-2.5}$	D_{810}	2533.2	2533 ± 14	$\sigma_8(0.15)$	0.7368	0.738 ± 0.012
$r_{143 \times 217}^{\text{PS}}$	0.731	0.66 ± 0.13	D_{1420}	816.8	815.7 ± 5.2	$f\sigma_8(0.38)$	0.4716	0.4719 ± 0.0075
$r_{143 \times 217}^{\text{CIB}}$	0.649	$0.56^{+0.39}_{-0.17}$	D_{2000}	230.99	230.4 ± 2.3	$\sigma_8(0.38)$	0.6522	0.654 ± 0.011
$\xi^{\text{tSZ} \times \text{CIB}}$	0.62	—	$n_{\text{s},0.002}$	0.9609	0.9620 ± 0.0097	$f\sigma_8(0.51)$	0.4693	0.4697 ± 0.0072
A^{kSZ}	1.62	$4.7^{+2.0}_{-4.2}$	Y_{P}	0.2548	$0.256^{+0.024}_{-0.021}$	$\sigma_8(0.51)$	0.6100	0.611 ± 0.011
A_{100}^{dust}	0.994	1.01 ± 0.20	$Y_{\text{P}}^{\text{BBN}}$	0.2561	$0.258^{+0.024}_{-0.021}$	$f\sigma_8(0.61)$	0.4637	0.4642 ± 0.0070
A_{143}^{dust}	0.963	0.96 ± 0.17	Age/Gyr	14.097	14.06 ± 0.30	$\sigma_8(0.61)$	0.5802	0.582 ± 0.010
A_{217}^{dust}	0.978	0.97 ± 0.10	z_*	1089.96	1090.08 ± 0.61	$f\sigma_8(2.33)$	0.2922	0.2930 ± 0.0055
$A_{143 \times 217}^{\text{dust}}$	1.046	1.02 ± 0.16	r_*	147.41	147.1 ± 2.9	$\sigma_8(2.33)$	0.3009	0.3018 ± 0.0059
c_{100}	0.99771	0.9975 ± 0.0011	$100\theta_*$	1.04190	1.04188 ± 0.00099	f_{2000}^{143}	28.99	30 ± 4
c_{217}	1.00096	1.0011 ± 0.0016	$D_{\text{M}}(z_*)/\text{Gpc}$	14.149	14.12 ± 0.27	f_{2000}^{217}	106.16	107.0 ± 2.6
c_{TE}	0.9966	0.9970 ± 0.0055	z_{drag}	1059.36	1059.5 ± 1.0	$f_{2000}^{143 \times 217}$	31.73	32.3 ± 2.9
c_{EE}	0.9917	0.9926 ± 0.0066	r_{drag}	150.19	149.8 ± 3.0	χ_{small}^2	395.87	396.9 ± 1.7
H_0	65.64	65.9 ± 1.9	k_{D}	0.13817	$0.1384^{+0.0024}_{-0.0028}$	χ_{lowl}^2	23.44	23.5 ± 1.6
Ω_{Λ}	0.6799	$0.681^{+0.012}_{-0.010}$	$100\theta_{\text{D}}$	0.16070	0.16087 ± 0.00070	χ_{CamSpec}^2	11498.8	11515.3 ± 6.1
Ω_{m}	0.3201	$0.319^{+0.010}_{-0.012}$	z_{eq}	3421.7	3418 ± 44	χ_{prior}^2	1.94	7.9 ± 3.5
$\Omega_{\text{m}} h^2$	0.13791	$0.1386^{+0.0045}_{-0.0051}$	k_{eq}	0.010225	0.01024 ± 0.00016	χ_{CMB}^2	11918.1	11935.7 ± 6.2

Best-fit $\chi_{\text{eff}}^2 = 11920.00$; $\Delta\chi_{\text{eff}}^2 = -0.76$; $\bar{\chi}_{\text{eff}}^2 = 11943.57$; $\Delta\bar{\chi}_{\text{eff}}^2 = 1.12$; $R - 1 = 0.00989$

χ_{eff}^2 : CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.87 (Δ -0.03) commander_dx12_v3_2_29: 23.44 (Δ 0.44) CamSpec like_10.7HM_1400_unified: 11498.75 (Δ -0.90)

9.2 base_nnu_yhe_CamSpecHM_TTTEEE_lowl_lowE_post_BAO

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02233 ± 0.00020	S_8	0.816 ± 0.014	$H(0.38)$	$82.2^{+1.6}_{-1.8}$
$\Omega_c h^2$	$0.1164^{+0.0045}_{-0.0051}$	$\sigma_8 \Omega_m^{0.5}$	0.4472 ± 0.0075	$D_M(0.38)$	1545 ± 34
$100\theta_{MC}$	1.0418 ± 0.0014	$\sigma_8 \Omega_m^{0.25}$	0.5988 ± 0.0091	$H(0.51)$	$88.8^{+1.7}_{-1.9}$
τ	0.0541 ± 0.0077	$\sigma_8/h^{0.5}$	0.980 ± 0.011	$D_M(0.51)$	2002 ± 44
N_{eff}	$2.88^{+0.27}_{-0.32}$	$r_{\text{drag}} h$	99.70 ± 0.89	$H(0.61)$	$94.4^{+1.8}_{-2.0}$
Y_P	0.257 ± 0.022	$\langle d^2 \rangle^{1/2}$	2.422 ± 0.026	$D_M(0.61)$	2330 ± 50
$\ln(10^{10} A_s)$	3.036 ± 0.019	z_{re}	7.63 ± 0.78	$H(2.33)$	233.6 ± 4.1
n_s	0.9672 ± 0.0078	$10^9 A_s$	2.082 ± 0.039	$D_M(2.33)$	5823 ± 110
y_{cal}	1.0006 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.869 ± 0.020	$f\sigma_8(0.15)$	0.4518 ± 0.0073
A_{100}^{PS}	242 ± 26	D_{40}	1220 ± 16	$\sigma_8(0.15)$	0.741 ± 0.012
A_{143}^{PS}	40 ± 9	D_{220}	5719 ± 39	$f\sigma_8(0.38)$	0.4700 ± 0.0072
A_{217}^{PS}	102 ± 10	D_{810}	2534 ± 14	$\sigma_8(0.38)$	0.657 ± 0.011
A_{217}^{CIB}	40^{+7}_{-8}	D_{1420}	815.7 ± 5.2	$f\sigma_8(0.51)$	0.4687 ± 0.0071
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	D_{2000}	230.1 ± 2.3	$\sigma_8(0.51)$	0.615 ± 0.010
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.13	$n_{s,0.002}$	0.9672 ± 0.0078	$f\sigma_8(0.61)$	0.4639 ± 0.0070
$r_{143 \times 217}^{\text{CIB}}$	$0.57^{+0.41}_{-0.14}$	Y_P	0.257 ± 0.022	$\sigma_8(0.61)$	0.5851 ± 0.0098
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	0.258 ± 0.022	$f\sigma_8(2.33)$	0.2951 ± 0.0050
A^{kSZ}	—	Age/Gyr	13.94 ± 0.27	$\sigma_8(2.33)$	0.3042 ± 0.0054
A_{100}^{dust}	1.01 ± 0.20	z_*	1090.05 ± 0.59	f_{2000}^{143}	30 ± 4
A_{143}^{dust}	0.97 ± 0.18	r_*	146.3 ± 2.8	f_{2000}^{217}	107.3 ± 2.6
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04170 ± 0.00097	$f_{2000}^{143 \times 217}$	32.6 ± 2.8
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$D_M(z_*)/\text{Gpc}$	14.04 ± 0.26	χ_{simall}^2	397.0 ± 1.8
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.91 ± 0.90	χ_{lowl}^2	22.7 ± 1.2
c_{217}	1.0012 ± 0.0016	r_{drag}	149.0 ± 2.9	χ_{CamSpec}^2	11516.0 ± 6.0
c_{TE}	0.9975 ± 0.0053	k_D	$0.1390^{+0.0024}_{-0.0028}$	$\chi_{6\text{DF}}^2$	0.058 ± 0.073
c_{EE}	0.9937 ± 0.0064	$100\theta_D$	0.16102 ± 0.00066	χ_{MGS}^2	1.32 ± 0.49
H_0	$67.0^{+1.5}_{-1.7}$	z_{eq}	3390 ± 33	χ_{DR12BAO}^2	4.8 ± 1.5
Ω_Λ	0.6891 ± 0.0073	k_{eq}	0.01023 ± 0.00016	χ_{prior}^2	7.9 ± 3.5
Ω_m	0.3109 ± 0.0073	$100\theta_{\text{eq}}$	0.8160 ± 0.0056	χ_{BAO}^2	6.1 ± 1.2
$\Omega_m h^2$	$0.1394^{+0.0045}_{-0.0051}$	$100\theta_{s,\text{eq}}$	0.4508 ± 0.0029	χ_{CMB}^2	11935.7 ± 6.1
$\Omega_m h^3$	$0.0934^{+0.0048}_{-0.0057}$	$H(0.15)$	$72.2^{+1.5}_{-1.7}$		
σ_8	0.802 ± 0.013	$D_M(0.15)$	648 ± 15		

$$\bar{\chi}_{\text{eff}}^2 = 11949.72; \Delta\bar{\chi}_{\text{eff}}^2 = 1.44; R - 1 = 0.01974$$

9.3 base_nnu_yhe_CamSpecHM_TTTEEE_lowl_lowE_post_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02220 ± 0.00023	σ_8	0.800 ± 0.011	$H(0.15)$	$71.0^{+1.7}_{-2.0}$
$\Omega_c h^2$	$0.1156^{+0.0041}_{-0.0049}$	S_8	0.827 ± 0.013	$D_M(0.15)$	659 ± 18
$100\theta_{MC}$	1.0419 ± 0.0014	$\sigma_8 \Omega_m^{0.5}$	0.4530 ± 0.0072	$H(0.38)$	$81.1^{+1.7}_{-2.0}$
τ	0.0536 ± 0.0074	$\sigma_8 \Omega_m^{0.25}$	0.6021 ± 0.0076	$D_M(0.38)$	1570 ± 40
N_{eff}	$2.76^{+0.27}_{-0.33}$	$\sigma_8/h^{0.5}$	0.9873 ± 0.0096	$H(0.51)$	$87.8^{+1.8}_{-2.1}$
Y_P	0.255 ± 0.022	$r_{\text{drag}} h$	98.6 ± 1.3	$D_M(0.51)$	2033 ± 51
$\ln(10^{10} A_s)$	3.033 ± 0.018	$\langle d^2 \rangle^{1/2}$	2.446 ± 0.025	$H(0.61)$	$93.4^{+1.8}_{-2.1}$
n_s	0.9606 ± 0.0094	z_{re}	7.58 ± 0.75	$D_M(0.61)$	2364 ± 58
y_{cal}	1.0006 ± 0.0025	$10^9 A_s$	2.075 ± 0.037	$H(2.33)$	$232.5^{+3.7}_{-4.3}$
A_{100}^{PS}	239 ± 26	$10^9 A_s e^{-2\tau}$	1.864 ± 0.020	$D_M(2.33)$	5883 ± 120
A_{143}^{PS}	39 ± 9	D_{40}	1231 ± 17	$f\sigma_8(0.15)$	0.4568 ± 0.0067
A_{217}^{PS}	103 ± 10	D_{220}	5717 ± 39	$\sigma_8(0.15)$	0.739 ± 0.011
A_{217}^{CIB}	40 ± 7	D_{810}	2534 ± 14	$f\sigma_8(0.38)$	0.4729 ± 0.0060
A_{143}^{tSZ}	$3.8^{+1.9}_{-2.5}$	D_{1420}	816.1 ± 5.1	$\sigma_8(0.38)$	0.654 ± 0.010
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	D_{2000}	230.6 ± 2.3	$f\sigma_8(0.51)$	0.4705 ± 0.0059
$r_{143 \times 217}^{\text{CIB}}$	$0.55^{+0.39}_{-0.19}$	$n_{s,0.002}$	0.9606 ± 0.0094	$\sigma_8(0.51)$	0.612 ± 0.010
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P	0.255 ± 0.022	$f\sigma_8(0.61)$	0.4649 ± 0.0059
A^{kSZ}	$4.6^{+1.7}_{-4.3}$	Y_P^{BBN}	0.257 ± 0.022	$\sigma_8(0.61)$	0.5817 ± 0.0098
A_{100}^{dust}	1.01 ± 0.19	Age/Gyr	14.08 ± 0.29	$f\sigma_8(2.33)$	0.2930 ± 0.0052
A_{143}^{dust}	0.96 ± 0.17	z_*	1090.04 ± 0.59	$\sigma_8(2.33)$	0.3017 ± 0.0057
A_{217}^{dust}	0.97 ± 0.10	r_*	147.2 ± 2.8	f_{2000}^{143}	30 ± 4
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	$100\theta_*$	1.04190 ± 0.00097	f_{2000}^{217}	106.8 ± 2.6
c_{100}	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	14.13 ± 0.26	$f_{2000}^{143 \times 217}$	32.0 ± 2.9
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.45 ± 0.99	χ_{lensing}^2	9.05 ± 0.78
c_{TE}	0.9966 ± 0.0054	r_{drag}	150.0 ± 2.9	χ_{simall}^2	396.9 ± 1.6
c_{EE}	0.9920 ± 0.0065	k_D	$0.1383^{+0.0024}_{-0.0027}$	χ_{lowl}^2	23.8 ± 1.5
H_0	$65.7^{+1.7}_{-1.9}$	$100\theta_D$	0.16079 ± 0.00069	χ_{CamSpec}^2	11514.7 ± 5.9
Ω_Λ	0.679 ± 0.011	z_{eq}	3424 ± 44	χ_{prior}^2	7.8 ± 3.4
Ω_m	0.321 ± 0.011	k_{eq}	0.01024 ± 0.00014	χ_{CMB}^2	11944.4 ± 6.1
$\Omega_m h^2$	$0.1384^{+0.0042}_{-0.0050}$	$100\theta_{\text{eq}}$	0.8096 ± 0.0076		
$\Omega_m h^3$	$0.0910^{+0.0047}_{-0.0059}$	$100\theta_{s,\text{eq}}$	0.4476 ± 0.0039		

$$\bar{\chi}_{\text{eff}}^2 = 11952.22; \Delta\bar{\chi}_{\text{eff}}^2 = 0.78; R - 1 = 0.01363$$

9.4 base_nnu_yhe_CamSpecHM_TTTEEE_lowl_lowE_post_BAO_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02232 ± 0.00019	S_8	0.820 ± 0.011	$H(0.38)$	82.1 ± 1.7
$\Omega_c h^2$	$0.1164^{+0.0043}_{-0.0048}$	$\sigma_8 \Omega_m^{0.5}$	0.4491 ± 0.0062	$D_M(0.38)$	1548 ± 34
$100\theta_{MC}$	1.0417 ± 0.0014	$\sigma_8 \Omega_m^{0.25}$	0.6009 ± 0.0075	$H(0.51)$	88.7 ± 1.8
τ	0.0559 ± 0.0072	$\sigma_8/h^{0.5}$	0.9835 ± 0.0089	$D_M(0.51)$	2005 ± 43
N_{eff}	$2.88^{+0.27}_{-0.31}$	$r_{\text{drag}} h$	99.54 ± 0.86	$H(0.61)$	94.3 ± 1.8
Y_P	0.256 ± 0.022	$\langle d^2 \rangle^{1/2}$	2.432 ± 0.022	$D_M(0.61)$	2333 ± 49
$\ln(10^{10} A_s)$	3.040 ± 0.016	z_{re}	7.82 ± 0.72	$H(2.33)$	233.6 ± 4.0
n_s	0.9661 ± 0.0078	$10^9 A_s$	2.091 ± 0.034	$D_M(2.33)$	5828 ± 110
y_{cal}	1.0008 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.870 ± 0.019	$f\sigma_8(0.15)$	0.4537 ± 0.0060
A_{100}^{PS}	242 ± 26	D_{40}	1224 ± 15	$\sigma_8(0.15)$	0.743 ± 0.010
A_{143}^{PS}	40 ± 9	D_{220}	5724 ± 39	$f\sigma_8(0.38)$	0.4717 ± 0.0059
A_{217}^{PS}	102 ± 10	D_{810}	2536 ± 14	$\sigma_8(0.38)$	0.6583 ± 0.0097
A_{217}^{CIB}	40^{+7}_{-8}	D_{1420}	816.2 ± 5.2	$f\sigma_8(0.51)$	0.4702 ± 0.0059
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	D_{2000}	230.3 ± 2.3	$\sigma_8(0.51)$	0.6161 ± 0.0092
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	$n_{s,0.002}$	0.9661 ± 0.0078	$f\sigma_8(0.61)$	0.4652 ± 0.0059
$r_{143 \times 217}^{\text{CIB}}$	$0.56^{+0.42}_{-0.15}$	Y_P	0.256 ± 0.022	$\sigma_8(0.61)$	0.5862 ± 0.0089
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	0.257 ± 0.022	$f\sigma_8(2.33)$	0.2956 ± 0.0046
A^{kSZ}	—	Age/Gyr	13.95 ± 0.26	$\sigma_8(2.33)$	0.3047 ± 0.0050
A_{100}^{dust}	1.01 ± 0.20	z_*	1090.03 ± 0.60	f_{2000}^{143}	30 ± 4
A_{143}^{dust}	0.96 ± 0.18	r_*	146.3 ± 2.7	f_{2000}^{217}	107.2 ± 2.6
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04170 ± 0.00095	$f_{2000}^{143 \times 217}$	32.4 ± 2.9
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$D_M(z_*)/\text{Gpc}$	14.04 ± 0.25	χ_{lensing}^2	9.27 ± 0.86
c_{100}	0.9976 ± 0.0011	z_{drag}	1059.86 ± 0.90	χ_{simall}^2	397.2 ± 1.8
c_{217}	1.0011 ± 0.0016	r_{drag}	149.0 ± 2.7	χ_{lowl}^2	23.0 ± 1.2
c_{TE}	0.9972 ± 0.0053	k_D	$0.1390^{+0.0023}_{-0.0027}$	χ_{CamSpec}^2	11515.3 ± 6.0
c_{EE}	0.9934 ± 0.0064	$100\theta_D$	0.16097 ± 0.00067	$\chi_{6\text{DF}}^2$	0.068 ± 0.079
H_0	66.8 ± 1.6	z_{eq}	3395 ± 33	χ_{MGS}^2	1.22 ± 0.46
Ω_Λ	0.6877 ± 0.0071	k_{eq}	0.01024 ± 0.00015	χ_{DR12BAO}^2	5.0 ± 1.6
Ω_m	0.3123 ± 0.0071	$100\theta_{\text{eq}}$	0.8151 ± 0.0056	χ_{prior}^2	7.8 ± 3.5
$\Omega_m h^2$	$0.1394^{+0.0043}_{-0.0049}$	$100\theta_{s,\text{eq}}$	0.4504 ± 0.0029	χ_{CMB}^2	11944.7 ± 6.2
$\Omega_m h^3$	$0.0932^{+0.0047}_{-0.0055}$	$H(0.15)$	72.1 ± 1.6	χ_{BAO}^2	6.3 ± 1.3
σ_8	0.804 ± 0.011	$D_M(0.15)$	649 ± 15		

$$\bar{\chi}_{\text{eff}}^2 = 11958.81; \Delta\bar{\chi}_{\text{eff}}^2 = 1.41; R - 1 = 0.01792$$

9.5 base_nnu_yhe_CamSpecHM_TTTEEE_lowl_lowE_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\text{b}}h^2$	0.02223 ± 0.00023	$\Omega_{\text{m}}h^3$	$0.0915^{+0.0049}_{-0.0059}$	$100\theta_{\text{eq}}$	0.8110 ± 0.0078
$\Omega_{\text{c}}h^2$	$0.1157^{+0.0044}_{-0.0050}$	σ_8	0.801 ± 0.012	$100\theta_{\text{s,eq}}$	0.4483 ± 0.0040
$100\theta_{\text{MC}}$	1.0419 ± 0.0014	S_8	0.825 ± 0.016	$H(0.15)$	71.3 ± 1.9
τ	$0.0542^{+0.0046}_{-0.0083}$	$\sigma_8\Omega_{\text{m}}^{0.5}$	0.4518 ± 0.0089	$D_{\text{M}}(0.15)$	657 ± 18
N_{eff}	$2.78^{+0.28}_{-0.33}$	$\sigma_8\Omega_{\text{m}}^{0.25}$	0.6016 ± 0.0093	$H(0.38)$	81.3 ± 1.9
Y_{P}	$0.257^{+0.024}_{-0.021}$	$\sigma_8/h^{0.5}$	0.986 ± 0.012	$D_{\text{M}}(0.38)$	1565 ± 40
$\ln(10^{10}A_{\text{s}})$	$3.034^{+0.016}_{-0.019}$	$r_{\text{drag}}h$	98.8 ± 1.3	$H(0.51)$	88.0 ± 2.0
n_{s}	0.9625 ± 0.0096	$\langle d^2 \rangle^{1/2}$	2.440 ± 0.030	$D_{\text{M}}(0.51)$	2026 ± 51
y_{cal}	1.0005 ± 0.0025	z_{re}	$7.65^{+0.50}_{-0.86}$	$H(0.61)$	93.6 ± 2.0
A_{100}^{PS}	240 ± 26	$10^9 A_{\text{s}}$	$2.078^{+0.032}_{-0.041}$	$D_{\text{M}}(0.61)$	2357 ± 58
A_{143}^{PS}	40 ± 9	$10^9 A_{\text{s}}e^{-2\tau}$	1.865 ± 0.021	$H(2.33)$	232.7 ± 4.2
A_{217}^{PS}	102 ± 10	D_{40}	1227 ± 18	$D_{\text{M}}(2.33)$	5871 ± 120
A_{217}^{CIB}	40 ± 7	D_{220}	5715 ± 39	$f\sigma_8(0.15)$	0.4558 ± 0.0084
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	D_{810}	2533 ± 14	$\sigma_8(0.15)$	0.740 ± 0.012
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	D_{1420}	815.7 ± 5.2	$f\sigma_8(0.38)$	0.4724 ± 0.0074
$r_{143 \times 217}^{\text{CIB}}$	$0.56^{+0.39}_{-0.18}$	D_{2000}	230.4 ± 2.3	$\sigma_8(0.38)$	0.655 ± 0.011
$\xi^{\text{tSZ} \times \text{CIB}}$	—	$n_{\text{s},0.002}$	0.9625 ± 0.0096	$f\sigma_8(0.51)$	0.4703 ± 0.0071
A^{kSZ}	$4.7^{+1.8}_{-4.3}$	Y_{P}	$0.257^{+0.024}_{-0.021}$	$\sigma_8(0.51)$	0.613 ± 0.011
A_{100}^{dust}	1.01 ± 0.20	$Y_{\text{P}}^{\text{BBN}}$	$0.258^{+0.024}_{-0.021}$	$f\sigma_8(0.61)$	0.4649 ± 0.0069
A_{143}^{dust}	0.96 ± 0.17	Age/Gyr	14.05 ± 0.30	$\sigma_8(0.61)$	0.583 ± 0.010
A_{217}^{dust}	0.97 ± 0.10	z_*	1090.08 ± 0.61	$f\sigma_8(2.33)$	0.2936 ± 0.0053
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	r_*	147.1 ± 2.9	$\sigma_8(2.33)$	0.3024 ± 0.0058
c_{100}	0.9975 ± 0.0010	$100\theta_*$	1.04188 ± 0.00099	f_{2000}^{143}	30 ± 4
c_{217}	1.0011 ± 0.0016	$D_{\text{M}}(z_*)/\text{Gpc}$	14.11 ± 0.27	f_{2000}^{217}	107.0 ± 2.6
c_{TE}	0.9969 ± 0.0055	z_{drag}	1059.6 ± 1.0	$f_{2000}^{143 \times 217}$	32.3 ± 2.9
c_{EE}	0.9926 ± 0.0066	r_{drag}	149.8 ± 3.0	χ_{simall}^2	396.8 ± 1.7
H_0	66.0 ± 1.9	k_{D}	$0.1384^{+0.0024}_{-0.0028}$	χ_{lowl}^2	23.5 ± 1.6
Ω_{Λ}	0.682 ± 0.011	$100\theta_{\text{D}}$	0.16088 ± 0.00071	χ_{CamSpec}^2	11515.2 ± 6.1
Ω_{m}	0.318 ± 0.011	z_{eq}	3417 ± 44	χ_{prior}^2	7.9 ± 3.5
$\Omega_{\text{m}}h^2$	$0.1385^{+0.0045}_{-0.0051}$	k_{eq}	0.01024 ± 0.00016	χ_{CMB}^2	11935.4 ± 6.1

$$\bar{\chi}_{\text{eff}}^2 = 11943.30; \Delta\bar{\chi}_{\text{eff}}^2 = 1.12; R - 1 = 0.00937$$

9.6 base_nnu_yhe_CamSpecHM_TTTEEE_lowl_lowE_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02233 ± 0.00020	S_8	0.817 ± 0.014	$H(0.38)$	$82.2^{+1.6}_{-1.8}$
$\Omega_c h^2$	$0.1164^{+0.0044}_{-0.0051}$	$\sigma_8 \Omega_m^{0.5}$	0.4476 ± 0.0075	$D_M(0.38)$	1545 ± 34
$100\theta_{MC}$	1.0418 ± 0.0014	$\sigma_8 \Omega_m^{0.25}$	0.5994 ± 0.0089	$H(0.51)$	$88.8^{+1.7}_{-1.9}$
τ	$0.0552^{+0.0053}_{-0.0078}$	$\sigma_8/h^{0.5}$	$0.9812^{+0.0096}_{-0.011}$	$D_M(0.51)$	2002 ± 44
N_{eff}	$2.88^{+0.27}_{-0.32}$	$r_{\text{drag}} h$	99.72 ± 0.89	$H(0.61)$	$94.4^{+1.7}_{-2.0}$
Y_P	$0.257^{+0.023}_{-0.021}$	$\langle d^2 \rangle^{1/2}$	2.424 ± 0.025	$D_M(0.61)$	2329 ± 50
$\ln(10^{10} A_s)$	$3.038^{+0.016}_{-0.018}$	z_{re}	$7.75^{+0.57}_{-0.80}$	$H(2.33)$	$233.6^{+3.9}_{-4.3}$
n_s	0.9674 ± 0.0079	$10^9 A_s$	$2.087^{+0.033}_{-0.038}$	$D_M(2.33)$	5823 ± 110
y_{cal}	1.0006 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.869 ± 0.020	$f\sigma_8(0.15)$	0.4522 ± 0.0072
A_{100}^{PS}	242 ± 26	D_{40}	1220 ± 16	$\sigma_8(0.15)$	0.742 ± 0.012
A_{143}^{PS}	40 ± 9	D_{220}	5719 ± 39	$f\sigma_8(0.38)$	0.4705 ± 0.0070
A_{217}^{PS}	102 ± 10	D_{810}	2534 ± 14	$\sigma_8(0.38)$	0.658 ± 0.011
A_{217}^{CIB}	40^{+7}_{-8}	D_{1420}	815.7 ± 5.2	$f\sigma_8(0.51)$	0.4692 ± 0.0069
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	D_{2000}	230.1 ± 2.3	$\sigma_8(0.51)$	0.616 ± 0.010
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.13	$n_{s,0.002}$	0.9674 ± 0.0079	$f\sigma_8(0.61)$	0.4643 ± 0.0068
$r_{143 \times 217}^{\text{CIB}}$	$0.57^{+0.42}_{-0.14}$	Y_P	$0.257^{+0.023}_{-0.021}$	$\sigma_8(0.61)$	0.5858 ± 0.0096
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	$0.258^{+0.023}_{-0.021}$	$f\sigma_8(2.33)$	0.2954 ± 0.0049
A^{kSZ}	—	Age/Gyr	13.94 ± 0.27	$\sigma_8(2.33)$	0.3046 ± 0.0052
A_{100}^{dust}	1.01 ± 0.20	z_*	1090.05 ± 0.59	f_{2000}^{143}	30 ± 4
A_{143}^{dust}	0.97 ± 0.18	r_*	146.3 ± 2.8	f_{2000}^{217}	107.3 ± 2.6
A_{217}^{dust}	0.97 ± 0.11	$100\theta_*$	1.04171 ± 0.00097	$f_{2000}^{143 \times 217}$	32.6 ± 2.8
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.17	$D_M(z_*)/\text{Gpc}$	14.04 ± 0.25	χ_{simall}^2	396.9 ± 1.8
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.92 ± 0.90	χ_{lowl}^2	22.8 ± 1.2
c_{217}	1.0012 ± 0.0016	r_{drag}	149.0 ± 2.8	χ_{CamSpec}^2	11515.8 ± 6.0
c_{TE}	0.9975 ± 0.0053	k_D	$0.1390^{+0.0024}_{-0.0028}$	$\chi_{6\text{DF}}^2$	0.057 ± 0.071
c_{EE}	0.9936 ± 0.0064	$100\theta_D$	0.16102 ± 0.00067	χ_{MGS}^2	1.33 ± 0.49
H_0	$67.0^{+1.5}_{-1.7}$	z_{eq}	3389 ± 33	χ_{DR12BAO}^2	4.7 ± 1.5
Ω_Λ	0.6892 ± 0.0073	k_{eq}	0.01023 ± 0.00016	χ_{prior}^2	7.9 ± 3.5
Ω_m	0.3108 ± 0.0073	$100\theta_{\text{eq}}$	0.8161 ± 0.0056	χ_{BAO}^2	6.1 ± 1.2
$\Omega_m h^2$	$0.1393^{+0.0045}_{-0.0051}$	$100\theta_{s,\text{eq}}$	0.4509 ± 0.0029	χ_{CMB}^2	11935.5 ± 6.0
$\Omega_m h^3$	$0.0934^{+0.0047}_{-0.0057}$	$H(0.15)$	$72.2^{+1.5}_{-1.7}$		
σ_8	0.803 ± 0.012	$D_M(0.15)$	648 ± 15		

$$\bar{\chi}_{\text{eff}}^2 = 11949.50; \Delta\bar{\chi}_{\text{eff}}^2 = 1.52; R - 1 = 0.02228$$

9.7 base_nnu_yhe_CamSpecHM_TTTEEE_lowl_lowE_post_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02221 ± 0.00023	σ_8	0.801 ± 0.011	$H(0.15)$	$71.1^{+1.7}_{-1.9}$
$\Omega_c h^2$	$0.1155^{+0.0041}_{-0.0049}$	S_8	0.827 ± 0.013	$D_M(0.15)$	659 ± 18
$100\theta_{MC}$	1.0419 ± 0.0014	$\sigma_8 \Omega_m^{0.5}$	0.4530 ± 0.0072	$H(0.38)$	$81.1^{+1.7}_{-2.0}$
τ	$0.0546^{+0.0050}_{-0.0077}$	$\sigma_8 \Omega_m^{0.25}$	0.6024 ± 0.0075	$D_M(0.38)$	1569 ± 40
N_{eff}	$2.76^{+0.27}_{-0.33}$	$\sigma_8/h^{0.5}$	0.9878 ± 0.0094	$H(0.51)$	$87.8^{+1.8}_{-2.1}$
Y_P	0.256 ± 0.022	$r_{\text{drag}} h$	98.6 ± 1.2	$D_M(0.51)$	2031 ± 51
$\ln(10^{10} A_s)$	$3.035^{+0.015}_{-0.017}$	$\langle d^2 \rangle^{1/2}$	2.446 ± 0.025	$H(0.61)$	$93.4^{+1.8}_{-2.1}$
n_s	0.9611 ± 0.0093	z_{re}	$7.70^{+0.55}_{-0.78}$	$D_M(0.61)$	2363 ± 58
y_{cal}	1.0006 ± 0.0025	$10^9 A_s$	$2.080^{+0.031}_{-0.036}$	$H(2.33)$	$232.5^{+3.7}_{-4.3}$
A_{100}^{PS}	239 ± 26	$10^9 A_s e^{-2\tau}$	1.864 ± 0.020	$D_M(2.33)$	5881 ± 120
A_{143}^{PS}	39 ± 9	D_{40}	1230 ± 17	$f\sigma_8(0.15)$	0.4569 ± 0.0067
A_{217}^{PS}	103 ± 10	D_{220}	5717 ± 39	$\sigma_8(0.15)$	0.739 ± 0.011
A_{217}^{CIB}	40 ± 7	D_{810}	2534 ± 14	$f\sigma_8(0.38)$	0.4731 ± 0.0059
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.5}$	D_{1420}	816.1 ± 5.1	$\sigma_8(0.38)$	0.655 ± 0.010
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	D_{2000}	230.6 ± 2.3	$f\sigma_8(0.51)$	0.4708 ± 0.0058
$r_{143 \times 217}^{\text{CIB}}$	$0.55^{+0.39}_{-0.19}$	$n_{s,0.002}$	0.9611 ± 0.0093	$\sigma_8(0.51)$	0.6123 ± 0.0099
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P	0.256 ± 0.022	$f\sigma_8(0.61)$	0.4652 ± 0.0058
A^{kSZ}	$4.6^{+1.8}_{-4.3}$	Y_P^{BBN}	0.257 ± 0.022	$\sigma_8(0.61)$	0.5824 ± 0.0096
A_{100}^{dust}	1.01 ± 0.19	Age/Gyr	14.08 ± 0.29	$f\sigma_8(2.33)$	0.2934 ± 0.0051
A_{143}^{dust}	0.96 ± 0.17	z_*	1090.04 ± 0.60	$\sigma_8(2.33)$	0.3021 ± 0.0055
A_{217}^{dust}	0.97 ± 0.10	r_*	147.2 ± 2.8	f_{2000}^{143}	30 ± 4
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	$100\theta_*$	1.04190 ± 0.00097	f_{2000}^{217}	106.8 ± 2.6
c_{100}	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	14.13 ± 0.26	$f_{2000}^{143 \times 217}$	32.0 ± 2.9
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.48 ± 0.98	χ_{lensing}^2	9.02 ± 0.75
c_{TE}	0.9966 ± 0.0054	r_{drag}	150.0 ± 2.9	χ_{simall}^2	396.9 ± 1.6
c_{EE}	0.9921 ± 0.0065	k_D	$0.1383^{+0.0024}_{-0.0027}$	χ_{lowl}^2	23.7 ± 1.5
H_0	$65.8^{+1.7}_{-1.9}$	$100\theta_D$	0.16081 ± 0.00069	χ_{CamSpec}^2	11514.6 ± 5.9
Ω_Λ	0.680 ± 0.011	z_{eq}	3422 ± 43	χ_{prior}^2	7.8 ± 3.4
Ω_m	0.320 ± 0.011	k_{eq}	0.01024 ± 0.00014	χ_{CMB}^2	11944.2 ± 6.1
$\Omega_m h^2$	$0.1384^{+0.0042}_{-0.0050}$	$100\theta_{\text{eq}}$	0.8099 ± 0.0076		
$\Omega_m h^3$	$0.0911^{+0.0047}_{-0.0059}$	$100\theta_{s,\text{eq}}$	0.4477 ± 0.0039		

$$\bar{\chi}_{\text{eff}}^2 = 11952.01; \Delta\bar{\chi}_{\text{eff}}^2 = 0.76; R - 1 = 0.01202$$

9.8 base_nnu_yhe_CamSpecHM_TTTEEE_lowl_lowE_post_BAO_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02232 ± 0.00019	S_8	0.820 ± 0.011	$H(0.38)$	$82.1^{+1.6}_{-1.8}$
$\Omega_c h^2$	$0.1164^{+0.0043}_{-0.0048}$	$\sigma_8 \Omega_m^{0.5}$	0.4492 ± 0.0062	$D_M(0.38)$	1548 ± 34
$100\theta_{MC}$	1.0418 ± 0.0014	$\sigma_8 \Omega_m^{0.25}$	0.6011 ± 0.0075	$H(0.51)$	$88.7^{+1.7}_{-1.9}$
τ	$0.0565^{+0.0058}_{-0.0074}$	$\sigma_8/h^{0.5}$	0.9839 ± 0.0087	$D_M(0.51)$	2005 ± 43
N_{eff}	$2.87^{+0.27}_{-0.31}$	$r_{\text{drag}} h$	99.55 ± 0.86	$H(0.61)$	$94.3^{+1.7}_{-1.9}$
Y_P	0.256 ± 0.022	$\langle d^2 \rangle^{1/2}$	2.432 ± 0.022	$D_M(0.61)$	2333 ± 49
$\ln(10^{10} A_s)$	3.041 ± 0.015	z_{re}	$7.87^{+0.61}_{-0.74}$	$H(2.33)$	233.6 ± 4.0
n_s	0.9662 ± 0.0078	$10^9 A_s$	2.093 ± 0.032	$D_M(2.33)$	5828 ± 110
y_{cal}	1.0008 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.870 ± 0.019	$f\sigma_8(0.15)$	0.4538 ± 0.0060
A_{100}^{PS}	241 ± 26	D_{40}	1224 ± 15	$\sigma_8(0.15)$	0.743 ± 0.010
A_{143}^{PS}	40 ± 9	D_{220}	5724 ± 39	$f\sigma_8(0.38)$	0.4718 ± 0.0059
A_{217}^{PS}	102 ± 10	D_{810}	2536 ± 14	$\sigma_8(0.38)$	0.6586 ± 0.0096
A_{217}^{CIB}	40^{+7}_{-8}	D_{1420}	816.2 ± 5.2	$f\sigma_8(0.51)$	0.4704 ± 0.0059
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	D_{2000}	230.3 ± 2.3	$\sigma_8(0.51)$	0.6164 ± 0.0091
$r_{143 \times 217}^{\text{PS}}$	$0.66^{+0.12}_{-0.14}$	$n_{s,0.002}$	0.9662 ± 0.0078	$f\sigma_8(0.61)$	0.4654 ± 0.0059
$r_{143 \times 217}^{\text{CIB}}$	$0.56^{+0.42}_{-0.15}$	Y_P	0.256 ± 0.022	$\sigma_8(0.61)$	0.5865 ± 0.0088
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	0.258 ± 0.022	$f\sigma_8(2.33)$	0.2957 ± 0.0046
A^{kSZ}	—	Age/Gyr	13.95 ± 0.26	$\sigma_8(2.33)$	0.3048 ± 0.0049
A_{100}^{dust}	1.01 ± 0.20	z_*	1090.03 ± 0.60	f_{2000}^{143}	30 ± 4
A_{143}^{dust}	0.96 ± 0.18	r_*	146.3 ± 2.7	f_{2000}^{217}	107.2 ± 2.6
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04171 ± 0.00095	$f_{2000}^{143 \times 217}$	32.4 ± 2.9
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$D_M(z_*)/\text{Gpc}$	14.05 ± 0.25	χ_{lensing}^2	9.23 ± 0.81
c_{100}	0.9976 ± 0.0011	z_{drag}	1059.87 ± 0.90	χ_{simall}^2	397.2 ± 1.9
c_{217}	1.0011 ± 0.0016	r_{drag}	149.0 ± 2.7	χ_{lowl}^2	23.0 ± 1.2
c_{TE}	0.9972 ± 0.0053	k_D	$0.1390^{+0.0023}_{-0.0027}$	χ_{CamSpec}^2	11515.2 ± 6.0
c_{EE}	0.9934 ± 0.0064	$100\theta_D$	0.16097 ± 0.00067	$\chi_{6\text{DF}}^2$	0.067 ± 0.077
H_0	66.8 ± 1.6	z_{eq}	3394 ± 33	χ_{MGS}^2	1.23 ± 0.46
Ω_Λ	0.6879 ± 0.0071	k_{eq}	0.01024 ± 0.00015	χ_{DR12BAO}^2	5.0 ± 1.6
Ω_m	0.3121 ± 0.0071	$100\theta_{\text{eq}}$	0.8152 ± 0.0056	χ_{prior}^2	7.8 ± 3.5
$\Omega_m h^2$	$0.1394^{+0.0043}_{-0.0049}$	$100\theta_{s,\text{eq}}$	0.4504 ± 0.0028	χ_{CMB}^2	11944.6 ± 6.1
$\Omega_m h^3$	$0.0932^{+0.0046}_{-0.0055}$	$H(0.15)$	72.1 ± 1.6	χ_{BAO}^2	6.3 ± 1.3
σ_8	0.804 ± 0.011	$D_M(0.15)$	649 ± 15		

$$\bar{\chi}_{\text{eff}}^2 = 11958.67; \Delta\bar{\chi}_{\text{eff}}^2 = 1.41; R - 1 = 0.01939$$

9.9 base_nnu_yhe_CamSpecHM_TTTEEE_lowl_lowE_Aver15

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022361	0.02219 ± 0.00022	σ_8	0.8214	0.801 ± 0.012	$H(0.15)$	73.26	71.7 ± 1.7
$\Omega_c h^2$	0.12075	0.1174 ± 0.0038	S_8	0.8367	0.826 ± 0.016	$D_M(0.15)$	638.0	653 ± 17
$100\theta_{MC}$	1.04069	1.04117 ± 0.00066	$\sigma_8 \Omega_m^{0.5}$	0.4583	0.4523 ± 0.0087	$H(0.38)$	83.43	81.8 ± 1.8
τ	0.0637	0.0520 ± 0.0078	$\sigma_8 \Omega_m^{0.25}$	0.6135	0.6020 ± 0.0090	$D_M(0.38)$	1521.5	1556 ± 37
N_{eff}	3.128	2.89 ± 0.25	$\sigma_8/h^{0.5}$	0.9964	0.984 ± 0.012	$H(0.51)$	90.18	88.5 ± 1.8
Y_P	0.24385	0.2440 ± 0.0039	$r_{\text{drag}} h$	99.56	98.7 ± 1.3	$D_M(0.51)$	1971.1	2014 ± 47
$\ln(10^{10} A_s)$	3.0665	3.031 ± 0.019	$\langle d^2 \rangle^{1/2}$	2.4587	2.441 ± 0.030	$H(0.61)$	95.83	94.1 ± 1.8
n_s	0.9690	0.9604 ± 0.0090	z_{re}	8.63	7.41 ± 0.80	$D_M(0.61)$	2294	2343 ± 53
y_{cal}	1.00188	1.0004 ± 0.0025	$10^9 A_s$	2.1467	2.072 ± 0.039	$H(2.33)$	237.30	234.1 ± 3.4
A_{100}^{PS}	233.7	237 ± 25	$10^9 A_s e^{-2\tau}$	1.8897	1.867 ± 0.020	$D_M(2.33)$	5732	5835 ± 110
A_{143}^{PS}	47.2	38 ± 9	D_{40}	1229.3	1232 ± 16	$f\sigma_8(0.15)$	0.4629	0.4562 ± 0.0082
A_{217}^{PS}	105.6	103 ± 10	D_{220}	5736.0	5717 ± 40	$\sigma_8(0.15)$	0.7590	0.740 ± 0.012
A_{217}^{CIB}	40.8	39 ± 7	D_{810}	2544.7	2532 ± 14	$f\sigma_8(0.38)$	0.4816	0.4728 ± 0.0071
A_{143}^{tSZ}	5.40	$3.9_{-2.5}^{+2.0}$	D_{1420}	818.8	816.4 ± 5.0	$\sigma_8(0.38)$	0.6728	0.655 ± 0.011
$r_{143 \times 217}^{\text{PS}}$	0.732	0.66 ± 0.13	D_{2000}	231.31	231.0 ± 2.0	$f\sigma_8(0.51)$	0.4802	0.4706 ± 0.0068
$r_{143 \times 217}^{\text{CIB}}$	0.735	$0.54_{-0.21}^{+0.39}$	$n_{s,0.002}$	0.9690	0.9604 ± 0.0090	$\sigma_8(0.51)$	0.6297	0.613 ± 0.010
$\xi^{\text{tSZ} \times \text{CIB}}$	0.76	—	Y_P	0.24385	0.2440 ± 0.0039	$f\sigma_8(0.61)$	0.4752	0.4651 ± 0.0067
A^{kSZ}	1.72	< 5.97	Y_P^{BBN}	0.24517	0.2454 ± 0.0039	$\sigma_8(0.61)$	0.5991	0.583 ± 0.010
A_{100}^{dust}	1.008	1.01 ± 0.20	Age/Gyr	13.724	13.97 ± 0.26	$f\sigma_8(2.33)$	0.3021	0.2937 ± 0.0053
A_{143}^{dust}	0.955	0.96 ± 0.18	z_*	1089.970	1089.80 ± 0.37	$\sigma_8(2.33)$	0.3115	0.3025 ± 0.0057
A_{217}^{dust}	0.978	0.98 ± 0.10	r_*	143.85	146.1 ± 2.4	f_{2000}^{143}	29.42	29 ± 3
$A_{143 \times 217}^{\text{dust}}$	1.021	1.02 ± 0.16	$100\theta_*$	1.04089	1.04146 ± 0.00071	f_{2000}^{217}	106.61	106.2 ± 2.2
c_{100}	0.99783	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.820	14.03 ± 0.22	$f_{2000}^{143 \times 217}$	31.92	31.3 ± 2.4
c_{217}	1.00118	1.0011 ± 0.0016	z_{drag}	1059.93	1059.22 ± 0.78	χ_{small}^2	399.05	396.8 ± 1.5
c_{TE}	0.9961	0.9958 ± 0.0051	r_{drag}	146.50	148.8 ± 2.5	χ_{lowl}^2	23.05	23.9 ± 1.4
c_{EE}	0.9923	0.9904 ± 0.0056	k_D	0.14128	0.1395 ± 0.0019	χ_{CamSpec}^2	11499.5	11514.4 ± 5.8
H_0	67.96	66.4 ± 1.8	$100\theta_D$	0.160909	0.16057 ± 0.00047	χ_{Aver15}^2	0.005	0.96 ± 1.4
Ω_Λ	0.6887	0.681 ± 0.011	z_{eq}	3382.8	3408 ± 42	χ_{prior}^2	2.43	7.9 ± 3.5
Ω_m	0.3113	0.319 ± 0.011	k_{eq}	0.010381	0.01029 ± 0.00013	χ_{CMB}^2	11921.6	11935.1 ± 5.9
$\Omega_m h^2$	0.14376	0.1402 ± 0.0039	$100\theta_{\text{eq}}$	0.8166	0.8119 ± 0.0077			
$\Omega_m h^3$	0.09770	$0.0931_{-0.0050}^{+0.0044}$	$100\theta_{s,\text{eq}}$	0.45113	0.4488 ± 0.0039			

Best-fit $\chi_{\text{eff}}^2 = 11924.04$; $\bar{\chi}_{\text{eff}}^2 = 11943.94$; $R - 1 = 0.01231$

χ_{eff}^2 : Abund - Yp_Aver2015: 0.01 CMB - small_100x143_offlike5_EE_Aplanck_B: 399.05 commander_dx12_v3.2_29: 23.05 CamSpec like_10.7HM_1400_unified: 11499.50

9.10 base_nnu_yhe_CamSpecHM_TTTEEE_lowl_lowE_Aver15_post_BAO

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02230 ± 0.00018	S_8	0.817 ± 0.014	$H(0.38)$	82.7 ± 1.5
$\Omega_c h^2$	0.1181 ± 0.0038	$\sigma_8 \Omega_m^{0.5}$	0.4477 ± 0.0074	$D_M(0.38)$	1535 ± 30
$100\theta_{MC}$	1.04105 ± 0.00063	$\sigma_8 \Omega_m^{0.25}$	0.5997 ± 0.0088	$H(0.51)$	89.4 ± 1.5
τ	0.0531 ± 0.0077	$\sigma_8/h^{0.5}$	0.979 ± 0.011	$D_M(0.51)$	1988 ± 38
N_{eff}	3.00 ± 0.23	$r_{\text{drag}} h$	99.71 ± 0.88	$H(0.61)$	95.0 ± 1.6
Y_P	0.2441 ± 0.0039	$\langle d^2 \rangle^{1/2}$	2.424 ± 0.025	$D_M(0.61)$	2314 ± 43
$\ln(10^{10} A_s)$	3.035 ± 0.018	z_{re}	$7.52^{+0.81}_{-0.72}$	$H(2.33)$	235.1 ± 3.3
n_s	0.9655 ± 0.0072	$10^9 A_s$	2.081 ± 0.038	$D_M(2.33)$	5785 ± 94
y_{cal}	1.0005 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.871 ± 0.020	$f\sigma_8(0.15)$	0.4523 ± 0.0072
A_{100}^{PS}	238 ± 25	D_{40}	1225 ± 13	$\sigma_8(0.15)$	0.742 ± 0.011
A_{143}^{PS}	38 ± 9	D_{220}	5722 ± 39	$f\sigma_8(0.38)$	0.4707 ± 0.0069
A_{217}^{PS}	102 ± 10	D_{810}	2534 ± 14	$\sigma_8(0.38)$	0.658 ± 0.010
A_{217}^{CIB}	39 ± 7	D_{1420}	816.4 ± 4.9	$f\sigma_8(0.51)$	0.4694 ± 0.0068
A_{143}^{tSZ}	$3.9^{+2.0}_{-2.4}$	D_{2000}	230.7 ± 2.0	$\sigma_8(0.51)$	$0.6160^{+0.0091}_{-0.010}$
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	$n_{s,0.002}$	0.9655 ± 0.0072	$f\sigma_8(0.61)$	0.4646 ± 0.0067
$r_{143 \times 217}^{\text{CIB}}$	$0.55^{+0.43}_{-0.16}$	Y_P	0.2441 ± 0.0039	$\sigma_8(0.61)$	$0.5862^{+0.0087}_{-0.0098}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	0.2455 ± 0.0039	$f\sigma_8(2.33)$	$0.2956^{+0.0045}_{-0.0050}$
A^{kSZ}	$4.6^{+2.0}_{-4.1}$	Age/Gyr	13.85 ± 0.22	$\sigma_8(2.33)$	$0.3048^{+0.0048}_{-0.0054}$
A_{100}^{dust}	1.01 ± 0.20	z_*	1089.77 ± 0.37	f_{2000}^{143}	29.2 ± 3.2
A_{143}^{dust}	0.95 ± 0.17	r_*	145.3 ± 2.2	f_{2000}^{217}	106.5 ± 2.2
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04129 ± 0.00067	$f_{2000}^{143 \times 217}$	31.7 ± 2.3
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	$D_M(z_*)/\text{Gpc}$	13.95 ± 0.20	χ_{simall}^2	396.9 ± 1.6
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.58 ± 0.69	χ_{lowl}^2	23.1 ± 1.0
c_{217}	1.0011 ± 0.0015	r_{drag}	148.0 ± 2.3	χ_{CamSpec}^2	11515.0 ± 5.7
c_{TE}	0.9964 ± 0.0049	k_D	0.1401 ± 0.0018	χ_{Aver15}^2	0.97 ± 1.4
c_{EE}	0.9917 ± 0.0054	$100\theta_D$	0.16072 ± 0.00044	$\chi_{6\text{DF}}^2$	0.058 ± 0.073
H_0	67.4 ± 1.4	z_{eq}	3379 ± 28	χ_{MGS}^2	1.31 ± 0.48
Ω_Λ	0.6894 ± 0.0072	k_{eq}	0.01028 ± 0.00013	χ_{DR12BAO}^2	4.8 ± 1.5
Ω_m	0.3106 ± 0.0072	$100\theta_{\text{eq}}$	0.8174 ± 0.0051	χ_{prior}^2	7.8 ± 3.4
$\Omega_m h^2$	0.1411 ± 0.0039	$100\theta_{s,\text{eq}}$	0.4516 ± 0.0026	χ_{BAO}^2	6.2 ± 1.2
$\Omega_m h^3$	$0.0951^{+0.0041}_{-0.0046}$	$H(0.15)$	72.7 ± 1.4	χ_{CMB}^2	11934.9 ± 5.6
σ_8	0.803 ± 0.012	$D_M(0.15)$	643 ± 13		

$$\bar{\chi}_{\text{eff}}^2 = 11949.86; R - 1 = 0.01509$$

9.11 base_nnu_yhe_CamSpecHM_TTTEEE_lowl_lowE_Aver15_post_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02216 ± 0.00022	σ_8	0.801 ± 0.011	$H(0.15)$	71.4 ± 1.7
$\Omega_c h^2$	0.1170 ± 0.0037	S_8	0.828 ± 0.013	$D_M(0.15)$	656 ± 16
$100\theta_{MC}$	1.04125 ± 0.00065	$\sigma_8 \Omega_m^{0.5}$	0.4534 ± 0.0069	$H(0.38)$	81.5 ± 1.7
τ	0.0526 ± 0.0074	$\sigma_8 \Omega_m^{0.25}$	0.6026 ± 0.0072	$D_M(0.38)$	1562 ± 37
N_{eff}	2.85 ± 0.25	$\sigma_8/h^{0.5}$	0.9856 ± 0.0089	$H(0.51)$	88.2 ± 1.7
Y_P	0.2441 ± 0.0038	$r_{\text{drag}} h$	98.5 ± 1.2	$D_M(0.51)$	2022 ± 46
$\ln(10^{10} A_s)$	3.031 ± 0.018	$\langle d^2 \rangle^{1/2}$	2.448 ± 0.024	$H(0.61)$	93.8 ± 1.8
n_s	0.9588 ± 0.0087	z_{re}	$7.47^{+0.78}_{-0.68}$	$D_M(0.61)$	2352 ± 52
y_{cal}	1.0006 ± 0.0025	$10^9 A_s$	2.073 ± 0.036	$H(2.33)$	233.7 ± 3.3
A_{100}^{PS}	236 ± 25	$10^9 A_s e^{-2\tau}$	1.866 ± 0.020	$D_M(2.33)$	5852 ± 110
A_{143}^{PS}	37 ± 9	D_{40}	1235 ± 14	$f\sigma_8(0.15)$	0.4572 ± 0.0064
A_{217}^{PS}	103 ± 10	D_{220}	5719 ± 38	$\sigma_8(0.15)$	0.739 ± 0.011
A_{217}^{CIB}	39 ± 7	D_{810}	2533 ± 14	$f\sigma_8(0.38)$	0.4733 ± 0.0057
A_{143}^{tSZ}	$4.0^{+2.0}_{-2.4}$	D_{1420}	816.8 ± 4.9	$\sigma_8(0.38)$	0.655 ± 0.010
$r_{143 \times 217}^{\text{PS}}$	0.67 ± 0.13	D_{2000}	231.3 ± 2.0	$f\sigma_8(0.51)$	0.4709 ± 0.0056
$r_{143 \times 217}^{\text{CIB}}$	$0.53^{+0.39}_{-0.21}$	$n_{s,0.002}$	0.9588 ± 0.0087	$\sigma_8(0.51)$	0.6121 ± 0.0099
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P	0.2441 ± 0.0038	$f\sigma_8(0.61)$	0.4653 ± 0.0056
A^{kSZ}	< 5.82	Y_P^{BBN}	0.2454 ± 0.0038	$\sigma_8(0.61)$	0.5822 ± 0.0096
A_{100}^{dust}	1.01 ± 0.20	Age/Gyr	14.01 ± 0.25	$f\sigma_8(2.33)$	0.2933 ± 0.0051
A_{143}^{dust}	0.95 ± 0.18	z_*	1089.78 ± 0.35	$\sigma_8(2.33)$	0.3020 ± 0.0056
A_{217}^{dust}	0.98 ± 0.10	r_*	146.4 ± 2.3	f_{2000}^{143}	28 ± 3
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	$100\theta_*$	1.04155 ± 0.00070	f_{2000}^{217}	106.0 ± 2.2
c_{100}	0.9976 ± 0.0011	$D_M(z_*)/\text{Gpc}$	14.06 ± 0.22	$f_{2000}^{143 \times 217}$	31.1 ± 2.3
c_{217}	1.0010 ± 0.0016	z_{drag}	1059.11 ± 0.77	χ_{lensing}^2	9.03 ± 0.75
c_{TE}	0.9955 ± 0.0049	r_{drag}	149.2 ± 2.4	χ_{simall}^2	396.8 ± 1.5
c_{EE}	0.9900 ± 0.0055	k_D	0.1393 ± 0.0018	χ_{lowl}^2	24.1 ± 1.4
H_0	66.1 ± 1.7	$100\theta_D$	0.16050 ± 0.00046	χ_{CamSpec}^2	11513.6 ± 5.5
Ω_Λ	0.680 ± 0.011	z_{eq}	3415 ± 39	χ_{Aver15}^2	0.9 ± 1.4
Ω_m	0.320 ± 0.011	k_{eq}	0.01028 ± 0.00012	χ_{prior}^2	7.8 ± 3.4
$\Omega_m h^2$	0.1398 ± 0.0038	$100\theta_{\text{eq}}$	0.8106 ± 0.0072	χ_{CMB}^2	11943.6 ± 5.8
$\Omega_m h^3$	$0.0924^{+0.0043}_{-0.0048}$	$100\theta_{s,\text{eq}}$	0.4481 ± 0.0036		

$$\bar{\chi}_{\text{eff}}^2 = 11952.31; R - 1 = 0.01285$$

9.12 base_nnu_yhe_CamSpecHM_TTTEEE_lowl_lowE_Aver15_post_BAO_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02229 ± 0.00018	S_8	0.821 ± 0.011	$H(0.38)$	$82.6^{+1.4}_{-1.5}$
$\Omega_c h^2$	0.1180 ± 0.0036	$\sigma_8 \Omega_m^{0.5}$	0.4496 ± 0.0061	$D_M(0.38)$	1538 ± 29
$100\theta_{MC}$	1.04107 ± 0.00062	$\sigma_8 \Omega_m^{0.25}$	0.6015 ± 0.0073	$H(0.51)$	89.2 ± 1.5
τ	0.0549 ± 0.0071	$\sigma_8/h^{0.5}$	0.9818 ± 0.0084	$D_M(0.51)$	1993 ± 37
N_{eff}	$2.98^{+0.21}_{-0.23}$	$r_{\text{drag}} h$	99.53 ± 0.86	$H(0.61)$	94.8 ± 1.5
Y_P	0.2441 ± 0.0039	$\langle d^2 \rangle^{1/2}$	2.433 ± 0.021	$D_M(0.61)$	2319 ± 42
$\ln(10^{10} A_s)$	3.039 ± 0.016	z_{re}	7.70 ± 0.71	$H(2.33)$	234.9 ± 3.2
n_s	0.9644 ± 0.0071	$10^9 A_s$	2.089 ± 0.033	$D_M(2.33)$	5793 ± 92
y_{cal}	1.0007 ± 0.0024	$10^9 A_s e^{-2\tau}$	1.872 ± 0.019	$f\sigma_8(0.15)$	0.4541 ± 0.0059
A_{100}^{PS}	237 ± 25	D_{40}	1228 ± 13	$\sigma_8(0.15)$	0.744 ± 0.010
A_{143}^{PS}	38 ± 9	D_{220}	5726 ± 38	$f\sigma_8(0.38)$	0.4722 ± 0.0057
A_{217}^{PS}	103 ± 10	D_{810}	2535 ± 13	$\sigma_8(0.38)$	$0.6592^{+0.0087}_{-0.0097}$
A_{217}^{CIB}	39 ± 7	D_{1420}	816.9 ± 4.9	$f\sigma_8(0.51)$	0.4707 ± 0.0057
A_{143}^{tSZ}	$4.0^{+2.0}_{-2.5}$	D_{2000}	230.9 ± 1.9	$\sigma_8(0.51)$	$0.6169^{+0.0083}_{-0.0093}$
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	$n_{s,0.002}$	0.9644 ± 0.0071	$f\sigma_8(0.61)$	0.4658 ± 0.0057
$r_{143 \times 217}^{\text{CIB}}$	$0.54^{+0.42}_{-0.17}$	Y_P	0.2441 ± 0.0039	$\sigma_8(0.61)$	$0.5870^{+0.0079}_{-0.0090}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	0.2454 ± 0.0039	$f\sigma_8(2.33)$	$0.2960^{+0.0041}_{-0.0047}$
A^{kSZ}	$4.5^{+1.5}_{-4.5}$	Age/Gyr	13.87 ± 0.22	$\sigma_8(2.33)$	$0.3051^{+0.0044}_{-0.0050}$
A_{100}^{dust}	1.01 ± 0.20	z_*	1089.77 ± 0.35	f_{2000}^{143}	29.0 ± 3.2
A_{143}^{dust}	0.95 ± 0.17	r_*	145.4 ± 2.1	f_{2000}^{217}	106.4 ± 2.1
A_{217}^{dust}	0.98 ± 0.10	$100\theta_*$	1.04132 ± 0.00066	$f_{2000}^{143 \times 217}$	31.6 ± 2.3
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	$D_M(z_*)/\text{Gpc}$	13.96 ± 0.20	χ_{lensing}^2	9.26 ± 0.83
c_{100}	0.9976 ± 0.0011	z_{drag}	1059.53 ± 0.67	χ_{simall}^2	397.0 ± 1.6
c_{217}	1.0011 ± 0.0016	r_{drag}	148.1 ± 2.2	χ_{lowl}^2	23.3 ± 1.1
c_{TE}	0.9962 ± 0.0049	k_D	0.1401 ± 0.0017	χ_{CamSpec}^2	11514.1 ± 5.5
c_{EE}	0.9915 ± 0.0054	$100\theta_D$	0.16068 ± 0.00043	χ_{Aver15}^2	0.96 ± 1.4
H_0	67.2 ± 1.4	z_{eq}	3385 ± 27	$\chi_{6\text{DF}}^2$	0.068 ± 0.080
Ω_Λ	0.6880 ± 0.0071	k_{eq}	0.01028 ± 0.00012	χ_{MGS}^2	1.22 ± 0.46
Ω_m	0.3120 ± 0.0071	$100\theta_{\text{eq}}$	0.8163 ± 0.0050	χ_{DR12BAO}^2	5.0 ± 1.6
$\Omega_m h^2$	0.1410 ± 0.0037	$100\theta_{s,\text{eq}}$	0.4510 ± 0.0025	χ_{prior}^2	7.8 ± 3.4
$\Omega_m h^3$	$0.0948^{+0.0039}_{-0.0045}$	$H(0.15)$	$72.5^{+1.3}_{-1.5}$	χ_{CMB}^2	11943.7 ± 5.6
σ_8	0.805 ± 0.011	$D_M(0.15)$	645 ± 13	χ_{BAO}^2	6.3 ± 1.3

$$\bar{\chi}_{\text{eff}}^2 = 11958.76; R - 1 = 0.01459$$

9.13 base_nnu_yhe_CamSpecHM_TTTEEE_lowl_lowE_Aver15_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02220 ± 0.00022	σ_8	0.803 ± 0.012	$H(0.15)$	71.7 ± 1.7
$\Omega_c h^2$	0.1175 ± 0.0038	S_8	0.826 ± 0.016	$D_M(0.15)$	652 ± 16
$100\theta_{MC}$	1.04116 ± 0.00066	$\sigma_8 \Omega_m^{0.5}$	0.4527 ± 0.0087	$H(0.38)$	81.9 ± 1.7
τ	$0.0538^{+0.0044}_{-0.0078}$	$\sigma_8 \Omega_m^{0.25}$	0.6028 ± 0.0088	$D_M(0.38)$	1554 ± 37
N_{eff}	2.90 ± 0.25	$\sigma_8/h^{0.5}$	0.985 ± 0.011	$H(0.51)$	88.6 ± 1.8
Y_P	0.2441 ± 0.0039	$r_{\text{drag}} h$	98.8 ± 1.3	$D_M(0.51)$	2012 ± 46
$\ln(10^{10} A_s)$	$3.035^{+0.015}_{-0.018}$	$\langle d^2 \rangle^{1/2}$	2.444 ± 0.029	$H(0.61)$	94.2 ± 1.8
n_s	0.9609 ± 0.0089	z_{re}	$7.60^{+0.48}_{-0.79}$	$D_M(0.61)$	2341 ± 52
y_{cal}	1.0004 ± 0.0025	$10^9 A_s$	$2.079^{+0.030}_{-0.037}$	$H(2.33)$	234.2 ± 3.4
A_{100}^{PS}	237 ± 25	$10^9 A_s e^{-2\tau}$	1.867 ± 0.020	$D_M(2.33)$	5831 ± 110
A_{143}^{PS}	38 ± 9	D_{40}	1232 ± 16	$f\sigma_8(0.15)$	0.4567 ± 0.0081
A_{217}^{PS}	103 ± 10	D_{220}	5716 ± 40	$\sigma_8(0.15)$	0.741 ± 0.011
A_{217}^{CIB}	39 ± 7	D_{810}	2532 ± 14	$f\sigma_8(0.38)$	0.4734 ± 0.0070
A_{143}^{tSZ}	$3.9^{+2.0}_{-2.5}$	D_{1420}	816.4 ± 5.0	$\sigma_8(0.38)$	$0.6564^{+0.0095}_{-0.011}$
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	D_{2000}	231.0 ± 2.0	$f\sigma_8(0.51)$	0.4713 ± 0.0066
$r_{143 \times 217}^{\text{CIB}}$	$0.54^{+0.39}_{-0.20}$	$n_{s,0.002}$	0.9609 ± 0.0089	$\sigma_8(0.51)$	$0.6140^{+0.0091}_{-0.010}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P	0.2441 ± 0.0039	$f\sigma_8(0.61)$	0.4658 ± 0.0064
A^{kSZ}	< 5.95	Y_P^{BBN}	0.2454 ± 0.0039	$\sigma_8(0.61)$	$0.5841^{+0.0088}_{-0.0098}$
A_{100}^{dust}	1.01 ± 0.20	Age/Gyr	13.96 ± 0.26	$f\sigma_8(2.33)$	0.2943 ± 0.0050
A_{143}^{dust}	0.96 ± 0.18	z_*	1089.80 ± 0.37	$\sigma_8(2.33)$	0.3031 ± 0.0055
A_{217}^{dust}	0.98 ± 0.10	r_*	146.0 ± 2.4	f_{2000}^{143}	29 ± 3
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	$100\theta_*$	1.04144 ± 0.00071	f_{2000}^{217}	106.1 ± 2.2
c_{100}	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	14.02 ± 0.22	$f_{2000}^{143 \times 217}$	31.3 ± 2.4
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.25 ± 0.77	χ_{simall}^2	396.7 ± 1.5
c_{TE}	0.9957 ± 0.0051	r_{drag}	148.8 ± 2.5	χ_{lowl}^2	23.9 ± 1.4
c_{EE}	0.9904 ± 0.0056	k_D	0.1396 ± 0.0019	χ_{CamSpec}^2	11514.2 ± 5.9
H_0	66.5 ± 1.7	$100\theta_D$	0.16057 ± 0.00047	χ_{Aver15}^2	0.96 ± 1.4
Ω_Λ	0.682 ± 0.011	z_{eq}	3406 ± 41	χ_{prior}^2	7.9 ± 3.5
Ω_m	0.318 ± 0.011	k_{eq}	0.01029 ± 0.00013	χ_{CMB}^2	11934.8 ± 5.8
$\Omega_m h^2$	0.1403 ± 0.0039	$100\theta_{\text{eq}}$	0.8124 ± 0.0076		
$\Omega_m h^3$	$0.0933^{+0.0044}_{-0.0050}$	$100\theta_{s,\text{eq}}$	0.4490 ± 0.0039		

$$\bar{\chi}_{\text{eff}}^2 = 11943.65; R - 1 = 0.01349$$

9.14 base_nnu_yhe_CamSpecHM_TTTEEE_lowl_lowE_Aver15_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02230 ± 0.00018	S_8	0.818 ± 0.013	$H(0.38)$	82.7 ± 1.5
$\Omega_c h^2$	0.1182 ± 0.0038	$\sigma_8 \Omega_m^{0.5}$	0.4482 ± 0.0072	$D_M(0.38)$	1534 ± 30
$100\theta_{MC}$	1.04104 ± 0.00064	$\sigma_8 \Omega_m^{0.25}$	0.6005 ± 0.0085	$H(0.51)$	89.4 ± 1.5
τ	$0.0546^{+0.0052}_{-0.0076}$	$\sigma_8/h^{0.5}$	0.9798 ± 0.0098	$D_M(0.51)$	1988 ± 37
N_{eff}	3.00 ± 0.23	$r_{\text{drag}} h$	99.73 ± 0.88	$H(0.61)$	95.0 ± 1.6
Y_P	0.2441 ± 0.0039	$\langle d^2 \rangle^{1/2}$	2.427 ± 0.024	$D_M(0.61)$	2313 ± 43
$\ln(10^{10} A_s)$	$3.038^{+0.015}_{-0.018}$	z_{re}	$7.67^{+0.56}_{-0.78}$	$H(2.33)$	235.1 ± 3.3
n_s	0.9657 ± 0.0072	$10^9 A_s$	$2.087^{+0.030}_{-0.037}$	$D_M(2.33)$	5784 ± 94
y_{cal}	1.0005 ± 0.0024	$10^9 A_s e^{-2\tau}$	1.871 ± 0.020	$f\sigma_8(0.15)$	0.4528 ± 0.0070
A_{100}^{PS}	238 ± 25	D_{40}	1225 ± 13	$\sigma_8(0.15)$	$0.744^{+0.010}_{-0.012}$
A_{143}^{PS}	38 ± 9	D_{220}	5721 ± 38	$f\sigma_8(0.38)$	0.4713 ± 0.0067
A_{217}^{PS}	102 ± 10	D_{810}	2533 ± 14	$\sigma_8(0.38)$	$0.6592^{+0.0091}_{-0.011}$
A_{217}^{CIB}	39 ± 7	D_{1420}	816.4 ± 4.9	$f\sigma_8(0.51)$	0.4700 ± 0.0066
A_{143}^{tSZ}	$3.9^{+2.0}_{-2.4}$	D_{2000}	230.7 ± 1.9	$\sigma_8(0.51)$	$0.6170^{+0.0086}_{-0.010}$
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	$n_{s,0.002}$	0.9657 ± 0.0072	$f\sigma_8(0.61)$	0.4652 ± 0.0065
$r_{143 \times 217}^{\text{CIB}}$	$0.55^{+0.44}_{-0.16}$	Y_P	0.2441 ± 0.0039	$\sigma_8(0.61)$	$0.5871^{+0.0083}_{-0.0096}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	0.2454 ± 0.0039	$f\sigma_8(2.33)$	$0.2961^{+0.0042}_{-0.0050}$
A^{kSZ}	$4.6^{+1.9}_{-4.2}$	Age/Gyr	13.85 ± 0.22	$\sigma_8(2.33)$	$0.3053^{+0.0045}_{-0.0053}$
A_{100}^{dust}	1.01 ± 0.20	z_*	1089.77 ± 0.37	f_{2000}^{143}	29.1 ± 3.2
A_{143}^{dust}	0.96 ± 0.17	r_*	145.3 ± 2.2	f_{2000}^{217}	106.4 ± 2.2
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04128 ± 0.00068	$f_{2000}^{143 \times 217}$	31.7 ± 2.3
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	$D_M(z_*)/\text{Gpc}$	13.95 ± 0.20	χ_{simall}^2	396.8 ± 1.6
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.58 ± 0.68	χ_{lowl}^2	23.1 ± 1.1
c_{217}	1.0011 ± 0.0016	r_{drag}	147.9 ± 2.3	χ_{CamSpec}^2	11514.8 ± 5.7
c_{TE}	0.9964 ± 0.0049	k_D	0.1402 ± 0.0017	χ_{Aver15}^2	0.96 ± 1.4
c_{EE}	0.9916 ± 0.0054	$100\theta_D$	0.16072 ± 0.00044	$\chi_{6\text{DF}}^2$	0.056 ± 0.071
H_0	67.4 ± 1.4	z_{eq}	3378 ± 28	χ_{MGS}^2	1.33 ± 0.49
Ω_Λ	0.6896 ± 0.0072	k_{eq}	0.01028 ± 0.00013	χ_{DR12BAO}^2	4.8 ± 1.5
Ω_m	0.3104 ± 0.0072	$100\theta_{\text{eq}}$	0.8175 ± 0.0052	χ_{prior}^2	7.8 ± 3.4
$\Omega_m h^2$	0.1411 ± 0.0039	$100\theta_{s,\text{eq}}$	0.4516 ± 0.0026	χ_{BAO}^2	6.1 ± 1.2
$\Omega_m h^3$	$0.0952^{+0.0040}_{-0.0046}$	$H(0.15)$	72.7 ± 1.4	χ_{CMB}^2	11934.7 ± 5.6
σ_8	$0.805^{+0.011}_{-0.012}$	$D_M(0.15)$	643 ± 13		

$$\bar{\chi}_{\text{eff}}^2 = 11949.59; R - 1 = 0.01728$$

9.15 base_nnu_yhe_CamSpecHM_TTTEEE_lowl_lowE_Aver15_post_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02217 ± 0.00021	σ_8	0.802 ± 0.011	$H(0.15)$	71.5 ± 1.7
$\Omega_c h^2$	0.1170 ± 0.0037	S_8	0.828 ± 0.013	$D_M(0.15)$	655 ± 16
$100\theta_{MC}$	1.04124 ± 0.00065	$\sigma_8 \Omega_m^{0.5}$	0.4534 ± 0.0068	$H(0.38)$	81.6 ± 1.7
τ	$0.0541^{+0.0049}_{-0.0072}$	$\sigma_8 \Omega_m^{0.25}$	0.6030 ± 0.0071	$D_M(0.38)$	1560 ± 36
N_{eff}	2.86 ± 0.25	$\sigma_8/h^{0.5}$	0.9862 ± 0.0087	$H(0.51)$	88.3 ± 1.7
Y_P	0.2441 ± 0.0038	$r_{\text{drag}} h$	98.6 ± 1.2	$D_M(0.51)$	2020 ± 45
$\ln(10^{10} A_s)$	$3.034^{+0.014}_{-0.017}$	$\langle d^2 \rangle^{1/2}$	2.449 ± 0.024	$H(0.61)$	93.9 ± 1.8
n_s	0.9594 ± 0.0086	z_{re}	$7.62^{+0.52}_{-0.73}$	$D_M(0.61)$	2349 ± 52
y_{cal}	1.0005 ± 0.0025	$10^9 A_s$	$2.079^{+0.029}_{-0.035}$	$H(2.33)$	233.8 ± 3.3
A_{100}^{PS}	236 ± 25	$10^9 A_s e^{-2\tau}$	1.866 ± 0.019	$D_M(2.33)$	5848 ± 110
A_{143}^{PS}	37 ± 8	D_{40}	1235 ± 14	$f\sigma_8(0.15)$	0.4573 ± 0.0064
A_{217}^{PS}	103 ± 10	D_{220}	5719 ± 38	$\sigma_8(0.15)$	0.740 ± 0.010
A_{217}^{CIB}	39 ± 7	D_{810}	2533 ± 13	$f\sigma_8(0.38)$	0.4736 ± 0.0056
A_{143}^{tSZ}	$4.0^{+2.0}_{-2.4}$	D_{1420}	816.7 ± 4.9	$\sigma_8(0.38)$	0.6556 ± 0.0098
$r_{143 \times 217}^{\text{PS}}$	0.67 ± 0.13	D_{2000}	231.2 ± 2.0	$f\sigma_8(0.51)$	0.4713 ± 0.0055
$r_{143 \times 217}^{\text{CIB}}$	$0.53^{+0.39}_{-0.21}$	$n_{s,0.002}$	0.9594 ± 0.0086	$\sigma_8(0.51)$	0.6132 ± 0.0095
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P	0.2441 ± 0.0038	$f\sigma_8(0.61)$	0.4658 ± 0.0055
A^{kSZ}	< 5.79	Y_P^{BBN}	0.2454 ± 0.0038	$\sigma_8(0.61)$	0.5832 ± 0.0092
A_{100}^{dust}	1.01 ± 0.20	Age/Gyr	14.00 ± 0.25	$f\sigma_8(2.33)$	0.2938 ± 0.0049
A_{143}^{dust}	0.95 ± 0.18	z_*	1089.77 ± 0.35	$\sigma_8(2.33)$	0.3025 ± 0.0053
A_{217}^{dust}	0.98 ± 0.10	r_*	146.4 ± 2.3	f_{2000}^{143}	28 ± 3
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	$100\theta_*$	1.04153 ± 0.00070	f_{2000}^{217}	106.0 ± 2.2
c_{100}	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	14.05 ± 0.22	$f_{2000}^{143 \times 217}$	31.1 ± 2.3
c_{217}	1.0010 ± 0.0016	z_{drag}	1059.15 ± 0.76	χ_{lensing}^2	8.99 ± 0.71
c_{TE}	0.9955 ± 0.0050	r_{drag}	149.1 ± 2.4	χ_{simall}^2	396.7 ± 1.5
c_{EE}	0.9900 ± 0.0055	k_D	0.1393 ± 0.0018	χ_{lowl}^2	24.1 ± 1.4
H_0	$66.2^{+1.5}_{-1.7}$	$100\theta_D$	0.16051 ± 0.00045	χ_{CamSpec}^2	11513.5 ± 5.6
Ω_Λ	0.680 ± 0.010	z_{eq}	3412 ± 38	χ_{Aver15}^2	0.9 ± 1.4
Ω_m	0.320 ± 0.010	k_{eq}	0.01028 ± 0.00012	χ_{prior}^2	7.8 ± 3.4
$\Omega_m h^2$	0.1398 ± 0.0038	$100\theta_{\text{eq}}$	0.8112 ± 0.0070	χ_{CMB}^2	11943.3 ± 5.7
$\Omega_m h^3$	$0.0926^{+0.0043}_{-0.0048}$	$100\theta_{s,\text{eq}}$	0.4484 ± 0.0035		

$$\bar{\chi}_{\text{eff}}^2 = 11952.02; R - 1 = 0.01312$$

9.16 base_nnu_yhe_CamSpecHM_TTTEEE_lowl_lowE_Aver15_post_BAO_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02229 ± 0.00018	S_8	0.821 ± 0.011	$H(0.38)$	$82.6^{+1.4}_{-1.5}$
$\Omega_c h^2$	0.1180 ± 0.0036	$\sigma_8 \Omega_m^{0.5}$	0.4497 ± 0.0060	$D_M(0.38)$	1538 ± 29
$100\theta_{MC}$	1.04108 ± 0.00062	$\sigma_8 \Omega_m^{0.25}$	0.6018 ± 0.0072	$H(0.51)$	89.2 ± 1.5
τ	$0.0557^{+0.0057}_{-0.0071}$	$\sigma_8/h^{0.5}$	0.9822 ± 0.0082	$D_M(0.51)$	1993 ± 37
N_{eff}	$2.98^{+0.21}_{-0.23}$	$r_{\text{drag}} h$	99.55 ± 0.85	$H(0.61)$	94.8 ± 1.5
Y_P	0.2441 ± 0.0039	$\langle d^2 \rangle^{1/2}$	2.435 ± 0.021	$D_M(0.61)$	2319 ± 42
$\ln(10^{10} A_s)$	$3.041^{+0.014}_{-0.016}$	z_{re}	$7.78^{+0.60}_{-0.70}$	$H(2.33)$	234.9 ± 3.2
n_s	0.9645 ± 0.0071	$10^9 A_s$	$2.092^{+0.029}_{-0.033}$	$D_M(2.33)$	5793 ± 92
y_{cal}	1.0007 ± 0.0024	$10^9 A_s e^{-2\tau}$	1.871 ± 0.019	$f\sigma_8(0.15)$	0.4542 ± 0.0058
A_{100}^{PS}	237 ± 25	D_{40}	1228 ± 13	$\sigma_8(0.15)$	$0.7442^{+0.0093}_{-0.010}$
A_{143}^{PS}	38 ± 9	D_{220}	5726 ± 38	$f\sigma_8(0.38)$	0.4724 ± 0.0057
A_{217}^{PS}	103 ± 10	D_{810}	2535 ± 13	$\sigma_8(0.38)$	$0.6596^{+0.0085}_{-0.0096}$
A_{217}^{CIB}	39 ± 7	D_{1420}	816.8 ± 4.9	$f\sigma_8(0.51)$	0.4709 ± 0.0056
A_{143}^{tSZ}	$4.0^{+2.0}_{-2.5}$	D_{2000}	231.0 ± 1.9	$\sigma_8(0.51)$	$0.6173^{+0.0081}_{-0.0092}$
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	$n_{s,0.002}$	0.9645 ± 0.0071	$f\sigma_8(0.61)$	0.4660 ± 0.0056
$r_{143 \times 217}^{\text{CIB}}$	$0.54^{+0.42}_{-0.17}$	Y_P	0.2441 ± 0.0039	$\sigma_8(0.61)$	$0.5874^{+0.0078}_{-0.0089}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	0.2454 ± 0.0039	$f\sigma_8(2.33)$	$0.2962^{+0.0040}_{-0.0046}$
A^{kSZ}	< 5.99	Age/Gyr	13.87 ± 0.22	$\sigma_8(2.33)$	$0.3053^{+0.0043}_{-0.0050}$
A_{100}^{dust}	1.01 ± 0.20	z_*	1089.76 ± 0.35	f_{2000}^{143}	28.9 ± 3.2
A_{143}^{dust}	0.95 ± 0.17	r_*	145.4 ± 2.1	f_{2000}^{217}	106.4 ± 2.1
A_{217}^{dust}	0.98 ± 0.10	$100\theta_*$	1.04132 ± 0.00066	$f_{2000}^{143 \times 217}$	31.5 ± 2.3
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	$D_M(z_*)/\text{Gpc}$	13.96 ± 0.20	χ_{lensing}^2	9.21 ± 0.77
c_{100}	0.9976 ± 0.0011	z_{drag}	1059.53 ± 0.67	χ_{simall}^2	397.0 ± 1.7
c_{217}	1.0011 ± 0.0016	r_{drag}	148.1 ± 2.2	χ_{lowl}^2	23.3 ± 1.1
c_{TE}	0.9962 ± 0.0049	k_D	0.1401 ± 0.0017	χ_{CamSpec}^2	11514.1 ± 5.5
c_{EE}	0.9914 ± 0.0054	$100\theta_D$	0.16067 ± 0.00043	χ_{Aver15}^2	0.96 ± 1.3
H_0	$67.2^{+1.3}_{-1.4}$	z_{eq}	3384 ± 27	$\chi_{6\text{DF}}^2$	0.066 ± 0.078
Ω_Λ	0.6881 ± 0.0071	k_{eq}	0.01028 ± 0.00012	χ_{MGS}^2	1.23 ± 0.46
Ω_m	0.3119 ± 0.0071	$100\theta_{\text{eq}}$	0.8164 ± 0.0050	χ_{DR12BAO}^2	5.0 ± 1.6
$\Omega_m h^2$	0.1409 ± 0.0037	$100\theta_{s,\text{eq}}$	0.4511 ± 0.0025	χ_{prior}^2	7.7 ± 3.4
$\Omega_m h^3$	$0.0948^{+0.0039}_{-0.0045}$	$H(0.15)$	$72.5^{+1.3}_{-1.5}$	χ_{CMB}^2	11943.6 ± 5.6
σ_8	0.805 ± 0.011	$D_M(0.15)$	645 ± 13	χ_{BAO}^2	6.3 ± 1.3

$$\bar{\chi}_{\text{eff}}^2 = 11958.57; R - 1 = 0.01608$$

10 nrun

10.1 base_nrun_CamSpecHM_TT_lowl_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022152	0.02216 ± 0.00023	$\sigma_8 \Omega_m^{0.5}$	0.4596	0.459 ± 0.013	$H(0.15)$	72.28	72.34 ± 0.79
$\Omega_c h^2$	0.12068	0.1206 ± 0.0021	$\sigma_8 \Omega_m^{0.25}$	0.6108	0.610 ± 0.012	$D_M(0.15)$	647.3	646.8 ± 8.0
$100\theta_{MC}$	1.040822	1.04084 ± 0.00048	$\sigma_8/h^{0.5}$	0.9925	0.991 ± 0.016	$H(0.38)$	82.55	82.59 ± 0.57
τ	0.0529	0.0530 ± 0.0085	$r_{\text{drag}} h$	98.46	98.6 ± 1.6	$D_M(0.38)$	1541.6	1541 ± 16
$\ln(10^{10} A_s)$	3.0419	3.041 ± 0.018	$\langle d^2 \rangle^{1/2}$	2.4481	2.445 ± 0.038	$H(0.51)$	89.350	89.39 ± 0.45
n_s	0.9624	0.9630 ± 0.0061	z_{re}	7.59	7.57 ± 0.86	$D_M(0.51)$	1995.6	1994 ± 19
$dn_s/d \ln k$	-0.0033	-0.0033 ± 0.0076	$10^9 A_s$	2.0944	2.094 ± 0.037	$H(0.61)$	95.036	95.07 ± 0.36
y_{cal}	1.00058	1.0004 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.8842	1.883 ± 0.015	$D_M(0.61)$	2321.0	2320 ± 20
A_{100}^{PS}	245.0	244 ± 25	D_{40}	1224.5	1223 ± 21	$H(2.33)$	236.78	236.7 ± 1.3
A_{143}^{PS}	39.9	42 ± 9	D_{220}	5706.5	5704 ± 41	$D_M(2.33)$	5775.7	5775 ± 17
A_{217}^{PS}	98.4	100 ± 10	D_{810}	2535.5	2535 ± 14	$f\sigma_8(0.15)$	0.4634	0.463 ± 0.012
A_{217}^{CIB}	45.4	42 ± 8	D_{1420}	813.5	813.5 ± 5.4	$\sigma_8(0.15)$	0.7493	0.7488 ± 0.0077
A_{143}^{tSZ}	5.16	$3.7_{-2.6}^{+1.7}$	D_{2000}	229.09	229.1 ± 2.0	$f\sigma_8(0.38)$	0.4798	0.4791 ± 0.0097
$r_{143 \times 217}^{\text{PS}}$	0.549	0.64 ± 0.13	$n_{s,0.002}$	0.9730	0.974 ± 0.023	$\sigma_8(0.38)$	0.6632	0.6629 ± 0.0062
$r_{143 \times 217}^{\text{CIB}}$	0.736	> 0.475	Y_{P}	0.245306	$0.24530_{-0.000087}^{+0.00011}$	$f\sigma_8(0.51)$	0.4773	0.4767 ± 0.0083
$\xi^{\text{tSZ} \times \text{CIB}}$	0.00	—	$Y_{\text{P}}^{\text{BBN}}$	0.246632	$0.24663_{-0.000087}^{+0.00011}$	$\sigma_8(0.51)$	0.6202	0.6200 ± 0.0056
A^{kSZ}	2.6	—	$10^5 D/H$	2.6271	2.626 ± 0.045	$f\sigma_8(0.61)$	0.4716	0.4711 ± 0.0073
A_{100}^{dust}	1.017	1.02 ± 0.20	Age/Gyr	13.8250	13.823 ± 0.038	$\sigma_8(0.61)$	0.5899	0.5897 ± 0.0053
A_{143}^{dust}	0.986	0.98 ± 0.17	z_*	1090.257	1090.24 ± 0.42	$f\sigma_8(2.33)$	0.29709	0.2970 ± 0.0026
A_{217}^{dust}	0.961	0.97 ± 0.10	r_*	144.423	144.45 ± 0.49	$\sigma_8(2.33)$	0.30591	0.3059 ± 0.0027
$A_{143 \times 217}^{\text{dust}}$	1.002	1.03 ± 0.16	$100\theta_*$	1.041032	1.04105 ± 0.00047	f_{2000}^{143}	32.02	31.5 ± 3.4
c_{100}	0.99751	0.9975 ± 0.0010	$D_M(z_*)/\text{Gpc}$	13.8730	13.876 ± 0.045	f_{2000}^{217}	108.26	108.0 ± 2.2
c_{217}	1.00149	1.0013 ± 0.0016	z_{drag}	1059.475	1059.49 ± 0.50	$f_{2000}^{143 \times 217}$	33.66	33.5 ± 2.4
H_0	66.91	66.97 ± 0.93	r_{drag}	147.16	147.18 ± 0.50	χ_{small}^2	395.90	397.0 ± 1.8
Ω_Λ	0.6795	$0.680_{-0.012}^{+0.014}$	k_{D}	0.14063	0.14061 ± 0.00056	χ_{lowl}^2	22.73	23.1 ± 2.1
Ω_m	0.3205	$0.320_{-0.014}^{+0.012}$	$100\theta_{\text{D}}$	0.161027	0.16103 ± 0.00029	χ_{CamSpec}^2	7050.5	7064.2 ± 5.7
$\Omega_m h^2$	0.14347	0.1434 ± 0.0020	z_{eq}	3413.2	3410 ± 48	χ_{prior}^2	2.39	7.7 ± 3.5
$\Omega_m h^3$	0.095994	0.09599 ± 0.00049	k_{eq}	0.010417	0.01041 ± 0.00015	χ_{CMB}^2	7469.1	7484.4 ± 5.6
σ_8	0.8118	0.8113 ± 0.0091	$100\theta_{\text{eq}}$	0.8107	0.8113 ± 0.0090			
S_8	0.8391	0.838 ± 0.024	$100\theta_{s,\text{eq}}$	0.44817	0.4485 ± 0.0046			

Best-fit $\chi_{\text{eff}}^2 = 7471.52$; $\Delta\chi_{\text{eff}}^2 = -0.22$; $\bar{\chi}_{\text{eff}}^2 = 7492.14$; $\Delta\bar{\chi}_{\text{eff}}^2 = 0.60$; $R - 1 = 0.00818$

χ_{eff}^2 : CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.90 (Δ 0.07) commander_dx12_v3.2.29: 22.73 (Δ -0.67) CamSpec like_10.7HM: 7050.50 (Δ 0.16)

10.2 base_nrun_CamSpecHM_TT_lowl_lowE_post_BAO

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}} h^2$	0.02225 ± 0.00021	$\sigma_8 \Omega_{\mathrm{m}}^{0.25}$	0.6020 ± 0.0080	$H(0.38)$	83.01 ± 0.36
$\Omega_{\mathrm{c}} h^2$	0.1189 ± 0.0012	$\sigma_8 / h^{0.5}$	0.981 ± 0.012	$D_{\mathrm{M}}(0.38)$	1528.5 ± 9.4
$100\theta_{\mathrm{MC}}$	1.04106 ± 0.00042	$r_{\mathrm{drag}} h$	99.84 ± 0.94	$H(0.51)$	89.71 ± 0.30
τ	$0.0547^{+0.0077}_{-0.0086}$	$\langle d^2 \rangle^{1/2}$	2.422 ± 0.028	$D_{\mathrm{M}}(0.51)$	1980 ± 11
$\ln(10^{10} A_{\mathrm{s}})$	$3.041^{+0.017}_{-0.019}$	z_{re}	7.71 ± 0.84	$H(0.61)$	95.31 ± 0.25
n_{s}	0.9668 ± 0.0046	$10^9 A_{\mathrm{s}}$	$2.093^{+0.034}_{-0.040}$	$D_{\mathrm{M}}(0.61)$	2305 ± 12
$\mathrm{d}n_{\mathrm{s}}/\mathrm{d} \ln k$	-0.0027 ± 0.0076	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.876 ± 0.012	$H(2.33)$	235.75 ± 0.78
y_{cal}	1.0004 ± 0.0025	D_{40}	1217 ± 20	$D_{\mathrm{M}}(2.33)$	5764 ± 13
A_{100}^{PS}	243 ± 25	D_{220}	5710 ± 40	$f\sigma_8(0.15)$	0.4538 ± 0.0077
A_{143}^{PS}	41 ± 9	D_{810}	2534 ± 14	$\sigma_8(0.15)$	0.7458 ± 0.0070
A_{217}^{PS}	100 ± 10	D_{1420}	814.4 ± 5.2	$f\sigma_8(0.38)$	0.4724 ± 0.0065
A_{217}^{CIB}	41 ± 7	D_{2000}	229.5 ± 2.0	$\sigma_8(0.38)$	$0.6613^{+0.0056}_{-0.0062}$
A_{143}^{tSZ}	$3.7^{+1.8}_{-2.6}$	$n_{\mathrm{s},0.002}$	0.975 ± 0.023	$f\sigma_8(0.51)$	0.4712 ± 0.0059
$r_{143 \times 217}^{\mathrm{PS}}$	0.64 ± 0.13	Y_{P}	$0.245344^{+0.000094}_{-0.000078}$	$\sigma_8(0.51)$	$0.6190^{+0.0051}_{-0.0058}$
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.473	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246671^{+0.000094}_{-0.000079}$	$f\sigma_8(0.61)$	0.4664 ± 0.0054
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$10^5 \mathrm{D}/\mathrm{H}$	2.608 ± 0.040	$\sigma_8(0.61)$	$0.5890^{+0.0048}_{-0.0055}$
A^{kSZ}	—	$\mathrm{Age}/\mathrm{Gyr}$	13.801 ± 0.029	$f\sigma_8(2.33)$	$0.2971^{+0.0024}_{-0.0028}$
A_{100}^{dust}	1.02 ± 0.20	z_*	1089.98 ± 0.31	$\sigma_8(2.33)$	$0.3063^{+0.0025}_{-0.0029}$
A_{143}^{dust}	0.98 ± 0.17	r_*	144.80 ± 0.32	f_{2000}^{143}	31.0 ± 3.4
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04126 ± 0.00042	f_{2000}^{217}	107.7 ± 2.2
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.17	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.906 ± 0.031	$f_{2000}^{143 \times 217}$	33.2 ± 2.4
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.58 ± 0.48	χ_{small}^2	397.2 ± 1.9
c_{217}	1.0013 ± 0.0016	r_{drag}	147.51 ± 0.36	χ_{lowl}^2	22.6 ± 1.8
H_0	67.68 ± 0.55	k_{D}	0.14034 ± 0.00047	$\chi_{\mathrm{CamSpec}}^2$	7064.6 ± 5.5
Ω_{Λ}	0.6903 ± 0.0073	$100\theta_{\mathrm{D}}$	0.16098 ± 0.00028	$\chi_{6\mathrm{DF}}^2$	0.054 ± 0.073
Ω_{m}	0.3097 ± 0.0073	z_{eq}	3374 ± 28	χ_{MGS}^2	1.39 ± 0.52
$\Omega_{\mathrm{m}} h^2$	0.1418 ± 0.0012	k_{eq}	0.010297 ± 0.000087	$\chi_{\mathrm{DR12BAO}}^2$	4.7 ± 1.6
$\Omega_{\mathrm{m}} h^3$	0.09599 ± 0.00048	$100\theta_{\mathrm{eq}}$	0.8182 ± 0.0052	χ_{prior}^2	7.7 ± 3.5
σ_8	0.8069 ± 0.0079	$100\theta_{\mathrm{s,eq}}$	0.4520 ± 0.0027	χ_{BAO}^2	6.1 ± 1.3
S_8	0.820 ± 0.015	$H(0.15)$	72.94 ± 0.47	χ_{CMB}^2	7484.3 ± 5.5
$\sigma_8 \Omega_{\mathrm{m}}^{0.5}$	0.4491 ± 0.0082	$D_{\mathrm{M}}(0.15)$	640.7 ± 4.7		

$\bar{\chi}_{\mathrm{eff}}^2 = 7498.15$; $\Delta \bar{\chi}_{\mathrm{eff}}^2 = 0.60$; $R - 1 = 0.01937$

10.3 base_nrun_CamSpecHM_TT_lowl_lowE_post_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02217 ± 0.00022	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4570 ± 0.0090	$H(0.15)$	72.44 ± 0.63
$\Omega_{\mathrm{c}}h^2$	0.1202 ± 0.0016	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6086 ± 0.0078	$D_{\mathrm{M}}(0.15)$	645.8 ± 6.3
$100\theta_{\mathrm{MC}}$	1.04087 ± 0.00045	$\sigma_8/h^{0.5}$	0.990 ± 0.011	$H(0.38)$	82.65 ± 0.46
τ	0.0532 ± 0.0083	$r_{\mathrm{drag}}h$	98.8 ± 1.2	$D_{\mathrm{M}}(0.38)$	1539 ± 13
$\ln(10^{10}A_{\mathrm{s}})$	3.041 ± 0.016	$\langle d^2 \rangle^{1/2}$	2.443 ± 0.027	$H(0.51)$	89.43 ± 0.37
n_{s}	0.9636 ± 0.0052	z_{re}	7.59 ± 0.84	$D_{\mathrm{M}}(0.51)$	1992 ± 15
$\mathrm{d}n_{\mathrm{s}}/\mathrm{d}\ln k$	-0.0024 ± 0.0074	$10^9 A_{\mathrm{s}}$	2.093 ± 0.034	$H(0.61)$	95.10 ± 0.31
y_{cal}	1.0004 ± 0.0025	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.881 ± 0.012	$D_{\mathrm{M}}(0.61)$	2317 ± 16
A_{100}^{PS}	244 ± 25	D_{40}	1224 ± 20	$H(2.33)$	236.52 ± 0.98
A_{143}^{PS}	42 ± 9	D_{220}	5707 ± 41	$D_{\mathrm{M}}(2.33)$	5773 ± 15
A_{217}^{PS}	100 ± 10	D_{810}	2534 ± 14	$f\sigma_8(0.15)$	0.4611 ± 0.0082
A_{217}^{CIB}	41 ± 7	D_{1420}	813.7 ± 5.3	$\sigma_8(0.15)$	0.7483 ± 0.0057
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.7}$	D_{2000}	229.2 ± 2.0	$f\sigma_8(0.38)$	0.4779 ± 0.0064
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	$n_{\mathrm{s},0.002}$	0.971 ± 0.023	$\sigma_8(0.38)$	0.6626 ± 0.0050
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.475	Y_{P}	$0.24531^{+0.00011}_{-0.000085}$	$f\sigma_8(0.51)$	0.4758 ± 0.0054
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.24663^{+0.00011}_{-0.000085}$	$\sigma_8(0.51)$	0.6198 ± 0.0047
A^{kSZ}	—	$10^5 \mathrm{D}/\mathrm{H}$	2.624 ± 0.043	$f\sigma_8(0.61)$	0.4703 ± 0.0048
A_{100}^{dust}	1.01 ± 0.19	$\mathrm{Age}/\mathrm{Gyr}$	13.820 ± 0.034	$\sigma_8(0.61)$	0.5896 ± 0.0045
A_{143}^{dust}	0.98 ± 0.17	z_*	1090.20 ± 0.37	$f\sigma_8(2.33)$	0.2970 ± 0.0024
A_{217}^{dust}	0.97 ± 0.10	r_*	144.52 ± 0.38	$\sigma_8(2.33)$	0.3060 ± 0.0027
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.17	$100\theta_*$	1.04107 ± 0.00044	f_{2000}^{143}	31.3 ± 3.3
c_{100}	0.9975 ± 0.0010	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.882 ± 0.036	f_{2000}^{217}	107.9 ± 2.2
c_{217}	1.0013 ± 0.0016	z_{drag}	1059.48 ± 0.49	$f_{2000}^{143 \times 217}$	33.4 ± 2.4
H_0	67.09 ± 0.73	r_{drag}	147.25 ± 0.40	$\chi_{\mathrm{lensing}}^2$	9.61 ± 0.91
Ω_{Λ}	0.682 ± 0.010	k_{D}	0.14054 ± 0.00048	χ_{simall}^2	397.0 ± 1.7
Ω_{m}	0.318 ± 0.010	$100\theta_{\mathrm{D}}$	0.16103 ± 0.00028	χ_{lowl}^2	23.2 ± 2.1
$\Omega_{\mathrm{m}}h^2$	0.1431 ± 0.0015	z_{eq}	3403 ± 36	$\chi_{\mathrm{CamSpec}}^2$	7063.5 ± 5.4
$\Omega_{\mathrm{m}}h^3$	0.09597 ± 0.00048	k_{eq}	0.01039 ± 0.00011	χ_{prior}^2	7.7 ± 3.5
σ_8	0.8105 ± 0.0064	$100\theta_{\mathrm{eq}}$	0.8126 ± 0.0068	χ_{CMB}^2	7493.4 ± 5.6
S_8	0.834 ± 0.016	$100\theta_{\mathrm{s,eq}}$	0.4492 ± 0.0035		

$$\bar{\chi}_{\mathrm{eff}}^2 = 7501.08; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.83; R - 1 = 0.01225$$

10.4 base_nrun_CamSpecHM_TT_lowl_lowE_post_BAO_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02225 ± 0.00021	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6041 ± 0.0063	$H(0.38)$	82.97 ± 0.34
$\Omega_{\mathrm{c}}h^2$	0.1191 ± 0.0011	$\sigma_8/h^{0.5}$	0.9841 ± 0.0091	$D_{\mathrm{M}}(0.38)$	1529.8 ± 8.8
$100\theta_{\mathrm{MC}}$	1.04104 ± 0.00042	$r_{\mathrm{drag}}h$	99.69 ± 0.85	$H(0.51)$	89.67 ± 0.28
τ	$0.0562^{+0.0072}_{-0.0081}$	$\langle d^2 \rangle^{1/2}$	2.430 ± 0.023	$D_{\mathrm{M}}(0.51)$	1982 ± 10
$\ln(10^{10}A_{\mathrm{s}})$	3.045 ± 0.016	z_{re}	7.87 ± 0.77	$H(0.61)$	95.28 ± 0.25
n_{s}	0.9663 ± 0.0045	$10^9 A_{\mathrm{s}}$	$2.101^{+0.031}_{-0.035}$	$D_{\mathrm{M}}(0.61)$	2306 ± 11
$\mathrm{d}n_{\mathrm{s}}/\mathrm{d}\ln k$	-0.0023 ± 0.0075	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.878 ± 0.011	$H(2.33)$	235.87 ± 0.70
y_{cal}	1.0006 ± 0.0024	D_{40}	1220 ± 19	$D_{\mathrm{M}}(2.33)$	5765 ± 13
A_{100}^{PS}	243 ± 25	D_{220}	5714 ± 39	$f\sigma_8(0.15)$	0.4557 ± 0.0061
A_{143}^{PS}	41 ± 9	D_{810}	2535 ± 14	$\sigma_8(0.15)$	0.7477 ± 0.0057
A_{217}^{PS}	101 ± 10	D_{1420}	814.8 ± 5.2	$f\sigma_8(0.38)$	0.4742 ± 0.0051
A_{217}^{CIB}	41 ± 7	D_{2000}	229.7 ± 1.9	$\sigma_8(0.38)$	0.6629 ± 0.0050
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.6}$	$n_{\mathrm{s},0.002}$	0.974 ± 0.023	$f\sigma_8(0.51)$	0.4729 ± 0.0046
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	Y_{P}	$0.245341^{+0.000094}_{-0.000078}$	$\sigma_8(0.51)$	0.6204 ± 0.0047
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.467	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246668^{+0.000094}_{-0.000078}$	$f\sigma_8(0.61)$	0.4679 ± 0.0042
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$10^5 \mathrm{D}/\mathrm{H}$	2.610 ± 0.039	$\sigma_8(0.61)$	0.5903 ± 0.0045
A^{kSZ}	—	$\mathrm{Age}/\mathrm{Gyr}$	13.803 ± 0.029	$f\sigma_8(2.33)$	$0.2977^{+0.0022}_{-0.0024}$
A_{100}^{dust}	1.01 ± 0.20	z_*	1090.00 ± 0.30	$\sigma_8(2.33)$	$0.3069^{+0.0023}_{-0.0026}$
A_{143}^{dust}	0.98 ± 0.17	r_*	144.75 ± 0.29	f_{2000}^{143}	30.9 ± 3.3
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04123 ± 0.00041	f_{2000}^{217}	107.6 ± 2.2
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.17	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.902 ± 0.029	$f_{2000}^{143 \times 217}$	33.1 ± 2.4
c_{100}	0.9975 ± 0.0010	z_{drag}	1059.58 ± 0.48	$\chi_{\mathrm{lensing}}^2$	9.47 ± 0.82
c_{217}	1.0012 ± 0.0015	r_{drag}	147.46 ± 0.33	χ_{small}^2	397.3 ± 2.0
H_0	67.60 ± 0.50	k_{D}	0.14038 ± 0.00045	χ_{lowl}^2	22.8 ± 1.9
Ω_{Λ}	0.6891 ± 0.0066	$100\theta_{\mathrm{D}}$	0.16098 ± 0.00028	$\chi_{\mathrm{CamSpec}}^2$	7063.8 ± 5.3
Ω_{m}	0.3109 ± 0.0066	z_{eq}	3378 ± 25	$\chi_{6\mathrm{DF}}^2$	0.057 ± 0.070
$\Omega_{\mathrm{m}}h^2$	0.1420 ± 0.0011	k_{eq}	0.010311 ± 0.000077	χ_{MGS}^2	1.30 ± 0.46
$\Omega_{\mathrm{m}}h^3$	0.09600 ± 0.00048	$100\theta_{\mathrm{eq}}$	0.8174 ± 0.0047	$\chi_{\mathrm{DR12BAO}}^2$	4.8 ± 1.5
σ_8	0.8091 ± 0.0063	$100\theta_{\mathrm{s,eq}}$	0.4516 ± 0.0024	χ_{prior}^2	7.7 ± 3.5
S_8	0.824 ± 0.012	$H(0.15)$	72.87 ± 0.44	χ_{CMB}^2	7493.4 ± 5.5
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4511 ± 0.0065	$D_{\mathrm{M}}(0.15)$	641.4 ± 4.3	χ_{BAO}^2	6.1 ± 1.2

$$\bar{\chi}_{\mathrm{eff}}^2 = 7507.23; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.75; R - 1 = 0.02103$$

10.5 base_nrun_CamSpecHM_TT_lowl_lowE_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02217 ± 0.00023	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.459 ± 0.013	$H(0.15)$	72.37 ± 0.79
$\Omega_{\mathrm{c}}h^2$	0.1205 ± 0.0021	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.611 ± 0.012	$D_{\mathrm{M}}(0.15)$	646.5 ± 8.0
$100\theta_{\mathrm{MC}}$	1.04086 ± 0.00048	$\sigma_8/h^{0.5}$	0.992 ± 0.016	$H(0.38)$	82.62 ± 0.57
τ	$0.0546^{+0.0049}_{-0.0088}$	$r_{\mathrm{drag}}h$	98.6 ± 1.6	$D_{\mathrm{M}}(0.38)$	1540 ± 16
$\ln(10^{10}A_{\mathrm{s}})$	$3.045^{+0.013}_{-0.018}$	$\langle d^2 \rangle^{1/2}$	2.447 ± 0.038	$H(0.51)$	89.41 ± 0.45
n_{s}	0.9632 ± 0.0061	z_{re}	$7.75^{+0.55}_{-0.87}$	$D_{\mathrm{M}}(0.51)$	1994 ± 19
$\mathrm{d}n_{\mathrm{s}}/\mathrm{d}\ln k$	-0.0036 ± 0.0076	$10^9 A_{\mathrm{s}}$	$2.100^{+0.026}_{-0.037}$	$H(0.61)$	95.08 ± 0.36
y_{cal}	1.0004 ± 0.0025	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.883 ± 0.014	$D_{\mathrm{M}}(0.61)$	2319 ± 20
A_{100}^{PS}	244 ± 25	D_{40}	1222 ± 21	$H(2.33)$	236.7 ± 1.3
A_{143}^{PS}	42 ± 9	D_{220}	5704 ± 41	$D_{\mathrm{M}}(2.33)$	5774 ± 17
A_{217}^{PS}	100 ± 10	D_{810}	2535 ± 14	$f\sigma_8(0.15)$	0.463 ± 0.012
A_{217}^{CIB}	42 ± 8	D_{1420}	813.5 ± 5.4	$\sigma_8(0.15)$	0.7498 ± 0.0071
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.6}$	D_{2000}	229.2 ± 2.0	$f\sigma_8(0.38)$	0.4795 ± 0.0096
$r_{143 \times 217}^{\mathrm{PS}}$	0.64 ± 0.13	$n_{\mathrm{s},0.002}$	0.975 ± 0.023	$\sigma_8(0.38)$	$0.6638^{+0.0052}_{-0.0059}$
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.473	Y_{P}	$0.24531^{+0.00011}_{-0.000087}$	$f\sigma_8(0.51)$	0.4772 ± 0.0082
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.24664^{+0.00011}_{-0.000087}$	$\sigma_8(0.51)$	$0.6209^{+0.0045}_{-0.0054}$
A^{kSZ}	—	$10^5 \mathrm{D}/\mathrm{H}$	2.624 ± 0.044	$f\sigma_8(0.61)$	0.4716 ± 0.0072
A_{100}^{dust}	1.02 ± 0.20	$\mathrm{Age}/\mathrm{Gyr}$	13.821 ± 0.037	$\sigma_8(0.61)$	$0.5906^{+0.0041}_{-0.0050}$
A_{143}^{dust}	0.98 ± 0.17	z_*	1090.22 ± 0.41	$f\sigma_8(2.33)$	$0.2975^{+0.0019}_{-0.0026}$
A_{217}^{dust}	0.97 ± 0.10	r_*	144.46 ± 0.49	$\sigma_8(2.33)$	$0.3064^{+0.0019}_{-0.0027}$
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04106 ± 0.00047	f_{2000}^{143}	31.5 ± 3.4
c_{100}	0.9975 ± 0.0010	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.876 ± 0.045	f_{2000}^{217}	108.0 ± 2.2
c_{217}	1.0013 ± 0.0016	z_{drag}	1059.51 ± 0.49	$f_{2000}^{143 \times 217}$	33.5 ± 2.4
H_0	67.01 ± 0.92	r_{drag}	147.19 ± 0.50	χ_{simall}^2	396.9 ± 1.8
Ω_{Λ}	$0.681^{+0.014}_{-0.012}$	k_{D}	0.14061 ± 0.00056	χ_{lowl}^2	23.0 ± 2.0
Ω_{m}	$0.319^{+0.012}_{-0.014}$	$100\theta_{\mathrm{D}}$	0.16101 ± 0.00029	$\chi_{\mathrm{CamSpec}}^2$	7064.2 ± 5.6
$\Omega_{\mathrm{m}}h^2$	0.1433 ± 0.0020	z_{eq}	3409 ± 48	χ_{prior}^2	7.7 ± 3.5
$\Omega_{\mathrm{m}}h^3$	0.09601 ± 0.00049	k_{eq}	0.01040 ± 0.00015	χ_{CMB}^2	7484.1 ± 5.6
σ_8	0.8123 ± 0.0086	$100\theta_{\mathrm{eq}}$	0.8116 ± 0.0089		
S_8	0.838 ± 0.024	$100\theta_{\mathrm{s,eq}}$	0.4487 ± 0.0046		

$\bar{\chi}_{\mathrm{eff}}^2 = 7491.87$; $\Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.61$; $R - 1 = 0.00915$

10.6 base_nrun_CamSpecHM_TT_lowl_lowE_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}} h^2$	0.02226 ± 0.00021	$\sigma_8 \Omega_{\mathrm{m}}^{0.25}$	0.6026 ± 0.0078	$H(0.38)$	83.02 ± 0.36
$\Omega_{\mathrm{c}} h^2$	0.1189 ± 0.0012	$\sigma_8 / h^{0.5}$	0.982 ± 0.011	$D_{\mathrm{M}}(0.38)$	1528.3 ± 9.4
$100\theta_{\mathrm{MC}}$	1.04107 ± 0.00042	$r_{\mathrm{drag}} h$	99.85 ± 0.93	$H(0.51)$	89.72 ± 0.30
τ	$0.0559^{+0.0056}_{-0.0088}$	$\langle d^2 \rangle^{1/2}$	2.424 ± 0.028	$D_{\mathrm{M}}(0.51)$	1980 ± 11
$\ln(10^{10} A_{\mathrm{s}})$	$3.043^{+0.013}_{-0.019}$	z_{re}	$7.84^{+0.60}_{-0.88}$	$H(0.61)$	95.32 ± 0.25
n_{s}	0.9669 ± 0.0046	$10^9 A_{\mathrm{s}}$	$2.098^{+0.027}_{-0.039}$	$D_{\mathrm{M}}(0.61)$	2304 ± 12
$\mathrm{d}n_{\mathrm{s}}/\mathrm{d} \ln k$	-0.0030 ± 0.0075	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.876 ± 0.012	$H(2.33)$	235.75 ± 0.78
y_{cal}	1.0004 ± 0.0025	D_{40}	1216 ± 20	$D_{\mathrm{M}}(2.33)$	5764 ± 13
A_{100}^{PS}	243 ± 25	D_{220}	5710 ± 40	$f\sigma_8(0.15)$	0.4542 ± 0.0076
A_{143}^{PS}	41 ± 9	D_{810}	2533 ± 14	$\sigma_8(0.15)$	$0.7467^{+0.0057}_{-0.0070}$
A_{217}^{PS}	100 ± 10	D_{1420}	814.4 ± 5.2	$f\sigma_8(0.38)$	0.4729 ± 0.0063
A_{217}^{CIB}	41 ± 7	D_{2000}	229.5 ± 1.9	$\sigma_8(0.38)$	$0.6621^{+0.0047}_{-0.0061}$
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.6}$	$n_{\mathrm{s},0.002}$	0.976 ± 0.023	$f\sigma_8(0.51)$	0.4717 ± 0.0057
$r_{143 \times 217}^{\mathrm{PS}}$	0.64 ± 0.13	Y_{P}	$0.245346^{+0.000094}_{-0.000079}$	$\sigma_8(0.51)$	$0.6197^{+0.0042}_{-0.0057}$
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.469	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246672^{+0.000094}_{-0.000079}$	$f\sigma_8(0.61)$	0.4669 ± 0.0052
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$10^5 \mathrm{D}/\mathrm{H}$	2.607 ± 0.040	$\sigma_8(0.61)$	$0.5897^{+0.0040}_{-0.0054}$
A^{kSZ}	—	$\mathrm{Age}/\mathrm{Gyr}$	13.800 ± 0.029	$f\sigma_8(2.33)$	$0.2974^{+0.0019}_{-0.0027}$
A_{100}^{dust}	1.02 ± 0.20	z_*	1089.97 ± 0.31	$\sigma_8(2.33)$	$0.3067^{+0.0020}_{-0.0028}$
A_{143}^{dust}	0.98 ± 0.18	r_*	144.80 ± 0.32	f_{2000}^{143}	31.1 ± 3.3
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04126 ± 0.00041	f_{2000}^{217}	107.7 ± 2.2
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.17	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.906 ± 0.031	$f_{2000}^{143 \times 217}$	33.2 ± 2.4
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.59 ± 0.48	χ_{simall}^2	397.1 ± 2.0
c_{217}	1.0013 ± 0.0016	r_{drag}	147.51 ± 0.36	χ_{lowl}^2	22.5 ± 1.8
H_0	67.69 ± 0.54	k_{D}	0.14034 ± 0.00047	$\chi_{\mathrm{CamSpec}}^2$	7064.5 ± 5.5
Ω_{Λ}	0.6904 ± 0.0072	$100\theta_{\mathrm{D}}$	0.16097 ± 0.00028	$\chi_{6\mathrm{DF}}^2$	0.053 ± 0.072
Ω_{m}	0.3096 ± 0.0072	z_{eq}	3374 ± 28	χ_{MGS}^2	1.40 ± 0.52
$\Omega_{\mathrm{m}} h^2$	0.1418 ± 0.0012	k_{eq}	0.010297 ± 0.000086	$\chi_{\mathrm{DR12BAO}}^2$	4.6 ± 1.5
$\Omega_{\mathrm{m}} h^3$	0.09600 ± 0.00048	$100\theta_{\mathrm{eq}}$	0.8183 ± 0.0052	χ_{prior}^2	7.8 ± 3.5
σ_8	$0.8078^{+0.0066}_{-0.0079}$	$100\theta_{\mathrm{s,eq}}$	0.4521 ± 0.0027	χ_{BAO}^2	6.1 ± 1.3
S_8	0.821 ± 0.015	$H(0.15)$	72.95 ± 0.47	χ_{CMB}^2	7484.1 ± 5.4
$\sigma_8 \Omega_{\mathrm{m}}^{0.5}$	0.4495 ± 0.0080	$D_{\mathrm{M}}(0.15)$	640.6 ± 4.6		

$\bar{\chi}_{\mathrm{eff}}^2 = 7497.95$; $\Delta \bar{\chi}_{\mathrm{eff}}^2 = 0.64$; $R - 1 = 0.02138$

10.7 base_nrun_CamSpecHM_TT_lowl_lowE_post_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}} h^2$	0.02218 ± 0.00022	$\sigma_8 \Omega_{\mathrm{m}}^{0.5}$	0.4568 ± 0.0089	$H(0.15)$	72.49 ± 0.61
$\Omega_{\mathrm{c}} h^2$	0.1201 ± 0.0015	$\sigma_8 \Omega_{\mathrm{m}}^{0.25}$	0.6087 ± 0.0077	$D_{\mathrm{M}}(0.15)$	645.2 ± 6.1
$100\theta_{\mathrm{MC}}$	1.04088 ± 0.00045	$\sigma_8/h^{0.5}$	0.990 ± 0.011	$H(0.38)$	82.69 ± 0.45
τ	$0.0547^{+0.0052}_{-0.0086}$	$r_{\mathrm{drag}} h$	98.9 ± 1.2	$D_{\mathrm{M}}(0.38)$	1537 ± 12
$\ln(10^{10} A_{\mathrm{s}})$	$3.044^{+0.011}_{-0.016}$	$\langle d^2 \rangle^{1/2}$	2.443 ± 0.027	$H(0.51)$	89.46 ± 0.36
n_{s}	0.9639 ± 0.0051	z_{re}	$7.75^{+0.58}_{-0.84}$	$D_{\mathrm{M}}(0.51)$	1991 ± 14
$\mathrm{d}n_{\mathrm{s}}/\mathrm{d} \ln k$	-0.0026 ± 0.0074	$10^9 A_{\mathrm{s}}$	$2.099^{+0.023}_{-0.034}$	$H(0.61)$	95.12 ± 0.30
y_{cal}	1.0004 ± 0.0025	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.881 ± 0.012	$D_{\mathrm{M}}(0.61)$	2316 ± 15
A_{100}^{PS}	244 ± 25	D_{40}	1223 ± 20	$H(2.33)$	236.44 ± 0.95
A_{143}^{PS}	42 ± 9	D_{220}	5707 ± 41	$D_{\mathrm{M}}(2.33)$	5772 ± 15
A_{217}^{PS}	100 ± 10	D_{810}	2534 ± 14	$f\sigma_8(0.15)$	0.4609 ± 0.0082
A_{217}^{CIB}	41 ± 7	D_{1420}	813.7 ± 5.3	$\sigma_8(0.15)$	$0.7490^{+0.0050}_{-0.0055}$
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.7}$	D_{2000}	229.3 ± 2.0	$f\sigma_8(0.38)$	0.4780 ± 0.0064
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	$n_{\mathrm{s},0.002}$	0.972 ± 0.023	$\sigma_8(0.38)$	$0.6634^{+0.0040}_{-0.0049}$
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.472	Y_{P}	$0.24531^{+0.00010}_{-0.000085}$	$f\sigma_8(0.51)$	0.4759 ± 0.0054
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.24664^{+0.00010}_{-0.000085}$	$\sigma_8(0.51)$	$0.6206^{+0.0037}_{-0.0047}$
A^{kSZ}	—	$10^5 \mathrm{D}/\mathrm{H}$	2.622 ± 0.042	$f\sigma_8(0.61)$	0.4705 ± 0.0048
A_{100}^{dust}	1.01 ± 0.19	$\mathrm{Age}/\mathrm{Gyr}$	13.818 ± 0.033	$\sigma_8(0.61)$	$0.5903^{+0.0034}_{-0.0045}$
A_{143}^{dust}	0.98 ± 0.17	z_{*}	1090.17 ± 0.36	$f\sigma_8(2.33)$	$0.2974^{+0.0017}_{-0.0024}$
A_{217}^{dust}	0.97 ± 0.11	r_{*}	144.55 ± 0.37	$\sigma_8(2.33)$	$0.3064^{+0.0019}_{-0.0027}$
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.17	$100\theta_{*}$	1.04109 ± 0.00044	f_{2000}^{143}	31.3 ± 3.3
c_{100}	0.9975 ± 0.0010	$D_{\mathrm{M}}(z_{*})/\mathrm{Gpc}$	13.884 ± 0.035	f_{2000}^{217}	107.9 ± 2.2
c_{217}	1.0013 ± 0.0016	z_{drag}	1059.50 ± 0.49	$f_{2000}^{143 \times 217}$	33.4 ± 2.4
H_0	67.15 ± 0.70	r_{drag}	147.28 ± 0.39	$\chi_{\mathrm{lensing}}^2$	9.59 ± 0.91
Ω_{Λ}	0.6829 ± 0.0097	k_{D}	0.14053 ± 0.00048	χ_{simall}^2	396.9 ± 1.7
Ω_{m}	0.3171 ± 0.0097	$100\theta_{\mathrm{D}}$	0.16102 ± 0.00028	χ_{lowl}^2	23.1 ± 2.0
$\Omega_{\mathrm{m}} h^2$	0.1429 ± 0.0015	z_{eq}	3400 ± 35	$\chi_{\mathrm{CamSpec}}^2$	7063.5 ± 5.4
$\Omega_{\mathrm{m}} h^3$	0.09598 ± 0.00048	k_{eq}	0.01038 ± 0.00011	χ_{prior}^2	7.7 ± 3.5
σ_8	0.8112 ± 0.0061	$100\theta_{\mathrm{eq}}$	0.8132 ± 0.0066	χ_{CMB}^2	7493.1 ± 5.6
S_8	0.834 ± 0.016	$100\theta_{\mathrm{s,eq}}$	0.4495 ± 0.0034		

$\bar{\chi}_{\mathrm{eff}}^2 = 7500.82$; $\Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.81$; $R - 1 = 0.01490$

10.8 base_nrun_CamSpecHM_TT_lowl_lowE_post_BAO_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02225 ± 0.00021	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6043 ± 0.0062	$H(0.38)$	82.98 ± 0.33
$\Omega_{\mathrm{c}}h^2$	0.1191 ± 0.0011	$\sigma_8/h^{0.5}$	0.9845 ± 0.0089	$D_{\mathrm{M}}(0.38)$	1529.6 ± 8.7
$100\theta_{\mathrm{MC}}$	1.04104 ± 0.00041	$r_{\mathrm{drag}}h$	99.71 ± 0.84	$H(0.51)$	89.68 ± 0.28
τ	$0.0569^{+0.0060}_{-0.0083}$	$\langle d^2 \rangle^{1/2}$	2.431 ± 0.023	$D_{\mathrm{M}}(0.51)$	1982 ± 10
$\ln(10^{10}A_{\mathrm{s}})$	$3.046^{+0.013}_{-0.017}$	z_{re}	$7.94^{+0.65}_{-0.79}$	$H(0.61)$	95.29 ± 0.25
n_{s}	0.9664 ± 0.0044	$10^9 A_{\mathrm{s}}$	$2.104^{+0.026}_{-0.035}$	$D_{\mathrm{M}}(0.61)$	2306 ± 11
$\mathrm{d}n_{\mathrm{s}}/\mathrm{d}\ln k$	-0.0025 ± 0.0075	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.878 ± 0.011	$H(2.33)$	235.86 ± 0.70
y_{cal}	1.0006 ± 0.0024	D_{40}	1220 ± 19	$D_{\mathrm{M}}(2.33)$	5765 ± 13
A_{100}^{PS}	243 ± 25	D_{220}	5714 ± 40	$f\sigma_8(0.15)$	0.4558 ± 0.0061
A_{143}^{PS}	41 ± 9	D_{810}	2535 ± 14	$\sigma_8(0.15)$	$0.7481^{+0.0050}_{-0.0059}$
A_{217}^{PS}	100 ± 10	D_{1420}	814.7 ± 5.2	$f\sigma_8(0.38)$	0.4743 ± 0.0050
A_{217}^{CIB}	41 ± 7	D_{2000}	229.7 ± 1.9	$\sigma_8(0.38)$	$0.6632^{+0.0043}_{-0.0052}$
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.6}$	$n_{\mathrm{s},0.002}$	0.974 ± 0.023	$f\sigma_8(0.51)$	0.4730 ± 0.0045
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	Y_{P}	$0.245343^{+0.000094}_{-0.000078}$	$\sigma_8(0.51)$	$0.6207^{+0.0040}_{-0.0049}$
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.466	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246669^{+0.000094}_{-0.000078}$	$f\sigma_8(0.61)$	0.4681 ± 0.0041
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$10^5 \mathrm{D}/\mathrm{H}$	2.609 ± 0.039	$\sigma_8(0.61)$	$0.5906^{+0.0038}_{-0.0047}$
A^{kSZ}	—	$\mathrm{Age}/\mathrm{Gyr}$	13.802 ± 0.029	$f\sigma_8(2.33)$	$0.2978^{+0.0019}_{-0.0025}$
A_{100}^{dust}	1.02 ± 0.20	z_*	1090.00 ± 0.30	$\sigma_8(2.33)$	$0.3071^{+0.0020}_{-0.0026}$
A_{143}^{dust}	0.98 ± 0.17	r_*	144.76 ± 0.29	f_{2000}^{143}	30.9 ± 3.3
A_{217}^{dust}	0.97 ± 0.11	$100\theta_*$	1.04124 ± 0.00041	f_{2000}^{217}	107.7 ± 2.2
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.17	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.902 ± 0.029	$f_{2000}^{143 \times 217}$	33.1 ± 2.4
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.59 ± 0.48	$\chi_{\mathrm{lensing}}^2$	9.43 ± 0.77
c_{217}	1.0012 ± 0.0015	r_{drag}	147.47 ± 0.33	χ_{small}^2	397.3 ± 2.0
H_0	67.61 ± 0.50	k_{D}	0.14038 ± 0.00045	χ_{lowl}^2	22.8 ± 1.9
Ω_{Λ}	0.6893 ± 0.0065	$100\theta_{\mathrm{D}}$	0.16098 ± 0.00028	$\chi_{\mathrm{CamSpec}}^2$	7063.8 ± 5.4
Ω_{m}	0.3107 ± 0.0065	z_{eq}	3378 ± 25	$\chi_{6\mathrm{DF}}^2$	0.054 ± 0.068
$\Omega_{\mathrm{m}}h^2$	0.1420 ± 0.0011	k_{eq}	0.010309 ± 0.000077	χ_{MGS}^2	1.31 ± 0.46
$\Omega_{\mathrm{m}}h^3$	0.09600 ± 0.00048	$100\theta_{\mathrm{eq}}$	0.8175 ± 0.0046	$\chi_{\mathrm{DR12BAO}}^2$	4.7 ± 1.5
σ_8	$0.8095^{+0.0056}_{-0.0064}$	$100\theta_{\mathrm{s,eq}}$	0.4517 ± 0.0024	χ_{prior}^2	7.7 ± 3.5
S_8	0.824 ± 0.012	$H(0.15)$	72.88 ± 0.43	χ_{CMB}^2	7493.3 ± 5.5
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4512 ± 0.0065	$D_{\mathrm{M}}(0.15)$	641.3 ± 4.3	χ_{BAO}^2	6.1 ± 1.2

$\bar{\chi}_{\mathrm{eff}}^2 = 7507.10$; $\Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.78$; $R - 1 = 0.02288$

10.9 base_nrun_CamSpecHM_TTTEEE_lowl_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022296	0.02229 ± 0.00016	σ_8	0.8086	0.8080 ± 0.0076	$100\theta_{\text{eq}}$	0.8148	0.8150 ± 0.0059
$\Omega_c h^2$	0.11967	0.1196 ± 0.0014	S_8	0.8272	0.826 ± 0.016	$100\theta_{\text{s,eq}}$	0.45022	0.4503 ± 0.0030
$100\theta_{\text{MC}}$	1.040874	1.04087 ± 0.00031	$\sigma_8 \Omega_{\text{m}}^{0.5}$	0.4531	0.4526 ± 0.0089	$H(0.15)$	72.70	72.71 ± 0.52
τ	0.0532	0.0528 ± 0.0082	$\sigma_8 \Omega_{\text{m}}^{0.25}$	0.6053	0.6047 ± 0.0084	$D_{\text{M}}(0.15)$	643.1	643.0 ± 5.2
$\ln(10^{10} A_{\text{s}})$	3.0394	3.039 ± 0.017	$\sigma_8/h^{0.5}$	0.9849	0.984 ± 0.012	$H(0.38)$	82.856	82.86 ± 0.37
n_{s}	0.96599	0.9657 ± 0.0048	$r_{\text{drag}} h$	99.25	99.3 ± 1.1	$D_{\text{M}}(0.38)$	1533.1	1533 ± 10
$dn_{\text{s}}/d \ln k$	-0.0007	-0.0011 ± 0.0068	$\langle d^2 \rangle^{1/2}$	2.4333	2.432 ± 0.028	$H(0.51)$	89.598	89.60 ± 0.30
y_{cal}	1.00030	1.0004 ± 0.0025	z_{re}	7.57	7.52 ± 0.84	$D_{\text{M}}(0.51)$	1985.6	1985 ± 12
A_{100}^{PS}	236.5	241 ± 25	$10^9 A_{\text{s}}$	2.0894	2.088 ± 0.036	$H(0.61)$	95.236	95.24 ± 0.24
A_{143}^{PS}	42.4	40 ± 9	$10^9 A_{\text{s}} e^{-2\tau}$	1.8786	1.879 ± 0.012	$D_{\text{M}}(0.61)$	2310.2	2310 ± 13
A_{217}^{PS}	102.5	102 ± 10	D_{40}	1223.7	1224 ± 18	$H(2.33)$	236.26	236.23 ± 0.84
A_{217}^{CIB}	42.9	40 ± 7	D_{220}	5714.7	5716 ± 38	$D_{\text{M}}(2.33)$	5766.6	5767 ± 11
A_{143}^{tSZ}	5.59	$3.8_{-2.6}^{+1.9}$	D_{810}	2534.9	2535 ± 14	$f\sigma_8(0.15)$	0.4574	0.4570 ± 0.0083
$r_{143 \times 217}^{\text{PS}}$	0.627	0.65 ± 0.13	D_{1420}	815.6	815.3 ± 5.0	$\sigma_8(0.15)$	0.7469	0.7464 ± 0.0067
$r_{143 \times 217}^{\text{CIB}}$	0.775	$0.57_{-0.16}^{+0.40}$	D_{2000}	230.18	230.0 ± 1.9	$f\sigma_8(0.38)$	0.4752	0.4747 ± 0.0068
$\xi^{\text{tSZ} \times \text{CIB}}$	0.33	—	$n_{\text{s},0.002}$	0.9681	0.969 ± 0.021	$\sigma_8(0.38)$	0.6618	0.6614 ± 0.0057
A^{kSZ}	1.54	$4.8_{-3.8}^{+2.5}$	Y_{P}	0.245366	$0.245362_{-0.000063}^{+0.000069}$	$f\sigma_8(0.51)$	0.4735	0.4731 ± 0.0060
A_{100}^{dust}	1.015	1.01 ± 0.20	$Y_{\text{P}}^{\text{BBN}}$	0.246692	$0.246689_{-0.000063}^{+0.000069}$	$\sigma_8(0.51)$	0.6192	0.6188 ± 0.0053
A_{143}^{dust}	0.978	0.97 ± 0.18	$10^5 \text{D}/\text{H}$	2.5994	2.601 ± 0.031	$f\sigma_8(0.61)$	0.4683	0.4679 ± 0.0055
A_{217}^{dust}	0.971	0.97 ± 0.10	Age/Gyr	13.8048	13.805 ± 0.025	$\sigma_8(0.61)$	0.58915	0.5888 ± 0.0050
$A_{143 \times 217}^{\text{dust}}$	0.992	1.03 ± 0.16	z_*	1089.986	1089.99 ± 0.28	$f\sigma_8(2.33)$	0.29695	0.2968 ± 0.0025
c_{100}	0.99763	0.9975 ± 0.0011	r_*	144.573	144.59 ± 0.32	$\sigma_8(2.33)$	0.30604	0.3059 ± 0.0026
c_{217}	1.00129	1.0011 ± 0.0016	$100\theta_*$	1.041067	1.04106 ± 0.00031	f_{2000}^{143}	30.18	30.1 ± 3.2
c_{TE}	0.99655	0.9967 ± 0.0050	$D_{\text{M}}(z_*)/\text{Gpc}$	13.8870	13.889 ± 0.030	f_{2000}^{217}	106.90	107.1 ± 2.2
c_{EE}	0.99209	0.9922 ± 0.0050	z_{drag}	1059.742	1059.73 ± 0.35	$f_{2000}^{143 \times 217}$	32.19	32.4 ± 2.3
H_0	67.40	67.41 ± 0.60	r_{drag}	147.261	147.28 ± 0.33	χ_{small}^2	395.88	396.9 ± 1.7
Ω_{Λ}	0.6860	0.6861 ± 0.0084	k_{D}	0.140632	0.14061 ± 0.00038	χ_{lowl}^2	22.85	23.1 ± 1.9
Ω_{m}	0.3140	0.3139 ± 0.0084	$100\theta_{\text{D}}$	0.160863	0.16087 ± 0.00020	χ_{CamSpec}^2	11499.9	11515.5 ± 5.9
$\Omega_{\text{m}} h^2$	0.14261	0.1426 ± 0.0013	z_{eq}	3392.5	3391 ± 31	χ_{prior}^2	2.17	7.8 ± 3.5
$\Omega_{\text{m}} h^3$	0.096111	0.09609 ± 0.00034	k_{eq}	0.010354	0.010351 ± 0.000096	χ_{CMB}^2	11918.6	11935.6 ± 5.9

Best-fit $\chi_{\text{eff}}^2 = 11920.76$; $\Delta\chi_{\text{eff}}^2 = -0.00$; $\bar{\chi}_{\text{eff}}^2 = 11943.38$; $\Delta\bar{\chi}_{\text{eff}}^2 = 0.92$; $R - 1 = 0.00835$

χ_{eff}^2 : CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.88 (Δ -0.02) commander_dx12_v3.2.29: 22.85 (Δ -0.15) CamSpec like_10.7HM_1400_unified: 11499.86 (Δ 0.21)

10.10 base_nrun_CamSpecHM_TTTEEE_lowl_lowE_post_BAO

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02233 ± 0.00015	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4486 ± 0.0070	$H(0.38)$	83.04 ± 0.29
$\Omega_{\mathrm{c}}h^2$	0.1189 ± 0.0010	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6014 ± 0.0071	$D_{\mathrm{M}}(0.38)$	1527.9 ± 7.7
$100\theta_{\mathrm{MC}}$	1.04095 ± 0.00030	$\sigma_8/h^{0.5}$	0.980 ± 0.010	$H(0.51)$	89.74 ± 0.23
τ	0.0536 ± 0.0081	$r_{\mathrm{drag}}h$	99.81 ± 0.78	$D_{\mathrm{M}}(0.51)$	1979.5 ± 9.1
$\ln(10^{10}A_{\mathrm{s}})$	3.039 ± 0.017	$\langle d^2 \rangle^{1/2}$	2.423 ± 0.026	$H(0.61)$	95.34 ± 0.20
n_{s}	0.9674 ± 0.0042	z_{re}	7.58 ± 0.82	$D_{\mathrm{M}}(0.61)$	2303.7 ± 9.8
$\mathrm{d}n_{\mathrm{s}}/\mathrm{d}\ln k$	-0.0005 ± 0.0067	$10^9 A_{\mathrm{s}}$	$2.088^{+0.033}_{-0.036}$	$H(2.33)$	235.83 ± 0.64
y_{cal}	1.0005 ± 0.0025	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.876 ± 0.012	$D_{\mathrm{M}}(2.33)$	5762.3 ± 9.5
A_{100}^{PS}	240 ± 25	D_{40}	1222 ± 18	$f\sigma_8(0.15)$	0.4533 ± 0.0066
A_{143}^{PS}	39 ± 9	D_{220}	5720 ± 38	$\sigma_8(0.15)$	0.7452 ± 0.0065
A_{217}^{PS}	102 ± 10	D_{810}	2534 ± 14	$f\sigma_8(0.38)$	0.4720 ± 0.0057
A_{217}^{CIB}	40^{+7}_{-8}	D_{1420}	815.9 ± 5.0	$\sigma_8(0.38)$	0.6608 ± 0.0056
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	D_{2000}	230.3 ± 1.8	$f\sigma_8(0.51)$	0.4708 ± 0.0052
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$n_{\mathrm{s},0.002}$	0.969 ± 0.020	$\sigma_8(0.51)$	0.6185 ± 0.0052
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56^{+0.41}_{-0.16}$	Y_{P}	$0.245379^{+0.000065}_{-0.000058}$	$f\sigma_8(0.61)$	0.4660 ± 0.0049
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246705^{+0.000065}_{-0.000059}$	$\sigma_8(0.61)$	0.5885 ± 0.0049
A^{kSZ}	$4.7^{+2.2}_{-4.0}$	$10^5 \mathrm{D}/\mathrm{H}$	2.593 ± 0.029	$f\sigma_8(2.33)$	0.2968 ± 0.0025
A_{100}^{dust}	1.01 ± 0.19	$\mathrm{Age}/\mathrm{Gyr}$	13.796 ± 0.022	$\sigma_8(2.33)$	0.3061 ± 0.0026
A_{143}^{dust}	0.96 ± 0.18	z_*	1089.88 ± 0.24	f_{2000}^{143}	29.7 ± 3.2
A_{217}^{dust}	0.97 ± 0.10	r_*	144.73 ± 0.26	f_{2000}^{217}	106.9 ± 2.2
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04114 ± 0.00029	$f_{2000}^{143 \times 217}$	32.1 ± 2.3
c_{100}	0.9975 ± 0.0011	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.901 ± 0.024	χ_{simall}^2	397.0 ± 1.7
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.77 ± 0.34	χ_{lowl}^2	23.0 ± 1.8
c_{TE}	0.9969 ± 0.0050	r_{drag}	147.41 ± 0.27	$\chi_{\mathrm{CamSpec}}^2$	11515.4 ± 6.0
c_{EE}	0.9925 ± 0.0049	k_{D}	0.14050 ± 0.00035	$\chi_{6\mathrm{DF}}^2$	0.045 ± 0.056
H_0	67.71 ± 0.45	$100\theta_{\mathrm{D}}$	0.16085 ± 0.00020	χ_{MGS}^2	1.36 ± 0.44
Ω_{Λ}	0.6904 ± 0.0061	z_{eq}	3376 ± 24	$\chi_{\mathrm{DR12BAO}}^2$	4.6 ± 1.3
Ω_{m}	0.3096 ± 0.0061	k_{eq}	0.010304 ± 0.000072	χ_{prior}^2	7.8 ± 3.5
$\Omega_{\mathrm{m}}h^2$	0.14192 ± 0.00098	$100\theta_{\mathrm{eq}}$	0.8179 ± 0.0044	χ_{BAO}^2	5.97 ± 0.97
$\Omega_{\mathrm{m}}h^3$	0.09609 ± 0.00034	$100\theta_{\mathrm{s,eq}}$	0.4518 ± 0.0023	χ_{CMB}^2	11935.4 ± 5.9
σ_8	0.8062 ± 0.0073	$H(0.15)$	72.97 ± 0.39		
S_8	0.819 ± 0.013	$D_{\mathrm{M}}(0.15)$	640.4 ± 3.8		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11949.15; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.86; R - 1 = 0.01377$$

10.11 base_nrun_CamSpecHM_TTTEEE_lowl_lowE_post_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02229 ± 0.00016	S_8	0.828 ± 0.013	$H(0.15)$	72.69 ± 0.46
$\Omega_{\mathrm{c}}h^2$	0.1197 ± 0.0012	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4535 ± 0.0069	$D_{\mathrm{M}}(0.15)$	643.2 ± 4.6
$100\theta_{\mathrm{MC}}$	1.04086 ± 0.00031	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6057 ± 0.0063	$H(0.38)$	82.85 ± 0.34
τ	0.0537 ± 0.0077	$\sigma_8/h^{0.5}$	0.9857 ± 0.0090	$D_{\mathrm{M}}(0.38)$	1533.4 ± 9.2
$\ln(10^{10}A_{\mathrm{s}})$	3.041 ± 0.015	$r_{\mathrm{drag}}h$	99.23 ± 0.93	$H(0.51)$	89.59 ± 0.27
n_{s}	0.9655 ± 0.0045	$\langle d^2 \rangle^{1/2}$	2.437 ± 0.023	$D_{\mathrm{M}}(0.51)$	1986 ± 11
$\mathrm{d}n_{\mathrm{s}}/\mathrm{d}\ln k$	-0.0006 ± 0.0066	z_{re}	7.61 ± 0.77	$H(0.61)$	95.23 ± 0.22
y_{cal}	1.0005 ± 0.0025	$10^9 A_{\mathrm{s}}$	2.093 ± 0.032	$D_{\mathrm{M}}(0.61)$	2311 ± 12
A_{100}^{PS}	240 ± 25	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.879 ± 0.011	$H(2.33)$	236.27 ± 0.73
A_{143}^{PS}	40 ± 9	D_{40}	1226 ± 18	$D_{\mathrm{M}}(2.33)$	5767 ± 11
A_{217}^{PS}	102 ± 10	D_{220}	5719 ± 39	$f\sigma_8(0.15)$	0.4579 ± 0.0064
A_{217}^{CIB}	40_{-8}^{+7}	D_{810}	2535 ± 13	$\sigma_8(0.15)$	0.7473 ± 0.0054
A_{143}^{tSZ}	$3.9_{-2.5}^{+1.9}$	D_{1420}	815.5 ± 5.0	$f\sigma_8(0.38)$	0.4755 ± 0.0052
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	D_{2000}	230.1 ± 1.8	$\sigma_8(0.38)$	0.6622 ± 0.0048
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56_{-0.17}^{+0.40}$	$n_{\mathrm{s},0.002}$	0.967 ± 0.020	$f\sigma_8(0.51)$	0.4738 ± 0.0045
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Y_{P}	$0.245361_{-0.000062}^{+0.000069}$	$\sigma_8(0.51)$	0.6196 ± 0.0045
A^{kSZ}	$4.7_{-4.1}^{+2.1}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246688_{-0.000062}^{+0.000069}$	$f\sigma_8(0.61)$	0.4686 ± 0.0041
A_{100}^{dust}	1.01 ± 0.19	$10^5 \mathrm{D}/\mathrm{H}$	2.601 ± 0.030	$\sigma_8(0.61)$	0.5895 ± 0.0043
A_{143}^{dust}	0.96 ± 0.18	$\mathrm{Age}/\mathrm{Gyr}$	13.806 ± 0.024	$f\sigma_8(2.33)$	0.2971 ± 0.0022
A_{217}^{dust}	0.97 ± 0.10	z_*	1089.99 ± 0.26	$\sigma_8(2.33)$	0.3062 ± 0.0024
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	r_*	144.57 ± 0.28	f_{2000}^{143}	29.9 ± 3.2
c_{100}	0.9976 ± 0.0011	$100\theta_*$	1.04105 ± 0.00030	f_{2000}^{217}	107.0 ± 2.2
c_{217}	1.0011 ± 0.0016	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.887 ± 0.026	$f_{2000}^{143 \times 217}$	32.3 ± 2.3
c_{TE}	0.9967 ± 0.0050	z_{drag}	1059.73 ± 0.35	$\chi_{\mathrm{lensing}}^2$	9.33 ± 0.73
c_{EE}	0.9922 ± 0.0049	r_{drag}	147.26 ± 0.29	χ_{small}^2	396.9 ± 1.6
H_0	67.38 ± 0.53	k_{D}	0.14062 ± 0.00035	χ_{lowl}^2	23.4 ± 1.9
Ω_{Λ}	0.6858 ± 0.0073	$100\theta_{\mathrm{D}}$	0.16087 ± 0.00020	$\chi_{\mathrm{CamSpec}}^2$	11514.9 ± 5.8
Ω_{m}	0.3142 ± 0.0073	z_{eq}	3393 ± 27	χ_{prior}^2	7.7 ± 3.4
$\Omega_{\mathrm{m}}h^2$	0.1426 ± 0.0011	k_{eq}	0.010355 ± 0.000083	χ_{CMB}^2	11944.5 ± 6.0
$\Omega_{\mathrm{m}}h^3$	0.09610 ± 0.00033	$100\theta_{\mathrm{eq}}$	0.8147 ± 0.0051		
σ_8	0.8091 ± 0.0060	$100\theta_{\mathrm{s,eq}}$	0.4502 ± 0.0026		

$\bar{\chi}_{\mathrm{eff}}^2 = 11952.22$; $\Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.78$; $R - 1 = 0.01144$

10.12 base_nrun_CamSpecHM_TTTEEE_lowl_lowE_post_BAO_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02233 ± 0.00015	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4504 ± 0.0058	$H(0.38)$	83.01 ± 0.27
$\Omega_{\mathrm{c}}h^2$	0.11910 ± 0.00094	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6034 ± 0.0057	$D_{\mathrm{M}}(0.38)$	1528.9 ± 7.3
$100\theta_{\mathrm{MC}}$	1.04094 ± 0.00029	$\sigma_8/h^{0.5}$	0.9828 ± 0.0083	$H(0.51)$	89.71 ± 0.22
τ	$0.0552^{+0.0068}_{-0.0076}$	$r_{\mathrm{drag}}h$	99.70 ± 0.72	$D_{\mathrm{M}}(0.51)$	1980.7 ± 8.5
$\ln(10^{10}A_{\mathrm{s}})$	$3.043^{+0.014}_{-0.015}$	$\langle d^2 \rangle^{1/2}$	2.431 ± 0.021	$H(0.61)$	95.33 ± 0.19
n_{s}	0.9669 ± 0.0040	z_{re}	7.75 ± 0.74	$D_{\mathrm{M}}(0.61)$	2304.9 ± 9.2
$\mathrm{d}n_{\mathrm{s}}/\mathrm{d}\ln k$	-0.0002 ± 0.0066	$10^9 A_{\mathrm{s}}$	$2.097^{+0.029}_{-0.033}$	$H(2.33)$	235.93 ± 0.59
y_{cal}	1.0006 ± 0.0025	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.877 ± 0.011	$D_{\mathrm{M}}(2.33)$	5763.0 ± 9.3
A_{100}^{PS}	240 ± 25	D_{40}	1225 ± 18	$f\sigma_8(0.15)$	0.4551 ± 0.0054
A_{143}^{PS}	39 ± 9	D_{220}	5724 ± 38	$\sigma_8(0.15)$	$0.7470^{+0.0050}_{-0.0056}$
A_{217}^{PS}	103 ± 10	D_{810}	2535 ± 13	$f\sigma_8(0.38)$	0.4736 ± 0.0046
A_{217}^{CIB}	40^{+7}_{-8}	D_{1420}	816.1 ± 4.9	$\sigma_8(0.38)$	$0.6623^{+0.0044}_{-0.0049}$
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.4}$	D_{2000}	230.4 ± 1.8	$f\sigma_8(0.51)$	0.4723 ± 0.0042
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$n_{\mathrm{s},0.002}$	0.968 ± 0.020	$\sigma_8(0.51)$	$0.6198^{+0.0041}_{-0.0046}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56^{+0.39}_{-0.18}$	Y_{P}	$0.245377^{+0.000065}_{-0.000057}$	$f\sigma_8(0.61)$	0.4674 ± 0.0039
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246704^{+0.000066}_{-0.000058}$	$\sigma_8(0.61)$	$0.5898^{+0.0039}_{-0.0044}$
A^{kSZ}	$4.6^{+2.0}_{-4.2}$	$10^5 \mathrm{D}/\mathrm{H}$	2.594 ± 0.029	$f\sigma_8(2.33)$	$0.2974^{+0.0020}_{-0.0022}$
A_{100}^{dust}	1.01 ± 0.19	$\mathrm{Age}/\mathrm{Gyr}$	13.797 ± 0.021	$\sigma_8(2.33)$	$0.3067^{+0.0021}_{-0.0024}$
A_{143}^{dust}	0.96 ± 0.18	z_{*}	1089.89 ± 0.23	f_{2000}^{143}	29.6 ± 3.2
A_{217}^{dust}	0.97 ± 0.10	r_{*}	$144.70^{+0.22}_{-0.25}$	f_{2000}^{217}	106.9 ± 2.1
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$100\theta_{*}$	1.04113 ± 0.00029	$f_{2000}^{143 \times 217}$	32.0 ± 2.3
c_{100}	0.9976 ± 0.0011	$D_{\mathrm{M}}(z_{*})/\mathrm{Gpc}$	$13.898^{+0.021}_{-0.024}$	$\chi_{\mathrm{lensing}}^2$	9.32 ± 0.77
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.78 ± 0.34	χ_{small}^2	397.1 ± 1.8
c_{TE}	0.9968 ± 0.0049	r_{drag}	$147.38^{+0.24}_{-0.27}$	χ_{lowl}^2	23.2 ± 1.9
c_{EE}	0.9925 ± 0.0049	k_{D}	0.14053 ± 0.00033	$\chi_{\mathrm{CamSpec}}^2$	11514.8 ± 5.8
H_0	67.65 ± 0.42	$100\theta_{\mathrm{D}}$	0.16085 ± 0.00020	$\chi_{6\mathrm{DF}}^2$	0.048 ± 0.056
Ω_{Λ}	0.6895 ± 0.0056	z_{eq}	3380 ± 22	χ_{MGS}^2	1.29 ± 0.40
Ω_{m}	0.3105 ± 0.0056	k_{eq}	0.010315 ± 0.000066	$\chi_{\mathrm{DR12BAO}}^2$	4.7 ± 1.2
$\Omega_{\mathrm{m}}h^2$	0.14207 ± 0.00090	$100\theta_{\mathrm{eq}}$	0.8173 ± 0.0040	χ_{prior}^2	7.7 ± 3.4
$\Omega_{\mathrm{m}}h^3$	$0.09610^{+0.00035}_{-0.00032}$	$100\theta_{\mathrm{s,eq}}$	0.4515 ± 0.0021	χ_{CMB}^2	11944.4 ± 5.9
σ_8	0.8083 ± 0.0059	$H(0.15)$	72.92 ± 0.36	χ_{BAO}^2	6.02 ± 0.97
S_8	0.822 ± 0.011	$D_{\mathrm{M}}(0.15)$	641.0 ± 3.6		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11958.12; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.72; R - 1 = 0.01586$$

10.13 base_nrun_CamSpecHM_TTTEEE_lowl_lowE_post_Riess18

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02242 ± 0.00016	S_8	0.810 ± 0.015	$H(0.15)$	73.33 ± 0.49
$\Omega_{\mathrm{c}}h^2$	0.1181 ± 0.0013	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4435 ± 0.0083	$D_{\mathrm{M}}(0.15)$	636.9 ± 4.8
$100\theta_{\mathrm{MC}}$	1.04107 ± 0.00030	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.5971 ± 0.0081	$H(0.38)$	83.31 ± 0.36
τ	$0.0550^{+0.0074}_{-0.0087}$	$\sigma_8/h^{0.5}$	0.974 ± 0.012	$D_{\mathrm{M}}(0.38)$	1520.8 ± 9.6
$\ln(10^{10}A_{\mathrm{s}})$	$3.040^{+0.016}_{-0.018}$	$r_{\mathrm{drag}}h$	100.5 ± 1.0	$H(0.51)$	89.95 ± 0.29
n_{s}	0.9696 ± 0.0046	$\langle d^2 \rangle^{1/2}$	2.410 ± 0.028	$D_{\mathrm{M}}(0.51)$	1971 ± 11
$\mathrm{d}n_{\mathrm{s}}/\mathrm{d}\ln k$	-0.0004 ± 0.0068	z_{re}	7.69 ± 0.84	$H(0.61)$	95.51 ± 0.23
y_{cal}	1.0005 ± 0.0025	$10^9 A_{\mathrm{s}}$	$2.090^{+0.033}_{-0.038}$	$D_{\mathrm{M}}(0.61)$	2295 ± 12
A_{100}^{PS}	239 ± 25	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.872 ± 0.012	$H(2.33)$	235.35 ± 0.79
A_{143}^{PS}	39 ± 8	D_{40}	1218 ± 18	$D_{\mathrm{M}}(2.33)$	5755 ± 11
A_{217}^{PS}	102 ± 10	D_{220}	5725 ± 39	$f\sigma_8(0.15)$	0.4486 ± 0.0078
A_{217}^{CIB}	40^{+7}_{-8}	D_{810}	2534 ± 14	$\sigma_8(0.15)$	0.7437 ± 0.0068
A_{143}^{tSZ}	$4.0^{+1.9}_{-2.5}$	D_{1420}	816.6 ± 4.9	$f\sigma_8(0.38)$	0.4684 ± 0.0066
$r_{143 \times 217}^{\mathrm{PS}}$	$0.66^{+0.14}_{-0.12}$	D_{2000}	230.6 ± 1.8	$\sigma_8(0.38)$	0.6600 ± 0.0058
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56^{+0.42}_{-0.15}$	$n_{\mathrm{s},0.002}$	0.971 ± 0.021	$f\sigma_8(0.51)$	0.4678 ± 0.0059
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Y_{P}	$0.245411^{+0.000066}_{-0.000056}$	$\sigma_8(0.51)$	0.6180 ± 0.0054
A^{kSZ}	< 6.11	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246738^{+0.000066}_{-0.000057}$	$f\sigma_8(0.61)$	0.4635 ± 0.0054
A_{100}^{dust}	1.01 ± 0.20	$10^5 \mathrm{D}/\mathrm{H}$	$2.578^{+0.028}_{-0.031}$	$\sigma_8(0.61)$	0.5883 ± 0.0051
A_{143}^{dust}	0.96 ± 0.18	$\mathrm{Age}/\mathrm{Gyr}$	13.780 ± 0.024	$f\sigma_8(2.33)$	0.2969 ± 0.0026
A_{217}^{dust}	0.98 ± 0.11	z_*	1089.69 ± 0.27	$\sigma_8(2.33)$	0.3064 ± 0.0027
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	r_*	144.90 ± 0.31	f_{2000}^{143}	29.3 ± 3.2
c_{100}	0.9976 ± 0.0010	$100\theta_*$	1.04125 ± 0.00030	f_{2000}^{217}	106.6 ± 2.1
c_{217}	1.0011 ± 0.0016	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.916 ± 0.029	$f_{2000}^{143 \times 217}$	31.8 ± 2.3
c_{TE}	0.9969 ± 0.0050	z_{drag}	1059.90 ± 0.35	χ_{simall}^2	397.1 ± 2.0
c_{EE}	0.9923 ± 0.0049	r_{drag}	147.55 ± 0.32	χ_{lowl}^2	22.7 ± 1.7
H_0	68.13 ± 0.57	k_{D}	0.14042 ± 0.00037	$\chi_{\mathrm{CamSpec}}^2$	11517.0 ± 6.4
Ω_{Λ}	0.6958 ± 0.0076	$100\theta_{\mathrm{D}}$	0.16078 ± 0.00020	$\chi_{\mathrm{H073p45}}^2$	10.4 ± 2.2
Ω_{m}	0.3042 ± 0.0076	z_{eq}	3357 ± 29	χ_{prior}^2	7.8 ± 3.5
$\Omega_{\mathrm{m}}h^2$	0.1411 ± 0.0012	k_{eq}	0.010247 ± 0.000089	χ_{CMB}^2	11936.8 ± 6.3
$\Omega_{\mathrm{m}}h^3$	0.09614 ± 0.00034	$100\theta_{\mathrm{eq}}$	0.8217 ± 0.0056		
σ_8	0.8040 ± 0.0077	$100\theta_{\mathrm{s,eq}}$	0.4537 ± 0.0029		

$\bar{\chi}_{\mathrm{eff}}^2 = 11955.07$; $\Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.80$; $R - 1 = 0.04651$

10.14 base_nrun_CamSpecHM_TTTEEE_lowl_lowE_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02230 ± 0.00016	σ_8	$0.8091^{+0.0064}_{-0.0074}$	$100\theta_{\mathrm{eq}}$	0.8152 ± 0.0059
$\Omega_{\mathrm{c}}h^2$	0.1196 ± 0.0014	S_8	0.827 ± 0.016	$100\theta_{\mathrm{s,eq}}$	0.4504 ± 0.0030
$100\theta_{\mathrm{MC}}$	1.04088 ± 0.00031	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4530 ± 0.0088	$H(0.15)$	72.73 ± 0.51
τ	$0.0544^{+0.0047}_{-0.0084}$	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6054 ± 0.0082	$D_{\mathrm{M}}(0.15)$	642.8 ± 5.1
$\ln(10^{10}A_{\mathrm{s}})$	$3.042^{+0.012}_{-0.017}$	$\sigma_8/h^{0.5}$	0.985 ± 0.011	$H(0.38)$	82.88 ± 0.37
n_{s}	0.9658 ± 0.0048	$r_{\mathrm{drag}}h$	99.3 ± 1.1	$D_{\mathrm{M}}(0.38)$	1533 ± 10
$\mathrm{d}n_{\mathrm{s}}/\mathrm{d}\ln k$	-0.0013 ± 0.0068	$\langle d^2 \rangle^{1/2}$	2.435 ± 0.028	$H(0.51)$	89.62 ± 0.29
y_{cal}	1.0004 ± 0.0025	z_{re}	$7.69^{+0.52}_{-0.84}$	$D_{\mathrm{M}}(0.51)$	1985 ± 12
A_{100}^{PS}	241 ± 25	$10^9 A_{\mathrm{s}}$	$2.095^{+0.024}_{-0.036}$	$H(0.61)$	95.25 ± 0.24
A_{143}^{PS}	40 ± 9	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.879 ± 0.012	$D_{\mathrm{M}}(0.61)$	2310 ± 13
A_{217}^{PS}	102 ± 10	D_{40}	1223 ± 18	$H(2.33)$	236.21 ± 0.84
A_{217}^{CIB}	40 ± 7	D_{220}	5716 ± 38	$D_{\mathrm{M}}(2.33)$	5766 ± 11
A_{143}^{tSZ}	$3.8^{+1.9}_{-2.6}$	D_{810}	2535 ± 14	$f\sigma_8(0.15)$	0.4574 ± 0.0082
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	D_{1420}	815.2 ± 5.0	$\sigma_8(0.15)$	$0.7474^{+0.0054}_{-0.0065}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56^{+0.40}_{-0.16}$	D_{2000}	230.0 ± 1.8	$f\sigma_8(0.38)$	0.4753 ± 0.0067
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$n_{\mathrm{s},0.002}$	0.970 ± 0.020	$\sigma_8(0.38)$	$0.6623^{+0.0043}_{-0.0055}$
A^{kSZ}	$4.8^{+2.4}_{-3.8}$	Y_{P}	$0.245365^{+0.000069}_{-0.000062}$	$f\sigma_8(0.51)$	0.4736 ± 0.0058
A_{100}^{dust}	1.01 ± 0.20	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246692^{+0.000069}_{-0.000062}$	$\sigma_8(0.51)$	$0.6197^{+0.0039}_{-0.0051}$
A_{143}^{dust}	0.97 ± 0.18	$10^5 \mathrm{D}/\mathrm{H}$	2.599 ± 0.030	$f\sigma_8(0.61)$	0.4685 ± 0.0053
A_{217}^{dust}	0.97 ± 0.10	$\mathrm{Age}/\mathrm{Gyr}$	13.804 ± 0.025	$\sigma_8(0.61)$	$0.5896^{+0.0036}_{-0.0048}$
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	z_*	1089.97 ± 0.28	$f\sigma_8(2.33)$	$0.2972^{+0.0018}_{-0.0024}$
c_{100}	0.9975 ± 0.0011	r_*	144.59 ± 0.32	$\sigma_8(2.33)$	$0.3063^{+0.0018}_{-0.0025}$
c_{217}	1.0011 ± 0.0016	$100\theta_*$	1.04107 ± 0.00030	f_{2000}^{143}	30.0 ± 3.2
c_{TE}	0.9966 ± 0.0050	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.889 ± 0.030	f_{2000}^{217}	107.0 ± 2.2
c_{EE}	0.9921 ± 0.0050	z_{drag}	1059.74 ± 0.35	$f_{2000}^{143 \times 217}$	32.3 ± 2.3
H_0	67.43 ± 0.60	r_{drag}	147.28 ± 0.33	χ_{small}^2	396.8 ± 1.7
Ω_{Λ}	0.6864 ± 0.0083	k_{D}	0.14061 ± 0.00038	χ_{lowl}^2	23.1 ± 1.9
Ω_{m}	0.3136 ± 0.0083	$100\theta_{\mathrm{D}}$	0.16086 ± 0.00020	$\chi_{\mathrm{CamSpec}}^2$	11515.3 ± 5.9
$\Omega_{\mathrm{m}}h^2$	0.1425 ± 0.0013	z_{eq}	3391 ± 31	χ_{prior}^2	7.8 ± 3.4
$\Omega_{\mathrm{m}}h^3$	0.09610 ± 0.00033	k_{eq}	0.010348 ± 0.000095	χ_{CMB}^2	11935.2 ± 5.8
$\bar{\chi}_{\mathrm{eff}}^2 = 11943.05; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.86; R - 1 = 0.00888$					

10.15 base_nrun_CamSpecHM_TTTEEE_lowl_lowE_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02234 ± 0.00015	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4491 ± 0.0068	$H(0.38)$	83.05 ± 0.29
$\Omega_{\mathrm{c}}h^2$	0.1189 ± 0.0010	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6021 ± 0.0067	$D_{\mathrm{M}}(0.38)$	1527.7 ± 7.7
$100\theta_{\mathrm{MC}}$	1.04095 ± 0.00029	$\sigma_8/h^{0.5}$	0.9810 ± 0.0097	$H(0.51)$	89.75 ± 0.23
τ	$0.0550^{+0.0049}_{-0.0083}$	$r_{\mathrm{drag}}h$	99.82 ± 0.78	$D_{\mathrm{M}}(0.51)$	1979.3 ± 9.0
$\ln(10^{10}A_{\mathrm{s}})$	$3.042^{+0.012}_{-0.017}$	$\langle d^2 \rangle^{1/2}$	2.425 ± 0.024	$H(0.61)$	95.35 ± 0.19
n_{s}	0.9674 ± 0.0042	z_{re}	$7.73^{+0.54}_{-0.84}$	$D_{\mathrm{M}}(0.61)$	2303.4 ± 9.8
$\mathrm{d}n_{\mathrm{s}}/\mathrm{d}\ln k$	-0.0007 ± 0.0067	$10^9 A_{\mathrm{s}}$	$2.094^{+0.024}_{-0.036}$	$H(2.33)$	235.83 ± 0.64
y_{cal}	1.0004 ± 0.0025	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.876 ± 0.012	$D_{\mathrm{M}}(2.33)$	5762.0 ± 9.4
A_{100}^{PS}	240 ± 25	D_{40}	1221 ± 18	$f\sigma_8(0.15)$	0.4538 ± 0.0064
A_{143}^{PS}	39 ± 9	D_{220}	5719 ± 38	$\sigma_8(0.15)$	$0.7462^{+0.0050}_{-0.0064}$
A_{217}^{PS}	102 ± 10	D_{810}	2534 ± 14	$f\sigma_8(0.38)$	0.4725 ± 0.0055
A_{217}^{CIB}	40^{+7}_{-8}	D_{1420}	815.8 ± 4.9	$\sigma_8(0.38)$	$0.6616^{+0.0042}_{-0.0055}$
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	D_{2000}	230.3 ± 1.8	$f\sigma_8(0.51)$	0.4714 ± 0.0049
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$n_{\mathrm{s},0.002}$	0.970 ± 0.020	$\sigma_8(0.51)$	$0.6193^{+0.0039}_{-0.0051}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56^{+0.40}_{-0.17}$	Y_{P}	$0.245381^{+0.000065}_{-0.000058}$	$f\sigma_8(0.61)$	0.4666 ± 0.0046
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246707^{+0.000065}_{-0.000058}$	$\sigma_8(0.61)$	$0.5893^{+0.0036}_{-0.0049}$
A^{kSZ}	$4.7^{+2.2}_{-4.0}$	$10^5 \mathrm{D}/\mathrm{H}$	2.592 ± 0.029	$f\sigma_8(2.33)$	$0.2972^{+0.0018}_{-0.0025}$
A_{100}^{dust}	1.01 ± 0.19	$\mathrm{Age}/\mathrm{Gyr}$	13.795 ± 0.021	$\sigma_8(2.33)$	$0.3065^{+0.0018}_{-0.0025}$
A_{143}^{dust}	0.96 ± 0.18	z_*	1089.87 ± 0.24	f_{2000}^{143}	29.7 ± 3.2
A_{217}^{dust}	0.97 ± 0.10	r_*	144.73 ± 0.25	f_{2000}^{217}	106.9 ± 2.1
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04114 ± 0.00029	$f_{2000}^{143 \times 217}$	32.1 ± 2.3
c_{100}	0.9975 ± 0.0011	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.901 ± 0.024	χ_{simall}^2	396.9 ± 1.7
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.78 ± 0.34	χ_{lowl}^2	23.0 ± 1.8
c_{TE}	0.9968 ± 0.0049	r_{drag}	147.41 ± 0.27	$\chi_{\mathrm{CamSpec}}^2$	11515.3 ± 6.0
c_{EE}	0.9924 ± 0.0049	k_{D}	0.14050 ± 0.00034	$\chi_{6\mathrm{DF}}^2$	0.044 ± 0.055
H_0	67.72 ± 0.45	$100\theta_{\mathrm{D}}$	0.16084 ± 0.00020	χ_{MGS}^2	1.37 ± 0.44
Ω_{Λ}	0.6905 ± 0.0061	z_{eq}	3376 ± 23	$\chi_{\mathrm{DR12BAO}}^2$	4.5 ± 1.2
Ω_{m}	0.3095 ± 0.0061	k_{eq}	0.010303 ± 0.000071	χ_{prior}^2	7.8 ± 3.5
$\Omega_{\mathrm{m}}h^2$	0.14191 ± 0.00098	$100\theta_{\mathrm{eq}}$	0.8180 ± 0.0044	χ_{BAO}^2	5.96 ± 0.95
$\Omega_{\mathrm{m}}h^3$	0.09610 ± 0.00033	$100\theta_{\mathrm{s,eq}}$	0.4519 ± 0.0023	χ_{CMB}^2	11935.1 ± 5.9
σ_8	$0.8073^{+0.0058}_{-0.0071}$	$H(0.15)$	72.98 ± 0.39		
S_8	0.820 ± 0.012	$D_{\mathrm{M}}(0.15)$	640.4 ± 3.8		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11948.86; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.87; R - 1 = 0.01438$$

10.16 base_nrun_CamSpecHM_TTTEEE_lowl_lowE_post_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02230 ± 0.00016	S_8	0.828 ± 0.013	$H(0.15)$	72.72 ± 0.45
$\Omega_{\mathrm{c}}h^2$	0.1196 ± 0.0012	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4535 ± 0.0069	$D_{\mathrm{M}}(0.15)$	643.0 ± 4.5
$100\theta_{\mathrm{MC}}$	1.04087 ± 0.00030	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6060 ± 0.0063	$H(0.38)$	82.87 ± 0.33
τ	$0.0548^{+0.0050}_{-0.0079}$	$\sigma_8/h^{0.5}$	0.9862 ± 0.0088	$D_{\mathrm{M}}(0.38)$	1532.9 ± 9.0
$\ln(10^{10}A_{\mathrm{s}})$	$3.043^{+0.011}_{-0.015}$	$r_{\mathrm{drag}}h$	99.28 ± 0.90	$H(0.51)$	89.61 ± 0.26
n_{s}	0.9656 ± 0.0044	$\langle d^2 \rangle^{1/2}$	2.438 ± 0.022	$D_{\mathrm{M}}(0.51)$	1985 ± 11
$\mathrm{d}n_{\mathrm{s}}/\mathrm{d}\ln k$	-0.0007 ± 0.0066	z_{re}	$7.73^{+0.54}_{-0.79}$	$H(0.61)$	95.24 ± 0.22
y_{cal}	1.0005 ± 0.0024	$10^9 A_{\mathrm{s}}$	$2.097^{+0.023}_{-0.032}$	$D_{\mathrm{M}}(0.61)$	2310 ± 11
A_{100}^{PS}	240 ± 25	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.879 ± 0.011	$H(2.33)$	236.23 ± 0.71
A_{143}^{PS}	40 ± 9	D_{40}	1226 ± 18	$D_{\mathrm{M}}(2.33)$	5766 ± 10
A_{217}^{PS}	102 ± 10	D_{220}	5719 ± 38	$f\sigma_8(0.15)$	0.4579 ± 0.0064
A_{217}^{CIB}	40 ± 7	D_{810}	2535 ± 13	$\sigma_8(0.15)$	$0.7480^{+0.0045}_{-0.0054}$
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	D_{1420}	815.4 ± 5.0	$f\sigma_8(0.38)$	0.4757 ± 0.0051
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	D_{2000}	230.1 ± 1.8	$\sigma_8(0.38)$	$0.6628^{+0.0038}_{-0.0047}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56^{+0.39}_{-0.17}$	$n_{\mathrm{s},0.002}$	0.968 ± 0.020	$f\sigma_8(0.51)$	0.4741 ± 0.0045
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Y_{P}	$0.245364^{+0.000068}_{-0.000061}$	$\sigma_8(0.51)$	$0.6201^{+0.0035}_{-0.0044}$
A^{kSZ}	$4.7^{+2.2}_{-4.0}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246691^{+0.000068}_{-0.000061}$	$f\sigma_8(0.61)$	0.4689 ± 0.0040
A_{100}^{dust}	1.01 ± 0.19	$10^5 \mathrm{D}/\mathrm{H}$	2.600 ± 0.030	$\sigma_8(0.61)$	$0.5900^{+0.0033}_{-0.0043}$
A_{143}^{dust}	0.96 ± 0.18	$\mathrm{Age}/\mathrm{Gyr}$	13.805 ± 0.023	$f\sigma_8(2.33)$	$0.2974^{+0.0017}_{-0.0022}$
A_{217}^{dust}	0.97 ± 0.10	z_*	1089.98 ± 0.26	$\sigma_8(2.33)$	$0.3065^{+0.0018}_{-0.0024}$
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	r_*	144.59 ± 0.28	f_{2000}^{143}	29.9 ± 3.2
c_{100}	0.9976 ± 0.0011	$100\theta_*$	1.04106 ± 0.00030	f_{2000}^{217}	107.0 ± 2.2
c_{217}	1.0011 ± 0.0016	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.888 ± 0.026	$f_{2000}^{143 \times 217}$	32.3 ± 2.3
c_{TE}	0.9966 ± 0.0050	z_{drag}	1059.74 ± 0.34	$\chi_{\mathrm{lensing}}^2$	9.28 ± 0.68
c_{EE}	0.9922 ± 0.0049	r_{drag}	147.27 ± 0.29	χ_{simall}^2	396.9 ± 1.7
H_0	67.41 ± 0.52	k_{D}	0.14062 ± 0.00035	χ_{lowl}^2	23.3 ± 1.9
Ω_{Λ}	0.6862 ± 0.0071	$100\theta_{\mathrm{D}}$	0.16087 ± 0.00020	$\chi_{\mathrm{CamSpec}}^2$	11514.7 ± 5.8
Ω_{m}	0.3138 ± 0.0071	z_{eq}	3391 ± 27	χ_{prior}^2	7.7 ± 3.4
$\Omega_{\mathrm{m}}h^2$	0.1426 ± 0.0011	k_{eq}	0.010351 ± 0.000081	χ_{CMB}^2	11944.2 ± 5.9
$\Omega_{\mathrm{m}}h^3$	0.09610 ± 0.00033	$100\theta_{\mathrm{eq}}$	0.8150 ± 0.0050		
σ_8	$0.8097^{+0.0052}_{-0.0059}$	$100\theta_{\mathrm{s,eq}}$	0.4503 ± 0.0026		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11951.93; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.68; R - 1 = 0.01119$$

10.17 base_nrun_CamSpecHM_TTTEEE_lowl_lowE_post_BAO_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02233 ± 0.00015	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4505 ± 0.0058	$H(0.38)$	83.02 ± 0.27
$\Omega_{\mathrm{c}}h^2$	0.11907 ± 0.00093	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6036 ± 0.0056	$D_{\mathrm{M}}(0.38)$	1528.7 ± 7.2
$100\theta_{\mathrm{MC}}$	1.04094 ± 0.00029	$\sigma_8/h^{0.5}$	0.9832 ± 0.0081	$H(0.51)$	89.72 ± 0.22
τ	$0.0559^{+0.0055}_{-0.0078}$	$r_{\mathrm{drag}}h$	99.71 ± 0.72	$D_{\mathrm{M}}(0.51)$	1980.5 ± 8.5
$\ln(10^{10}A_{\mathrm{s}})$	$3.044^{+0.012}_{-0.016}$	$\langle d^2 \rangle^{1/2}$	2.432 ± 0.021	$H(0.61)$	95.33 ± 0.19
n_{s}	0.9670 ± 0.0040	z_{re}	$7.83^{+0.58}_{-0.76}$	$D_{\mathrm{M}}(0.61)$	2304.7 ± 9.2
$\mathrm{d}n_{\mathrm{s}}/\mathrm{d}\ln k$	-0.0003 ± 0.0066	$10^9 A_{\mathrm{s}}$	$2.099^{+0.024}_{-0.033}$	$H(2.33)$	$235.91^{+0.61}_{-0.55}$
y_{cal}	1.0006 ± 0.0025	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.877 ± 0.011	$D_{\mathrm{M}}(2.33)$	5762.7 ± 9.2
A_{100}^{PS}	240 ± 25	D_{40}	1225 ± 18	$f\sigma_8(0.15)$	0.4552 ± 0.0054
A_{143}^{PS}	39 ± 9	D_{220}	5723 ± 38	$\sigma_8(0.15)$	$0.7474^{+0.0045}_{-0.0056}$
A_{217}^{PS}	103 ± 10	D_{810}	2535 ± 13	$f\sigma_8(0.38)$	0.4738 ± 0.0045
A_{217}^{CIB}	40^{+7}_{-8}	D_{1420}	816.0 ± 4.9	$\sigma_8(0.38)$	$0.6627^{+0.0039}_{-0.0049}$
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	D_{2000}	230.4 ± 1.8	$f\sigma_8(0.51)$	0.4725 ± 0.0041
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$n_{\mathrm{s},0.002}$	0.968 ± 0.020	$\sigma_8(0.51)$	$0.6202^{+0.0036}_{-0.0046}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56^{+0.39}_{-0.18}$	Y_{P}	$0.245379^{+0.000065}_{-0.000057}$	$f\sigma_8(0.61)$	0.4676 ± 0.0038
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246705^{+0.000065}_{-0.000057}$	$\sigma_8(0.61)$	$0.5902^{+0.0034}_{-0.0044}$
A^{kSZ}	$4.6^{+2.0}_{-4.2}$	$10^5 \mathrm{D}/\mathrm{H}$	2.593 ± 0.028	$f\sigma_8(2.33)$	$0.2976^{+0.0017}_{-0.0022}$
A_{100}^{dust}	1.01 ± 0.19	$\mathrm{Age}/\mathrm{Gyr}$	13.797 ± 0.021	$\sigma_8(2.33)$	$0.3069^{+0.0018}_{-0.0024}$
A_{143}^{dust}	0.96 ± 0.18	z_*	1089.89 ± 0.23	f_{2000}^{143}	29.6 ± 3.2
A_{217}^{dust}	0.97 ± 0.10	r_*	$144.70^{+0.22}_{-0.25}$	f_{2000}^{217}	106.9 ± 2.1
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04113 ± 0.00029	$f_{2000}^{143 \times 217}$	32.0 ± 2.2
c_{100}	0.9976 ± 0.0011	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	$13.898^{+0.021}_{-0.024}$	$\chi_{\mathrm{lensing}}^2$	9.27 ± 0.70
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.78 ± 0.34	χ_{small}^2	397.1 ± 1.8
c_{TE}	0.9967 ± 0.0049	r_{drag}	$147.38^{+0.24}_{-0.27}$	χ_{lowl}^2	23.2 ± 1.9
c_{EE}	0.9925 ± 0.0049	k_{D}	0.14053 ± 0.00033	$\chi_{\mathrm{CamSpec}}^2$	11514.7 ± 5.8
H_0	67.66 ± 0.42	$100\theta_{\mathrm{D}}$	0.16084 ± 0.00020	$\chi_{6\mathrm{DF}}^2$	0.046 ± 0.054
Ω_{Λ}	0.6896 ± 0.0056	z_{eq}	3379 ± 21	χ_{MGS}^2	1.30 ± 0.40
Ω_{m}	0.3104 ± 0.0056	k_{eq}	0.010314 ± 0.000065	$\chi_{\mathrm{DR12BAO}}^2$	4.6 ± 1.2
$\Omega_{\mathrm{m}}h^2$	0.14205 ± 0.00090	$100\theta_{\mathrm{eq}}$	0.8174 ± 0.0040	χ_{prior}^2	7.7 ± 3.4
$\Omega_{\mathrm{m}}h^3$	0.09611 ± 0.00033	$100\theta_{\mathrm{s,eq}}$	$0.4515^{+0.0019}_{-0.0022}$	χ_{CMB}^2	11944.2 ± 5.9
σ_8	$0.8087^{+0.0051}_{-0.0061}$	$H(0.15)$	72.93 ± 0.36	χ_{BAO}^2	6.00 ± 0.93
S_8	0.823 ± 0.011	$D_{\mathrm{M}}(0.15)$	640.9 ± 3.6		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11957.93; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.67; R - 1 = 0.01735$$

10.18 base_nrun_CamSpecHM_TTTEEE_lowl_lowE_post_Riess18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02242 ± 0.00016	S_8	0.810 ± 0.015	$H(0.15)$	73.34 ± 0.49
$\Omega_{\mathrm{c}}h^2$	0.1181 ± 0.0013	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4438 ± 0.0082	$D_{\mathrm{M}}(0.15)$	636.8 ± 4.8
$100\theta_{\mathrm{MC}}$	1.04107 ± 0.00030	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.5977 ± 0.0078	$H(0.38)$	83.32 ± 0.36
τ	$0.0562^{+0.0053}_{-0.0088}$	$\sigma_8/h^{0.5}$	0.975 ± 0.011	$D_{\mathrm{M}}(0.38)$	1520.6 ± 9.6
$\ln(10^{10}A_{\mathrm{s}})$	$3.042^{+0.013}_{-0.018}$	$r_{\mathrm{drag}}h$	100.5 ± 1.0	$H(0.51)$	89.96 ± 0.28
n_{s}	0.9697 ± 0.0046	$\langle d^2 \rangle^{1/2}$	2.412 ± 0.027	$D_{\mathrm{M}}(0.51)$	1971 ± 11
$\mathrm{d}n_{\mathrm{s}}/\mathrm{d}\ln k$	-0.0005 ± 0.0068	z_{re}	$7.81^{+0.56}_{-0.89}$	$H(0.61)$	95.52 ± 0.23
y_{cal}	1.0005 ± 0.0025	$10^9 A_{\mathrm{s}}$	$2.095^{+0.026}_{-0.038}$	$D_{\mathrm{M}}(0.61)$	2294 ± 12
A_{100}^{PS}	239 ± 25	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.872 ± 0.012	$H(2.33)$	235.34 ± 0.79
A_{143}^{PS}	39 ± 8	D_{40}	1217 ± 18	$D_{\mathrm{M}}(2.33)$	5755 ± 11
A_{217}^{PS}	102 ± 10	D_{220}	5725 ± 39	$f\sigma_8(0.15)$	0.4490 ± 0.0077
A_{217}^{CIB}	39^{+7}_{-8}	D_{810}	2534 ± 14	$\sigma_8(0.15)$	$0.7445^{+0.0056}_{-0.0068}$
A_{143}^{tSZ}	$4.0^{+1.9}_{-2.5}$	D_{1420}	816.6 ± 4.9	$f\sigma_8(0.38)$	0.4688 ± 0.0064
$r_{143 \times 217}^{\mathrm{PS}}$	$0.65^{+0.14}_{-0.12}$	D_{2000}	230.7 ± 1.8	$\sigma_8(0.38)$	$0.6608^{+0.0045}_{-0.0058}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56^{+0.43}_{-0.15}$	$n_{\mathrm{s},0.002}$	0.971 ± 0.021	$f\sigma_8(0.51)$	0.4683 ± 0.0057
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Y_{P}	$0.245413^{+0.000065}_{-0.000056}$	$\sigma_8(0.51)$	$0.6187^{+0.0041}_{-0.0054}$
A^{kSZ}	< 6.11	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246740^{+0.000066}_{-0.000056}$	$f\sigma_8(0.61)$	0.4640 ± 0.0052
A_{100}^{dust}	1.01 ± 0.20	$10^5 \mathrm{D}/\mathrm{H}$	$2.577^{+0.028}_{-0.031}$	$\sigma_8(0.61)$	$0.5889^{+0.0038}_{-0.0051}$
A_{143}^{dust}	0.96 ± 0.18	$\mathrm{Age}/\mathrm{Gyr}$	13.779 ± 0.024	$f\sigma_8(2.33)$	$0.2972^{+0.0018}_{-0.0026}$
A_{217}^{dust}	0.98 ± 0.11	z_*	1089.69 ± 0.27	$\sigma_8(2.33)$	$0.3068^{+0.0019}_{-0.0027}$
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	r_*	144.90 ± 0.31	f_{2000}^{143}	29.3 ± 3.2
c_{100}	0.9976 ± 0.0010	$100\theta_*$	1.04125 ± 0.00030	f_{2000}^{217}	106.6 ± 2.1
c_{217}	1.0011 ± 0.0016	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.916 ± 0.029	$f_{2000}^{143 \times 217}$	31.7 ± 2.2
c_{TE}	0.9968 ± 0.0050	z_{drag}	1059.91 ± 0.34	χ_{small}^2	397.1 ± 2.0
c_{EE}	0.9922 ± 0.0049	r_{drag}	147.55 ± 0.32	χ_{lowl}^2	22.7 ± 1.7
H_0	68.14 ± 0.57	k_{D}	0.14042 ± 0.00037	$\chi_{\mathrm{CamSpec}}^2$	11516.9 ± 6.4
Ω_{Λ}	0.6959 ± 0.0076	$100\theta_{\mathrm{D}}$	0.16077 ± 0.00020	$\chi_{\mathrm{H073p45}}^2$	10.4 ± 2.2
Ω_{m}	0.3041 ± 0.0076	z_{eq}	3357 ± 29	χ_{prior}^2	7.8 ± 3.5
$\Omega_{\mathrm{m}}h^2$	0.1411 ± 0.0012	k_{eq}	0.010246 ± 0.000089	χ_{CMB}^2	11936.7 ± 6.3
$\Omega_{\mathrm{m}}h^3$	0.09615 ± 0.00033	$100\theta_{\mathrm{eq}}$	0.8218 ± 0.0056		
σ_8	$0.8049^{+0.0066}_{-0.0077}$	$100\theta_{\mathrm{s},\mathrm{eq}}$	0.4538 ± 0.0029		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11954.85; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.84; R - 1 = 0.05101$$

11 nrun+r

11.1 base_nrun_r_CamSpecHM_TT_lowl_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022137	0.02222 ± 0.00024	$\sigma_8 \Omega_m^{0.25}$	0.6117	0.608 ± 0.012	$D_M(0.38)$	1543.1	1537 ± 16
$\Omega_c h^2$	0.12088	0.1202 ± 0.0021	$\sigma_8/h^{0.5}$	0.9937	0.988 ± 0.016	$H(0.51)$	89.309	89.49 ± 0.45
$100\theta_{MC}$	1.040808	1.04089 ± 0.00047	$r_{\text{drag}} h$	98.30	98.9 ± 1.6	$D_M(0.51)$	1997.4	1990 ± 19
τ	0.0529	0.0535 ± 0.0084	$\langle d^2 \rangle^{1/2}$	2.4507	2.432 ± 0.039	$H(0.61)$	95.005	95.15 ± 0.37
$\ln(10^{10} A_s)$	3.0421	3.042 ± 0.018	z_{re}	7.60	7.61 ± 0.85	$D_M(0.61)$	2322.9	2315 ± 20
n_s	0.9616	0.9642 ± 0.0060	$10^9 A_s$	2.0950	2.095 ± 0.037	$H(2.33)$	236.90	236.5 ± 1.3
$dn_s/d \ln k$	-0.0039	-0.0067 ± 0.0084	$10^9 A_s e^{-2\tau}$	1.8847	1.883 ± 0.014	$D_M(2.33)$	5777.0	5771 ± 17
r	0.0001	< 0.0695	D_{40}	1224.4	1232 ± 23	$f\sigma_8(0.15)$	0.4645	0.460 ± 0.012
y_{cal}	1.00043	1.0005 ± 0.0025	D_{220}	5704.4	5701 ± 42	$\sigma_8(0.15)$	0.7495	0.7478 ± 0.0076
A_{100}^{PS}	247.5	246 ± 25	D_{810}	2534.8	2536 ± 14	$f\sigma_8(0.38)$	0.4805	0.4772 ± 0.0096
A_{143}^{PS}	39.7	43 ± 9	D_{1420}	812.8	813.7 ± 5.3	$\sigma_8(0.38)$	0.6633	0.6622 ± 0.0061
A_{217}^{PS}	98.2	100 ± 10	D_{2000}	228.81	229.0 ± 2.0	$f\sigma_8(0.51)$	0.4779	0.4751 ± 0.0083
A_{217}^{CIB}	44.6	42_{-8}^{+7}	$n_{s,0.002}$	0.9742	0.986 ± 0.027	$\sigma_8(0.51)$	0.6203	0.6195 ± 0.0056
A_{143}^{tSZ}	4.35	$3.6_{-2.6}^{+1.7}$	Y_P	0.245300	$0.24533_{-0.000089}^{+0.00011}$	$f\sigma_8(0.61)$	0.4721	0.4697 ± 0.0073
$r_{143 \times 217}^{\text{PS}}$	0.548	0.64 ± 0.13	Y_P^{BBN}	0.246626	$0.24666_{-0.000089}^{+0.00011}$	$\sigma_8(0.61)$	0.5899	0.5893 ± 0.0052
$r_{143 \times 217}^{\text{CIB}}$	0.683	> 0.484	$10^5 D/H$	2.6300	2.614 ± 0.045	$f\sigma_8(2.33)$	0.29705	0.2969 ± 0.0026
$\xi^{\text{tSZ} \times \text{CIB}}$	0.00	—	Age/Gyr	13.8279	13.814 ± 0.038	$\sigma_8(2.33)$	0.30581	0.3059 ± 0.0027
A^{kSZ}	3.81	$5.2_{-2.2}^{+4.0}$	z_*	1090.295	1090.12 ± 0.42	$r_{0.002}$	0.0001	< 0.0660
A_{100}^{dust}	1.019	1.01 ± 0.20	r_*	144.383	144.50 ± 0.49	$r_{0.01}$	0.0001	< 0.0671
A_{143}^{dust}	0.984	0.98 ± 0.18	$100\theta_*$	1.041014	1.04109 ± 0.00046	$\ln(10^{10} A_t)$	-6.04	$-0.32_{-0.61}^{+1.4}$
A_{217}^{dust}	0.959	0.97 ± 0.10	$D_M(z_*)/\text{Gpc}$	13.8694	13.880 ± 0.045	r_{10}	0.0001	< 0.0343
$A_{143 \times 217}^{\text{dust}}$	1.006	1.03 ± 0.16	z_{drag}	1059.47	1059.61 ± 0.51	$10^9 A_t$	0.000	< 0.146
c_{100}	0.99743	0.9975 ± 0.0011	r_{drag}	147.118	147.21 ± 0.50	$10^9 A_t e^{-2\tau}$	0.000	< 0.131
c_{217}	1.00143	1.0013 ± 0.0016	k_D	0.14066	0.14063 ± 0.00056	f_{2000}^{143}	32.28	31.8 ± 3.4
H_0	66.82	67.17 ± 0.93	$100\theta_D$	0.161038	0.16096 ± 0.00029	f_{2000}^{217}	108.47	108.2 ± 2.2
Ω_Λ	0.6782	0.683 ± 0.013	z_{eq}	3417.6	3403 ± 48	$f_{2000}^{143 \times 217}$	33.88	33.7 ± 2.4
Ω_m	0.3218	0.317 ± 0.013	k_{eq}	0.010431	0.01039 ± 0.00015	χ_{small}^2	395.90	397.3 ± 1.7
$\Omega_m h^2$	0.14366	0.1430 ± 0.0020	$100\theta_{\text{eq}}$	0.8098	0.8128 ± 0.0090	χ_{lowl}^2	22.71	23.7 ± 2.3
$\Omega_m h^3$	0.095992	0.09606 ± 0.00050	$100\theta_{s,\text{eq}}$	0.44774	0.4493 ± 0.0046	χ_{CamSpec}^2	7050.5	7065.1 ± 5.7
σ_8	0.8122	0.8098 ± 0.0091	$H(0.15)$	72.21	72.51 ± 0.79	χ_{prior}^2	2.42	7.7 ± 3.5
S_8	0.8412	0.833 ± 0.024	$D_M(0.15)$	648.1	645.1 ± 8.0	χ_{CMB}^2	7469.1	7486.1 ± 5.9
$\sigma_8 \Omega_m^{0.5}$	0.4607	0.456 ± 0.013	$H(0.38)$	82.49	82.72 ± 0.57			

Best-fit $\chi_{\text{eff}}^2 = 7471.53$; $\Delta\chi_{\text{eff}}^2 = -0.20$; $\bar{\chi}_{\text{eff}}^2 = 7493.80$; $\Delta\bar{\chi}_{\text{eff}}^2 = 2.26$; $R - 1 = 0.00512$

χ_{eff}^2 : CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.90 (Δ 0.07) commander_dx12_v3.2.29: 22.71 (Δ -0.68) CamSpec like_10.7HM: 7050.49 (Δ 0.15)

11.2 base_nrun_r_CamSpecHM_TT_lowl_lowE_post_BAO

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02230 ± 0.00022	$\sigma_8/h^{0.5}$	0.979 ± 0.012	$D_M(0.51)$	1979 ± 11
$\Omega_c h^2$	0.1189 ± 0.0012	$r_{\text{drag}} h$	99.91 ± 0.95	$H(0.61)$	95.35 ± 0.26
$100\theta_{\text{MC}}$	1.04106 ± 0.00041	$\langle d^2 \rangle^{1/2}$	2.412 ± 0.030	$D_M(0.61)$	2303 ± 12
τ	0.0548 ± 0.0083	z_{re}	7.70 ± 0.83	$H(2.33)$	235.75 ± 0.81
$\ln(10^{10} A_s)$	3.042 ± 0.018	$10^9 A_s$	2.094 ± 0.037	$D_M(2.33)$	5762 ± 13
n_s	0.9673 ± 0.0045	$10^9 A_s e^{-2\tau}$	1.877 ± 0.012	$f\sigma_8(0.15)$	0.4529 ± 0.0077
$dn_s/d \ln k$	-0.0065 ± 0.0086	D_{40}	1228 ± 22	$\sigma_8(0.15)$	0.7452 ± 0.0069
r	< 0.0752	D_{220}	5707 ± 41	$f\sigma_8(0.38)$	0.4717 ± 0.0065
y_{cal}	1.0005 ± 0.0025	D_{810}	2535 ± 14	$\sigma_8(0.38)$	0.6608 ± 0.0059
A_{100}^{PS}	245 ± 25	D_{1420}	814.4 ± 5.2	$f\sigma_8(0.51)$	0.4706 ± 0.0059
A_{143}^{PS}	42 ± 9	D_{2000}	229.3 ± 1.9	$\sigma_8(0.51)$	0.6185 ± 0.0054
A_{217}^{PS}	100 ± 10	$n_{s,0.002}$	0.988 ± 0.027	$f\sigma_8(0.61)$	0.4658 ± 0.0054
A_{217}^{CIB}	42 ± 8	Y_{P}	$0.245362^{+0.000093}_{-0.000080}$	$\sigma_8(0.61)$	0.5886 ± 0.0051
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.7}$	$Y_{\text{P}}^{\text{BBN}}$	$0.246689^{+0.000094}_{-0.000080}$	$f\sigma_8(2.33)$	0.2969 ± 0.0026
$r_{143 \times 217}^{\text{PS}}$	0.64 ± 0.13	$10^5 D/H$	2.600 ± 0.041	$\sigma_8(2.33)$	0.3062 ± 0.0027
$r_{143 \times 217}^{\text{CIB}}$	> 0.482	Age/Gyr	13.796 ± 0.029	$r_{0.002}$	< 0.0726
$\xi^{\text{tSZ} \times \text{CIB}}$	< 0.637	z_*	1089.91 ± 0.31	$r_{0.01}$	< 0.0733
A^{kSZ}	$5.2^{+4.0}_{-2.2}$	r_*	144.78 ± 0.34	$\ln(10^{10} A_t)$	$-0.24^{+1.4}_{-0.61}$
A_{100}^{dust}	1.01 ± 0.20	$100\theta_*$	1.04125 ± 0.00040	r_{10}	< 0.0377
A_{143}^{dust}	0.98 ± 0.18	$D_M(z_*)/\text{Gpc}$	13.905 ± 0.033	$10^9 A_t$	< 0.158
A_{217}^{dust}	0.97 ± 0.10	z_{drag}	1059.68 ± 0.50	$10^9 A_t e^{-2\tau}$	< 0.142
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	r_{drag}	147.48 ± 0.37	f_{2000}^{143}	31.5 ± 3.4
c_{100}	0.9975 ± 0.0011	k_{D}	0.14040 ± 0.00050	f_{2000}^{217}	108.0 ± 2.2
c_{217}	1.0013 ± 0.0016	$100\theta_{\text{D}}$	0.16092 ± 0.00029	$f_{2000}^{143 \times 217}$	33.5 ± 2.4
H_0	67.75 ± 0.55	z_{eq}	3373 ± 29	χ_{small}^2	397.4 ± 1.8
Ω_{Λ}	0.6909 ± 0.0073	k_{eq}	0.010295 ± 0.000089	χ_{lowl}^2	23.3 ± 2.1
Ω_{m}	0.3091 ± 0.0073	$100\theta_{\text{eq}}$	0.8185 ± 0.0054	χ_{CamSpec}^2	7065.3 ± 5.6
$\Omega_{\text{m}} h^2$	0.1418 ± 0.0012	$100\theta_{\text{s,eq}}$	0.4521 ± 0.0028	$\chi_{6\text{DF}}^2$	0.052 ± 0.069
$\Omega_{\text{m}} h^3$	0.09606 ± 0.00050	$H(0.15)$	73.00 ± 0.48	χ_{MGS}^2	1.43 ± 0.54
σ_8	0.8061 ± 0.0078	$D_M(0.15)$	640.2 ± 4.7	χ_{DR12BAO}^2	4.6 ± 1.5
S_8	0.818 ± 0.015	$H(0.38)$	83.06 ± 0.36	χ_{prior}^2	7.8 ± 3.5
$\sigma_8 \Omega_{\text{m}}^{0.5}$	0.4482 ± 0.0082	$D_M(0.38)$	1527.3 ± 9.5	χ_{BAO}^2	6.1 ± 1.2
$\sigma_8 \Omega_{\text{m}}^{0.25}$	0.6011 ± 0.0080	$H(0.51)$	89.75 ± 0.30	χ_{CMB}^2	7486.0 ± 5.7

$$\bar{\chi}_{\text{eff}}^2 = 7499.85; \Delta \bar{\chi}_{\text{eff}}^2 = 2.30; R - 1 = 0.00974$$

11.3 base_nrun_r_CamSpecHM_TT_lowl_lowE_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02223 ± 0.00024	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.608 ± 0.012	$D_{\mathrm{M}}(0.38)$	1537 ± 16
$\Omega_{\mathrm{c}}h^2$	0.1201 ± 0.0021	$\sigma_8/h^{0.5}$	0.989 ± 0.016	$H(0.51)$	89.51 ± 0.45
$100\theta_{\mathrm{MC}}$	1.04090 ± 0.00047	$r_{\mathrm{drag}}h$	98.9 ± 1.6	$D_{\mathrm{M}}(0.51)$	1990 ± 18
τ	$0.0550^{+0.0051}_{-0.0089}$	$\langle d^2 \rangle^{1/2}$	2.433 ± 0.039	$H(0.61)$	$95.17^{+0.34}_{-0.38}$
$\ln(10^{10}A_{\mathrm{s}})$	$3.045^{+0.013}_{-0.018}$	z_{re}	$7.77^{+0.57}_{-0.86}$	$D_{\mathrm{M}}(0.61)$	2314 ± 20
n_{s}	0.9644 ± 0.0060	$10^9 A_{\mathrm{s}}$	$2.102^{+0.027}_{-0.038}$	$H(2.33)$	236.5 ± 1.3
$\mathrm{d}n_{\mathrm{s}}/\mathrm{d}\ln k$	-0.0070 ± 0.0084	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.882 ± 0.014	$D_{\mathrm{M}}(2.33)$	5770 ± 17
r	< 0.0704	D_{40}	1231 ± 23	$f\sigma_8(0.15)$	0.460 ± 0.012
y_{cal}	1.0005 ± 0.0025	D_{220}	5702 ± 42	$\sigma_8(0.15)$	0.7487 ± 0.0072
A_{100}^{PS}	245 ± 25	D_{810}	2536 ± 14	$f\sigma_8(0.38)$	0.4776 ± 0.0096
A_{143}^{PS}	42 ± 9	D_{1420}	813.7 ± 5.3	$\sigma_8(0.38)$	$0.6631^{+0.0052}_{-0.0059}$
A_{217}^{PS}	100 ± 10	D_{2000}	229.1 ± 2.0	$f\sigma_8(0.51)$	0.4755 ± 0.0082
A_{217}^{CIB}	42^{+7}_{-8}	$n_{\mathrm{s},0.002}$	0.987 ± 0.027	$\sigma_8(0.51)$	$0.6203^{+0.0046}_{-0.0053}$
A_{143}^{tSZ}	$3.6^{+1.7}_{-2.6}$	Y_{P}	$0.24534^{+0.00011}_{-0.000088}$	$f\sigma_8(0.61)$	0.4701 ± 0.0072
$r_{143 \times 217}^{\mathrm{PS}}$	0.64 ± 0.13	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.24666^{+0.00011}_{-0.000088}$	$\sigma_8(0.61)$	$0.5901^{+0.0042}_{-0.0050}$
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.482	$10^5 \mathrm{D}/\mathrm{H}$	2.612 ± 0.045	$f\sigma_8(2.33)$	$0.2973^{+0.0020}_{-0.0025}$
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$\mathrm{Age}/\mathrm{Gyr}$	13.812 ± 0.038	$\sigma_8(2.33)$	$0.3063^{+0.0020}_{-0.0027}$
A^{kSZ}	$5.2^{+4.0}_{-2.2}$	z_*	1090.11 ± 0.42	$r_{0.002}$	< 0.0671
A_{100}^{dust}	1.01 ± 0.20	r_*	144.51 ± 0.49	$r_{0.01}$	< 0.0681
A_{143}^{dust}	0.98 ± 0.18	$100\theta_*$	1.04109 ± 0.00046	$\ln(10^{10}A_{\mathrm{t}})$	$-0.30^{+1.4}_{-0.61}$
A_{217}^{dust}	0.97 ± 0.10	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.881 ± 0.045	r_{10}	< 0.0348
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	z_{drag}	1059.62 ± 0.51	$10^9 A_{\mathrm{t}}$	< 0.148
c_{100}	0.9975 ± 0.0011	r_{drag}	147.22 ± 0.50	$10^9 A_{\mathrm{t}}e^{-2\tau}$	< 0.132
c_{217}	1.0013 ± 0.0016	k_{D}	0.14062 ± 0.00057	f_{2000}^{143}	31.7 ± 3.4
H_0	67.21 ± 0.92	$100\theta_{\mathrm{D}}$	0.16095 ± 0.00029	f_{2000}^{217}	108.1 ± 2.2
Ω_{Λ}	0.683 ± 0.013	z_{eq}	3401 ± 48	$f_{2000}^{143 \times 217}$	33.7 ± 2.4
Ω_{m}	0.317 ± 0.013	k_{eq}	0.01038 ± 0.00015	χ_{small}^2	397.2 ± 1.7
$\Omega_{\mathrm{m}}h^2$	0.1430 ± 0.0020	$100\theta_{\mathrm{eq}}$	0.8132 ± 0.0089	χ_{lowl}^2	23.6 ± 2.2
$\Omega_{\mathrm{m}}h^3$	0.09607 ± 0.00050	$100\theta_{\mathrm{s,eq}}$	0.4494 ± 0.0046	$\chi_{\mathrm{CamSpec}}^2$	7065.0 ± 5.7
σ_8	0.8108 ± 0.0087	$H(0.15)$	72.54 ± 0.79	χ_{prior}^2	7.7 ± 3.5
S_8	0.833 ± 0.024	$D_{\mathrm{M}}(0.15)$	644.8 ± 7.9	χ_{CMB}^2	7485.8 ± 5.8
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.456 ± 0.013	$H(0.38)$	82.74 ± 0.57		

$$\bar{\chi}_{\mathrm{eff}}^2 = 7493.58; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 2.32; R - 1 = 0.00549$$

11.4 base_nrun_r_CamSpecHM_TT_lowl_lowE_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02230 ± 0.00022	$\sigma_8/h^{0.5}$	0.980 ± 0.011	$D_{\mathrm{M}}(0.51)$	1979 ± 11
$\Omega_{\mathrm{c}}h^2$	0.1188 ± 0.0012	$r_{\mathrm{drag}}h$	99.92 ± 0.95	$H(0.61)$	95.36 ± 0.26
$100\theta_{\mathrm{MC}}$	1.04106 ± 0.00041	$\langle d^2 \rangle^{1/2}$	2.414 ± 0.029	$D_{\mathrm{M}}(0.61)$	2303 ± 12
τ	$0.0560^{+0.0055}_{-0.0088}$	z_{re}	$7.83^{+0.61}_{-0.85}$	$H(2.33)$	235.74 ± 0.81
$\ln(10^{10}A_{\mathrm{s}})$	$3.044^{+0.013}_{-0.018}$	$10^9 A_{\mathrm{s}}$	$2.099^{+0.027}_{-0.038}$	$D_{\mathrm{M}}(2.33)$	5762 ± 13
n_{s}	0.9673 ± 0.0045	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.877 ± 0.012	$f\sigma_8(0.15)$	0.4533 ± 0.0076
$\mathrm{d}n_{\mathrm{s}}/\mathrm{d}\ln k$	-0.0067 ± 0.0086	D_{40}	1227 ± 22	$\sigma_8(0.15)$	$0.7460^{+0.0059}_{-0.0067}$
r	< 0.0760	D_{220}	5706 ± 41	$f\sigma_8(0.38)$	0.4721 ± 0.0064
y_{cal}	1.0005 ± 0.0025	D_{810}	2535 ± 14	$\sigma_8(0.38)$	$0.6615^{+0.0048}_{-0.0058}$
A_{100}^{PS}	245 ± 25	D_{1420}	814.4 ± 5.2	$f\sigma_8(0.51)$	0.4710 ± 0.0057
A_{143}^{PS}	42 ± 9	D_{2000}	229.3 ± 1.9	$\sigma_8(0.51)$	$0.6192^{+0.0044}_{-0.0054}$
A_{217}^{PS}	100 ± 10	$n_{\mathrm{s},0.002}$	0.989 ± 0.027	$f\sigma_8(0.61)$	0.4663 ± 0.0052
A_{217}^{CIB}	42 ± 8	Y_{P}	$0.245364^{+0.000093}_{-0.000079}$	$\sigma_8(0.61)$	$0.5893^{+0.0041}_{-0.0051}$
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.7}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246691^{+0.000094}_{-0.000080}$	$f\sigma_8(2.33)$	$0.2972^{+0.0020}_{-0.0025}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.64 ± 0.13	$10^5 \mathrm{D}/\mathrm{H}$	2.599 ± 0.041	$\sigma_8(2.33)$	$0.3065^{+0.0021}_{-0.0026}$
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.479	Age/Gyr	13.795 ± 0.029	$r_{0.002}$	< 0.0733
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	< 0.637	z_*	1089.91 ± 0.31	$r_{0.01}$	< 0.0740
A^{kSZ}	$5.2^{+3.9}_{-2.3}$	r_*	144.78 ± 0.34	$\ln(10^{10}A_{\mathrm{t}})$	$-0.23^{+1.4}_{-0.60}$
A_{100}^{dust}	1.01 ± 0.20	$100\theta_*$	1.04125 ± 0.00040	r_{10}	< 0.0380
A_{143}^{dust}	0.98 ± 0.18	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.905 ± 0.033	$10^9 A_{\mathrm{t}}$	< 0.160
A_{217}^{dust}	0.97 ± 0.10	z_{drag}	1059.69 ± 0.50	$10^9 A_{\mathrm{t}}e^{-2\tau}$	< 0.143
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	r_{drag}	147.48 ± 0.38	f_{2000}^{143}	31.5 ± 3.4
c_{100}	0.9975 ± 0.0011	k_{D}	0.14041 ± 0.00050	f_{2000}^{217}	107.9 ± 2.2
c_{217}	1.0013 ± 0.0016	$100\theta_{\mathrm{D}}$	0.16091 ± 0.00029	$f_{2000}^{143 \times 217}$	33.5 ± 2.4
H_0	67.76 ± 0.55	z_{eq}	3373 ± 29	χ_{small}^2	397.3 ± 1.8
Ω_{Λ}	0.6911 ± 0.0073	k_{eq}	0.010294 ± 0.000089	χ_{lowl}^2	23.3 ± 2.1
Ω_{m}	0.3089 ± 0.0073	$100\theta_{\mathrm{eq}}$	0.8185 ± 0.0054	$\chi_{\mathrm{CamSpec}}^2$	7065.3 ± 5.6
$\Omega_{\mathrm{m}}h^2$	0.1418 ± 0.0012	$100\theta_{\mathrm{s,eq}}$	0.4522 ± 0.0028	$\chi_{6\mathrm{DF}}^2$	0.051 ± 0.068
$\Omega_{\mathrm{m}}h^3$	0.09606 ± 0.00050	$H(0.15)$	73.01 ± 0.48	χ_{MGS}^2	1.44 ± 0.54
σ_8	$0.8070^{+0.0068}_{-0.0076}$	$D_{\mathrm{M}}(0.15)$	640.1 ± 4.7	$\chi_{\mathrm{DR12BAO}}^2$	4.6 ± 1.5
S_8	0.819 ± 0.015	$H(0.38)$	83.07 ± 0.36	χ_{prior}^2	7.7 ± 3.5
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4485 ± 0.0081	$D_{\mathrm{M}}(0.38)$	1527.1 ± 9.5	χ_{BAO}^2	6.1 ± 1.2
$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6016 ± 0.0078	$H(0.51)$	89.76 ± 0.30	χ_{CMB}^2	7485.8 ± 5.7

$$\bar{\chi}_{\mathrm{eff}}^2 = 7499.67; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 2.35; R - 1 = 0.00851$$

11.5 base_nrun_r_CamSpecHM_TTTEEE_lowl_lowE_lensing

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022298	0.02234 ± 0.00016	$\sigma_8 \Omega_m^{0.5}$	0.4534	0.4525 ± 0.0071	$D_M(0.38)$	1533.3	1531.6 ± 9.6
$\Omega_c h^2$	0.11968	0.1195 ± 0.0012	$\sigma_8 \Omega_m^{0.25}$	0.6056	0.6050 ± 0.0065	$H(0.51)$	89.592	89.65 ± 0.28
$100\theta_{MC}$	1.040850	1.04088 ± 0.00031	$\sigma_8/h^{0.5}$	0.9855	0.9847 ± 0.0092	$D_M(0.51)$	1985.9	1984 ± 11
τ	0.0534	0.0549 ± 0.0078	$r_{\text{drag}} h$	99.23	99.38 ± 0.96	$H(0.61)$	95.231	95.28 ± 0.23
$\ln(10^{10} A_s)$	3.0405	3.044 ± 0.016	$\langle d^2 \rangle^{1/2}$	2.4347	2.425 ± 0.024	$D_M(0.61)$	2310.5	2308 ± 12
n_s	0.96587	0.9663 ± 0.0046	z_{re}	7.60	7.72 ± 0.78	$H(2.33)$	236.27	236.21 ± 0.75
$dn_s/d \ln k$	-0.0008	-0.0055 ± 0.0076	$10^9 A_s$	2.0916	$2.099^{+0.031}_{-0.034}$	$D_M(2.33)$	5766.9	5764 ± 11
r	0.0203	< 0.0970	$10^9 A_s e^{-2\tau}$	1.8798	1.881 ± 0.011	$f\sigma_8(0.15)$	0.4578	0.4569 ± 0.0066
y_{cal}	1.00052	1.0006 ± 0.0025	D_{40}	1231.4	1239^{+20}_{-22}	$\sigma_8(0.15)$	0.7473	0.7473 ± 0.0055
A_{100}^{PS}	235.5	242 ± 25	D_{220}	5718.3	5714 ± 39	$f\sigma_8(0.38)$	0.4755	0.4749 ± 0.0053
A_{143}^{PS}	39.5	41 ± 9	D_{810}	2536.2	2537 ± 14	$\sigma_8(0.38)$	0.66211	0.6623 ± 0.0048
A_{217}^{PS}	101.9	102 ± 10	D_{1420}	816.0	815.5 ± 5.1	$f\sigma_8(0.51)$	0.47377	0.4733 ± 0.0046
A_{217}^{CIB}	44.6	40 ± 7	D_{2000}	230.28	229.9 ± 1.9	$\sigma_8(0.51)$	0.61950	0.6197 ± 0.0046
A_{143}^{tSZ}	6.54	$3.8^{+1.8}_{-2.6}$	$n_{s,0.002}$	0.9685	0.984 ± 0.024	$f\sigma_8(0.61)$	0.46859	0.4683 ± 0.0042
$r_{143 \times 217}^{\text{PS}}$	0.586	0.65 ± 0.13	Y_{P}	0.245367	$0.245379^{+0.000069}_{-0.000059}$	$\sigma_8(0.61)$	0.58940	0.5896 ± 0.0044
$r_{143 \times 217}^{\text{CIB}}$	0.778	$0.57^{+0.40}_{-0.15}$	$Y_{\text{P}}^{\text{BBN}}$	0.246693	$0.246706^{+0.000069}_{-0.000059}$	$f\sigma_8(2.33)$	0.29708	0.2972 ± 0.0023
$\xi^{\text{tSZ} \times \text{CIB}}$	0.07	—	$10^5 D/H$	2.5990	2.593 ± 0.030	$\sigma_8(2.33)$	0.30616	0.3064 ± 0.0025
A^{kSZ}	0.00	$4.9^{+2.8}_{-3.5}$	Age/Gyr	13.8054	13.800 ± 0.025	$r_{0.002}$	0.0184	< 0.0938
A_{100}^{dust}	1.009	1.01 ± 0.19	z_*	1089.985	1089.92 ± 0.27	$r_{0.01}$	0.0193	< 0.0946
A_{143}^{dust}	0.969	0.96 ± 0.18	r_*	144.568	144.58 ± 0.28	$\ln(10^{10} A_t)$	-0.86	$0.09^{+1.2}_{-0.43}$
A_{217}^{dust}	0.969	0.97 ± 0.10	$100\theta_*$	1.041042	1.04107 ± 0.00031	r_{10}	0.0094	< 0.0487
$A_{143 \times 217}^{\text{dust}}$	1.003	1.02 ± 0.16	$D_M(z_*)/\text{Gpc}$	13.8869	13.888 ± 0.027	$10^9 A_t$	0.042	< 0.204
c_{100}	0.99769	0.9975 ± 0.0010	z_{drag}	1059.742	1059.82 ± 0.35	$10^9 A_t e^{-2\tau}$	0.038	< 0.182
c_{217}	1.00132	1.0012 ± 0.0016	r_{drag}	147.256	147.26 ± 0.29	f_{2000}^{143}	30.09	30.4 ± 3.3
c_{TE}	0.99656	0.9963 ± 0.0049	k_D	0.140640	0.14066 ± 0.00034	f_{2000}^{217}	106.89	107.4 ± 2.2
c_{EE}	0.99224	0.9921 ± 0.0050	$100\theta_D$	0.160856	0.16082 ± 0.00020	$f_{2000}^{143 \times 217}$	32.12	32.7 ± 2.4
H_0	67.38	67.48 ± 0.56	z_{eq}	3392.9	3390 ± 28	χ_{lensing}^2	8.89	9.56 ± 0.78
Ω_Λ	0.6859	0.6870 ± 0.0076	k_{eq}	0.010355	0.010346 ± 0.000085	χ_{small}^2	396.00	397.4 ± 1.7
Ω_m	0.3141	0.3130 ± 0.0076	$100\theta_{\text{eq}}$	0.8147	0.8154 ± 0.0053	χ_{lowl}^2	23.48	24.3 ± 2.2
$\Omega_m h^2$	0.14263	0.1425 ± 0.0012	$100\theta_{s,\text{eq}}$	0.45017	0.4505 ± 0.0027	χ_{CamSpec}^2	11499.1	11514.1 ± 5.8
$\Omega_m h^3$	0.096106	0.09616 ± 0.00033	$H(0.15)$	72.692	72.78 ± 0.48	χ_{prior}^2	2.15	7.8 ± 3.4
σ_8	0.8090	0.8089 ± 0.0061	$D_M(0.15)$	643.19	642.3 ± 4.8	χ_{CMB}^2	11927.5	11945.3 ± 6.0
S_8	0.8278	0.826 ± 0.013	$H(0.38)$	82.849	82.92 ± 0.35			

Best-fit $\chi_{\text{eff}}^2 = 11929.59$; $\Delta\chi_{\text{eff}}^2 = -0.06$; $\bar{\chi}_{\text{eff}}^2 = 11953.15$; $\Delta\bar{\chi}_{\text{eff}}^2 = 1.71$; $R - 1 = 0.01351$
 χ_{eff}^2 : CMB - smicadx12_Dec5_ftl_mv2_ndclpp.p_teb_consext8: 8.89 (Δ 0.06) small_100x143_offlike5_EE_Aplanck_B: 396.00 (Δ 0.13) commander_dx12_v3_2_29: 23.48 (Δ 0.26) CamSpec like_10.7HM_1400.unified: 11499.08 (Δ -0.58)

11.6 base_nrun_r_CamSpecHM_TTTEEE_lowl_lowE_lensing_post_BAO

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02237 ± 0.00015	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6028 ± 0.0057	$D_{\mathrm{M}}(0.51)$	1978.9 ± 8.7
$\Omega_{\mathrm{c}}h^2$	0.11897 ± 0.00095	$\sigma_8/h^{0.5}$	0.9821 ± 0.0084	$H(0.61)$	95.37 ± 0.19
$100\theta_{\mathrm{MC}}$	1.04095 ± 0.00030	$r_{\mathrm{drag}}h$	99.81 ± 0.74	$D_{\mathrm{M}}(0.61)$	2302.9 ± 9.4
τ	0.0564 ± 0.0076	$\langle d^2 \rangle^{1/2}$	2.419 ± 0.023	$H(2.33)$	235.89 ± 0.59
$\ln(10^{10}A_{\mathrm{s}})$	3.046 ± 0.016	z_{re}	7.86 ± 0.75	$D_{\mathrm{M}}(2.33)$	5760.6 ± 9.4
n_{s}	0.9676 ± 0.0042	$10^9 A_{\mathrm{s}}$	$2.104^{+0.030}_{-0.034}$	$f\sigma_8(0.15)$	0.4544 ± 0.0054
$\mathrm{d}n_{\mathrm{s}}/\mathrm{d}\ln k$	$-0.0054^{+0.0080}_{-0.0072}$	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.879 ± 0.011	$\sigma_8(0.15)$	0.7470 ± 0.0055
r	< 0.101	D_{40}	1238^{+20}_{-22}	$f\sigma_8(0.38)$	0.4731 ± 0.0046
y_{cal}	1.0008 ± 0.0025	D_{220}	5718 ± 39	$\sigma_8(0.38)$	0.6624 ± 0.0049
A_{100}^{PS}	241 ± 25	D_{810}	2538 ± 14	$f\sigma_8(0.51)$	0.4719 ± 0.0042
A_{143}^{PS}	40 ± 9	D_{1420}	816.1 ± 5.1	$\sigma_8(0.51)$	0.6200 ± 0.0046
A_{217}^{PS}	102 ± 10	D_{2000}	230.1 ± 1.9	$f\sigma_8(0.61)$	0.4671 ± 0.0039
A_{217}^{CIB}	40 ± 7	$n_{\mathrm{s},0.002}$	$0.985^{+0.022}_{-0.025}$	$\sigma_8(0.61)$	0.5900 ± 0.0044
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	Y_{P}	$0.245394^{+0.000063}_{-0.000056}$	$f\sigma_8(2.33)$	0.2976 ± 0.0023
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246721^{+0.000063}_{-0.000057}$	$\sigma_8(2.33)$	0.3069 ± 0.0024
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.57^{+0.40}_{-0.16}$	$10^5 \mathrm{D}/\mathrm{H}$	2.586 ± 0.028	$r_{0.002}$	< 0.0979
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$\mathrm{Age}/\mathrm{Gyr}$	13.792 ± 0.021	$r_{0.01}$	< 0.0985
A^{kSZ}	$4.8^{+2.4}_{-3.8}$	z_{*}	1089.83 ± 0.23	$\ln(10^{10}A_{\mathrm{t}})$	$0.14^{+1.2}_{-0.43}$
A_{100}^{dust}	1.01 ± 0.19	r_{*}	144.70 ± 0.24	r_{10}	< 0.0508
A_{143}^{dust}	0.96 ± 0.18	$100\theta_{*}$	1.04114 ± 0.00030	$10^9 A_{\mathrm{t}}$	< 0.211
A_{217}^{dust}	0.97 ± 0.10	$D_{\mathrm{M}}(z_{*})/\mathrm{Gpc}$	13.898 ± 0.023	$10^9 A_{\mathrm{t}}e^{-2\tau}$	< 0.189
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	z_{drag}	1059.87 ± 0.34	f_{2000}^{143}	30.2 ± 3.3
c_{100}	0.9976 ± 0.0010	r_{drag}	147.36 ± 0.25	f_{2000}^{217}	107.3 ± 2.2
c_{217}	1.0012 ± 0.0016	k_{D}	0.14058 ± 0.00033	$f_{2000}^{143 \times 217}$	32.5 ± 2.4
c_{TE}	0.9964 ± 0.0050	$100\theta_{\mathrm{D}}$	0.16079 ± 0.00020	$\chi_{\mathrm{lensing}}^2$	9.56 ± 0.82
c_{EE}	0.9923 ± 0.0050	z_{eq}	3378 ± 22	χ_{simall}^2	397.6 ± 1.9
H_0	67.73 ± 0.43	k_{eq}	0.010309 ± 0.000066	χ_{lowl}^2	24.1 ± 2.2
Ω_{Λ}	0.6904 ± 0.0057	$100\theta_{\mathrm{eq}}$	0.8178 ± 0.0041	$\chi_{\mathrm{CamSpec}}^2$	11514.0 ± 5.7
Ω_{m}	0.3096 ± 0.0057	$100\theta_{\mathrm{s,eq}}$	0.4517 ± 0.0021	$\chi_{6\mathrm{DF}}^2$	0.042 ± 0.052
$\Omega_{\mathrm{m}}h^2$	0.14199 ± 0.00091	$H(0.15)$	72.99 ± 0.37	χ_{MGS}^2	1.36 ± 0.41
$\Omega_{\mathrm{m}}h^3$	0.09617 ± 0.00033	$D_{\mathrm{M}}(0.15)$	640.2 ± 3.7	$\chi_{\mathrm{DR12BAO}}^2$	4.5 ± 1.2
σ_8	0.8082 ± 0.0060	$H(0.38)$	83.07 ± 0.28	χ_{prior}^2	7.9 ± 3.4
S_8	0.821 ± 0.011	$D_{\mathrm{M}}(0.38)$	1527.4 ± 7.4	χ_{CMB}^2	11945.2 ± 5.9
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4497 ± 0.0058	$H(0.51)$	89.77 ± 0.23	χ_{BAO}^2	5.93 ± 0.90

$$\bar{\chi}_{\mathrm{eff}}^2 = 11958.98; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 1.58; R - 1 = 0.01470$$

11.7 base_nrun_r_CamSpecHM_TTTEEE_lowl_lowE_lensing_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02234 ± 0.00016	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4525 ± 0.0071	$D_{\mathrm{M}}(0.38)$	1531.1 ± 9.4
$\Omega_{\mathrm{c}}h^2$	0.1195 ± 0.0012	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6052 ± 0.0064	$H(0.51)$	89.66 ± 0.28
$100\theta_{\mathrm{MC}}$	1.04089 ± 0.00031	$\sigma_8/h^{0.5}$	0.9850 ± 0.0090	$D_{\mathrm{M}}(0.51)$	1983 ± 11
τ	$0.0558^{+0.0056}_{-0.0083}$	$r_{\mathrm{drag}}h$	99.42 ± 0.95	$H(0.61)$	95.29 ± 0.23
$\ln(10^{10}A_{\mathrm{s}})$	$3.046^{+0.012}_{-0.016}$	$\langle d^2 \rangle^{1/2}$	2.426 ± 0.024	$D_{\mathrm{M}}(0.61)$	2308 ± 12
n_{s}	0.9664 ± 0.0046	z_{re}	$7.81^{+0.61}_{-0.80}$	$H(2.33)$	236.17 ± 0.74
$\mathrm{d}n_{\mathrm{s}}/\mathrm{d}\ln k$	-0.0056 ± 0.0076	$10^9 A_{\mathrm{s}}$	$2.103^{+0.025}_{-0.034}$	$D_{\mathrm{M}}(2.33)$	5764 ± 11
r	< 0.0979	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.880 ± 0.011	$f\sigma_8(0.15)$	0.4570 ± 0.0066
y_{cal}	1.0006 ± 0.0025	D_{40}	1239^{+20}_{-22}	$\sigma_8(0.15)$	$0.7478^{+0.0048}_{-0.0055}$
A_{100}^{PS}	242 ± 25	D_{220}	5714 ± 39	$f\sigma_8(0.38)$	0.4750 ± 0.0053
A_{143}^{PS}	41 ± 9	D_{810}	2537 ± 14	$\sigma_8(0.38)$	$0.6627^{+0.0041}_{-0.0049}$
A_{217}^{PS}	102 ± 10	D_{1420}	815.5 ± 5.1	$f\sigma_8(0.51)$	0.4735 ± 0.0046
A_{217}^{CIB}	40^{+7}_{-8}	D_{2000}	229.9 ± 1.9	$\sigma_8(0.51)$	$0.6201^{+0.0038}_{-0.0046}$
A_{143}^{tSZ}	$3.7^{+1.8}_{-2.6}$	$n_{\mathrm{s},0.002}$	0.985 ± 0.024	$f\sigma_8(0.61)$	0.4685 ± 0.0042
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	Y_{P}	$0.245382^{+0.000068}_{-0.000059}$	$\sigma_8(0.61)$	$0.5901^{+0.0036}_{-0.0045}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.57^{+0.40}_{-0.16}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246708^{+0.000068}_{-0.000059}$	$f\sigma_8(2.33)$	$0.2975^{+0.0018}_{-0.0023}$
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$10^5 \mathrm{D}/\mathrm{H}$	2.592 ± 0.030	$\sigma_8(2.33)$	$0.3066^{+0.0019}_{-0.0025}$
A^{kSZ}	$4.9^{+2.8}_{-3.5}$	$\mathrm{Age}/\mathrm{Gyr}$	13.799 ± 0.024	$r_{0.002}$	< 0.0947
A_{100}^{dust}	1.01 ± 0.19	z_*	1089.91 ± 0.27	$r_{0.01}$	< 0.0954
A_{143}^{dust}	0.96 ± 0.18	r_*	144.59 ± 0.28	$\ln(10^{10}A_{\mathrm{t}})$	$0.10^{+1.2}_{-0.42}$
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04108 ± 0.00031	r_{10}	< 0.0491
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.889 ± 0.027	$10^9 A_{\mathrm{t}}$	< 0.205
c_{100}	0.9975 ± 0.0010	z_{drag}	1059.83 ± 0.35	$10^9 A_{\mathrm{t}}e^{-2\tau}$	< 0.184
c_{217}	1.0012 ± 0.0016	r_{drag}	147.27 ± 0.29	f_{2000}^{143}	30.4 ± 3.3
c_{TE}	0.9962 ± 0.0049	k_{D}	0.14066 ± 0.00035	f_{2000}^{217}	107.4 ± 2.2
c_{EE}	0.9920 ± 0.0050	$100\theta_{\mathrm{D}}$	0.16081 ± 0.00020	$f_{2000}^{143 \times 217}$	32.7 ± 2.4
H_0	67.51 ± 0.55	z_{eq}	3389 ± 28	$\chi_{\mathrm{lensing}}^2$	9.53 ± 0.75
Ω_{Λ}	0.6874 ± 0.0075	k_{eq}	0.010343 ± 0.000084	χ_{simall}^2	397.4 ± 1.8
Ω_{m}	0.3126 ± 0.0075	$100\theta_{\mathrm{eq}}$	0.8157 ± 0.0052	χ_{lowl}^2	24.2 ± 2.2
$\Omega_{\mathrm{m}}h^2$	0.1424 ± 0.0012	$100\theta_{\mathrm{s,eq}}$	0.4506 ± 0.0027	$\chi_{\mathrm{CamSpec}}^2$	11514.0 ± 5.8
$\Omega_{\mathrm{m}}h^3$	0.09616 ± 0.00033	$H(0.15)$	72.80 ± 0.47	χ_{prior}^2	7.8 ± 3.4
σ_8	0.8093 ± 0.0058	$D_{\mathrm{M}}(0.15)$	642.1 ± 4.7	χ_{CMB}^2	11945.1 ± 6.0
S_8	0.826 ± 0.013	$H(0.38)$	82.94 ± 0.35		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11953.00; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 1.75; R - 1 = 0.01489$$

11.8 base_nrun_r_CamSpecHM_TTTEEE_lowl_lowE_lensing_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}} h^2$	0.02238 ± 0.00015	$\sigma_8 \Omega_{\mathrm{m}}^{0.25}$	0.6030 ± 0.0056	$D_{\mathrm{M}}(0.51)$	1978.7 ± 8.7
$\Omega_{\mathrm{c}} h^2$	0.11895 ± 0.00095	$\sigma_8 / h^{0.5}$	0.9824 ± 0.0082	$H(0.61)$	95.38 ± 0.19
$100\theta_{\mathrm{MC}}$	1.04096 ± 0.00030	$r_{\mathrm{drag}} h$	99.83 ± 0.73	$D_{\mathrm{M}}(0.61)$	2302.7 ± 9.4
τ	$0.0570^{+0.0060}_{-0.0079}$	$\langle d^2 \rangle^{1/2}$	2.420 ± 0.023	$H(2.33)$	235.87 ± 0.59
$\ln(10^{10} A_{\mathrm{s}})$	$3.047^{+0.013}_{-0.016}$	z_{re}	$7.92^{+0.64}_{-0.76}$	$D_{\mathrm{M}}(2.33)$	5760.4 ± 9.4
n_{s}	0.9677 ± 0.0041	$10^9 A_{\mathrm{s}}$	$2.106^{+0.027}_{-0.034}$	$f\sigma_8(0.15)$	0.4545 ± 0.0054
$\mathrm{d}n_{\mathrm{s}}/\mathrm{d}\ln k$	$-0.0055^{+0.0079}_{-0.0072}$	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.879 ± 0.011	$\sigma_8(0.15)$	$0.7474^{+0.0048}_{-0.0056}$
r	< 0.101	D_{40}	1238^{+20}_{-22}	$f\sigma_8(0.38)$	0.4733 ± 0.0046
y_{cal}	1.0008 ± 0.0025	D_{220}	5718 ± 39	$\sigma_8(0.38)$	$0.6627^{+0.0042}_{-0.0050}$
A_{100}^{PS}	241 ± 25	D_{810}	2538 ± 14	$f\sigma_8(0.51)$	0.4721 ± 0.0041
A_{143}^{PS}	40 ± 9	D_{1420}	816.1 ± 5.0	$\sigma_8(0.51)$	$0.6203^{+0.0039}_{-0.0047}$
A_{217}^{PS}	102 ± 10	D_{2000}	230.1 ± 1.9	$f\sigma_8(0.61)$	0.4673 ± 0.0038
A_{217}^{CIB}	40 ± 7	$n_{\mathrm{s},0.002}$	$0.985^{+0.022}_{-0.025}$	$\sigma_8(0.61)$	$0.5903^{+0.0037}_{-0.0045}$
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	Y_{P}	0.245395 ± 0.000060	$f\sigma_8(2.33)$	$0.2977^{+0.0019}_{-0.0023}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246722 ± 0.000060	$\sigma_8(2.33)$	$0.3070^{+0.0020}_{-0.0025}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.57^{+0.40}_{-0.16}$	$10^5 \mathrm{D}/\mathrm{H}$	2.585 ± 0.028	$r_{0.002}$	< 0.0984
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$\mathrm{Age}/\mathrm{Gyr}$	13.791 ± 0.021	$r_{0.01}$	< 0.0990
A^{kSZ}	$4.8^{+2.5}_{-3.8}$	z_{*}	1089.82 ± 0.23	$\ln(10^{10} A_{\mathrm{t}})$	$0.14^{+1.2}_{-0.43}$
A_{100}^{dust}	1.01 ± 0.19	r_{*}	144.70 ± 0.23	r_{10}	< 0.0509
A_{143}^{dust}	0.96 ± 0.18	$100\theta_{*}$	1.04114 ± 0.00030	$10^9 A_{\mathrm{t}}$	< 0.212
A_{217}^{dust}	0.97 ± 0.10	$D_{\mathrm{M}}(z_{*})/\mathrm{Gpc}$	13.898 ± 0.023	$10^9 A_{\mathrm{t}} e^{-2\tau}$	< 0.190
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	z_{drag}	1059.87 ± 0.34	f_{2000}^{143}	30.2 ± 3.3
c_{100}	0.9976 ± 0.0010	r_{drag}	147.37 ± 0.25	f_{2000}^{217}	107.3 ± 2.2
c_{217}	1.0012 ± 0.0016	k_{D}	0.14058 ± 0.00033	$f_{2000}^{143 \times 217}$	32.5 ± 2.3
c_{TE}	0.9964 ± 0.0050	$100\theta_{\mathrm{D}}$	0.16079 ± 0.00020	$\chi_{\mathrm{lensing}}^2$	9.52 ± 0.77
c_{EE}	0.9923 ± 0.0050	z_{eq}	3377 ± 22	χ_{simall}^2	397.6 ± 1.9
H_0	67.74 ± 0.43	k_{eq}	0.010307 ± 0.000066	χ_{lowl}^2	24.1 ± 2.2
Ω_{Λ}	0.6906 ± 0.0057	$100\theta_{\mathrm{eq}}$	0.8179 ± 0.0041	$\chi_{\mathrm{CamSpec}}^2$	11513.9 ± 5.7
Ω_{m}	0.3094 ± 0.0057	$100\theta_{\mathrm{s,eq}}$	0.4518 ± 0.0021	$\chi_{6\mathrm{DF}}^2$	0.040 ± 0.051
$\Omega_{\mathrm{m}} h^2$	0.14197 ± 0.00091	$H(0.15)$	73.00 ± 0.37	χ_{MGS}^2	1.37 ± 0.41
$\Omega_{\mathrm{m}} h^3$	0.09617 ± 0.00033	$D_{\mathrm{M}}(0.15)$	640.1 ± 3.6	$\chi_{\mathrm{DR12BAO}}^2$	4.5 ± 1.2
σ_8	$0.8086^{+0.0054}_{-0.0061}$	$H(0.38)$	83.08 ± 0.28	χ_{prior}^2	7.9 ± 3.4
S_8	0.821 ± 0.011	$D_{\mathrm{M}}(0.38)$	1527.2 ± 7.4	χ_{CMB}^2	11945.1 ± 5.9
$\sigma_8 \Omega_{\mathrm{m}}^{0.5}$	0.4497 ± 0.0058	$H(0.51)$	89.77 ± 0.23	χ_{BAO}^2	5.90 ± 0.88

$$\bar{\chi}_{\mathrm{eff}}^2 = 11958.86; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 1.60; R - 1 = 0.01525$$

11.9 base_nrun_r_CamSpecHM_TT_lowl_lowE_BK15

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022129	0.02215 ± 0.00023	$\Omega_m h^3$	0.096048	0.09606 ± 0.00049	$H(0.38)$	82.39	82.46 ± 0.55
$\Omega_c h^2$	0.12137	0.1211 ± 0.0021	σ_8	0.8144	0.8142 ± 0.0089	$D_M(0.38)$	1546.2	1544 ± 16
$100\theta_{MC}$	1.040786	1.04080 ± 0.00048	S_8	0.8472	0.845 ± 0.024	$H(0.51)$	89.237	89.30 ± 0.44
τ	0.0534	$0.0540^{+0.0075}_{-0.0085}$	$\sigma_8 \Omega_m^{0.5}$	0.4640	0.463 ± 0.013	$D_M(0.51)$	2000.9	1999 ± 18
$\ln(10^{10} A_s)$	3.0451	3.046 ± 0.018	$\sigma_8 \Omega_m^{0.25}$	0.6147	0.614 ± 0.012	$H(0.61)$	94.955	95.00 ± 0.35
n_s	0.9605	0.9618 ± 0.0059	$\sigma_8/h^{0.5}$	0.9977	0.997 ± 0.016	$D_M(0.61)$	2326.7	2324 ± 20
$dn_s/d \ln k$	-0.0056	-0.0054 ± 0.0076	$r_{\text{drag}} h$	97.95	98.1 ± 1.6	$H(2.33)$	237.21	237.1 ± 1.3
r	0.0137	< 0.0340	$\langle d^2 \rangle^{1/2}$	2.4574	2.454 ± 0.038	$D_M(2.33)$	5778.8	5777 ± 16
y_{cal}	1.00067	1.0007 ± 0.0025	z_{re}	7.66	7.69 ± 0.85	$f\sigma_8(0.15)$	0.4675	0.467 ± 0.012
$A_{B,\text{dust}}$	4.62	$4.86^{+0.81}_{-1.2}$	$10^9 A_s$	2.1012	$2.103^{+0.034}_{-0.038}$	$\sigma_8(0.15)$	0.7512	0.7512 ± 0.0075
$A_{B,\text{sync}}$	1.48	$1.63^{+0.51}_{-1.4}$	$10^9 A_s e^{-2\tau}$	1.8884	1.887 ± 0.014	$f\sigma_8(0.38)$	0.4830	0.4822 ± 0.0094
$\alpha_{B,\text{dust}}$	-0.528	$-0.57^{+0.21}_{-0.32}$	D_{40}	1227.8	1231 ± 21	$\sigma_8(0.38)$	0.6645	0.6646 ± 0.0061
$\beta_{B,\text{dust}}$	1.579	1.600 ± 0.096	D_{220}	5704.2	5703 ± 41	$f\sigma_8(0.51)$	0.4800	0.4794 ± 0.0080
$\alpha_{B,\text{sync}}$	-0.25	—	D_{810}	2536.8	2537 ± 14	$\sigma_8(0.51)$	0.6213	0.6214 ± 0.0056
$\beta_{B,\text{sync}}$	-3.036	-3.10 ± 0.27	D_{1420}	812.8	813.5 ± 5.3	$f\sigma_8(0.61)$	0.4740	0.4735 ± 0.0071
$\epsilon_{\text{dust,sync}}$	-0.338	-0.35 ± 0.28	D_{2000}	228.70	229.0 ± 2.0	$\sigma_8(0.61)$	0.5908	0.5910 ± 0.0052
A_{100}^{PS}	249.5	246 ± 25	$n_{s,0.002}$	0.9786	0.979 ± 0.024	$f\sigma_8(2.33)$	0.29738	0.2975 ± 0.0026
A_{143}^{PS}	39.5	43 ± 9	Y_P	0.245296	$0.24530^{+0.00011}_{-0.000087}$	$\sigma_8(2.33)$	0.30603	0.3063 ± 0.0027
A_{217}^{PS}	97.9	100 ± 10	Y_P^{BBN}	0.246622	$0.24663^{+0.00011}_{-0.000088}$	$r_{0.002}$	0.0125	< 0.0314
A_{217}^{CIB}	44.0	42 ± 8	$10^5 D/H$	2.6315	2.628 ± 0.044	$r_{0.01}$	0.0130	< 0.0325
A_{143}^{tSZ}	3.85	$3.6^{+1.7}_{-2.7}$	Age/Gyr	13.8315	13.827 ± 0.037	$\ln(10^{10} A_t)$	-1.25	$-0.89^{+1.1}_{-0.43}$
$r_{143 \times 217}^{\text{PS}}$	0.542	0.64 ± 0.13	z_*	1090.347	1090.30 ± 0.41	r_{10}	0.0065	< 0.0163
$r_{143 \times 217}^{\text{CIB}}$	0.658	> 0.485	r_*	144.262	144.31 ± 0.48	$10^9 A_t$	0.0288	< 0.0715
$\xi^{\text{tSZ} \times \text{CIB}}$	0.00	—	$100\theta_*$	1.040990	1.04101 ± 0.00047	$10^9 A_t e^{-2\tau}$	0.0259	< 0.0642
A^{kSZ}	4.70	$5.2^{+3.9}_{-2.3}$	$D_M(z_*)/\text{Gpc}$	13.8582	13.862 ± 0.045	f_{2000}^{143}	32.54	31.9 ± 3.4
A_{100}^{dust}	1.015	1.01 ± 0.19	z_{drag}	1059.475	1059.51 ± 0.50	f_{2000}^{217}	108.75	108.3 ± 2.2
A_{143}^{dust}	0.984	0.98 ± 0.18	r_{drag}	146.999	147.04 ± 0.49	$f_{2000}^{143 \times 217}$	34.09	33.8 ± 2.4
A_{217}^{dust}	0.962	0.97 ± 0.10	k_D	0.14078	0.14075 ± 0.00056	χ_{BKPLANCK}^2	734.86	739.2 ± 2.7
$A_{143 \times 217}^{\text{dust}}$	1.007	1.03 ± 0.16	$100\theta_D$	0.161032	0.16101 ± 0.00029	χ_{small}^2	396.03	397.3 ± 2.0
c_{100}	0.99739	0.9975 ± 0.0011	z_{eq}	3429.2	3424 ± 47	χ_{lowl}^2	22.86	23.6 ± 2.2
c_{217}	1.00143	1.0013 ± 0.0016	k_{eq}	0.010466	0.01045 ± 0.00014	χ_{CamSpec}^2	7050.6	7064.4 ± 5.6
H_0	66.63	66.75 ± 0.90	$100\theta_{\text{eq}}$	0.8078	0.8088 ± 0.0087	χ_{prior}^2	2.59	9.3 ± 3.9
Ω_Λ	0.6753	0.677 ± 0.013	$100\theta_{s,\text{eq}}$	0.44666	0.4472 ± 0.0045	χ_{CMB}^2	8204.4	8224.5 ± 6.3
Ω_m	0.3247	0.323 ± 0.013	$H(0.15)$	72.05	72.15 ± 0.77			
$\Omega_m h^2$	0.14414	0.1439 ± 0.0020	$D_M(0.15)$	649.7	648.8 ± 7.8			

Best-fit $\chi_{\text{eff}}^2 = 8206.96$; $\bar{\chi}_{\text{eff}}^2 = 8233.85$; $R - 1 = 0.00340$

χ_{eff}^2 : CMB - BK15_dust: 734.86 small_100x143_offlike5_EE_Aplanck_B: 396.03 commander_dx12_v3_2_29: 22.86 CamSpec like_10.7HM: 7050.61

11.10 base_nrun_r_CamSpecHM_TT_lowl_lowE_BK15_post_BAO

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022242	0.02226 ± 0.00021	σ_8	0.8082	0.8091 ± 0.0078	$H(0.51)$	89.662	89.68 ± 0.29
$\Omega_c h^2$	0.11917	0.1192 ± 0.0012	S_8	0.8229	0.824 ± 0.015	$D_M(0.51)$	1982.2	1982 ± 11
$100\theta_{MC}$	1.041041	1.04106 ± 0.00043	$\sigma_8 \Omega_m^{0.5}$	0.4507	0.4513 ± 0.0081	$H(0.61)$	95.275	95.29 ± 0.25
τ	0.0553	$0.0560^{+0.0074}_{-0.0088}$	$\sigma_8 \Omega_m^{0.25}$	0.6035	0.6042 ± 0.0079	$D_M(0.61)$	2306.6	2306 ± 12
$\ln(10^{10} A_s)$	3.0438	$3.046^{+0.017}_{-0.019}$	$\sigma_8/h^{0.5}$	0.9831	0.984 ± 0.011	$H(2.33)$	235.89	235.94 ± 0.80
n_s	0.96574	0.9663 ± 0.0045	$r_{drag} h$	99.65	99.65 ± 0.94	$D_M(2.33)$	5765.6	5765 ± 13
$dn_s/d \ln k$	-0.0048	-0.0049 ± 0.0077	$\langle d^2 \rangle^{1/2}$	2.4242	2.426 ± 0.028	$f\sigma_8(0.15)$	0.4553	0.4559 ± 0.0076
r	0.0170	$0.0297^{+0.0079}_{-0.029}$	z_{re}	7.80	7.85 ± 0.85	$\sigma_8(0.15)$	0.7468	0.7477 ± 0.0070
y_{cal}	1.00079	1.0008 ± 0.0025	$10^9 A_s$	2.0985	$2.103^{+0.034}_{-0.040}$	$f\sigma_8(0.38)$	0.4737	0.4743 ± 0.0064
$A_{B,dust}$	4.60	$4.87^{+0.81}_{-1.2}$	$10^9 A_s e^{-2\tau}$	1.8789	1.879 ± 0.012	$\sigma_8(0.38)$	0.6621	0.6628 ± 0.0060
$A_{B,sync}$	1.45	$1.64^{+0.54}_{-1.3}$	D_{40}	1220.0	1224 ± 20	$f\sigma_8(0.51)$	0.4724	0.4729 ± 0.0058
$\alpha_{B,dust}$	-0.504	$-0.56^{+0.22}_{-0.32}$	D_{220}	5712.7	5712 ± 41	$\sigma_8(0.51)$	0.6196	$0.6203^{+0.0051}_{-0.0057}$
$\beta_{B,dust}$	1.575	1.596 ± 0.097	D_{810}	2535.7	2537 ± 14	$f\sigma_8(0.61)$	0.4675	0.4680 ± 0.0054
$\alpha_{B,sync}$	-0.38	—	D_{1420}	814.3	814.8 ± 5.3	$\sigma_8(0.61)$	0.5896	$0.5902^{+0.0049}_{-0.0054}$
$\beta_{B,sync}$	-3.053	-3.10 ± 0.28	D_{2000}	229.30	229.6 ± 2.0	$f\sigma_8(2.33)$	0.29728	$0.2976^{+0.0024}_{-0.0028}$
$\epsilon_{dust,sync}$	-0.339	-0.35 ± 0.29	$n_{s,0.002}$	0.9811	0.982 ± 0.024	$\sigma_8(2.33)$	0.30650	$0.3068^{+0.0025}_{-0.0029}$
A_{100}^{PS}	249.0	245 ± 25	Y_P	0.245343	$0.245347^{+0.000093}_{-0.000080}$	$r_{0.002}$	0.0157	< 0.0345
A_{143}^{PS}	41.7	42 ± 9	Y_P^{BBN}	0.246670	$0.246673^{+0.000094}_{-0.000080}$	$r_{0.01}$	0.0162	$0.0286^{+0.0072}_{-0.028}$
A_{217}^{PS}	98.5	100 ± 10	$10^5 D/H$	2.6099	2.607 ± 0.040	$\ln(10^{10} A_t)$	-1.03	$-0.79^{+1.1}_{-0.40}$
A_{217}^{CIB}	42.9	42 ± 8	Age/Gyr	13.8033	13.801 ± 0.030	r_{10}	0.0081	< 0.0178
A_{143}^{tSZ}	3.55	$3.6^{+1.7}_{-2.7}$	z_*	1090.009	1089.99 ± 0.31	$10^9 A_t$	0.0356	$0.062^{+0.017}_{-0.061}$
$r_{143 \times 217}^{PS}$	0.583	0.64 ± 0.13	r_*	144.744	144.72 ± 0.33	$10^9 A_t e^{-2\tau}$	0.0319	$0.056^{+0.015}_{-0.054}$
$r_{143 \times 217}^{CIB}$	0.682	> 0.475	$100\theta_*$	1.041237	1.04125 ± 0.00042	f_{2000}^{143}	32.01	31.4 ± 3.3
$\xi^{tSZ \times CIB}$	0.29	—	$D_M(z_*)/\text{Gpc}$	13.9012	13.899 ± 0.032	f_{2000}^{217}	108.26	108.0 ± 2.2
A^{kSZ}	5.1	—	z_{drag}	1059.589	1059.62 ± 0.49	$f_{2000}^{143 \times 217}$	33.61	33.4 ± 2.4
A_{100}^{dust}	1.016	1.01 ± 0.19	r_{drag}	147.454	147.43 ± 0.37	$\chi_{BKPLANCK}^2$	735.64	740.0 ± 2.7
A_{143}^{dust}	0.988	0.97 ± 0.18	k_D	0.140386	0.14043 ± 0.00049	χ_{small}^2	396.20	397.5 ± 2.2
A_{217}^{dust}	0.966	0.97 ± 0.10	$100\theta_D$	0.160981	0.16096 ± 0.00028	χ_{lowl}^2	22.26	23.0 ± 1.9
$A_{143 \times 217}^{dust}$	0.996	1.03 ± 0.16	z_{eq}	3379.2	3380 ± 29	$\chi_{CamSpec}^2$	7051.6	7064.6 ± 5.5
c_{100}	0.99743	0.9975 ± 0.0011	k_{eq}	0.010314	0.010318 ± 0.000088	χ_{6DF}^2	0.0291	0.066 ± 0.083
c_{217}	1.00144	1.0013 ± 0.0016	$100\theta_{eq}$	0.8172	0.8170 ± 0.0053	χ_{MGS}^2	1.22	1.29 ± 0.51
H_0	67.58	67.59 ± 0.55	$100\theta_{s,eq}$	0.45150	0.4514 ± 0.0027	$\chi_{DR12BAO}^2$	4.37	5.0 ± 1.8
Ω_Λ	0.6890	0.6889 ± 0.0073	$H(0.15)$	72.854	72.87 ± 0.47	χ_{prior}^2	2.52	9.4 ± 3.9
Ω_m	0.3110	0.3111 ± 0.0073	$D_M(0.15)$	641.53	641.5 ± 4.7	χ_{BAO}^2	5.61	6.3 ± 1.5
$\Omega_m h^2$	0.14205	0.1421 ± 0.0012	$H(0.38)$	82.953	82.97 ± 0.36	χ_{CMB}^2	8205.7	8225.0 ± 6.3
$\Omega_m h^3$	0.09600	0.09605 ± 0.00050	$D_M(0.38)$	1530.1	1529.9 ± 9.4			

Best-fit $\chi_{eff}^2 = 8213.81$; $\bar{\chi}_{eff}^2 = 8240.71$; $R - 1 = 0.00691$
 χ_{eff}^2 : BAO - 6DF: 0.03 MGS: 1.22 DR12BAO: 4.37 CMB - BK15_dust: 735.64 simall_100x143_offlike5_EE_Aplanck_B: 396.20 commander_dx12_v3_2_29: 22.25 CamSpec like_10.7HM: 7051.59

11.11 base_nrun_r_CamSpecHM_TT_lowl_lowE_BK15_post_lensing

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022141	0.02217 ± 0.00023	$\Omega_m h^3$	0.095960	0.09601 ± 0.00049	$H(0.38)$	82.543	82.61 ± 0.46
$\Omega_c h^2$	0.12063	0.1205 ± 0.0016	σ_8	0.8119	0.8118 ± 0.0063	$D_M(0.38)$	1541.6	1540 ± 12
$100\theta_{MC}$	1.040822	1.04085 ± 0.00046	S_8	0.8389	0.838 ± 0.016	$H(0.51)$	89.345	89.40 ± 0.37
τ	0.0535	$0.0537^{+0.0073}_{-0.0082}$	$\sigma_8 \Omega_m^{0.5}$	0.4595	0.4588 ± 0.0089	$D_M(0.51)$	1995.6	1994 ± 15
$\ln(10^{10} A_s)$	3.0430	3.043 ± 0.016	$\sigma_8 \Omega_m^{0.25}$	0.6108	0.6102 ± 0.0076	$H(0.61)$	95.029	95.08 ± 0.31
n_s	0.9620	0.9632 ± 0.0051	$\sigma_8/h^{0.5}$	0.9925	0.992 ± 0.010	$D_M(0.61)$	2321.0	2319 ± 16
$dn_s/d \ln k$	-0.0041	-0.0041 ± 0.0076	$r_{\text{drag}} h$	98.48	98.6 ± 1.2	$H(2.33)$	236.74	236.69 ± 0.97
r	0.0130	< 0.0343	$\langle d^2 \rangle^{1/2}$	2.4479	2.445 ± 0.027	$D_M(2.33)$	5776.2	5774 ± 15
y_{cal}	1.00061	1.0007 ± 0.0025	z_{re}	7.66	7.65 ± 0.82	$f\sigma_8(0.15)$	0.4634	0.4627 ± 0.0081
$A_{B,\text{dust}}$	4.63	$4.87^{+0.81}_{-1.2}$	$10^9 A_s$	2.0969	$2.098^{+0.031}_{-0.034}$	$\sigma_8(0.15)$	0.7493	0.7494 ± 0.0056
$A_{B,\text{sync}}$	1.47	$1.64^{+0.53}_{-1.3}$	$10^9 A_s e^{-2\tau}$	1.8842	1.884 ± 0.012	$f\sigma_8(0.38)$	0.4797	0.4793 ± 0.0062
$\alpha_{B,\text{dust}}$	-0.515	$-0.57^{+0.21}_{-0.32}$	D_{40}	1227.6	1231 ± 20	$\sigma_8(0.38)$	0.66329	0.6634 ± 0.0049
$\beta_{B,\text{dust}}$	1.577	1.598 ± 0.096	D_{220}	5706.2	5706 ± 41	$f\sigma_8(0.51)$	0.4773	0.4769 ± 0.0053
$\alpha_{B,\text{sync}}$	-0.26	—	D_{810}	2535.1	2536 ± 14	$\sigma_8(0.51)$	0.62033	0.6205 ± 0.0046
$\beta_{B,\text{sync}}$	-3.039	-3.10 ± 0.27	D_{1420}	812.9	813.8 ± 5.4	$f\sigma_8(0.61)$	0.47161	0.4713 ± 0.0047
$\epsilon_{\text{dust,sync}}$	-0.330	-0.35 ± 0.28	D_{2000}	228.81	229.2 ± 2.0	$\sigma_8(0.61)$	0.59002	0.5902 ± 0.0045
A_{100}^{PS}	248.9	245 ± 25	$n_{s,0.002}$	0.9754	0.976 ± 0.024	$f\sigma_8(2.33)$	0.29715	0.2973 ± 0.0024
A_{143}^{PS}	39.5	42 ± 9	Y_P	0.245301	$0.24531^{+0.00011}_{-0.000084}$	$\sigma_8(2.33)$	0.30597	0.3062 ± 0.0026
A_{217}^{PS}	97.7	100 ± 10	Y_P^{BBN}	0.246627	$0.24664^{+0.00011}_{-0.000084}$	$r_{0.002}$	0.0118	< 0.0316
A_{217}^{CIB}	44.5	42 ± 7	$10^5 D/H$	2.6293	2.623 ± 0.043	$r_{0.01}$	0.0124	< 0.0327
A_{143}^{tSZ}	4.11	$3.6^{+1.7}_{-2.7}$	Age/Gyr	13.8263	13.821 ± 0.034	$\ln(10^{10} A_t)$	-1.30	$-0.88^{+1.1}_{-0.42}$
$r_{143 \times 217}^{\text{PS}}$	0.544	0.64 ± 0.13	z_*	1090.267	1090.21 ± 0.37	r_{10}	0.0061	< 0.0163
$r_{143 \times 217}^{\text{CIB}}$	0.670	> 0.483	r_*	144.444	144.45 ± 0.38	$10^9 A_t$	0.0273	< 0.0720
$\xi^{\text{tSZ} \times \text{CIB}}$	0.00	—	$100\theta_*$	1.041022	1.04106 ± 0.00045	$10^9 A_t e^{-2\tau}$	0.0246	< 0.0646
A^{kSZ}	4.2	—	$D_M(z_*)/\text{Gpc}$	13.8752	13.876 ± 0.035	f_{2000}^{143}	32.36	31.6 ± 3.3
A_{100}^{dust}	1.018	1.01 ± 0.20	z_{drag}	1059.437	1059.52 ± 0.50	f_{2000}^{217}	108.53	108.1 ± 2.2
A_{143}^{dust}	0.979	0.98 ± 0.18	r_{drag}	147.183	147.18 ± 0.39	$f_{2000}^{143 \times 217}$	33.93	33.6 ± 2.4
A_{217}^{dust}	0.959	0.97 ± 0.10	k_D	0.140594	0.14062 ± 0.00049	χ_{lensing}^2	9.11	9.71 ± 0.98
$A_{143 \times 217}^{\text{dust}}$	1.005	1.03 ± 0.16	$100\theta_D$	0.161043	0.16101 ± 0.00029	χ_{BKPLANCK}^2	735.18	739.5 ± 2.6
c_{100}	0.99744	0.9975 ± 0.0011	z_{eq}	3411.7	3409 ± 36	χ_{small}^2	396.02	397.1 ± 1.8
c_{217}	1.00145	1.0013 ± 0.0016	k_{eq}	0.010413	0.01041 ± 0.00011	χ_{lowl}^2	22.95	23.7 ± 2.2
H_0	66.91	67.00 ± 0.72	$100\theta_{\text{eq}}$	0.8109	0.8115 ± 0.0067	χ_{CamSpec}^2	7050.4	7063.8 ± 5.4
Ω_Λ	0.6797	0.6806 ± 0.0099	$100\theta_{s,\text{eq}}$	0.44829	0.4486 ± 0.0034	χ_{prior}^2	2.53	9.3 ± 3.8
Ω_m	0.3203	0.3194 ± 0.0099	$H(0.15)$	72.28	72.36 ± 0.62	χ_{CMB}^2	8213.7	8233.8 ± 6.3
$\Omega_m h^2$	0.14341	0.1433 ± 0.0015	$D_M(0.15)$	647.3	646.5 ± 6.2			

Best-fit $\chi_{\text{eff}}^2 = 8216.23$; $\bar{\chi}_{\text{eff}}^2 = 8243.12$; $R - 1 = 0.00347$

χ_{eff}^2 : CMB - smicadx12_Dec5.ftl_mv2_ndclpp_p.teb_consext8: 9.11 BK15_dust: 735.18 small_100x143_offlike5_EE_Aplanck_B: 396.02 commander_dx12_v3_2.29: 22.95 CamSpec like_10.7HM: 7050.44

11.12 base_nrun_r_CamSpecHM_TT_lowl_lowE_BK15_post_BAO_lensing

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022257	0.02226 ± 0.00021	σ_8	0.8095	0.8103 ± 0.0062	$H(0.51)$	89.651	89.66 ± 0.28
$\Omega_c h^2$	0.11935	0.1193 ± 0.0011	S_8	0.8255	0.826 ± 0.012	$D_M(0.51)$	1983.1	1983 ± 10
$100\theta_{MC}$	1.041046	1.04104 ± 0.00043	$\sigma_8 \Omega_m^{0.5}$	0.4521	0.4523 ± 0.0065	$H(0.61)$	95.272	95.28 ± 0.25
τ	0.0563	$0.0570^{+0.0068}_{-0.0084}$	$\sigma_8 \Omega_m^{0.25}$	0.6050	0.6054 ± 0.0061	$D_M(0.61)$	2307.5	2307 ± 11
$\ln(10^{10} A_s)$	3.0461	$3.048^{+0.015}_{-0.016}$	$\sigma_8/h^{0.5}$	0.9851	0.9859 ± 0.0088	$H(2.33)$	236.03	235.98 ± 0.72
n_s	0.96517	0.9661 ± 0.0044	$r_{\text{drag}} h$	99.53	99.59 ± 0.85	$D_M(2.33)$	5765.4	5765 ± 13
$dn_s/d \ln k$	-0.0045	-0.0042 ± 0.0076	$\langle d^2 \rangle^{1/2}$	2.4306	2.431 ± 0.023	$f\sigma_8(0.15)$	0.4567	0.4569 ± 0.0060
r	0.0155	$0.0288^{+0.0072}_{-0.029}$	z_{re}	7.89	$7.94^{+0.71}_{-0.79}$	$\sigma_8(0.15)$	0.7480	0.7488 ± 0.0057
y_{cal}	1.00075	1.0010 ± 0.0025	$10^9 A_s$	2.1034	$2.107^{+0.030}_{-0.035}$	$f\sigma_8(0.38)$	0.47490	0.4752 ± 0.0050
$A_{B,\text{dust}}$	4.62	$4.87^{+0.82}_{-1.2}$	$10^9 A_s e^{-2\tau}$	1.8796	1.880 ± 0.011	$\sigma_8(0.38)$	0.66300	$0.6637^{+0.0047}_{-0.0052}$
$A_{B,\text{sync}}$	1.42	$1.65^{+0.55}_{-1.3}$	D_{40}	1222.2	1227 ± 20	$f\sigma_8(0.51)$	0.47345	0.4738 ± 0.0045
$\alpha_{B,\text{dust}}$	-0.508	$-0.56^{+0.22}_{-0.32}$	D_{220}	5715.8	5716 ± 41	$\sigma_8(0.51)$	0.62044	$0.6211^{+0.0044}_{-0.0049}$
$\beta_{B,\text{dust}}$	1.574	1.596 ± 0.097	D_{810}	2535.7	2537 ± 14	$f\sigma_8(0.61)$	0.46844	0.4688 ± 0.0041
$\alpha_{B,\text{sync}}$	-0.48	—	D_{1420}	814.2	815.1 ± 5.3	$\sigma_8(0.61)$	0.59035	$0.5910^{+0.0042}_{-0.0047}$
$\beta_{B,\text{sync}}$	-3.044	-3.10 ± 0.27	D_{2000}	229.35	229.7 ± 2.0	$f\sigma_8(2.33)$	0.29764	$0.2980^{+0.0021}_{-0.0025}$
$\epsilon_{\text{dust,sync}}$	-0.344	-0.34 ± 0.29	$n_{s,0.002}$	0.9796	0.980 ± 0.024	$\sigma_8(2.33)$	0.30683	$0.3072^{+0.0023}_{-0.0027}$
A_{100}^{PS}	248.2	245 ± 25	Y_{P}	0.245349	$0.245346^{+0.000094}_{-0.000080}$	$r_{0.002}$	0.0143	< 0.0333
A_{143}^{PS}	39.5	42 ± 9	$Y_{\text{P}}^{\text{BBN}}$	0.246676	$0.246672^{+0.000094}_{-0.000080}$	$r_{0.01}$	0.0148	< 0.0344
A_{217}^{PS}	98.1	101 ± 10	10^5D/H	2.6070	2.608 ± 0.040	$\ln(10^{10} A_t)$	-1.12	$-0.82^{+1.1}_{-0.40}$
A_{217}^{CIB}	43.7	41 ± 7	Age/Gyr	13.8025	13.802 ± 0.029	r_{10}	0.0073	< 0.0171
A_{143}^{tSZ}	3.97	$3.7^{+1.7}_{-2.7}$	z_*	1090.007	1090.00 ± 0.31	$10^9 A_t$	0.0326	$0.061^{+0.015}_{-0.060}$
$r_{143 \times 217}^{\text{PS}}$	0.561	0.64 ± 0.13	r_*	144.686	144.71 ± 0.30	$10^9 A_t e^{-2\tau}$	0.0291	$0.054^{+0.014}_{-0.054}$
$r_{143 \times 217}^{\text{CIB}}$	0.661	> 0.471	$100\theta_*$	1.041238	1.04124 ± 0.00042	f_{2000}^{143}	31.91	31.2 ± 3.3
$\xi^{\text{tSZ} \times \text{CIB}}$	0.09	—	$D_M(z_*)/\text{Gpc}$	13.8956	13.898 ± 0.030	f_{2000}^{217}	108.19	107.9 ± 2.2
A^{kSZ}	4.5	—	z_{drag}	1059.628	1059.62 ± 0.49	$f_{2000}^{143 \times 217}$	33.55	33.3 ± 2.4
A_{100}^{dust}	1.017	1.01 ± 0.20	r_{drag}	147.390	147.41 ± 0.34	χ_{lensing}^2	9.03	9.45 ± 0.74
A_{143}^{dust}	0.984	0.97 ± 0.18	k_{D}	0.140465	0.14044 ± 0.00046	χ_{BKPLANCK}^2	735.56	739.8 ± 2.6
A_{217}^{dust}	0.960	0.97 ± 0.10	$100\theta_{\text{D}}$	0.160955	0.16096 ± 0.00028	χ_{small}^2	396.42	397.5 ± 2.2
$A_{143 \times 217}^{\text{dust}}$	1.006	1.03 ± 0.16	z_{eq}	3383.9	3382 ± 26	χ_{lowl}^2	22.43	23.2 ± 2.0
c_{100}	0.99745	0.9975 ± 0.0011	k_{eq}	0.010328	0.010323 ± 0.000079	χ_{CamSpec}^2	7051.2	7064.1 ± 5.4
c_{217}	1.00137	1.0013 ± 0.0016	$100\theta_{\text{eq}}$	0.81636	0.8167 ± 0.0048	$\chi_{6\text{DF}}^2$	0.0379	0.064 ± 0.076
H_0	67.53	67.56 ± 0.51	$100\theta_{s,\text{eq}}$	0.45107	0.4512 ± 0.0025	χ_{MGS}^2	1.156	1.25 ± 0.46
Ω_{Λ}	0.6881	0.6884 ± 0.0067	$H(0.15)$	72.814	72.84 ± 0.44	χ_{DR12BAO}^2	4.57	5.0 ± 1.6
Ω_{m}	0.3119	0.3116 ± 0.0067	$D_M(0.15)$	641.95	641.8 ± 4.4	χ_{prior}^2	2.49	9.3 ± 3.8
$\Omega_{\text{m}} h^2$	0.14225	0.1422 ± 0.0011	$H(0.38)$	82.931	82.95 ± 0.34	χ_{CMB}^2	8214.6	8234.1 ± 6.3
$\Omega_{\text{m}} h^3$	0.096062	0.09605 ± 0.00049	$D_M(0.38)$	1530.9	1530.5 ± 8.8	χ_{BAO}^2	5.77	6.3 ± 1.3

Best-fit $\chi_{\text{eff}}^2 = 8222.87$; $\bar{\chi}_{\text{eff}}^2 = 8249.75$; $R - 1 = 0.00778$
 χ_{eff}^2 : BAO - 6DF: 0.04 MGS: 1.16 DR12BAO: 4.57 CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p_teb_consext8: 9.03 BK15_dust: 735.56 simall_100x143_offlike5_EE_Aplanck_B: 396.42 commander_dx12_v3.2.29: 22.43 CamSpec like_10.7HM: 7051.18

11.13 base_nrun_r_CamSpecHM_TT_lowl_lowE_BK15_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02216 ± 0.00023	$\Omega_{\mathrm{m}}h^3$	0.09607 ± 0.00049	$H(0.38)$	82.48 ± 0.55
$\Omega_{\mathrm{c}}h^2$	0.1211 ± 0.0021	σ_8	0.8150 ± 0.0085	$D_{\mathrm{M}}(0.38)$	1544 ± 15
$100\theta_{\mathrm{MC}}$	1.04081 ± 0.00048	S_8	0.846 ± 0.024	$H(0.51)$	89.31 ± 0.43
τ	$0.0553^{+0.0052}_{-0.0090}$	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.463 ± 0.013	$D_{\mathrm{M}}(0.51)$	1998 ± 18
$\ln(10^{10}A_{\mathrm{s}})$	$3.048^{+0.013}_{-0.018}$	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.614 ± 0.011	$H(0.61)$	95.02 ± 0.35
n_{s}	0.9620 ± 0.0059	$\sigma_8/h^{0.5}$	0.997 ± 0.016	$D_{\mathrm{M}}(0.61)$	2324 ± 19
$\mathrm{d}n_{\mathrm{s}}/\mathrm{d}\ln k$	-0.0056 ± 0.0076	$r_{\mathrm{drag}}h$	98.2 ± 1.6	$H(2.33)$	237.1 ± 1.3
r	< 0.0340	$\langle d^2 \rangle^{1/2}$	2.455 ± 0.037	$D_{\mathrm{M}}(2.33)$	5776 ± 16
y_{cal}	1.0007 ± 0.0025	z_{re}	$7.83^{+0.58}_{-0.87}$	$f\sigma_8(0.15)$	0.467 ± 0.012
$A_{B,\mathrm{dust}}$	$4.86^{+0.81}_{-1.2}$	$10^9 A_{\mathrm{s}}$	$2.108^{+0.027}_{-0.038}$	$\sigma_8(0.15)$	0.7519 ± 0.0071
$A_{B,\mathrm{sync}}$	$1.63^{+0.51}_{-1.4}$	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.887 ± 0.014	$f\sigma_8(0.38)$	0.4825 ± 0.0093
$\alpha_{B,\mathrm{dust}}$	$-0.57^{+0.21}_{-0.32}$	D_{40}	1230 ± 21	$\sigma_8(0.38)$	$0.6653^{+0.0051}_{-0.0060}$
$\beta_{B,\mathrm{dust}}$	1.601 ± 0.096	D_{220}	5703 ± 41	$f\sigma_8(0.51)$	0.4798 ± 0.0080
$\alpha_{B,\mathrm{sync}}$	—	D_{810}	2537 ± 14	$\sigma_8(0.51)$	$0.6221^{+0.0045}_{-0.0055}$
$\beta_{B,\mathrm{sync}}$	-3.10 ± 0.28	D_{1420}	813.5 ± 5.3	$f\sigma_8(0.61)$	0.4739 ± 0.0070
$\epsilon_{\mathrm{dust},\mathrm{sync}}$	-0.35 ± 0.28	D_{2000}	229.1 ± 2.0	$\sigma_8(0.61)$	$0.5917^{+0.0041}_{-0.0052}$
A_{100}^{PS}	246 ± 25	$n_{\mathrm{s},0.002}$	0.980 ± 0.024	$f\sigma_8(2.33)$	$0.2979^{+0.0020}_{-0.0026}$
A_{143}^{PS}	43 ± 9	Y_{P}	$0.24530^{+0.00011}_{-0.000087}$	$\sigma_8(2.33)$	$0.3066^{+0.0020}_{-0.0028}$
A_{217}^{PS}	100 ± 10	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.24663^{+0.00011}_{-0.000087}$	$r_{0.002}$	< 0.0315
A_{217}^{CIB}	42 ± 8	$10^5 \mathrm{D}/\mathrm{H}$	2.626 ± 0.044	$r_{0.01}$	< 0.0325
A_{143}^{tSZ}	$3.6^{+1.7}_{-2.7}$	$\mathrm{Age}/\mathrm{Gyr}$	13.826 ± 0.037	$\ln(10^{10}A_{\mathrm{t}})$	$-0.88^{+1.1}_{-0.43}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.64 ± 0.13	z_*	1090.28 ± 0.41	r_{10}	< 0.0163
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.485	r_*	144.32 ± 0.48	$10^9 A_{\mathrm{t}}$	< 0.0718
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$100\theta_*$	1.04101 ± 0.00047	$10^9 A_{\mathrm{t}}e^{-2\tau}$	< 0.0642
A^{kSZ}	$5.2^{+3.9}_{-2.3}$	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.863 ± 0.045	f_{2000}^{143}	31.8 ± 3.3
A_{100}^{dust}	1.01 ± 0.19	z_{drag}	1059.52 ± 0.50	f_{2000}^{217}	108.3 ± 2.2
A_{143}^{dust}	0.98 ± 0.18	r_{drag}	147.04 ± 0.49	$f_{2000}^{143 \times 217}$	33.8 ± 2.4
A_{217}^{dust}	0.97 ± 0.10	k_{D}	0.14075 ± 0.00056	$\chi_{\mathrm{BKPLANCK}}^2$	739.2 ± 2.7
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$100\theta_{\mathrm{D}}$	0.16101 ± 0.00029	χ_{simall}^2	397.2 ± 2.0
c_{100}	0.9975 ± 0.0011	z_{eq}	3423 ± 47	χ_{lowl}^2	23.5 ± 2.2
c_{217}	1.0013 ± 0.0016	k_{eq}	0.01045 ± 0.00014	$\chi_{\mathrm{CamSpec}}^2$	7064.3 ± 5.6
H_0	66.78 ± 0.90	$100\theta_{\mathrm{eq}}$	0.8090 ± 0.0087	χ_{prior}^2	9.3 ± 3.9
Ω_{Λ}	0.677 ± 0.013	$100\theta_{\mathrm{s},\mathrm{eq}}$	0.4473 ± 0.0045	χ_{CMB}^2	8224.3 ± 6.3
Ω_{m}	0.323 ± 0.013	$H(0.15)$	72.18 ± 0.76		
$\Omega_{\mathrm{m}}h^2$	0.1439 ± 0.0020	$D_{\mathrm{M}}(0.15)$	648.5 ± 7.8		

$\bar{\chi}_{\mathrm{eff}}^2 = 8233.63$; $R - 1 = 0.00394$

11.14 base_nrun_r_CamSpecHM_TT_lowl_lowE_BK15_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02226 ± 0.00021	σ_8	$0.8097^{+0.0067}_{-0.0079}$	$H(0.51)$	89.68 ± 0.29
$\Omega_{\mathrm{c}}h^2$	0.1192 ± 0.0012	S_8	0.824 ± 0.015	$D_{\mathrm{M}}(0.51)$	1982 ± 11
$100\theta_{\mathrm{MC}}$	1.04106 ± 0.00043	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4516 ± 0.0080	$H(0.61)$	95.30 ± 0.25
τ	$0.0570^{+0.0057}_{-0.0091}$	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6047 ± 0.0077	$D_{\mathrm{M}}(0.61)$	2306 ± 12
$\ln(10^{10}A_{\mathrm{s}})$	$3.047^{+0.014}_{-0.019}$	$\sigma_8/h^{0.5}$	0.985 ± 0.011	$H(2.33)$	235.93 ± 0.80
n_{s}	0.9663 ± 0.0045	$r_{\mathrm{drag}}h$	99.66 ± 0.94	$D_{\mathrm{M}}(2.33)$	5764 ± 13
$\mathrm{d}n_{\mathrm{s}}/\mathrm{d}\ln k$	-0.0051 ± 0.0077	$\langle d^2 \rangle^{1/2}$	2.427 ± 0.028	$f\sigma_8(0.15)$	0.4562 ± 0.0075
r	$0.0296^{+0.0078}_{-0.029}$	z_{re}	$7.94^{+0.62}_{-0.88}$	$\sigma_8(0.15)$	$0.7483^{+0.0058}_{-0.0071}$
y_{cal}	1.0008 ± 0.0025	$10^9 A_{\mathrm{s}}$	$2.106^{+0.029}_{-0.040}$	$f\sigma_8(0.38)$	0.4746 ± 0.0063
$A_{B,\mathrm{dust}}$	$4.87^{+0.81}_{-1.2}$	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.879 ± 0.012	$\sigma_8(0.38)$	$0.6633^{+0.0049}_{-0.0061}$
$A_{B,\mathrm{sync}}$	$1.64^{+0.54}_{-1.3}$	D_{40}	1223 ± 20	$f\sigma_8(0.51)$	0.4733 ± 0.0056
$\alpha_{B,\mathrm{dust}}$	$-0.56^{+0.22}_{-0.32}$	D_{220}	5712 ± 41	$\sigma_8(0.51)$	$0.6208^{+0.0044}_{-0.0057}$
$\beta_{B,\mathrm{dust}}$	1.596 ± 0.097	D_{810}	2537 ± 14	$f\sigma_8(0.61)$	0.4683 ± 0.0052
$\alpha_{B,\mathrm{sync}}$	—	D_{1420}	814.8 ± 5.3	$\sigma_8(0.61)$	$0.5907^{+0.0042}_{-0.0054}$
$\beta_{B,\mathrm{sync}}$	-3.10 ± 0.27	D_{2000}	229.5 ± 2.0	$f\sigma_8(2.33)$	$0.2979^{+0.0021}_{-0.0027}$
$\epsilon_{\mathrm{dust},\mathrm{sync}}$	-0.35 ± 0.29	$n_{\mathrm{s},0.002}$	0.983 ± 0.024	$\sigma_8(2.33)$	$0.3071^{+0.0021}_{-0.0029}$
A_{100}^{PS}	245 ± 25	Y_{P}	$0.245348^{+0.000092}_{-0.000080}$	$r_{0.002}$	< 0.0345
A_{143}^{PS}	42 ± 9	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246675^{+0.000093}_{-0.000081}$	$r_{0.01}$	$0.0285^{+0.0070}_{-0.028}$
A_{217}^{PS}	100 ± 10	$10^5 \mathrm{D}/\mathrm{H}$	2.606 ± 0.040	$\ln(10^{10}A_{\mathrm{t}})$	$-0.79^{+1.1}_{-0.41}$
A_{217}^{CIB}	42 ± 7	$\mathrm{Age}/\mathrm{Gyr}$	13.801 ± 0.029	r_{10}	< 0.0177
A_{143}^{tSZ}	$3.6^{+1.6}_{-2.7}$	z_*	1089.99 ± 0.31	$10^9 A_{\mathrm{t}}$	$0.062^{+0.017}_{-0.061}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.64 ± 0.13	r_*	144.72 ± 0.33	$10^9 A_{\mathrm{t}}e^{-2\tau}$	$0.056^{+0.015}_{-0.054}$
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.476	$100\theta_*$	1.04125 ± 0.00042	f_{2000}^{143}	31.4 ± 3.3
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.899 ± 0.032	f_{2000}^{217}	108.0 ± 2.2
A^{kSZ}	—	z_{drag}	1059.63 ± 0.49	$f_{2000}^{143 \times 217}$	33.4 ± 2.4
A_{100}^{dust}	1.01 ± 0.20	r_{drag}	147.43 ± 0.37	$\chi_{\mathrm{BKPLANCK}}^2$	739.9 ± 2.7
A_{143}^{dust}	0.98 ± 0.18	k_{D}	0.14043 ± 0.00049	χ_{small}^2	397.5 ± 2.3
A_{217}^{dust}	0.97 ± 0.10	$100\theta_{\mathrm{D}}$	0.16096 ± 0.00028	χ_{lowl}^2	22.9 ± 1.9
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	z_{eq}	3380 ± 29	$\chi_{\mathrm{CamSpec}}^2$	7064.5 ± 5.5
c_{100}	0.9975 ± 0.0011	k_{eq}	0.010317 ± 0.000088	$\chi_{6\mathrm{DF}}^2$	0.065 ± 0.082
c_{217}	1.0013 ± 0.0016	$100\theta_{\mathrm{eq}}$	0.8171 ± 0.0053	χ_{MGS}^2	1.29 ± 0.51
H_0	67.60 ± 0.54	$100\theta_{\mathrm{s},\mathrm{eq}}$	0.4514 ± 0.0027	$\chi_{\mathrm{DR12BAO}}^2$	4.9 ± 1.7
Ω_{Λ}	0.6889 ± 0.0073	$H(0.15)$	72.87 ± 0.47	χ_{prior}^2	9.4 ± 3.9
Ω_{m}	0.3111 ± 0.0073	$D_{\mathrm{M}}(0.15)$	641.4 ± 4.7	χ_{BAO}^2	6.3 ± 1.4
$\Omega_{\mathrm{m}}h^2$	0.1421 ± 0.0012	$H(0.38)$	82.97 ± 0.35	χ_{CMB}^2	8224.8 ± 6.2
$\Omega_{\mathrm{m}}h^3$	0.09605 ± 0.00050	$D_{\mathrm{M}}(0.38)$	1529.8 ± 9.4		

$$\bar{\chi}_{\mathrm{eff}}^2 = 8240.52; R - 1 = 0.00672$$

11.15 base_nrun_r_CamSpecHM_TT_lowl_lowE_BK15_post_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02218 ± 0.00022	$\Omega_{\mathrm{m}}h^3$	0.09602 ± 0.00049	$H(0.38)$	$82.64^{+0.42}_{-0.46}$
$\Omega_{\mathrm{c}}h^2$	0.1204 ± 0.0015	σ_8	0.8123 ± 0.0060	$D_{\mathrm{M}}(0.38)$	1539 ± 12
$100\theta_{\mathrm{MC}}$	1.04087 ± 0.00046	S_8	0.837 ± 0.016	$H(0.51)$	$89.43^{+0.34}_{-0.37}$
τ	$0.0550^{+0.0051}_{-0.0086}$	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4586 ± 0.0088	$D_{\mathrm{M}}(0.51)$	1993 ± 14
$\ln(10^{10}A_{\mathrm{s}})$	$3.046^{+0.012}_{-0.016}$	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6103 ± 0.0076	$H(0.61)$	95.10 ± 0.30
n_{s}	0.9634 ± 0.0050	$\sigma_8/h^{0.5}$	0.992 ± 0.010	$D_{\mathrm{M}}(0.61)$	2318 ± 15
$\mathrm{d}n_{\mathrm{s}}/\mathrm{d}\ln k$	-0.0043 ± 0.0075	$r_{\mathrm{drag}}h$	98.7 ± 1.2	$H(2.33)$	236.63 ± 0.95
r	$0.0277^{+0.0067}_{-0.028}$	$\langle d^2 \rangle^{1/2}$	2.445 ± 0.026	$D_{\mathrm{M}}(2.33)$	5773 ± 15
y_{cal}	1.0006 ± 0.0025	z_{re}	$7.78^{+0.56}_{-0.83}$	$f\sigma_8(0.15)$	0.4626 ± 0.0081
$A_{B,\mathrm{dust}}$	$4.88^{+0.81}_{-1.2}$	$10^9 A_{\mathrm{s}}$	$2.103^{+0.024}_{-0.034}$	$\sigma_8(0.15)$	$0.7499^{+0.0049}_{-0.0055}$
$A_{B,\mathrm{sync}}$	$1.64^{+0.53}_{-1.3}$	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.884 ± 0.012	$f\sigma_8(0.38)$	0.4793 ± 0.0062
$\alpha_{B,\mathrm{dust}}$	$-0.57^{+0.21}_{-0.32}$	D_{40}	1230 ± 20	$\sigma_8(0.38)$	$0.6640^{+0.0040}_{-0.0049}$
$\beta_{B,\mathrm{dust}}$	1.599 ± 0.097	D_{220}	5706 ± 41	$f\sigma_8(0.51)$	0.4770 ± 0.0053
$\alpha_{B,\mathrm{sync}}$	—	D_{810}	2536 ± 14	$\sigma_8(0.51)$	$0.6211^{+0.0037}_{-0.0046}$
$\beta_{B,\mathrm{sync}}$	-3.10 ± 0.27	D_{1420}	813.8 ± 5.3	$f\sigma_8(0.61)$	0.4715 ± 0.0047
$\epsilon_{\mathrm{dust},\mathrm{sync}}$	-0.35 ± 0.28	D_{2000}	229.2 ± 2.0	$\sigma_8(0.61)$	$0.5908^{+0.0035}_{-0.0045}$
A_{100}^{PS}	245 ± 25	$n_{\mathrm{s},0.002}$	0.977 ± 0.023	$f\sigma_8(2.33)$	$0.2976^{+0.0018}_{-0.0024}$
A_{143}^{PS}	42 ± 9	Y_{P}	$0.24531^{+0.00010}_{-0.000084}$	$\sigma_8(2.33)$	$0.3065^{+0.0020}_{-0.0027}$
A_{217}^{PS}	100 ± 10	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.24664^{+0.00010}_{-0.000084}$	$r_{0.002}$	< 0.0317
A_{217}^{CIB}	42 ± 7	$10^5 \mathrm{D}/\mathrm{H}$	2.621 ± 0.043	$r_{0.01}$	< 0.0328
A_{143}^{tSZ}	$3.6^{+1.7}_{-2.7}$	$\mathrm{Age}/\mathrm{Gyr}$	13.819 ± 0.033	$\ln(10^{10}A_{\mathrm{t}})$	$-0.87^{+1.1}_{-0.42}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.64 ± 0.13	z_*	1090.19 ± 0.36	r_{10}	< 0.0163
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.482	r_*	144.47 ± 0.37	$10^9 A_{\mathrm{t}}$	$0.058^{+0.014}_{-0.058}$
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$100\theta_*$	1.04107 ± 0.00045	$10^9 A_{\mathrm{t}}e^{-2\tau}$	$0.052^{+0.013}_{-0.052}$
A^{kSZ}	—	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.877 ± 0.035	f_{2000}^{143}	31.6 ± 3.3
A_{100}^{dust}	1.01 ± 0.20	z_{drag}	1059.53 ± 0.49	f_{2000}^{217}	108.1 ± 2.2
A_{143}^{dust}	0.98 ± 0.18	r_{drag}	147.20 ± 0.39	$f_{2000}^{143 \times 217}$	33.6 ± 2.4
A_{217}^{dust}	0.97 ± 0.10	k_{D}	0.14061 ± 0.00049	$\chi_{\mathrm{lensing}}^2$	9.70 ± 0.99
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$100\theta_{\mathrm{D}}$	0.16100 ± 0.00029	$\chi_{\mathrm{BKPLANCK}}^2$	739.5 ± 2.6
c_{100}	0.9975 ± 0.0011	z_{eq}	3407 ± 35	χ_{simall}^2	397.1 ± 1.8
c_{217}	1.0013 ± 0.0016	k_{eq}	0.01040 ± 0.00011	χ_{lowl}^2	23.6 ± 2.2
H_0	67.05 ± 0.70	$100\theta_{\mathrm{eq}}$	0.8119 ± 0.0065	$\chi_{\mathrm{CamSpec}}^2$	7063.8 ± 5.4
Ω_{Λ}	0.6813 ± 0.0096	$100\theta_{\mathrm{s,eq}}$	0.4488 ± 0.0034	χ_{prior}^2	9.3 ± 3.8
Ω_{m}	0.3187 ± 0.0096	$H(0.15)$	72.41 ± 0.60	χ_{CMB}^2	8233.6 ± 6.3
$\Omega_{\mathrm{m}}h^2$	0.1432 ± 0.0015	$D_{\mathrm{M}}(0.15)$	646.1 ± 6.1		

$\bar{\chi}_{\mathrm{eff}}^2 = 8242.90$; $R - 1 = 0.00417$

11.16 base_nrun_r_CamSpecHM_TT_lowl_lowE_BK15_post_BAO_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02226 ± 0.00021	σ_8	$0.8106^{+0.0056}_{-0.0064}$	$H(0.51)$	89.67 ± 0.28
$\Omega_c h^2$	0.1193 ± 0.0011	S_8	0.826 ± 0.012	$D_M(0.51)$	1982 ± 10
$100\theta_{\text{MC}}$	1.04104 ± 0.00043	$\sigma_8 \Omega_m^{0.5}$	0.4524 ± 0.0065	$H(0.61)$	95.28 ± 0.25
τ	$0.0575^{+0.0058}_{-0.0085}$	$\sigma_8 \Omega_m^{0.25}$	0.6055 ± 0.0061	$D_M(0.61)$	2307 ± 11
$\ln(10^{10} A_s)$	$3.049^{+0.013}_{-0.017}$	$\sigma_8/h^{0.5}$	0.9862 ± 0.0087	$H(2.33)$	235.97 ± 0.72
n_s	0.9661 ± 0.0044	$r_{\text{drag}} h$	99.61 ± 0.85	$D_M(2.33)$	5765 ± 13
$dn_s/d \ln k$	-0.0043 ± 0.0076	$\langle d^2 \rangle^{1/2}$	2.432 ± 0.023	$f\sigma_8(0.15)$	0.4570 ± 0.0060
r	$0.0288^{+0.0072}_{-0.029}$	z_{re}	$8.00^{+0.62}_{-0.82}$	$\sigma_8(0.15)$	$0.7490^{+0.0050}_{-0.0058}$
y_{cal}	1.0010 ± 0.0025	$10^9 A_s$	$2.109^{+0.027}_{-0.035}$	$f\sigma_8(0.38)$	0.4753 ± 0.0050
$A_{B,\text{dust}}$	$4.87^{+0.82}_{-1.2}$	$10^9 A_s e^{-2\tau}$	1.880 ± 0.011	$\sigma_8(0.38)$	$0.6640^{+0.0043}_{-0.0052}$
$A_{B,\text{sync}}$	$1.65^{+0.55}_{-1.3}$	D_{40}	1226 ± 20	$f\sigma_8(0.51)$	0.4739 ± 0.0044
$\alpha_{B,\text{dust}}$	$-0.56^{+0.22}_{-0.32}$	D_{220}	5716 ± 41	$\sigma_8(0.51)$	$0.6214^{+0.0040}_{-0.0049}$
$\beta_{B,\text{dust}}$	1.596 ± 0.097	D_{810}	2537 ± 14	$f\sigma_8(0.61)$	0.4689 ± 0.0041
$\alpha_{B,\text{sync}}$	—	D_{1420}	815.1 ± 5.3	$\sigma_8(0.61)$	$0.5913^{+0.0038}_{-0.0047}$
$\beta_{B,\text{sync}}$	-3.10 ± 0.27	D_{2000}	229.7 ± 2.0	$f\sigma_8(2.33)$	$0.2981^{+0.0019}_{-0.0025}$
$\epsilon_{\text{dust,sync}}$	-0.34 ± 0.29	$n_{s,0.002}$	0.980 ± 0.024	$\sigma_8(2.33)$	$0.3074^{+0.0021}_{-0.0027}$
A_{100}^{PS}	245 ± 25	Y_{P}	$0.245347^{+0.000093}_{-0.000080}$	$r_{0.002}$	< 0.0333
A_{143}^{PS}	42 ± 9	$Y_{\text{P}}^{\text{BBN}}$	$0.246673^{+0.000093}_{-0.000080}$	$r_{0.01}$	< 0.0344
A_{217}^{PS}	101 ± 10	10^5D/H	2.607 ± 0.040	$\ln(10^{10} A_t)$	$-0.82^{+1.1}_{-0.40}$
A_{217}^{CIB}	41 ± 7	Age/Gyr	13.802 ± 0.029	r_{10}	< 0.0171
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.7}$	z_*	1090.00 ± 0.31	$10^9 A_t$	$0.061^{+0.015}_{-0.060}$
$r_{143 \times 217}^{\text{PS}}$	0.64 ± 0.13	r_*	144.71 ± 0.30	$10^9 A_t e^{-2\tau}$	$0.054^{+0.014}_{-0.054}$
$r_{143 \times 217}^{\text{CIB}}$	> 0.471	$100\theta_*$	1.04124 ± 0.00042	f_{2000}^{143}	31.2 ± 3.3
$\xi^{\text{tSZ} \times \text{CIB}}$	—	$D_M(z_*)/\text{Gpc}$	13.898 ± 0.030	f_{2000}^{217}	107.9 ± 2.2
A^{kSZ}	—	z_{drag}	1059.62 ± 0.49	$f_{2000}^{143 \times 217}$	33.3 ± 2.4
A_{100}^{dust}	1.01 ± 0.20	r_{drag}	147.41 ± 0.34	χ_{lensing}^2	9.42 ± 0.70
A_{143}^{dust}	0.97 ± 0.18	k_{D}	0.14044 ± 0.00046	χ_{BKPLANCK}^2	739.8 ± 2.6
A_{217}^{dust}	0.97 ± 0.10	$100\theta_{\text{D}}$	0.16096 ± 0.00028	χ_{simall}^2	397.5 ± 2.2
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	z_{eq}	3382 ± 26	χ_{lowl}^2	23.2 ± 2.0
c_{100}	0.9975 ± 0.0011	k_{eq}	0.010321 ± 0.000079	χ_{CamSpec}^2	7064.1 ± 5.4
c_{217}	1.0013 ± 0.0016	$100\theta_{\text{eq}}$	0.8168 ± 0.0047	$\chi_{6\text{DF}}^2$	0.062 ± 0.074
H_0	67.57 ± 0.50	$100\theta_{s,\text{eq}}$	0.4513 ± 0.0025	χ_{MGS}^2	1.26 ± 0.46
Ω_{Λ}	0.6885 ± 0.0066	$H(0.15)$	72.85 ± 0.44	χ_{DR12BAO}^2	4.9 ± 1.6
Ω_{m}	0.3115 ± 0.0066	$D_M(0.15)$	641.7 ± 4.3	χ_{prior}^2	9.3 ± 3.8
$\Omega_{\text{m}} h^2$	0.1422 ± 0.0011	$H(0.38)$	82.95 ± 0.34	χ_{CMB}^2	8234.0 ± 6.3
$\Omega_{\text{m}} h^3$	0.09605 ± 0.00049	$D_M(0.38)$	1530.3 ± 8.8	χ_{BAO}^2	6.3 ± 1.3

$$\bar{\chi}_{\text{eff}}^2 = 8249.63; R - 1 = 0.00812$$

11.17 base_nrun_r_CamSpecHM_TTTEEE_lowl_lowE_BK15

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022290	0.02230 ± 0.00016	Ω_m	0.3158	0.3151 ± 0.0085	$H(0.15)$	72.60	72.65 ± 0.52
$\Omega_c h^2$	0.11998	0.1198 ± 0.0014	$\Omega_m h^2$	0.14292	0.1428 ± 0.0013	$D_M(0.15)$	644.2	643.7 ± 5.2
$100\theta_{MC}$	1.040847	1.04085 ± 0.00031	$\Omega_m h^3$	0.096139	0.09613 ± 0.00033	$H(0.38)$	82.784	82.82 ± 0.38
τ	0.0542	$0.0543^{+0.0073}_{-0.0083}$	σ_8	0.8105	0.8098 ± 0.0076	$D_M(0.38)$	1535.2	1534 ± 10
$\ln(10^{10} A_s)$	3.0437	3.043 ± 0.017	S_8	0.8316	0.830 ± 0.016	$H(0.51)$	89.545	89.57 ± 0.30
n_s	0.96489	0.9652 ± 0.0048	$\sigma_8 \Omega_m^{0.5}$	0.4555	0.4546 ± 0.0089	$D_M(0.51)$	1988.1	1987 ± 12
$dn_s/d \ln k$	-0.0032	-0.0038 ± 0.0070	$\sigma_8 \Omega_m^{0.25}$	0.6076	0.6067 ± 0.0084	$H(0.61)$	95.198	95.22 ± 0.24
r	0.0243	$0.034^{+0.013}_{-0.028}$	$\sigma_8/h^{0.5}$	0.9882	0.987 ± 0.012	$D_M(0.61)$	2312.9	2312 ± 13
y_{cal}	1.00074	1.0007 ± 0.0025	$r_{drag} h$	99.01	99.1 ± 1.1	$H(2.33)$	236.46	236.38 ± 0.85
$A_{B,dust}$	4.60	$4.86^{+0.82}_{-1.2}$	$\langle d^2 \rangle^{1/2}$	2.4378	2.434 ± 0.029	$D_M(2.33)$	5768.0	5767 ± 11
$A_{B,sync}$	1.38	$1.62^{+0.52}_{-1.3}$	z_{re}	7.69	7.67 ± 0.82	$f\sigma_8(0.15)$	0.4597	0.4588 ± 0.0083
$\alpha_{B,dust}$	-0.515	$-0.56^{+0.22}_{-0.32}$	$10^9 A_s$	2.0982	$2.098^{+0.033}_{-0.037}$	$\sigma_8(0.15)$	0.7485	0.7479 ± 0.0067
$\beta_{B,dust}$	1.584	1.601 ± 0.097	$10^9 A_s e^{-2\tau}$	1.8826	1.882 ± 0.012	$f\sigma_8(0.38)$	0.4771	0.4763 ± 0.0068
$\alpha_{B,sync}$	-0.42	—	D_{40}	1229.4	1230 ± 19	$\sigma_8(0.38)$	0.6630	0.6626 ± 0.0057
$\beta_{B,sync}$	-3.036	$-3.10^{+0.29}_{-0.26}$	D_{220}	5717.5	5715 ± 39	$f\sigma_8(0.51)$	0.4752	0.4745 ± 0.0060
$\epsilon_{dust,sync}$	-0.370	-0.36 ± 0.28	D_{810}	2537.8	2537 ± 14	$\sigma_8(0.51)$	0.6203	0.6199 ± 0.0053
A_{100}^{PS}	237.1	242 ± 25	D_{1420}	815.6	815.3 ± 5.0	$f\sigma_8(0.61)$	0.4699	0.4692 ± 0.0055
A_{143}^{PS}	40.4	41 ± 8	D_{2000}	230.00	229.9 ± 1.9	$\sigma_8(0.61)$	0.59010	0.5897 ± 0.0050
A_{217}^{PS}	100.9	102 ± 10	$n_{s,0.002}$	0.9751	0.977 ± 0.021	$f\sigma_8(2.33)$	0.29736	0.2972 ± 0.0025
A_{217}^{CIB}	45.6	40^{+7}_{-8}	Y_P	0.245363	$0.245365^{+0.000068}_{-0.000062}$	$\sigma_8(2.33)$	0.30638	0.3063 ± 0.0026
A_{143}^{tSZ}	6.54	$3.8^{+1.8}_{-2.6}$	Y_P^{BBN}	0.246689	$0.246691^{+0.000069}_{-0.000062}$	$r_{0.002}$	0.0222	$0.032^{+0.011}_{-0.027}$
$r_{143 \times 217}^{PS}$	0.578	0.65 ± 0.13	$10^5 D/H$	2.6007	2.599 ± 0.030	$r_{0.01}$	0.0231	$0.033^{+0.012}_{-0.027}$
$r_{143 \times 217}^{CIB}$	0.795	$0.57^{+0.41}_{-0.15}$	Age/Gyr	13.8078	13.806 ± 0.025	$\ln(10^{10} A_t)$	-0.68	$-0.62^{+0.97}_{-0.36}$
$\xi^{tSZ \times CIB}$	0.05	—	z_*	1090.020	1090.00 ± 0.28	r_{10}	0.0114	$0.0163^{+0.0056}_{-0.014}$
A^{kSZ}	0.11	4.9 ± 2.7	r_*	144.496	144.53 ± 0.33	$10^9 A_t$	0.0509	$0.071^{+0.027}_{-0.059}$
A_{100}^{dust}	1.009	1.01 ± 0.20	$100\theta_*$	1.041037	1.04104 ± 0.00030	$10^9 A_t e^{-2\tau}$	0.0457	$0.064^{+0.024}_{-0.052}$
A_{143}^{dust}	0.974	0.96 ± 0.18	$D_M(z_*)/\text{Gpc}$	13.8801	13.883 ± 0.030	f_{2000}^{143}	30.78	30.5 ± 3.3
A_{217}^{dust}	0.966	0.97 ± 0.10	z_{drag}	1059.742	1059.76 ± 0.34	f_{2000}^{217}	107.36	107.4 ± 2.2
$A_{143 \times 217}^{dust}$	1.000	1.03 ± 0.16	r_{drag}	147.186	147.21 ± 0.33	$f_{2000}^{143 \times 217}$	32.69	32.7 ± 2.3
c_{100}	0.99764	0.9975 ± 0.0011	k_D	0.140707	0.14068 ± 0.00038	$\chi_{BKPLANCK}^2$	735.31	740.0 ± 2.8
c_{217}	1.00138	1.0012 ± 0.0016	$100\theta_D$	0.160858	0.16085 ± 0.00020	χ_{small}^2	396.13	397.2 ± 1.9
c_{TE}	0.99620	0.9963 ± 0.0049	z_{eq}	3399.9	3397 ± 32	χ_{lowl}^2	23.09	23.5 ± 1.9
c_{EE}	0.99193	0.9919 ± 0.0049	k_{eq}	0.010377	0.010368 ± 0.000097	$\chi_{CamSpec}^2$	11499.2	11514.7 ± 5.9
H_0	67.27	67.33 ± 0.61	$100\theta_{eq}$	0.8134	0.8140 ± 0.0059	χ_{prior}^2	2.37	9.5 ± 3.8
Ω_Λ	0.6842	0.6849 ± 0.0085	$100\theta_{s,eq}$	0.44951	0.4498 ± 0.0031	χ_{CMB}^2	12653.8	12675.4 ± 6.5

Best-fit $\chi_{eff}^2 = 12656.13$; $\bar{\chi}_{eff}^2 = 12684.91$; $R - 1 = 0.00385$

χ_{eff}^2 : CMB - BK15_dust: 735.31 small_100x143_offlike5_EE_Aplanck_B: 396.13 commander_dx12_v3_2_29: 23.09 CamSpec like_10.7HM_1400_unified: 11499.22

11.18 base_nrun_r_CamSpecHM_TTTEEE_lowl_lowE_BK15_post_BAO

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022346	0.02234 ± 0.00015	$\Omega_m h^3$	0.096172	0.09612 ± 0.00033	$H(0.51)$	89.724	89.73 ± 0.23
$\Omega_c h^2$	0.11919	0.1191 ± 0.0010	σ_8	0.8078	0.8077 ± 0.0073	$D_M(0.51)$	1980.7	1980.1 ± 9.1
$100\theta_{MC}$	1.040993	1.04094 ± 0.00029	S_8	0.8221	0.821 ± 0.013	$H(0.61)$	95.338	95.34 ± 0.19
τ	0.0546	$0.0552^{+0.0073}_{-0.0083}$	$\sigma_8 \Omega_m^{0.5}$	0.4503	0.4499 ± 0.0070	$D_M(0.61)$	2304.9	2304.3 ± 9.8
$\ln(10^{10} A_s)$	3.0419	3.043 ± 0.017	$\sigma_8 \Omega_m^{0.25}$	0.6031	0.6028 ± 0.0071	$H(2.33)$	236.01	235.92 ± 0.64
n_s	0.96694	0.9671 ± 0.0042	$\sigma_8/h^{0.5}$	0.9822	0.982 ± 0.010	$D_M(2.33)$	5762.0	5762.2 ± 9.3
$dn_s/d \ln k$	-0.0028	-0.0033 ± 0.0070	$r_{\text{drag}} h$	99.65	99.73 ± 0.79	$f\sigma_8(0.15)$	0.4549	0.4546 ± 0.0066
r	0.0247	$0.035^{+0.013}_{-0.028}$	$\langle d^2 \rangle^{1/2}$	2.4241	2.423 ± 0.026	$\sigma_8(0.15)$	0.7465	0.7465 ± 0.0066
y_{cal}	1.00050	1.0007 ± 0.0025	z_{re}	7.70	7.74 ± 0.81	$f\sigma_8(0.38)$	0.4734	0.4731 ± 0.0057
$A_{B,\text{dust}}$	4.62	$4.87^{+0.83}_{-1.2}$	$10^9 A_s$	2.0946	$2.098^{+0.033}_{-0.037}$	$\sigma_8(0.38)$	0.6618	0.6619 ± 0.0057
$A_{B,\text{sync}}$	1.37	$1.62^{+0.51}_{-1.3}$	$10^9 A_s e^{-2\tau}$	1.8780	1.878 ± 0.011	$f\sigma_8(0.51)$	0.4721	0.4719 ± 0.0052
$\alpha_{B,\text{dust}}$	-0.504	$-0.56^{+0.22}_{-0.31}$	D_{40}	1225.4	1228 ± 19	$\sigma_8(0.51)$	0.6193	0.6195 ± 0.0053
$\beta_{B,\text{dust}}$	1.583	1.600 ± 0.097	D_{220}	5717.5	5719 ± 39	$f\sigma_8(0.61)$	0.46716	0.4670 ± 0.0049
$\alpha_{B,\text{sync}}$	-0.48	—	D_{810}	2535.9	2536 ± 14	$\sigma_8(0.61)$	0.58934	0.5895 ± 0.0050
$\beta_{B,\text{sync}}$	-3.045	$-3.10^{+0.29}_{-0.26}$	D_{1420}	815.82	815.8 ± 5.0	$f\sigma_8(2.33)$	0.29718	0.2973 ± 0.0025
$\epsilon_{\text{dust,sync}}$	-0.383	-0.36 ± 0.28	D_{2000}	230.16	230.1 ± 1.8	$\sigma_8(2.33)$	0.30641	0.3065 ± 0.0026
A_{100}^{PS}	235.9	241 ± 25	$n_{s,0.002}$	0.9759	0.978 ± 0.021	$r_{0.002}$	0.0228	$0.033^{+0.012}_{-0.028}$
A_{143}^{PS}	40.8	40 ± 8	Y_P	0.245386	$0.245383^{+0.000064}_{-0.000056}$	$r_{0.01}$	0.0236	$0.033^{+0.012}_{-0.028}$
A_{217}^{PS}	101.3	102 ± 10	Y_P^{BBN}	0.246712	$0.246709^{+0.000064}_{-0.000057}$	$\ln(10^{10} A_t)$	-0.66	$-0.59^{+0.96}_{-0.36}$
A_{217}^{CIB}	44.9	40^{+7}_{-8}	$10^5 D/H$	2.5901	2.591 ± 0.028	r_{10}	0.0117	$0.0168^{+0.0058}_{-0.014}$
A_{143}^{tSZ}	6.46	$3.8^{+1.8}_{-2.6}$	Age/Gyr	13.7946	13.795 ± 0.021	$10^9 A_t$	0.0518	$0.073^{+0.028}_{-0.059}$
$r_{143 \times 217}^{\text{PS}}$	0.592	0.65 ± 0.13	z_*	1089.879	1089.87 ± 0.24	$10^9 A_t e^{-2\tau}$	0.0464	$0.065^{+0.025}_{-0.053}$
$r_{143 \times 217}^{\text{CIB}}$	0.798	$0.57^{+0.41}_{-0.14}$	r_*	144.659	144.70 ± 0.26	f_{2000}^{143}	30.56	30.2 ± 3.3
$\xi^{\text{tSZ} \times \text{CIB}}$	0.12	—	$100\theta_*$	1.041174	1.04113 ± 0.00029	f_{2000}^{217}	107.16	107.2 ± 2.2
A^{kSZ}	0.32	4.9 ± 2.7	$D_M(z_*)/\text{Gpc}$	13.8938	13.898 ± 0.024	$f_{2000}^{143 \times 217}$	32.51	32.5 ± 2.3
A_{100}^{dust}	1.008	1.01 ± 0.20	z_{drag}	1059.818	1059.81 ± 0.34	χ_{BKPLANCK}^2	735.68	740.2 ± 2.7
A_{143}^{dust}	0.977	0.96 ± 0.18	r_{drag}	147.333	147.37 ± 0.27	χ_{simall}^2	396.13	397.3 ± 2.0
A_{217}^{dust}	0.968	0.97 ± 0.10	k_D	0.140593	0.14055 ± 0.00034	χ_{lowl}^2	22.83	23.3 ± 1.9
$A_{143 \times 217}^{\text{dust}}$	0.998	1.02 ± 0.16	$100\theta_D$	0.160829	0.16083 ± 0.00020	χ_{CamSpec}^2	11499.5	11514.5 ± 5.8
c_{100}	0.99760	0.9975 ± 0.0011	z_{eq}	3382.3	3379 ± 24	$\chi_{6\text{DF}}^2$	0.0289	0.050 ± 0.061
c_{217}	1.00137	1.0012 ± 0.0016	k_{eq}	0.010323	0.010313 ± 0.000072	χ_{MGS}^2	1.217	1.32 ± 0.44
c_{TE}	0.99650	0.9965 ± 0.0049	$100\theta_{\text{eq}}$	0.81685	0.8174 ± 0.0044	χ_{DR12BAO}^2	4.40	4.7 ± 1.4
c_{EE}	0.99208	0.9923 ± 0.0049	$100\theta_{s,\text{eq}}$	0.45125	0.4516 ± 0.0023	χ_{prior}^2	2.36	9.5 ± 3.8
H_0	67.639	67.67 ± 0.45	$H(0.15)$	72.913	72.94 ± 0.39	χ_{BAO}^2	5.64	6.1 ± 1.1
Ω_Λ	0.6892	0.6898 ± 0.0061	$D_M(0.15)$	640.99	640.7 ± 3.9	χ_{CMB}^2	12654.2	12675.4 ± 6.4
Ω_m	0.3108	0.3102 ± 0.0061	$H(0.38)$	83.013	83.03 ± 0.29			
$\Omega_m h^2$	0.14218	0.14205 ± 0.00099	$D_M(0.38)$	1528.9	1528.4 ± 7.7			

Best-fit $\chi_{\text{eff}}^2 = 12662.16$; $\bar{\chi}_{\text{eff}}^2 = 12690.95$; $R - 1 = 0.00720$
 χ_{eff}^2 : BAO - 6DF: 0.03 MGS: 1.22 DR12BAO: 4.40 CMB - BK15_dust: 735.68 simall_100x143_offlike5_EE_Aplanck_B: 396.13 commander_dx12_v3_2_29: 22.83 CamSpec like_10.7HM_1400_unified: 11499.52

11.19 base_nrun_r_CamSpecHM_TTTEEE_lowl_lowE_BK15_post_lensing

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022287	0.02230 ± 0.00016	$\Omega_m h^2$	0.14282	0.1428 ± 0.0012	$H(0.38)$	82.799	82.83 ± 0.34
$\Omega_c h^2$	0.11988	0.1198 ± 0.0012	$\Omega_m h^3$	0.096114	0.09613 ± 0.00033	$D_M(0.38)$	1534.8	1534.1 ± 9.3
$100\theta_{MC}$	1.040837	1.04085 ± 0.00030	σ_8	0.8099	0.8101 ± 0.0060	$H(0.51)$	89.554	89.58 ± 0.27
τ	0.0536	$0.0547^{+0.0069}_{-0.0078}$	S_8	0.8303	0.830 ± 0.013	$D_M(0.51)$	1987.5	1987 ± 11
$\ln(10^{10} A_s)$	3.0420	3.044 ± 0.015	$\sigma_8 \Omega_m^{0.5}$	0.4548	0.4546 ± 0.0070	$H(0.61)$	95.203	95.22 ± 0.22
n_s	0.96525	0.9652 ± 0.0045	$\sigma_8 \Omega_m^{0.25}$	0.6069	0.6069 ± 0.0064	$D_M(0.61)$	2312.3	2311 ± 12
$dn_s/d \ln k$	-0.0018	-0.0030 ± 0.0069	$\sigma_8/h^{0.5}$	0.9872	0.9873 ± 0.0091	$H(2.33)$	236.39	236.36 ± 0.74
r	0.0215	$0.033^{+0.012}_{-0.028}$	$r_{\text{drag}} h$	99.07	99.14 ± 0.94	$D_M(2.33)$	5768.0	5767 ± 11
y_{cal}	1.00078	1.0007 ± 0.0025	$\langle d^2 \rangle^{1/2}$	2.4375	2.436 ± 0.023	$f\sigma_8(0.15)$	0.4591	0.4589 ± 0.0065
$A_{B,\text{dust}}$	4.62	$4.87^{+0.82}_{-1.2}$	z_{re}	7.62	7.71 ± 0.76	$\sigma_8(0.15)$	0.7480	0.7483 ± 0.0054
$A_{B,\text{sync}}$	1.42	$1.62^{+0.52}_{-1.3}$	$10^9 A_s$	2.0948	$2.099^{+0.029}_{-0.033}$	$f\sigma_8(0.38)$	0.4765	0.4765 ± 0.0052
$\alpha_{B,\text{dust}}$	-0.507	$-0.57^{+0.22}_{-0.32}$	$10^9 A_s e^{-2\tau}$	1.8820	1.882 ± 0.011	$\sigma_8(0.38)$	0.66264	0.6629 ± 0.0047
$\beta_{B,\text{dust}}$	1.583	1.600 ± 0.097	D_{40}	1231.2	1233 ± 19	$f\sigma_8(0.51)$	0.47467	0.4747 ± 0.0046
$\alpha_{B,\text{sync}}$	-0.38	—	D_{220}	5719.6	5718 ± 39	$\sigma_8(0.51)$	0.61994	0.6202 ± 0.0045
$\beta_{B,\text{sync}}$	-3.039	$-3.10^{+0.29}_{-0.26}$	D_{810}	2537.8	2537 ± 13	$f\sigma_8(0.61)$	0.46940	0.4694 ± 0.0042
$\epsilon_{\text{dust,sync}}$	-0.365	-0.36 ± 0.28	D_{1420}	816.0	815.5 ± 5.0	$\sigma_8(0.61)$	0.58978	0.5901 ± 0.0043
A_{100}^{PS}	237.0	242 ± 25	D_{2000}	230.20	230.0 ± 1.9	$f\sigma_8(2.33)$	0.29722	0.2974 ± 0.0022
A_{143}^{PS}	42.9	40 ± 8	$n_{s,0.002}$	0.9710	0.975 ± 0.021	$\sigma_8(2.33)$	0.30626	0.3065 ± 0.0024
A_{217}^{PS}	102.2	102 ± 10	Y_P	0.245362	$0.245365^{+0.000068}_{-0.000061}$	$r_{0.002}$	0.0196	$0.031^{+0.010}_{-0.027}$
A_{217}^{CIB}	43.6	40^{+7}_{-8}	Y_P^{BBN}	0.246688	$0.246691^{+0.000068}_{-0.000061}$	$r_{0.01}$	0.0205	$0.032^{+0.011}_{-0.027}$
A_{143}^{tSZ}	5.77	$3.8^{+1.8}_{-2.6}$	$10^5 D/H$	2.6013	2.599 ± 0.030	$\ln(10^{10} A_t)$	-0.80	$-0.65^{+0.99}_{-0.37}$
$r_{143 \times 217}^{\text{PS}}$	0.630	0.65 ± 0.13	Age/Gyr	13.8078	13.806 ± 0.024	r_{10}	0.0100	$0.0158^{+0.0051}_{-0.014}$
$r_{143 \times 217}^{\text{CIB}}$	0.772	$0.57^{+0.40}_{-0.15}$	z_*	1090.016	1089.99 ± 0.27	$10^9 A_t$	0.0450	$0.069^{+0.025}_{-0.059}$
$\xi^{\text{tSZ} \times \text{CIB}}$	0.31	—	r_*	144.525	144.53 ± 0.29	$10^9 A_t e^{-2\tau}$	0.0405	$0.062^{+0.022}_{-0.053}$
A^{kSZ}	1.29	4.9 ± 2.7	$100\theta_*$	1.041032	1.04104 ± 0.00030	f_{2000}^{143}	30.46	30.3 ± 3.3
A_{100}^{dust}	1.013	1.01 ± 0.20	$D_M(z_*)/\text{Gpc}$	13.8828	13.884 ± 0.027	f_{2000}^{217}	107.19	107.3 ± 2.2
A_{143}^{dust}	0.973	0.96 ± 0.18	z_{drag}	1059.742	1059.76 ± 0.34	$f_{2000}^{143 \times 217}$	32.49	32.6 ± 2.3
A_{217}^{dust}	0.970	0.97 ± 0.10	r_{drag}	147.214	147.22 ± 0.30	χ_{lensing}^2	8.899	9.39 ± 0.70
$A_{143 \times 217}^{\text{dust}}$	1.004	1.02 ± 0.16	k_D	0.140673	0.14068 ± 0.00035	χ_{BKPLANCK}^2	735.38	739.9 ± 2.7
c_{100}	0.99766	0.9975 ± 0.0011	$100\theta_D$	0.160865	0.16085 ± 0.00020	χ_{small}^2	396.03	397.2 ± 1.8
c_{217}	1.00131	1.0012 ± 0.0016	z_{eq}	3397.4	3396 ± 28	χ_{lowl}^2	23.34	23.7 ± 2.0
c_{TE}	0.99639	0.9963 ± 0.0049	k_{eq}	0.010369	0.010365 ± 0.000085	χ_{CamSpec}^2	11499.2	11514.2 ± 5.7
c_{EE}	0.99203	0.9920 ± 0.0049	$100\theta_{\text{eq}}$	0.8139	0.8142 ± 0.0052	χ_{prior}^2	2.29	9.5 ± 3.8
H_0	67.30	67.34 ± 0.54	$100\theta_{s,\text{eq}}$	0.44974	0.4499 ± 0.0027	χ_{CMB}^2	12662.8	12684.4 ± 6.5
Ω_Λ	0.6847	0.6851 ± 0.0075	$H(0.15)$	72.620	72.66 ± 0.47			
Ω_m	0.3153	0.3149 ± 0.0075	$D_M(0.15)$	643.91	643.6 ± 4.7			

Best-fit $\chi_{\text{eff}}^2 = 12665.09$; $\bar{\chi}_{\text{eff}}^2 = 12693.83$; $R - 1 = 0.00535$
 χ_{eff}^2 : CMB - smicadx12.Dec5.ftl_mv2.ndclpp.p.teb.consext8: 8.90 BK15_dust: 735.38 small_100x143_offlike5.EE_Aplanck_B: 396.03 commander_dx12.v3.2.29: 23.34
CamSpec like_10.7HM.1400_unified: 11499.17

11.20 base_nrun_r_CamSpecHM_TTTEEE_lowl_lowE_BK15_post_BAO_lensing

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022335	0.02234 ± 0.00015	$\Omega_m h^3$	0.096118	0.09613 ± 0.00033	$H(0.51)$	89.703	89.71 ± 0.22
$\Omega_c h^2$	0.11917	0.11915 ± 0.00095	σ_8	0.8088	0.8093 ± 0.0060	$D_M(0.51)$	1981.2	1980.9 ± 8.6
$100\theta_{MC}$	1.040921	1.04093 ± 0.00029	S_8	0.8234	0.824 ± 0.011	$H(0.61)$	95.317	95.33 ± 0.19
τ	0.0558	$0.0564^{+0.0067}_{-0.0078}$	$\sigma_8 \Omega_m^{0.5}$	0.4510	0.4511 ± 0.0058	$D_M(0.61)$	2305.5	2305.1 ± 9.3
$\ln(10^{10} A_s)$	3.0452	$3.046^{+0.014}_{-0.016}$	$\sigma_8 \Omega_m^{0.25}$	0.6040	0.6042 ± 0.0057	$H(2.33)$	235.98	235.97 ± 0.60
n_s	0.96668	0.9668 ± 0.0041	$\sigma_8/h^{0.5}$	0.9836	0.9841 ± 0.0084	$D_M(2.33)$	5763.2	5762.7 ± 9.2
$dn_s/d \ln k$	-0.0031	-0.0028 ± 0.0069	$r_{drag} h$	99.64	99.66 ± 0.74	$f\sigma_8(0.15)$	0.4556	0.4558 ± 0.0055
r	0.0248	$0.034^{+0.012}_{-0.028}$	$\langle d^2 \rangle^{1/2}$	2.4278	2.429 ± 0.022	$\sigma_8(0.15)$	0.7475	0.7479 ± 0.0055
y_{cal}	1.00077	1.0009 ± 0.0025	z_{re}	7.83	7.87 ± 0.74	$f\sigma_8(0.38)$	0.47407	0.4743 ± 0.0046
$A_{B,dust}$	4.62	$4.87^{+0.82}_{-1.2}$	$10^9 A_s$	2.1015	$2.104^{+0.029}_{-0.033}$	$\sigma_8(0.38)$	0.66264	0.6630 ± 0.0048
$A_{B,sync}$	1.40	$1.62^{+0.52}_{-1.3}$	$10^9 A_s e^{-2\tau}$	1.8795	1.879 ± 0.011	$f\sigma_8(0.51)$	0.47274	0.4729 ± 0.0042
$\alpha_{B,dust}$	-0.519	$-0.56^{+0.22}_{-0.31}$	D_{40}	1226.4	1231 ± 18	$\sigma_8(0.51)$	0.62015	0.6205 ± 0.0045
$\beta_{B,dust}$	1.584	1.600 ± 0.097	D_{220}	5722.3	5723 ± 39	$f\sigma_8(0.61)$	0.46782	0.4680 ± 0.0039
$\alpha_{B,sync}$	-0.35	—	D_{810}	2537.6	2538 ± 13	$\sigma_8(0.61)$	0.59010	0.5905 ± 0.0043
$\beta_{B,sync}$	-3.044	$-3.10^{+0.29}_{-0.26}$	D_{1420}	816.08	816.2 ± 5.0	$f\sigma_8(2.33)$	0.29756	0.2977 ± 0.0022
$\epsilon_{dust,sync}$	-0.369	-0.36 ± 0.28	D_{2000}	230.19	230.3 ± 1.8	$\sigma_8(2.33)$	0.30679	$0.3070^{+0.0022}_{-0.0024}$
A_{100}^{PS}	235.9	241 ± 25	$n_{s,0.002}$	0.9768	0.976 ± 0.021	$r_{0.002}$	0.0229	$0.031^{+0.011}_{-0.027}$
A_{143}^{PS}	39.2	40 ± 8	Y_P	0.245382	$0.245382^{+0.000064}_{-0.000057}$	$r_{0.01}$	0.0238	$0.032^{+0.012}_{-0.028}$
A_{217}^{PS}	101.7	102 ± 10	Y_P^{BBN}	0.246708	$0.246708^{+0.000064}_{-0.000057}$	$\ln(10^{10} A_t)$	-0.65	$-0.63^{+0.99}_{-0.37}$
A_{217}^{CIB}	45.2	40^{+7}_{-8}	$10^5 D/H$	2.5920	2.591 ± 0.028	r_{10}	0.0117	$0.0162^{+0.0054}_{-0.014}$
A_{143}^{tSZ}	6.65	$3.8^{+1.9}_{-2.6}$	Age/Gyr	13.7974	13.796 ± 0.021	$10^9 A_t$	0.0522	$0.071^{+0.026}_{-0.060}$
$r_{143 \times 217}^{PS}$	0.577	0.65 ± 0.13	z_*	1089.890	1089.88 ± 0.23	$10^9 A_t e^{-2\tau}$	0.0467	$0.063^{+0.023}_{-0.053}$
$r_{143 \times 217}^{CIB}$	0.772	$0.57^{+0.40}_{-0.16}$	r_*	144.673	144.67 ± 0.24	f_{2000}^{143}	30.45	30.0 ± 3.2
$\xi^{tSZ \times CIB}$	0.02	—	$100\theta_*$	1.041111	1.04112 ± 0.00028	f_{2000}^{217}	107.22	107.1 ± 2.2
A^{kSZ}	0.00	$4.8^{+2.5}_{-3.8}$	$D_M(z_*)/Gpc$	13.8960	13.896 ± 0.023	$f_{2000}^{143 \times 217}$	32.47	32.4 ± 2.3
A_{100}^{dust}	1.010	1.01 ± 0.19	z_{drag}	1059.780	1059.81 ± 0.34	$\chi_{lensing}^2$	8.965	9.34 ± 0.71
A_{143}^{dust}	0.967	0.96 ± 0.18	r_{drag}	147.351	147.35 ± 0.26	$\chi_{BKPLANCK}^2$	735.57	740.1 ± 2.7
A_{217}^{dust}	0.967	0.97 ± 0.10	k_D	0.140567	0.14057 ± 0.00033	χ_{small}^2	396.36	397.4 ± 2.0
$A_{143 \times 217}^{dust}$	1.004	1.02 ± 0.16	$100\theta_D$	0.160834	0.16083 ± 0.00020	χ_{lowl}^2	22.82	23.5 ± 1.9
c_{100}	0.99771	0.9976 ± 0.0011	z_{eq}	3381.5	3381 ± 22	$\chi_{CamSpec}^2$	11499.5	11514.0 ± 5.7
c_{217}	1.00132	1.0012 ± 0.0016	k_{eq}	0.010321	0.010320 ± 0.000067	χ_{6DF}^2	0.0303	0.051 ± 0.059
c_{TE}	0.99641	0.9964 ± 0.0049	$100\theta_{eq}$	0.81691	0.8170 ± 0.0041	χ_{MGS}^2	1.217	1.27 ± 0.40
c_{EE}	0.99249	0.9923 ± 0.0049	$100\theta_{s,eq}$	0.45130	0.4513 ± 0.0021	$\chi_{DR12BAO}^2$	4.43	4.8 ± 1.3
H_0	67.618	67.63 ± 0.43	$H(0.15)$	72.892	72.91 ± 0.37	χ_{prior}^2	2.25	9.4 ± 3.8
Ω_Λ	0.6891	0.6892 ± 0.0057	$D_M(0.15)$	641.19	641.1 ± 3.7	χ_{CMB}^2	12663.2	12684.4 ± 6.5
Ω_m	0.3109	0.3108 ± 0.0057	$H(0.38)$	82.993	83.01 ± 0.28	χ_{BAO}^2	5.68	6.1 ± 1.0
$\Omega_m h^2$	0.14215	0.14214 ± 0.00092	$D_M(0.38)$	1529.3	1529.1 ± 7.4			

Best-fit $\chi_{eff}^2 = 12671.14$; $\bar{\chi}_{eff}^2 = 12699.90$; $R - 1 = 0.00769$

χ_{eff}^2 : BAO - 6DF: 0.03 MGS: 1.22 DR12BAO: 4.43 CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p_teb_consext8: 8.96 BK15_dust: 735.57 simall_100x143_offlike5_EE_Aplanck_B: 396.36 commander_dx12_v3.2.29: 22.82 CamSpec like_10.7HM_1400.unified: 11499.49

11.21 base_nrun_r_CamSpecHM_TTTEEE_lowl_lowE_BK15_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02230 ± 0.00016	Ω_{m}	0.3149 ± 0.0085	$H(0.15)$	72.66 ± 0.52
$\Omega_{\mathrm{c}}h^2$	0.1198 ± 0.0014	$\Omega_{\mathrm{m}}h^2$	0.1428 ± 0.0013	$D_{\mathrm{M}}(0.15)$	643.6 ± 5.2
$100\theta_{\mathrm{MC}}$	1.04085 ± 0.00031	$\Omega_{\mathrm{m}}h^3$	0.09614 ± 0.00033	$H(0.38)$	82.83 ± 0.37
τ	$0.0554^{+0.0050}_{-0.0088}$	σ_8	0.8106 ± 0.0071	$D_{\mathrm{M}}(0.38)$	1534 ± 10
$\ln(10^{10}A_{\mathrm{s}})$	$3.045^{+0.013}_{-0.017}$	S_8	0.830 ± 0.016	$H(0.51)$	89.58 ± 0.30
n_{s}	0.9653 ± 0.0048	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4549 ± 0.0089	$D_{\mathrm{M}}(0.51)$	1987 ± 12
$\mathrm{d}n_{\mathrm{s}}/\mathrm{d}\ln k$	-0.0039 ± 0.0070	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6072 ± 0.0082	$H(0.61)$	95.23 ± 0.24
r	$0.034^{+0.013}_{-0.028}$	$\sigma_8/h^{0.5}$	0.988 ± 0.012	$D_{\mathrm{M}}(0.61)$	2311 ± 13
y_{cal}	1.0007 ± 0.0025	$r_{\mathrm{drag}}h$	99.1 ± 1.1	$H(2.33)$	236.37 ± 0.85
$A_{B,\mathrm{dust}}$	$4.86^{+0.82}_{-1.2}$	$\langle d^2 \rangle^{1/2}$	2.436 ± 0.028	$D_{\mathrm{M}}(2.33)$	5767 ± 11
$A_{B,\mathrm{sync}}$	$1.62^{+0.52}_{-1.3}$	z_{re}	$7.79^{+0.57}_{-0.85}$	$f\sigma_8(0.15)$	0.4592 ± 0.0082
$\alpha_{B,\mathrm{dust}}$	$-0.56^{+0.22}_{-0.32}$	$10^9 A_{\mathrm{s}}$	$2.102^{+0.026}_{-0.037}$	$\sigma_8(0.15)$	$0.7487^{+0.0057}_{-0.0066}$
$\beta_{B,\mathrm{dust}}$	1.601 ± 0.097	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.882 ± 0.012	$f\sigma_8(0.38)$	0.4767 ± 0.0067
$\alpha_{B,\mathrm{sync}}$	—	D_{40}	1230 ± 19	$\sigma_8(0.38)$	$0.6633^{+0.0046}_{-0.0056}$
$\beta_{B,\mathrm{sync}}$	$-3.10^{+0.29}_{-0.26}$	D_{220}	5715 ± 39	$f\sigma_8(0.51)$	0.4749 ± 0.0059
$\epsilon_{\mathrm{dust},\mathrm{sync}}$	-0.36 ± 0.28	D_{810}	2537 ± 14	$\sigma_8(0.51)$	$0.6206^{+0.0041}_{-0.0052}$
A_{100}^{PS}	242 ± 25	D_{1420}	815.2 ± 5.0	$f\sigma_8(0.61)$	0.4697 ± 0.0053
A_{143}^{PS}	41 ± 8	D_{2000}	229.9 ± 1.9	$\sigma_8(0.61)$	$0.5904^{+0.0039}_{-0.0050}$
A_{217}^{PS}	102 ± 10	$n_{\mathrm{s},0.002}$	0.978 ± 0.021	$f\sigma_8(2.33)$	$0.2975^{+0.0019}_{-0.0025}$
A_{217}^{CIB}	40^{+7}_{-8}	Y_{P}	$0.245367^{+0.000068}_{-0.000061}$	$\sigma_8(2.33)$	$0.3066^{+0.0019}_{-0.0027}$
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246693^{+0.000068}_{-0.000062}$	$r_{0.002}$	$0.032^{+0.011}_{-0.027}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	$10^5 \mathrm{D}/\mathrm{H}$	2.599 ± 0.030	$r_{0.01}$	$0.033^{+0.012}_{-0.027}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.57^{+0.41}_{-0.15}$	$\mathrm{Age}/\mathrm{Gyr}$	13.805 ± 0.025	$\ln(10^{10}A_{\mathrm{t}})$	$-0.61^{+0.97}_{-0.36}$
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	z_*	1089.99 ± 0.28	r_{10}	$0.0164^{+0.0056}_{-0.014}$
A^{kSZ}	4.9 ± 2.7	r_*	144.53 ± 0.32	$10^9 A_{\mathrm{t}}$	$0.071^{+0.027}_{-0.058}$
A_{100}^{dust}	1.01 ± 0.20	$100\theta_*$	1.04104 ± 0.00030	$10^9 A_{\mathrm{t}}e^{-2\tau}$	$0.064^{+0.024}_{-0.052}$
A_{143}^{dust}	0.96 ± 0.18	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.883 ± 0.030	f_{2000}^{143}	30.5 ± 3.3
A_{217}^{dust}	0.97 ± 0.10	z_{drag}	1059.77 ± 0.34	f_{2000}^{217}	107.4 ± 2.2
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	r_{drag}	147.21 ± 0.33	$f_{2000}^{143 \times 217}$	32.7 ± 2.3
c_{100}	0.9975 ± 0.0011	k_{D}	0.14069 ± 0.00038	$\chi_{\mathrm{BKPLANCK}}^2$	739.9 ± 2.8
c_{217}	1.0012 ± 0.0016	$100\theta_{\mathrm{D}}$	0.16085 ± 0.00020	χ_{simall}^2	397.2 ± 1.9
c_{TE}	0.9962 ± 0.0049	z_{eq}	3396 ± 32	χ_{lowl}^2	23.5 ± 1.9
c_{EE}	0.9919 ± 0.0049	k_{eq}	0.010366 ± 0.000097	$\chi_{\mathrm{CamSpec}}^2$	11514.6 ± 5.9
H_0	67.34 ± 0.61	$100\theta_{\mathrm{eq}}$	0.8142 ± 0.0059	χ_{prior}^2	9.5 ± 3.8
Ω_{Λ}	0.6851 ± 0.0085	$100\theta_{\mathrm{s},\mathrm{eq}}$	0.4499 ± 0.0031	χ_{CMB}^2	12675.2 ± 6.5

$$\bar{\chi}_{\mathrm{eff}}^2 = 12684.69; R - 1 = 0.00378$$

11.22 base_nrun_r_CamSpecHM_TTTEEE_lowl_lowE_BK15_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02235 ± 0.00015	$\Omega_{\mathrm{m}}h^3$	0.09613 ± 0.00033	$H(0.51)$	89.74 ± 0.23
$\Omega_{\mathrm{c}}h^2$	0.1190 ± 0.0010	σ_8	$0.8085^{+0.0061}_{-0.0072}$	$D_{\mathrm{M}}(0.51)$	1980.0 ± 9.1
$100\theta_{\mathrm{MC}}$	1.04095 ± 0.00029	S_8	0.822 ± 0.013	$H(0.61)$	95.34 ± 0.19
τ	$0.0562^{+0.0053}_{-0.0086}$	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4503 ± 0.0069	$D_{\mathrm{M}}(0.61)$	2304.2 ± 9.8
$\ln(10^{10}A_{\mathrm{s}})$	$3.045^{+0.013}_{-0.018}$	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6033 ± 0.0068	$H(2.33)$	235.91 ± 0.64
n_{s}	0.9672 ± 0.0042	$\sigma_8/h^{0.5}$	0.983 ± 0.010	$D_{\mathrm{M}}(2.33)$	5762.1 ± 9.3
$\mathrm{d}n_{\mathrm{s}}/\mathrm{d}\ln k$	-0.0035 ± 0.0069	$r_{\mathrm{drag}}h$	99.74 ± 0.79	$f\sigma_8(0.15)$	0.4549 ± 0.0065
r	$0.035^{+0.013}_{-0.028}$	$\langle d^2 \rangle^{1/2}$	2.425 ± 0.025	$\sigma_8(0.15)$	$0.7472^{+0.0054}_{-0.0065}$
y_{cal}	1.0007 ± 0.0025	z_{re}	$7.85^{+0.59}_{-0.84}$	$f\sigma_8(0.38)$	0.4735 ± 0.0055
$A_{B,\mathrm{dust}}$	$4.87^{+0.83}_{-1.2}$	$10^9 A_{\mathrm{s}}$	$2.102^{+0.026}_{-0.038}$	$\sigma_8(0.38)$	$0.6625^{+0.0045}_{-0.0057}$
$A_{B,\mathrm{sync}}$	$1.62^{+0.51}_{-1.3}$	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.878 ± 0.011	$f\sigma_8(0.51)$	0.4723 ± 0.0050
$\alpha_{B,\mathrm{dust}}$	$-0.56^{+0.22}_{-0.31}$	D_{40}	1228 ± 19	$\sigma_8(0.51)$	$0.6200^{+0.0041}_{-0.0053}$
$\beta_{B,\mathrm{dust}}$	1.600 ± 0.097	D_{220}	5719 ± 39	$f\sigma_8(0.61)$	0.4674 ± 0.0047
$\alpha_{B,\mathrm{sync}}$	—	D_{810}	2536 ± 14	$\sigma_8(0.61)$	$0.5900^{+0.0039}_{-0.0051}$
$\beta_{B,\mathrm{sync}}$	$-3.10^{+0.29}_{-0.26}$	D_{1420}	815.8 ± 5.0	$f\sigma_8(2.33)$	$0.2976^{+0.0019}_{-0.0026}$
$\epsilon_{\mathrm{dust},\mathrm{sync}}$	-0.36 ± 0.28	D_{2000}	230.1 ± 1.8	$\sigma_8(2.33)$	$0.3068^{+0.0020}_{-0.0027}$
A_{100}^{PS}	241 ± 25	$n_{\mathrm{s},0.002}$	0.978 ± 0.021	$r_{0.002}$	$0.033^{+0.012}_{-0.027}$
A_{143}^{PS}	40 ± 8	Y_{P}	$0.245384^{+0.000064}_{-0.000056}$	$r_{0.01}$	$0.033^{+0.012}_{-0.028}$
A_{217}^{PS}	102 ± 10	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246710^{+0.000064}_{-0.000056}$	$\ln(10^{10}A_{\mathrm{t}})$	$-0.59^{+0.96}_{-0.36}$
A_{217}^{CIB}	40^{+7}_{-8}	$10^5 \mathrm{D}/\mathrm{H}$	2.591 ± 0.028	r_{10}	$0.0168^{+0.0059}_{-0.014}$
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	$\mathrm{Age}/\mathrm{Gyr}$	13.795 ± 0.021	$10^9 A_{\mathrm{t}}$	$0.073^{+0.028}_{-0.059}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	z_*	1089.87 ± 0.23	$10^9 A_{\mathrm{t}}e^{-2\tau}$	$0.065^{+0.025}_{-0.053}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.57^{+0.41}_{-0.15}$	r_*	144.70 ± 0.26	f_{2000}^{143}	30.2 ± 3.3
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$100\theta_*$	1.04113 ± 0.00029	f_{2000}^{217}	107.2 ± 2.2
A^{kSZ}	4.9 ± 2.7	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.898 ± 0.024	$f_{2000}^{143 \times 217}$	32.5 ± 2.3
A_{100}^{dust}	1.01 ± 0.19	z_{drag}	1059.81 ± 0.34	$\chi_{\mathrm{BKPLANCK}}^2$	740.2 ± 2.7
A_{143}^{dust}	0.96 ± 0.18	r_{drag}	147.37 ± 0.27	χ_{small}^2	397.3 ± 2.0
A_{217}^{dust}	0.97 ± 0.10	k_{D}	0.14055 ± 0.00034	χ_{lowl}^2	23.3 ± 1.9
$A_{143 \times 217}^{\mathrm{dust}}$	1.02 ± 0.16	$100\theta_{\mathrm{D}}$	0.16083 ± 0.00020	$\chi_{\mathrm{CamSpec}}^2$	11514.4 ± 5.8
c_{100}	0.9975 ± 0.0011	z_{eq}	3379 ± 24	$\chi_{6\mathrm{DF}}^2$	0.049 ± 0.061
c_{217}	1.0012 ± 0.0016	k_{eq}	0.010313 ± 0.000072	χ_{MGS}^2	1.32 ± 0.44
c_{TE}	0.9964 ± 0.0049	$100\theta_{\mathrm{eq}}$	0.8175 ± 0.0044	$\chi_{\mathrm{DR12BAO}}^2$	4.7 ± 1.3
c_{EE}	0.9923 ± 0.0049	$100\theta_{\mathrm{s},\mathrm{eq}}$	0.4516 ± 0.0023	χ_{prior}^2	9.5 ± 3.8
H_0	67.68 ± 0.45	$H(0.15)$	72.95 ± 0.39	χ_{BAO}^2	6.1 ± 1.1
Ω_{Λ}	0.6898 ± 0.0061	$D_{\mathrm{M}}(0.15)$	640.7 ± 3.8	χ_{CMB}^2	12675.2 ± 6.4
Ω_{m}	0.3102 ± 0.0061	$H(0.38)$	83.03 ± 0.29		
$\Omega_{\mathrm{m}}h^2$	0.14204 ± 0.00099	$D_{\mathrm{M}}(0.38)$	1528.3 ± 7.7		

$\bar{\chi}_{\mathrm{eff}}^2 = 12690.74$; $R - 1 = 0.00701$

11.23 base_nrun_r_CamSpecHM_TTTEEE_lowl_lowE_BK15_post_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02230 ± 0.00016	$\Omega_{\mathrm{m}}h^2$	0.1427 ± 0.0011	$H(0.38)$	82.84 ± 0.34
$\Omega_{\mathrm{c}}h^2$	0.1198 ± 0.0012	$\Omega_{\mathrm{m}}h^3$	0.09613 ± 0.00033	$D_{\mathrm{M}}(0.38)$	1533.7 ± 9.2
$100\theta_{\mathrm{MC}}$	1.04085 ± 0.00030	σ_8	0.8106 ± 0.0057	$H(0.51)$	89.59 ± 0.27
τ	$0.0555^{+0.0053}_{-0.0082}$	S_8	0.830 ± 0.013	$D_{\mathrm{M}}(0.51)$	1986 ± 11
$\ln(10^{10}A_{\mathrm{s}})$	$3.046^{+0.012}_{-0.016}$	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4546 ± 0.0070	$H(0.61)$	95.23 ± 0.22
n_{s}	0.9653 ± 0.0045	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6071 ± 0.0064	$D_{\mathrm{M}}(0.61)$	2311 ± 12
$\mathrm{d}n_{\mathrm{s}}/\mathrm{d}\ln k$	-0.0031 ± 0.0069	$\sigma_8/h^{0.5}$	0.9877 ± 0.0089	$H(2.33)$	236.33 ± 0.73
r	$0.033^{+0.012}_{-0.028}$	$r_{\mathrm{drag}}h$	99.18 ± 0.93	$D_{\mathrm{M}}(2.33)$	5767 ± 10
y_{cal}	1.0007 ± 0.0025	$\langle d^2 \rangle^{1/2}$	2.437 ± 0.023	$f\sigma_8(0.15)$	0.4590 ± 0.0065
$A_{B,\mathrm{dust}}$	$4.87^{+0.82}_{-1.2}$	z_{re}	$7.80^{+0.58}_{-0.78}$	$\sigma_8(0.15)$	$0.7487^{+0.0047}_{-0.0054}$
$A_{B,\mathrm{sync}}$	$1.63^{+0.52}_{-1.3}$	$10^9 A_{\mathrm{s}}$	$2.102^{+0.024}_{-0.033}$	$f\sigma_8(0.38)$	0.4766 ± 0.0052
$\alpha_{B,\mathrm{dust}}$	$-0.57^{+0.22}_{-0.32}$	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.881 ± 0.011	$\sigma_8(0.38)$	$0.6634^{+0.0039}_{-0.0048}$
$\beta_{B,\mathrm{dust}}$	1.601 ± 0.097	D_{40}	1232 ± 19	$f\sigma_8(0.51)$	0.4748 ± 0.0045
$\alpha_{B,\mathrm{sync}}$	—	D_{220}	5718 ± 39	$\sigma_8(0.51)$	$0.6207^{+0.0036}_{-0.0045}$
$\beta_{B,\mathrm{sync}}$	$-3.10^{+0.29}_{-0.26}$	D_{810}	2537 ± 13	$f\sigma_8(0.61)$	0.4696 ± 0.0041
$\epsilon_{\mathrm{dust},\mathrm{sync}}$	-0.36 ± 0.28	D_{1420}	815.5 ± 5.0	$\sigma_8(0.61)$	$0.5905^{+0.0035}_{-0.0044}$
A_{100}^{PS}	241 ± 25	D_{2000}	230.0 ± 1.9	$f\sigma_8(2.33)$	$0.2976^{+0.0018}_{-0.0023}$
A_{143}^{PS}	40 ± 8	$n_{\mathrm{s},0.002}$	0.975 ± 0.021	$\sigma_8(2.33)$	$0.3067^{+0.0019}_{-0.0025}$
A_{217}^{PS}	102 ± 10	Y_{P}	$0.245367^{+0.000067}_{-0.000060}$	$r_{0.002}$	$0.031^{+0.010}_{-0.027}$
A_{217}^{CIB}	40^{+7}_{-8}	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246693^{+0.000068}_{-0.000061}$	$r_{0.01}$	$0.032^{+0.011}_{-0.027}$
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	$10^5 \mathrm{D}/\mathrm{H}$	2.599 ± 0.030	$\ln(10^{10}A_{\mathrm{t}})$	$-0.65^{+0.99}_{-0.37}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	$\mathrm{Age}/\mathrm{Gyr}$	13.805 ± 0.024	r_{10}	$0.0158^{+0.0052}_{-0.014}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.57^{+0.40}_{-0.16}$	z_*	1089.98 ± 0.26	$10^9 A_{\mathrm{t}}$	$0.070^{+0.025}_{-0.059}$
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	r_*	144.54 ± 0.28	$10^9 A_{\mathrm{t}}e^{-2\tau}$	$0.062^{+0.023}_{-0.053}$
A^{kSZ}	4.9 ± 2.7	$100\theta_*$	1.04104 ± 0.00030	f_{2000}^{143}	30.3 ± 3.3
A_{100}^{dust}	1.01 ± 0.20	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.885 ± 0.027	f_{2000}^{217}	107.3 ± 2.2
A_{143}^{dust}	0.96 ± 0.18	z_{drag}	1059.76 ± 0.34	$f_{2000}^{143 \times 217}$	32.6 ± 2.3
A_{217}^{dust}	0.97 ± 0.10	r_{drag}	147.23 ± 0.29	$\chi_{\mathrm{lensing}}^2$	9.37 ± 0.68
$A_{143 \times 217}^{\mathrm{dust}}$	1.02 ± 0.16	k_{D}	0.14067 ± 0.00035	$\chi_{\mathrm{BKPLANCK}}^2$	739.9 ± 2.7
c_{100}	0.9975 ± 0.0011	$100\theta_{\mathrm{D}}$	0.16085 ± 0.00020	χ_{simall}^2	397.1 ± 1.8
c_{217}	1.0012 ± 0.0016	z_{eq}	3395 ± 27	χ_{lowl}^2	23.7 ± 2.0
c_{TE}	0.9962 ± 0.0049	k_{eq}	0.010362 ± 0.000084	$\chi_{\mathrm{CamSpec}}^2$	11514.1 ± 5.7
c_{EE}	0.9920 ± 0.0049	$100\theta_{\mathrm{eq}}$	0.8144 ± 0.0051	χ_{prior}^2	9.5 ± 3.8
H_0	67.36 ± 0.54	$100\theta_{\mathrm{s},\mathrm{eq}}$	0.4500 ± 0.0026	χ_{CMB}^2	12684.2 ± 6.5
Ω_{Λ}	0.6854 ± 0.0074	$H(0.15)$	72.68 ± 0.46		
Ω_{m}	0.3146 ± 0.0074	$D_{\mathrm{M}}(0.15)$	643.4 ± 4.6		

$$\bar{\chi}_{\mathrm{eff}}^2 = 12693.65; R - 1 = 0.00582$$

11.24 base_nrun_r_CamSpecHM_TTTEEE_lowl_lowE_BK15_post_BAO_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02234 ± 0.00015	$\Omega_{\mathrm{m}}h^3$	0.09613 ± 0.00033	$H(0.51)$	89.72 ± 0.22
$\Omega_{\mathrm{c}}h^2$	0.11913 ± 0.00095	σ_8	$0.8096^{+0.0053}_{-0.0061}$	$D_{\mathrm{M}}(0.51)$	1980.7 ± 8.6
$100\theta_{\mathrm{MC}}$	1.04093 ± 0.00029	S_8	0.824 ± 0.011	$H(0.61)$	95.33 ± 0.19
τ	$0.0569^{+0.0057}_{-0.0080}$	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4512 ± 0.0058	$D_{\mathrm{M}}(0.61)$	2304.9 ± 9.3
$\ln(10^{10}A_{\mathrm{s}})$	$3.047^{+0.012}_{-0.016}$	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6044 ± 0.0056	$H(2.33)$	235.96 ± 0.59
n_{s}	0.9669 ± 0.0041	$\sigma_8/h^{0.5}$	0.9844 ± 0.0082	$D_{\mathrm{M}}(2.33)$	5762.6 ± 9.2
$\mathrm{d}n_{\mathrm{s}}/\mathrm{d}\ln k$	-0.0028 ± 0.0069	$r_{\mathrm{drag}}h$	99.67 ± 0.73	$f\sigma_8(0.15)$	0.4559 ± 0.0054
r	$0.034^{+0.013}_{-0.028}$	$\langle d^2 \rangle^{1/2}$	2.430 ± 0.022	$\sigma_8(0.15)$	$0.7482^{+0.0048}_{-0.0056}$
y_{cal}	1.0009 ± 0.0025	z_{re}	$7.92^{+0.61}_{-0.77}$	$f\sigma_8(0.38)$	0.4744 ± 0.0046
$A_{B,\mathrm{dust}}$	$4.88^{+0.83}_{-1.2}$	$10^9 A_{\mathrm{s}}$	$2.106^{+0.026}_{-0.034}$	$\sigma_8(0.38)$	$0.6633^{+0.0041}_{-0.0050}$
$A_{B,\mathrm{sync}}$	$1.63^{+0.52}_{-1.3}$	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.879 ± 0.011	$f\sigma_8(0.51)$	0.4731 ± 0.0041
$\alpha_{B,\mathrm{dust}}$	$-0.56^{+0.22}_{-0.31}$	D_{40}	1230 ± 18	$\sigma_8(0.51)$	$0.6208^{+0.0038}_{-0.0047}$
$\beta_{B,\mathrm{dust}}$	1.600 ± 0.097	D_{220}	5723 ± 39	$f\sigma_8(0.61)$	0.4682 ± 0.0038
$\alpha_{B,\mathrm{sync}}$	—	D_{810}	2537 ± 13	$\sigma_8(0.61)$	$0.5907^{+0.0036}_{-0.0045}$
$\beta_{B,\mathrm{sync}}$	$-3.10^{+0.29}_{-0.26}$	D_{1420}	816.2 ± 5.0	$f\sigma_8(2.33)$	$0.2979^{+0.0019}_{-0.0023}$
$\epsilon_{\mathrm{dust},\mathrm{sync}}$	-0.36 ± 0.28	D_{2000}	230.3 ± 1.8	$\sigma_8(2.33)$	$0.3071^{+0.0020}_{-0.0025}$
A_{100}^{PS}	241 ± 25	$n_{\mathrm{s},0.002}$	0.976 ± 0.021	$r_{0.002}$	$0.031^{+0.011}_{-0.027}$
A_{143}^{PS}	40 ± 8	Y_{P}	$0.245383^{+0.000064}_{-0.000056}$	$r_{0.01}$	$0.032^{+0.012}_{-0.028}$
A_{217}^{PS}	102 ± 10	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246709^{+0.000064}_{-0.000057}$	$\ln(10^{10}A_{\mathrm{t}})$	$-0.63^{+0.98}_{-0.37}$
A_{217}^{CIB}	40^{+7}_{-8}	$10^5 \mathrm{D}/\mathrm{H}$	2.591 ± 0.028	r_{10}	$0.0162^{+0.0055}_{-0.014}$
A_{143}^{tSZ}	$3.8^{+1.9}_{-2.6}$	$\mathrm{Age}/\mathrm{Gyr}$	13.796 ± 0.021	$10^9 A_{\mathrm{t}}$	$0.071^{+0.026}_{-0.059}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	z_*	1089.88 ± 0.23	$10^9 A_{\mathrm{t}}e^{-2\tau}$	$0.063^{+0.024}_{-0.053}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.57^{+0.40}_{-0.16}$	r_*	144.68 ± 0.24	f_{2000}^{143}	30.0 ± 3.2
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$100\theta_*$	1.04112 ± 0.00028	f_{2000}^{217}	107.1 ± 2.2
A^{kSZ}	$4.8^{+2.5}_{-3.8}$	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.896 ± 0.023	$f_{2000}^{143 \times 217}$	32.4 ± 2.3
A_{100}^{dust}	1.01 ± 0.19	z_{drag}	1059.81 ± 0.34	$\chi_{\mathrm{lensing}}^2$	9.31 ± 0.66
A_{143}^{dust}	0.96 ± 0.18	r_{drag}	147.35 ± 0.26	$\chi_{\mathrm{BKPLANCK}}^2$	740.1 ± 2.7
A_{217}^{dust}	0.97 ± 0.10	k_{D}	0.14057 ± 0.00033	χ_{simall}^2	397.4 ± 2.0
$A_{143 \times 217}^{\mathrm{dust}}$	1.02 ± 0.16	$100\theta_{\mathrm{D}}$	0.16083 ± 0.00020	χ_{lowl}^2	23.5 ± 1.9
c_{100}	0.9976 ± 0.0011	z_{eq}	3381 ± 22	$\chi_{\mathrm{CamSpec}}^2$	11514.0 ± 5.7
c_{217}	1.0012 ± 0.0016	k_{eq}	0.010319 ± 0.000067	$\chi_{6\mathrm{DF}}^2$	0.050 ± 0.058
c_{TE}	0.9963 ± 0.0049	$100\theta_{\mathrm{eq}}$	0.8171 ± 0.0041	χ_{MGS}^2	1.28 ± 0.40
c_{EE}	0.9923 ± 0.0049	$100\theta_{\mathrm{s},\mathrm{eq}}$	0.4514 ± 0.0021	$\chi_{\mathrm{DR12BAO}}^2$	4.7 ± 1.3
H_0	67.64 ± 0.43	$H(0.15)$	72.91 ± 0.37	χ_{prior}^2	9.4 ± 3.8
Ω_{Λ}	0.6893 ± 0.0057	$D_{\mathrm{M}}(0.15)$	641.0 ± 3.6	χ_{CMB}^2	12684.3 ± 6.4
Ω_{m}	0.3107 ± 0.0057	$H(0.38)$	83.01 ± 0.27	χ_{BAO}^2	6.1 ± 1.0
$\Omega_{\mathrm{m}}h^2$	0.14212 ± 0.00091	$D_{\mathrm{M}}(0.38)$	1528.9 ± 7.3		

$\bar{\chi}_{\mathrm{eff}}^2 = 12699.77$; $R - 1 = 0.00794$

12 omegak

12.1 base_omegak_CamSpecHM_TT_lowl_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022580	0.02258 ± 0.00028	$\sigma_8 \Omega_m^{0.5}$	0.5546	0.554 ± 0.035	$H(0.15)$	58.09	$58.2^{+3.7}_{-4.4}$
$\Omega_c h^2$	0.11749	0.1173 ± 0.0023	$\sigma_8 \Omega_m^{0.25}$	0.6521	$0.650^{+0.017}_{-0.014}$	$D_M(0.15)$	820	823^{+59}_{-69}
$100\theta_{MC}$	1.04131	1.04135 ± 0.00052	$\sigma_8/h^{0.5}$	1.0646	$1.062^{+0.027}_{-0.022}$	$H(0.38)$	69.62	$69.8^{+3.3}_{-4.0}$
τ	0.0492	0.0491 ± 0.0082	$r_{drag}h$	76.5	$76.7^{+6.0}_{-6.9}$	$D_M(0.38)$	1904	1909 ± 130
Ω_K	-0.0550	$-0.058^{+0.029}_{-0.019}$	$\langle d^2 \rangle^{1/2}$	2.682	2.682 ± 0.084	$H(0.51)$	77.06	$77.2^{+3.1}_{-3.7}$
$\ln(10^{10} A_s)$	3.0265	3.026 ± 0.017	z_{re}	6.91	$6.87^{+0.89}_{-0.76}$	$D_M(0.51)$	2435	2439 ± 150
n_s	0.9738	0.9732 ± 0.0066	$10^9 A_s$	2.0625	2.062 ± 0.035	$H(0.61)$	83.19	$83.3^{+3.0}_{-3.6}$
y_{cal}	0.99980	1.0000 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.8692	1.869 ± 0.014	$D_M(0.61)$	2807	2811 ± 170
A_{100}^{PS}	219.7	229 ± 30	D_{40}	1196.9	1199 ± 17	$H(2.33)$	227.59	227.5 ± 3.0
A_{143}^{PS}	39.7	33 ± 9	D_{220}	5727.5	5735 ± 43	$D_M(2.33)$	6470	6473 ± 230
A_{217}^{PS}	107.4	104^{+10}_{-10}	D_{810}	2528.2	2527 ± 14	$f\sigma_8(0.15)$	0.5405	$0.539^{+0.027}_{-0.023}$
A_{217}^{CIB}	38.2	37^{+7}_{-8}	D_{1420}	814.4	813.7 ± 5.1	$\sigma_8(0.15)$	0.6912	$0.689^{+0.024}_{-0.022}$
A_{143}^{tSZ}	6.27	$4.1^{+2.0}_{-2.3}$	D_{2000}	232.89	232.5 ± 2.1	$f\sigma_8(0.38)$	0.5149	$0.512^{+0.012}_{-0.0076}$
$r_{143 \times 217}^{PS}$	0.742	0.68 ± 0.14	$n_{s,0.002}$	0.9738	0.9732 ± 0.0066	$\sigma_8(0.38)$	0.5950	0.594 ± 0.025
$r_{143 \times 217}^{CIB}$	0.690	0.49 ± 0.26	Y_P	0.245473	$0.245473^{+0.000099}_{-0.00011}$	$f\sigma_8(0.51)$	0.4935	$0.4911^{+0.0071}_{-0.0059}$
$\xi^{tSZ \times CIB}$	0.65	—	Y_P^{BBN}	0.246800	$0.246800^{+0.000099}_{-0.00011}$	$\sigma_8(0.51)$	0.5497	0.549 ± 0.026
A^{kSZ}	0.01	< 5.28	$10^5 D/H$	2.5480	2.549 ± 0.050	$f\sigma_8(0.61)$	0.4758	$0.4735^{+0.0073}_{-0.0061}$
A_{100}^{dust}	0.999	1.01 ± 0.19	Age/Gyr	15.64	15.65 ± 0.62	$\sigma_8(0.61)$	0.5188	0.518 ± 0.025
A_{143}^{dust}	0.955	0.95 ± 0.17	z_*	1089.438	1089.43 ± 0.49	$f\sigma_8(2.33)$	0.2571	0.257 ± 0.014
A_{217}^{dust}	0.980	0.98 ± 0.10	r_*	144.923	144.98 ± 0.49	$\sigma_8(2.33)$	0.2560	0.256 ± 0.016
$A_{143 \times 217}^{dust}$	1.019	1.02 ± 0.16	$100\theta_*$	1.04147	1.04151 ± 0.00050	f_{2000}^{143}	25.54	26 ± 3
c_{100}	0.99778	0.9976 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.9152	13.920 ± 0.045	f_{2000}^{217}	103.47	104.1 ± 2.3
c_{217}	1.00072	1.0008 ± 0.0016	z_{drag}	1060.24	1060.21 ± 0.55	$f_{2000}^{143 \times 217}$	28.69	29.0 ± 2.5
H_0	51.85	$52.0^{+4.1}_{-4.7}$	r_{drag}	147.526	147.58 ± 0.48	χ_{small}^2	395.53	396.7 ± 1.5
Ω_Λ	0.532	$0.527^{+0.073}_{-0.053}$	k_D	0.14056	$0.14050^{+0.00053}_{-0.00048}$	χ_{lowl}^2	20.976	21.28 ± 0.63
Ω_m	0.523	$0.531^{+0.072}_{-0.10}$	$100\theta_D$	0.160614	0.16064 ± 0.00030	$\chi_{CamSpec}^2$	7045.3	7059.5 ± 5.3
$\Omega_m h^2$	0.14072	0.1405 ± 0.0021	z_{eq}	3347	3343 ± 50	χ_{prior}^2	1.47	7.1 ± 3.3
$\Omega_m h^3$	0.0730	$0.0731^{+0.0061}_{-0.0071}$	k_{eq}	0.010216	0.01020 ± 0.00015	χ_{CMB}^2	7461.8	7477.5 ± 5.5
σ_8	0.7666	$0.765^{+0.021}_{-0.019}$	$100\theta_{eq}$	0.8241	0.825 ± 0.010			
S_8	1.013	1.012 ± 0.063	$100\theta_{s,eq}$	0.4549	0.4554 ± 0.0051			

Best-fit $\chi_{eff}^2 = 7463.28$; $\Delta\chi_{eff}^2 = -8.46$; $\bar{\chi}_{eff}^2 = 7484.59$; $\Delta\bar{\chi}_{eff}^2 = -6.95$; $R - 1 = 0.03021$

χ_{eff}^2 : CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.53 (Δ -0.30) commander_dx12.v3_2_29: 20.98 (Δ -2.42) CamSpec like_10.7HM: 7045.30 (Δ -5.04)

12.2 base_omegak_CamSpecHM_TT_lowl_lowE_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\text{b}}h^2$	0.02258 ± 0.00027	$\sigma_8\Omega_{\text{m}}^{0.5}$	0.551 ± 0.034	$H(0.15)$	$58.8^{+3.7}_{-4.3}$
$\Omega_{\text{c}}h^2$	0.1173 ± 0.0022	$\sigma_8\Omega_{\text{m}}^{0.25}$	$0.651^{+0.016}_{-0.014}$	$D_{\text{M}}(0.15)$	814^{+57}_{-65}
$100\theta_{\text{MC}}$	1.04137 ± 0.00052	$\sigma_8/h^{0.5}$	$1.063^{+0.026}_{-0.022}$	$H(0.38)$	$70.2^{+3.2}_{-3.8}$
τ	$0.0532^{+0.0035}_{-0.0069}$	$r_{\text{drag}}h$	$77.6^{+5.8}_{-6.7}$	$D_{\text{M}}(0.38)$	1891 ± 120
Ω_K	$-0.054^{+0.027}_{-0.018}$	$\langle d^2 \rangle^{1/2}$	2.679 ± 0.082	$H(0.51)$	$77.6^{+3.1}_{-3.6}$
$\ln(10^{10}A_{\text{s}})$	$3.034^{+0.010}_{-0.014}$	z_{re}	< 7.54	$D_{\text{M}}(0.51)$	2418 ± 150
n_{s}	0.9734 ± 0.0065	$10^9 A_{\text{s}}$	$2.078^{+0.020}_{-0.029}$	$H(0.61)$	$83.7^{+2.9}_{-3.5}$
y_{cal}	1.0000 ± 0.0025	$10^9 A_{\text{s}}e^{-2\tau}$	1.868 ± 0.014	$D_{\text{M}}(0.61)$	2788 ± 160
A_{100}^{PS}	229 ± 30	D_{40}	1200 ± 17	$H(2.33)$	$227.7^{+2.8}_{-3.1}$
A_{143}^{PS}	33 ± 9	D_{220}	5734 ± 43	$D_{\text{M}}(2.33)$	6444 ± 220
A_{217}^{PS}	104 ± 10	D_{810}	2527 ± 14	$f\sigma_8(0.15)$	$0.537^{+0.027}_{-0.023}$
A_{217}^{CIB}	37^{+7}_{-8}	D_{1420}	813.8 ± 5.1	$\sigma_8(0.15)$	$0.695^{+0.023}_{-0.020}$
A_{143}^{tSZ}	$4.1^{+1.9}_{-2.3}$	D_{2000}	232.5 ± 2.1	$f\sigma_8(0.38)$	$0.513^{+0.012}_{-0.0076}$
$r_{143 \times 217}^{\text{PS}}$	0.68 ± 0.14	$n_{\text{s},0.002}$	0.9734 ± 0.0065	$\sigma_8(0.38)$	0.599 ± 0.024
$r_{143 \times 217}^{\text{CIB}}$	0.49 ± 0.27	Y_{P}	$0.245475^{+0.000096}_{-0.00011}$	$f\sigma_8(0.51)$	$0.4926^{+0.0065}_{-0.0056}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	$Y_{\text{P}}^{\text{BBN}}$	$0.246802^{+0.000097}_{-0.00011}$	$\sigma_8(0.51)$	0.554 ± 0.024
A^{kSZ}	< 5.32	$10^5 \text{D}/\text{H}$	2.548 ± 0.049	$f\sigma_8(0.61)$	0.4756 ± 0.0061
A_{100}^{dust}	1.01 ± 0.19	Age/Gyr	15.57 ± 0.59	$\sigma_8(0.61)$	0.523 ± 0.024
A_{143}^{dust}	0.95 ± 0.17	z_*	1089.42 ± 0.48	$f\sigma_8(2.33)$	0.259 ± 0.013
A_{217}^{dust}	0.98 ± 0.10	r_*	144.99 ± 0.48	$\sigma_8(2.33)$	0.259 ± 0.015
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	$100\theta_*$	1.04154 ± 0.00050	f_{2000}^{143}	26 ± 3
c_{100}	0.9976 ± 0.0011	$D_{\text{M}}(z_*)/\text{Gpc}$	13.921 ± 0.044	f_{2000}^{217}	104.1 ± 2.3
c_{217}	1.0008 ± 0.0015	z_{drag}	1060.22 ± 0.54	$f_{2000}^{143 \times 217}$	29.0 ± 2.5
H_0	$52.6^{+4.0}_{-4.6}$	r_{drag}	147.59 ± 0.47	χ_{simall}^2	396.4 ± 1.2
Ω_{Λ}	$0.537^{+0.066}_{-0.051}$	k_{D}	0.14049 ± 0.00051	χ_{lowl}^2	21.27 ± 0.65
Ω_{m}	$0.517^{+0.069}_{-0.093}$	$100\theta_{\text{D}}$	0.16064 ± 0.00029	χ_{CamSpec}^2	7059.4 ± 5.3
$\Omega_{\text{m}}h^2$	0.1405 ± 0.0021	z_{eq}	3342 ± 50	χ_{prior}^2	7.1 ± 3.3
$\Omega_{\text{m}}h^3$	$0.0739^{+0.0060}_{-0.0069}$	k_{eq}	0.01020 ± 0.00015	χ_{CMB}^2	7477.1 ± 5.4
σ_8	0.769 ± 0.018	$100\theta_{\text{eq}}$	0.8254 ± 0.0098		
S_8	1.006 ± 0.061	$100\theta_{\text{s,eq}}$	0.4555 ± 0.0050		

$$\bar{\chi}_{\text{eff}}^2 = 7484.13; \Delta\bar{\chi}_{\text{eff}}^2 = -7.13; R - 1 = 0.03650$$

12.3 base_omegak_CamSpecHM_TTTEEE_lowl_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022535	0.02254 ± 0.00018	σ_8	0.7817	$0.777^{+0.016}_{-0.014}$	$100\theta_{\text{eq}}$	0.8226	0.8223 ± 0.0065
$\Omega_c h^2$	0.11783	0.1179 ± 0.0015	S_8	0.943	0.953 ± 0.053	$100\theta_{\text{s,eq}}$	0.45409	0.4540 ± 0.0033
$100\theta_{\text{MC}}$	1.041095	1.04111 ± 0.00032	$\sigma_8 \Omega_{\text{m}}^{0.5}$	0.5163	0.522 ± 0.029	$H(0.15)$	62.72	$62.1^{+3.4}_{-4.1}$
τ	0.0509	$0.0481^{+0.0084}_{-0.0069}$	$\sigma_8 \Omega_{\text{m}}^{0.25}$	0.6353	$0.637^{+0.015}_{-0.013}$	$D_{\text{M}}(0.15)$	754	766 ± 51
Ω_K	-0.0320	$-0.037^{+0.019}_{-0.014}$	$\sigma_8/h^{0.5}$	1.0367	$1.039^{+0.024}_{-0.020}$	$H(0.38)$	73.73	$73.2^{+3.0}_{-3.7}$
$\ln(10^{10} A_{\text{s}})$	3.0304	$3.025^{+0.018}_{-0.015}$	$r_{\text{drag}} h$	83.8	$82.8^{+5.4}_{-6.5}$	$D_{\text{M}}(0.38)$	1769	1793 ± 110
n_{s}	0.97187	0.9713 ± 0.0048	$\langle d^2 \rangle^{1/2}$	2.591	2.602 ± 0.071	$H(0.51)$	80.91	$80.4^{+2.8}_{-3.5}$
y_{cal}	0.99975	1.0000 ± 0.0025	z_{re}	7.15	$6.83^{+0.94}_{-0.70}$	$D_{\text{M}}(0.51)$	2272	2301 ± 130
A_{100}^{PS}	225.5	230 ± 25	$10^9 A_{\text{s}}$	2.0705	$2.060^{+0.036}_{-0.032}$	$H(0.61)$	86.86	$86.4^{+2.7}_{-3.4}$
A_{143}^{PS}	42.6	34 ± 8	$10^9 A_{\text{s}} e^{-2\tau}$	1.8700	1.871 ± 0.012	$D_{\text{M}}(0.61)$	2629	2660 ± 140
A_{217}^{PS}	106.3	104 ± 10	D_{40}	1204.1	1205 ± 14	$H(2.33)$	229.98	$229.8^{+2.2}_{-2.6}$
A_{217}^{CIB}	38.8	37^{+7}_{-8}	D_{220}	5726.8	5733 ± 39	$D_{\text{M}}(2.33)$	6232	6269 ± 190
A_{143}^{tSZ}	5.71	$4.1^{+2.0}_{-2.3}$	D_{810}	2529.7	2529 ± 14	$f\sigma_8(0.15)$	0.5111	$0.515^{+0.024}_{-0.021}$
$r_{143 \times 217}^{\text{PS}}$	0.718	0.68 ± 0.14	D_{1420}	814.87	814.6 ± 4.8	$\sigma_8(0.15)$	0.7114	$0.706^{+0.019}_{-0.017}$
$r_{143 \times 217}^{\text{CIB}}$	0.745	$0.52^{+0.34}_{-0.27}$	D_{2000}	232.05	231.9 ± 1.7	$f\sigma_8(0.38)$	0.5031	$0.503^{+0.012}_{-0.0083}$
$\xi^{\text{tSZ} \times \text{CIB}}$	0.73	—	$n_{\text{s},0.002}$	0.97187	0.9713 ± 0.0048	$\sigma_8(0.38)$	0.6188	0.613 ± 0.021
A^{kSZ}	0.86	< 5.22	Y_{P}	0.245457	0.245457 ± 0.000069	$f\sigma_8(0.51)$	0.4890	$0.4878^{+0.0066}_{-0.0054}$
A_{100}^{dust}	1.005	1.02 ± 0.20	$Y_{\text{P}}^{\text{BBN}}$	0.246784	0.246784 ± 0.000069	$\sigma_8(0.51)$	0.5743	0.569 ± 0.021
A_{143}^{dust}	0.959	0.95 ± 0.17	$10^5 \text{D}/\text{H}$	2.5558	2.556 ± 0.032	$f\sigma_8(0.61)$	0.47572	0.4739 ± 0.0052
A_{217}^{dust}	0.981	0.98 ± 0.10	Age/Gyr	15.00	15.10 ± 0.51	$\sigma_8(0.61)$	0.5435	0.538 ± 0.021
$A_{143 \times 217}^{\text{dust}}$	1.002	1.01 ± 0.16	z_*	1089.526	1089.53 ± 0.32	$f\sigma_8(2.33)$	0.2710	0.268 ± 0.012
c_{100}	0.99779	0.9976 ± 0.0010	r_*	144.869	144.85 ± 0.33	$\sigma_8(2.33)$	0.2727	0.269 ± 0.014
c_{217}	1.00089	1.0008 ± 0.0016	$100\theta_*$	1.041266	1.04127 ± 0.00032	f_{2000}^{143}	26.87	27 ± 3
c_{TE}	0.9927	0.9923 ± 0.0051	$D_{\text{M}}(z_*)/\text{Gpc}$	13.9128	13.911 ± 0.030	f_{2000}^{217}	104.33	104.6 ± 2.1
c_{EE}	0.98993	0.9897 ± 0.0049	z_{drag}	1060.162	1060.17 ± 0.36	$f_{2000}^{143 \times 217}$	29.52	29.6 ± 2.2
H_0	56.85	$56.1^{+3.7}_{-4.4}$	r_{drag}	147.485	147.47 ± 0.32	χ_{small}^2	395.63	396.7 ± 1.7
Ω_{Λ}	0.5958	$0.582^{+0.052}_{-0.042}$	k_{D}	0.140575	0.14059 ± 0.00035	χ_{lowl}^2	21.16	21.40 ± 0.64
Ω_{m}	0.436	$0.455^{+0.056}_{-0.071}$	$100\theta_{\text{D}}$	0.160629	0.16063 ± 0.00021	χ_{CamSpec}^2	11495.3	11511.3 ± 5.5
$\Omega_{\text{m}} h^2$	0.14101	0.1411 ± 0.0014	z_{eq}	3354.2	3356 ± 33	χ_{prior}^2	1.90	7.7 ± 3.3
$\Omega_{\text{m}} h^3$	0.0802	$0.0792^{+0.0055}_{-0.0065}$	k_{eq}	0.010238	0.01024 ± 0.00010	χ_{CMB}^2	11912.1	11929.5 ± 5.8

Best-fit $\chi_{\text{eff}}^2 = 11914.02$; $\Delta\chi_{\text{eff}}^2 = -6.75$; $\bar{\chi}_{\text{eff}}^2 = 11937.16$; $\Delta\bar{\chi}_{\text{eff}}^2 = -5.30$; $R - 1 = 0.03285$

χ_{eff}^2 : CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.63 (Δ -0.27) commander_dx12_v3.2.29: 21.16 (Δ -1.84) CamSpec like_10.7HM_1400_unified: 11495.33 (Δ -4.32)

12.4 base_omegak_CamSpecHM_TTTEEE_lowl_lowE_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02253 ± 0.00018	σ_8	0.782 ± 0.013	$100\theta_{\text{eq}}$	0.8225 ± 0.0065
$\Omega_c h^2$	0.1179 ± 0.0015	S_8	0.946 ± 0.051	$100\theta_{\text{s,eq}}$	0.4540 ± 0.0033
$100\theta_{\text{MC}}$	1.04111 ± 0.00032	$\sigma_8 \Omega_{\text{m}}^{0.5}$	0.518 ± 0.028	$H(0.15)$	$62.8^{+3.3}_{-4.1}$
τ	$0.0524^{+0.0031}_{-0.0064}$	$\sigma_8 \Omega_{\text{m}}^{0.25}$	$0.636^{+0.014}_{-0.013}$	$D_{\text{M}}(0.15)$	757 ± 48
Ω_K	$-0.034^{+0.018}_{-0.014}$	$\sigma_8/h^{0.5}$	$1.038^{+0.024}_{-0.021}$	$H(0.38)$	$73.8^{+2.9}_{-3.7}$
$\ln(10^{10} A_{\text{s}})$	$3.0337^{+0.0093}_{-0.014}$	$r_{\text{drag}} h$	$83.9^{+5.2}_{-6.3}$	$D_{\text{M}}(0.38)$	1773 ± 100
n_{s}	0.9715 ± 0.0047	$\langle d^2 \rangle^{1/2}$	2.598 ± 0.070	$H(0.51)$	$81.0^{+2.7}_{-3.5}$
y_{cal}	1.0000 ± 0.0025	z_{re}	$7.30^{+0.21}_{-0.79}$	$D_{\text{M}}(0.51)$	2277 ± 120
A_{100}^{PS}	230 ± 25	$10^9 A_{\text{s}}$	$2.077^{+0.019}_{-0.028}$	$H(0.61)$	$86.9^{+2.6}_{-3.4}$
A_{143}^{PS}	34 ± 8	$10^9 A_{\text{s}} e^{-2\tau}$	1.871 ± 0.012	$D_{\text{M}}(0.61)$	2634 ± 130
A_{217}^{PS}	104 ± 10	D_{40}	1206 ± 14	$H(2.33)$	$230.1^{+2.2}_{-2.6}$
A_{217}^{CIB}	37^{+7}_{-8}	D_{220}	5731 ± 39	$D_{\text{M}}(2.33)$	6236^{+190}_{-180}
A_{143}^{tSZ}	$4.1^{+2.0}_{-2.3}$	D_{810}	2529 ± 14	$f\sigma_8(0.15)$	$0.512^{+0.024}_{-0.021}$
$r_{143 \times 217}^{\text{PS}}$	0.67 ± 0.14	D_{1420}	814.7 ± 4.8	$\sigma_8(0.15)$	0.712 ± 0.016
$r_{143 \times 217}^{\text{CIB}}$	$0.52^{+0.34}_{-0.27}$	D_{2000}	231.9 ± 1.7	$f\sigma_8(0.38)$	$0.503^{+0.012}_{-0.0088}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	$n_{\text{s},0.002}$	0.9715 ± 0.0047	$\sigma_8(0.38)$	0.619 ± 0.019
A^{kSZ}	< 5.24	Y_{P}	0.245456 ± 0.000068	$f\sigma_8(0.51)$	$0.4888^{+0.0069}_{-0.0052}$
A_{100}^{dust}	1.02 ± 0.20	$Y_{\text{P}}^{\text{BBN}}$	0.246783 ± 0.000068	$\sigma_8(0.51)$	0.574 ± 0.019
A_{143}^{dust}	0.94 ± 0.17	10^5D/H	2.556 ± 0.032	$f\sigma_8(0.61)$	0.4755 ± 0.0046
A_{217}^{dust}	0.98 ± 0.10	Age/Gyr	15.01 ± 0.48	$\sigma_8(0.61)$	0.544 ± 0.019
$A_{143 \times 217}^{\text{dust}}$	1.01 ± 0.16	z_*	1089.53 ± 0.31	$f\sigma_8(2.33)$	0.271 ± 0.011
c_{100}	0.9976 ± 0.0010	r_*	144.86 ± 0.33	$\sigma_8(2.33)$	0.273 ± 0.013
c_{217}	1.0008 ± 0.0016	$100\theta_*$	1.04128 ± 0.00031	f_{2000}^{143}	27 ± 3
c_{TE}	0.9924 ± 0.0051	$D_{\text{M}}(z_*)/\text{Gpc}$	13.912 ± 0.030	f_{2000}^{217}	104.6 ± 2.1
c_{EE}	0.9898 ± 0.0049	z_{drag}	1060.16 ± 0.36	$f_{2000}^{143 \times 217}$	29.6 ± 2.2
H_0	$56.9^{+3.5}_{-4.3}$	r_{drag}	147.48 ± 0.32	χ_{small}^2	396.2 ± 1.1
Ω_{Λ}	$0.592^{+0.047}_{-0.040}$	k_{D}	0.14058 ± 0.00035	χ_{lowl}^2	21.43 ± 0.67
Ω_{m}	$0.442^{+0.054}_{-0.065}$	$100\theta_{\text{D}}$	0.16064 ± 0.00020	χ_{CamSpec}^2	11511.3 ± 5.5
$\Omega_{\text{m}} h^2$	0.1410 ± 0.0014	z_{eq}	3355 ± 33	χ_{prior}^2	7.7 ± 3.3
$\Omega_{\text{m}} h^3$	$0.0802^{+0.0052}_{-0.0064}$	k_{eq}	0.01024 ± 0.00010	χ_{CMB}^2	11929.0 ± 5.7
$\bar{\chi}_{\text{eff}}^2 = 11936.68; \Delta\bar{\chi}_{\text{eff}}^2 = -5.50; R - 1 = 0.03528$					

12.5 base_omegak_CamSpecHM_TT_lowl_lowE_BAO

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022178	0.02217 ± 0.00023	$\sigma_8 \Omega_m^{0.25}$	0.6036	0.6036 ± 0.0097	$H(0.38)$	83.23	83.26 ± 0.66
$\Omega_c h^2$	0.11972	0.1197 ± 0.0022	$\sigma_8/h^{0.5}$	0.9824	0.982 ± 0.013	$D_M(0.38)$	1524.9	1524 ± 13
$100\theta_{MC}$	1.040934	1.04094 ± 0.00049	$r_{\text{drag}} h$	99.96	100.0 ± 1.0	$H(0.51)$	89.95	89.98 ± 0.69
τ	0.0528	0.0527 ± 0.0082	$\langle d^2 \rangle^{1/2}$	2.4276	2.425 ± 0.030	$D_M(0.51)$	1975.5	1975 ± 17
Ω_K	0.00108	0.0011 ± 0.0025	z_{re}	7.57	7.53 ± 0.84	$H(0.61)$	95.57	95.60 ± 0.71
$\ln(10^{10} A_s)$	3.0378	3.038 ± 0.017	$10^9 A_s$	2.0859	2.086 ± 0.035	$D_M(0.61)$	2299.0	2298 ± 19
n_s	0.9652	0.9657 ± 0.0060	$10^9 A_s e^{-2\tau}$	1.8769	1.877 ± 0.014	$H(2.33)$	236.44	236.4 ± 1.8
y_{cal}	1.00027	1.0004 ± 0.0025	D_{40}	1225.3	1224 ± 16	$D_M(2.33)$	5750.3	5749 ± 38
A_{100}^{PS}	242.6	242 ± 25	D_{220}	5702.9	5703 ± 41	$f\sigma_8(0.15)$	0.4550	0.4548 ± 0.0086
A_{143}^{PS}	37.7	41 ± 8	D_{810}	2532.5	2533 ± 14	$\sigma_8(0.15)$	0.7478	0.7480 ± 0.0095
A_{217}^{PS}	100.4	101 ± 10	D_{1420}	814.0	814.5 ± 5.1	$f\sigma_8(0.38)$	0.4736	0.4735 ± 0.0075
A_{217}^{CIB}	43.3	41 ± 7	D_{2000}	229.53	229.6 ± 1.9	$\sigma_8(0.38)$	0.6631	0.6633 ± 0.0083
A_{143}^{tSZ}	4.78	$3.7_{-2.6}^{+1.8}$	$n_{s,0.002}$	0.9652	0.9657 ± 0.0060	$f\sigma_8(0.51)$	0.4724	0.4723 ± 0.0069
$r_{143 \times 217}^{\text{PS}}$	0.594	0.65 ± 0.13	Y_P	0.245317	$0.24531_{-0.000087}^{+0.00011}$	$\sigma_8(0.51)$	0.6206	0.6208 ± 0.0078
$r_{143 \times 217}^{\text{CIB}}$	0.599	> 0.460	Y_P^{BBN}	0.246643	$0.24664_{-0.000088}^{+0.00011}$	$f\sigma_8(0.61)$	0.4675	0.4675 ± 0.0065
$\xi^{\text{tSZ} \times \text{CIB}}$	0.01	—	$10^5 D/H$	2.6222	2.623 ± 0.043	$\sigma_8(0.61)$	0.5906	0.5908 ± 0.0074
A^{kSZ}	3.1	—	Age/Gyr	13.764	13.762 ± 0.097	$f\sigma_8(2.33)$	0.29779	0.2979 ± 0.0036
A_{100}^{dust}	1.006	1.01 ± 0.19	z_*	1090.141	1090.14 ± 0.43	$\sigma_8(2.33)$	0.30725	0.3074 ± 0.0040
A_{143}^{dust}	0.971	0.98 ± 0.17	r_*	144.649	144.66 ± 0.50	f_{2000}^{143}	30.95	30.7 ± 3.1
A_{217}^{dust}	0.961	0.97 ± 0.10	$100\theta_*$	1.041141	1.04114 ± 0.00048	f_{2000}^{217}	107.63	107.5 ± 2.0
$A_{143 \times 217}^{\text{dust}}$	1.040	1.03 ± 0.16	$D_M(z_*)/\text{Gpc}$	13.8933	13.894 ± 0.045	$f_{2000}^{143 \times 217}$	33.15	32.9 ± 2.2
c_{100}	0.99748	0.9975 ± 0.0011	z_{drag}	1059.475	1059.46 ± 0.46	χ_{small}^2	395.87	397.0 ± 1.8
c_{217}	1.00125	1.0012 ± 0.0016	r_{drag}	147.379	147.39 ± 0.49	χ_{lowl}^2	23.19	23.2 ± 1.4
H_0	67.82	67.86 ± 0.68	k_D	0.14042	0.14040 ± 0.00051	χ_{CamSpec}^2	7051.1	7064.3 ± 5.4
Ω_Λ	0.6890	0.6893 ± 0.0078	$100\theta_D$	0.161037	0.16105 ± 0.00026	$\chi_{6\text{DF}}^2$	0.0105	0.053 ± 0.073
Ω_m	0.3099	0.3095 ± 0.0073	z_{eq}	3391	3390 ± 50	χ_{MGS}^2	1.41	1.52 ± 0.60
$\Omega_m h^2$	0.14255	0.1425 ± 0.0021	k_{eq}	0.010350	0.01035 ± 0.00015	χ_{DR12BAO}^2	3.68	4.5 ± 1.8
$\Omega_m h^3$	0.09668	$0.0967_{-0.0019}^{+0.0017}$	$100\theta_{\text{eq}}$	0.8148	0.8150 ± 0.0095	χ_{prior}^2	2.25	7.5 ± 3.3
σ_8	0.8091	0.809 ± 0.011	$100\theta_{s,\text{eq}}$	0.45030	0.4504 ± 0.0049	χ_{BAO}^2	5.10	6.1 ± 1.5
S_8	0.8223	0.822 ± 0.017	$H(0.15)$	73.11	73.14 ± 0.66	χ_{CMB}^2	7470.1	7484.5 ± 5.5
$\sigma_8 \Omega_m^{0.5}$	0.4504	0.4502 ± 0.0091	$D_M(0.15)$	639.3	639.0 ± 6.1			

Best-fit $\chi_{\text{eff}}^2 = 7477.49$; $\bar{\chi}_{\text{eff}}^2 = 7498.13$; $\Delta\bar{\chi}_{\text{eff}}^2 = 0.57$; $R - 1 = 0.00836$

χ_{eff}^2 : BAO - 6DF: 0.01 MGS: 1.41 DR12BAO: 3.69 CMB - small_100x143_offlike5_EE_Aplanck_B: 395.87 commander_dx12_v3.2_29: 23.19 CamSpec like_10.7HM: 7051.07

12.6 base_omegak_CamSpecHM_TT_lowl_lowE_BAO_post_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02218 ± 0.00022	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6057 ± 0.0074	$H(0.38)$	83.22 ± 0.67
$\Omega_{\mathrm{c}}h^2$	0.1199 ± 0.0020	$\sigma_8/h^{0.5}$	0.9855 ± 0.0097	$D_{\mathrm{M}}(0.38)$	1525 ± 13
$100\theta_{\mathrm{MC}}$	1.04091 ± 0.00048	$r_{\mathrm{drag}}h$	99.88 ± 0.96	$H(0.51)$	89.95 ± 0.69
τ	0.0543 ± 0.0079	$\langle d^2 \rangle^{1/2}$	2.434 ± 0.022	$D_{\mathrm{M}}(0.51)$	1976 ± 17
Ω_K	0.0011 ± 0.0025	z_{re}	7.71 ± 0.78	$H(0.61)$	95.57 ± 0.71
$\ln(10^{10}A_{\mathrm{s}})$	3.042 ± 0.015	$10^9 A_{\mathrm{s}}$	2.095 ± 0.031	$D_{\mathrm{M}}(0.61)$	2300 ± 19
n_{s}	0.9651 ± 0.0056	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.879 ± 0.012	$H(2.33)$	236.6 ± 1.7
y_{cal}	1.0006 ± 0.0025	D_{40}	1227 ± 15	$D_{\mathrm{M}}(2.33)$	5750 ± 37
A_{100}^{PS}	242 ± 25	D_{220}	5708 ± 41	$f\sigma_8(0.15)$	0.4567 ± 0.0066
A_{143}^{PS}	41 ± 8	D_{810}	2534 ± 13	$\sigma_8(0.15)$	0.7499 ± 0.0078
A_{217}^{PS}	101 ± 10	D_{1420}	814.7 ± 5.1	$f\sigma_8(0.38)$	0.4752 ± 0.0057
A_{217}^{CIB}	41 ± 7	D_{2000}	229.7 ± 1.8	$\sigma_8(0.38)$	0.6648 ± 0.0070
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.7}$	$n_{\mathrm{s},0.002}$	0.9651 ± 0.0056	$f\sigma_8(0.51)$	0.4739 ± 0.0053
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	Y_{P}	$0.24531^{+0.00010}_{-0.000087}$	$\sigma_8(0.51)$	0.6222 ± 0.0066
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.459	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.24664^{+0.00010}_{-0.000088}$	$f\sigma_8(0.61)$	0.4690 ± 0.0050
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$10^5 \mathrm{D}/\mathrm{H}$	2.623 ± 0.042	$\sigma_8(0.61)$	0.5921 ± 0.0063
A^{kSZ}	—	$\mathrm{Age}/\mathrm{Gyr}$	13.763 ± 0.096	$f\sigma_8(2.33)$	0.2985 ± 0.0032
A_{100}^{dust}	1.01 ± 0.20	z_*	1090.16 ± 0.41	$\sigma_8(2.33)$	0.3080 ± 0.0036
A_{143}^{dust}	0.97 ± 0.17	r_*	144.61 ± 0.44	f_{2000}^{143}	30.6 ± 3.1
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04111 ± 0.00047	f_{2000}^{217}	107.5 ± 2.0
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.890 ± 0.041	$f_{2000}^{143 \times 217}$	32.9 ± 2.2
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.47 ± 0.46	$\chi_{\mathrm{lensing}}^2$	9.49 ± 0.83
c_{217}	1.0012 ± 0.0016	r_{drag}	147.34 ± 0.44	χ_{simall}^2	397.1 ± 1.9
H_0	67.79 ± 0.67	k_{D}	0.14045 ± 0.00048	χ_{lowl}^2	23.4 ± 1.3
Ω_{Λ}	0.6883 ± 0.0068	$100\theta_{\mathrm{D}}$	0.16104 ± 0.00026	$\chi_{\mathrm{CamSpec}}^2$	7063.5 ± 5.2
Ω_{m}	0.3106 ± 0.0066	z_{eq}	3395 ± 45	$\chi_{6\mathrm{DF}}^2$	0.055 ± 0.074
$\Omega_{\mathrm{m}}h^2$	0.1427 ± 0.0019	k_{eq}	0.01036 ± 0.00014	χ_{MGS}^2	1.44 ± 0.57
$\Omega_{\mathrm{m}}h^3$	0.0967 ± 0.0017	$100\theta_{\mathrm{eq}}$	0.8142 ± 0.0085	$\chi_{\mathrm{DR12BAO}}^2$	4.6 ± 1.8
σ_8	0.8114 ± 0.0085	$100\theta_{\mathrm{s,eq}}$	0.4500 ± 0.0044	χ_{prior}^2	7.6 ± 3.3
S_8	0.826 ± 0.013	$H(0.15)$	73.08 ± 0.66	χ_{CMB}^2	7493.5 ± 5.5
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4522 ± 0.0071	$D_{\mathrm{M}}(0.15)$	639.6 ± 6.0	χ_{BAO}^2	6.1 ± 1.6

$\bar{\chi}_{\mathrm{eff}}^2 = 7507.17$; $\Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.69$; $R - 1 = 0.01378$

12.7 base_omegak_CamSpecHM_TT_lowl_lowE_BAO_post_lensing_Pantheon18

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02219 ± 0.00022	$\sigma_8/h^{0.5}$	0.9846 ± 0.0096	$H(0.51)$	89.97 ± 0.68
$\Omega_c h^2$	0.1197 ± 0.0020	$r_{\text{drag}} h$	100.00 ± 0.93	$D_M(0.51)$	1975 ± 17
$100\theta_{\text{MC}}$	1.04094 ± 0.00048	$\langle d^2 \rangle^{1/2}$	2.432 ± 0.022	$H(0.61)$	95.60 ± 0.71
τ	0.0548 ± 0.0079	z_{re}	7.75 ± 0.78	$D_M(0.61)$	2298 ± 19
Ω_K	0.0011 ± 0.0025	$10^9 A_s$	$2.096^{+0.029}_{-0.032}$	$H(2.33)$	236.4 ± 1.7
$\ln(10^{10} A_s)$	3.043 ± 0.015	$10^9 A_s e^{-2\tau}$	1.879 ± 0.012	$D_M(2.33)$	5749 ± 37
n_s	0.9655 ± 0.0056	D_{40}	1226 ± 14	$f\sigma_8(0.15)$	0.4559 ± 0.0064
y_{cal}	1.0006 ± 0.0025	D_{220}	5710 ± 41	$\sigma_8(0.15)$	0.7497 ± 0.0078
A_{100}^{PS}	242 ± 25	D_{810}	2534 ± 13	$f\sigma_8(0.38)$	0.4746 ± 0.0056
A_{143}^{PS}	41 ± 8	D_{1420}	814.9 ± 5.1	$\sigma_8(0.38)$	0.6648 ± 0.0070
A_{217}^{PS}	101 ± 10	D_{2000}	229.8 ± 1.8	$f\sigma_8(0.51)$	0.4734 ± 0.0052
A_{217}^{CIB}	41 ± 7	$n_{s,0.002}$	0.9655 ± 0.0056	$\sigma_8(0.51)$	0.6222 ± 0.0066
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.7}$	Y_{P}	$0.24532^{+0.00010}_{-0.000087}$	$f\sigma_8(0.61)$	0.4686 ± 0.0049
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.13	$Y_{\text{P}}^{\text{BBN}}$	$0.24664^{+0.00010}_{-0.000087}$	$\sigma_8(0.61)$	0.5921 ± 0.0063
$r_{143 \times 217}^{\text{CIB}}$	$0.58^{+0.42}_{-0.13}$	$10^5 D/H$	2.620 ± 0.042	$f\sigma_8(2.33)$	0.2986 ± 0.0032
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Age/Gyr	13.761 ± 0.096	$\sigma_8(2.33)$	0.3081 ± 0.0036
A^{kSZ}	—	z_*	1090.13 ± 0.41	f_{2000}^{143}	30.6 ± 3.1
A_{100}^{dust}	1.01 ± 0.20	r_*	144.65 ± 0.44	f_{2000}^{217}	107.5 ± 2.0
A_{143}^{dust}	0.97 ± 0.17	$100\theta_*$	1.04114 ± 0.00047	$f_{2000}^{143 \times 217}$	32.8 ± 2.2
A_{217}^{dust}	0.97 ± 0.10	$D_M(z_*)/\text{Gpc}$	13.893 ± 0.040	χ_{lensing}^2	9.50 ± 0.86
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	z_{drag}	1059.49 ± 0.46	χ_{simall}^2	397.2 ± 2.0
c_{100}	0.9975 ± 0.0011	r_{drag}	147.37 ± 0.44	χ_{lowl}^2	23.3 ± 1.3
c_{217}	1.0012 ± 0.0016	k_{D}	0.14043 ± 0.00048	χ_{CamSpec}^2	7063.6 ± 5.2
H_0	67.86 ± 0.66	$100\theta_{\text{D}}$	0.16103 ± 0.00026	χ_{JLA}^2	1035.07 ± 0.31
Ω_{Λ}	0.6893 ± 0.0066	z_{eq}	3391 ± 44	$\chi_{6\text{DF}}^2$	0.047 ± 0.065
Ω_{m}	0.3096 ± 0.0064	k_{eq}	0.01035 ± 0.00014	χ_{MGS}^2	1.51 ± 0.56
$\Omega_{\text{m}} h^2$	0.1425 ± 0.0019	$100\theta_{\text{eq}}$	0.8149 ± 0.0084	χ_{DR12BAO}^2	4.4 ± 1.7
$\Omega_{\text{m}} h^3$	$0.0967^{+0.0017}_{-0.0018}$	$100\theta_{\text{s,eq}}$	0.4504 ± 0.0043	χ_{prior}^2	7.6 ± 3.3
σ_8	0.8111 ± 0.0085	$H(0.15)$	73.14 ± 0.65	χ_{CMB}^2	7493.6 ± 5.4
S_8	0.824 ± 0.013	$D_M(0.15)$	639.0 ± 5.9	χ_{BAO}^2	6.0 ± 1.4
$\sigma_8 \Omega_{\text{m}}^{0.5}$	0.4513 ± 0.0069	$H(0.38)$	83.26 ± 0.66		
$\sigma_8 \Omega_{\text{m}}^{0.25}$	0.6050 ± 0.0072	$D_M(0.38)$	1524 ± 13		

$$\bar{\chi}_{\text{eff}}^2 = 8542.21; \Delta\bar{\chi}_{\text{eff}}^2 = 0.71; R - 1 = 0.01384$$

12.8 base_omegak_CamSpecHM_TT_lowl_lowE_BAO_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02218 ± 0.00023	$\sigma_8 \Omega_m^{0.25}$	0.6043 ± 0.0095	$H(0.38)$	83.26 ± 0.66
$\Omega_c h^2$	0.1196 ± 0.0022	$\sigma_8 / h^{0.5}$	0.984 ± 0.013	$D_M(0.38)$	1524 ± 13
$100\theta_{MC}$	1.04094 ± 0.00049	$r_{\text{drag}} h$	100.0 ± 1.0	$H(0.51)$	89.97 ± 0.69
τ	$0.0543^{+0.0049}_{-0.0083}$	$\langle d^2 \rangle^{1/2}$	2.429 ± 0.029	$D_M(0.51)$	1975 ± 17
Ω_K	0.0011 ± 0.0025	z_{re}	$7.71^{+0.53}_{-0.84}$	$H(0.61)$	95.59 ± 0.71
$\ln(10^{10} A_s)$	$3.041^{+0.012}_{-0.017}$	$10^9 A_s$	$2.093^{+0.025}_{-0.035}$	$D_M(0.61)$	2298 ± 19
n_s	0.9659 ± 0.0061	$10^9 A_s e^{-2\tau}$	1.877 ± 0.014	$H(2.33)$	236.4 ± 1.9
y_{cal}	1.0003 ± 0.0025	D_{40}	1224 ± 16	$D_M(2.33)$	5750 ± 38
A_{100}^{PS}	242 ± 25	D_{220}	5703 ± 41	$f\sigma_8(0.15)$	0.4554 ± 0.0086
A_{143}^{PS}	41 ± 8	D_{810}	2533 ± 14	$\sigma_8(0.15)$	0.7490 ± 0.0092
A_{217}^{PS}	101 ± 10	D_{1420}	814.4 ± 5.2	$f\sigma_8(0.38)$	0.4741 ± 0.0074
A_{217}^{CIB}	41 ± 7	D_{2000}	229.6 ± 1.9	$\sigma_8(0.38)$	0.6642 ± 0.0080
A_{143}^{tSZ}	$3.7^{+1.8}_{-2.6}$	$n_{s,0.002}$	0.9659 ± 0.0061	$f\sigma_8(0.51)$	0.4729 ± 0.0068
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.13	Y_P	$0.24531^{+0.00011}_{-0.000087}$	$\sigma_8(0.51)$	0.6217 ± 0.0074
$r_{143 \times 217}^{\text{CIB}}$	> 0.457	Y_P^{BBN}	$0.24664^{+0.00011}_{-0.000087}$	$f\sigma_8(0.61)$	0.4681 ± 0.0064
$\xi^{\text{tSZ} \times \text{CIB}}$	—	$10^5 D/H$	2.622 ± 0.043	$\sigma_8(0.61)$	0.5916 ± 0.0071
A^{kSZ}	—	Age/Gyr	13.763 ± 0.097	$f\sigma_8(2.33)$	$0.2983^{+0.0032}_{-0.0036}$
A_{100}^{dust}	1.01 ± 0.19	z_*	1090.13 ± 0.43	$\sigma_8(2.33)$	$0.3078^{+0.0036}_{-0.0040}$
A_{143}^{dust}	0.98 ± 0.17	r_*	144.67 ± 0.50	f_{2000}^{143}	30.6 ± 3.1
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04114 ± 0.00048	f_{2000}^{217}	107.5 ± 2.0
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$D_M(z_*)/\text{Gpc}$	13.895 ± 0.046	$f_{2000}^{143 \times 217}$	32.8 ± 2.2
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.47 ± 0.46	χ_{simall}^2	396.9 ± 1.8
c_{217}	1.0012 ± 0.0016	r_{drag}	147.40 ± 0.49	χ_{lowl}^2	23.2 ± 1.4
H_0	67.87 ± 0.68	k_D	0.14040 ± 0.00052	χ_{CamSpec}^2	7064.1 ± 5.4
Ω_Λ	0.6895 ± 0.0078	$100\theta_D$	0.16104 ± 0.00026	$\chi_{6\text{DF}}^2$	0.052 ± 0.073
Ω_m	0.3094 ± 0.0073	z_{eq}	3389 ± 50	χ_{MGS}^2	1.53 ± 0.60
$\Omega_m h^2$	0.1425 ± 0.0021	k_{eq}	0.01034 ± 0.00015	χ_{DR12BAO}^2	4.5 ± 1.7
$\Omega_m h^3$	$0.0967^{+0.0017}_{-0.0019}$	$100\theta_{\text{eq}}$	0.8152 ± 0.0095	χ_{prior}^2	7.5 ± 3.3
σ_8	0.810 ± 0.010	$100\theta_{s,\text{eq}}$	0.4505 ± 0.0049	χ_{BAO}^2	6.1 ± 1.5
S_8	0.823 ± 0.017	$H(0.15)$	73.15 ± 0.66	χ_{CMB}^2	7484.3 ± 5.4
$\sigma_8 \Omega_m^{0.5}$	0.4507 ± 0.0091	$D_M(0.15)$	639.0 ± 6.1		

$\bar{\chi}_{\text{eff}}^2 = 7497.90$; $\Delta\bar{\chi}_{\text{eff}}^2 = 0.58$; $R - 1 = 0.01053$

12.9 base_omegak_CamSpecHM_TT_lowl_lowE_BAO_post_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02218 ± 0.00022	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6059 ± 0.0073	$H(0.38)$	83.21 ± 0.67
$\Omega_{\mathrm{c}}h^2$	0.1198 ± 0.0020	$\sigma_8/h^{0.5}$	0.9859 ± 0.0096	$D_{\mathrm{M}}(0.38)$	1525 ± 13
$100\theta_{\mathrm{MC}}$	1.04092 ± 0.00048	$r_{\mathrm{drag}}h$	99.90 ± 0.96	$H(0.51)$	89.94 ± 0.69
τ	$0.0553^{+0.0057}_{-0.0080}$	$\langle d^2 \rangle^{1/2}$	2.435 ± 0.022	$D_{\mathrm{M}}(0.51)$	1976 ± 17
Ω_K	0.0011 ± 0.0025	z_{re}	$7.81^{+0.59}_{-0.79}$	$H(0.61)$	95.56 ± 0.71
$\ln(10^{10}A_{\mathrm{s}})$	$3.044^{+0.012}_{-0.015}$	$10^9 A_{\mathrm{s}}$	$2.099^{+0.024}_{-0.032}$	$D_{\mathrm{M}}(0.61)$	2300 ± 19
n_{s}	0.9653 ± 0.0056	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.879 ± 0.012	$H(2.33)$	236.5 ± 1.7
y_{cal}	1.0005 ± 0.0025	D_{40}	1227 ± 15	$D_{\mathrm{M}}(2.33)$	5751 ± 37
A_{100}^{PS}	242 ± 25	D_{220}	5708 ± 41	$f\sigma_8(0.15)$	0.4568 ± 0.0066
A_{143}^{PS}	41 ± 8	D_{810}	2534 ± 13	$\sigma_8(0.15)$	0.7503 ± 0.0077
A_{217}^{PS}	101 ± 10	D_{1420}	814.7 ± 5.1	$f\sigma_8(0.38)$	0.4754 ± 0.0057
A_{217}^{CIB}	41 ± 7	D_{2000}	229.7 ± 1.9	$\sigma_8(0.38)$	0.6652 ± 0.0069
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.7}$	$n_{\mathrm{s},0.002}$	0.9653 ± 0.0056	$f\sigma_8(0.51)$	0.4741 ± 0.0052
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	Y_{P}	$0.24531^{+0.00010}_{-0.000087}$	$\sigma_8(0.51)$	0.6226 ± 0.0065
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.460	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.24664^{+0.00010}_{-0.000088}$	$f\sigma_8(0.61)$	0.4692 ± 0.0049
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$10^5 \mathrm{D}/\mathrm{H}$	2.622 ± 0.042	$\sigma_8(0.61)$	0.5925 ± 0.0062
A^{kSZ}	—	$\mathrm{Age}/\mathrm{Gyr}$	13.765 ± 0.096	$f\sigma_8(2.33)$	0.2987 ± 0.0031
A_{100}^{dust}	1.01 ± 0.20	z_*	1090.14 ± 0.41	$\sigma_8(2.33)$	0.3082 ± 0.0036
A_{143}^{dust}	0.97 ± 0.17	r_*	144.63 ± 0.44	f_{2000}^{143}	30.6 ± 3.1
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04112 ± 0.00047	f_{2000}^{217}	107.5 ± 2.0
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.892 ± 0.040	$f_{2000}^{143 \times 217}$	32.8 ± 2.2
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.48 ± 0.46	$\chi_{\mathrm{lensing}}^2$	9.43 ± 0.77
c_{217}	1.0012 ± 0.0016	r_{drag}	147.36 ± 0.44	χ_{simall}^2	397.1 ± 1.9
H_0	67.79 ± 0.67	k_{D}	0.14044 ± 0.00048	χ_{lowl}^2	23.4 ± 1.3
Ω_{Λ}	0.6886 ± 0.0068	$100\theta_{\mathrm{D}}$	0.16103 ± 0.00026	$\chi_{\mathrm{CamSpec}}^2$	7063.4 ± 5.1
Ω_{m}	0.3104 ± 0.0066	z_{eq}	3393 ± 44	$\chi_{6\mathrm{DF}}^2$	0.054 ± 0.072
$\Omega_{\mathrm{m}}h^2$	0.1426 ± 0.0019	k_{eq}	0.01035 ± 0.00014	χ_{MGS}^2	1.45 ± 0.57
$\Omega_{\mathrm{m}}h^3$	$0.0967^{+0.0016}_{-0.0018}$	$100\theta_{\mathrm{eq}}$	0.8146 ± 0.0084	$\chi_{\mathrm{DR12BAO}}^2$	4.6 ± 1.8
σ_8	0.8118 ± 0.0083	$100\theta_{\mathrm{s,eq}}$	0.4502 ± 0.0043	χ_{prior}^2	7.6 ± 3.3
S_8	0.826 ± 0.013	$H(0.15)$	73.08 ± 0.66	χ_{CMB}^2	7493.3 ± 5.4
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4522 ± 0.0071	$D_{\mathrm{M}}(0.15)$	639.6 ± 6.1	χ_{BAO}^2	6.1 ± 1.6

$\bar{\chi}_{\mathrm{eff}}^2 = 7506.97$; $\Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.65$; $R - 1 = 0.01641$

12.10 base_omegak_CamSpecHM_TT_lowl_lowE_BAO_post_lensing_Pantheon18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02219 ± 0.00022	$\sigma_8/h^{0.5}$	0.9851 ± 0.0095	$H(0.51)$	89.97 ± 0.68
$\Omega_{\mathrm{c}}h^2$	0.1196 ± 0.0019	$r_{\mathrm{drag}}h$	100.02 ± 0.93	$D_{\mathrm{M}}(0.51)$	1975 ± 17
$100\theta_{\mathrm{MC}}$	1.04094 ± 0.00048	$\langle d^2 \rangle^{1/2}$	2.433 ± 0.022	$H(0.61)$	95.58 ± 0.71
τ	$0.0557^{+0.0057}_{-0.0080}$	z_{re}	$7.84^{+0.60}_{-0.79}$	$D_{\mathrm{M}}(0.61)$	2298 ± 19
Ω_K	0.0010 ± 0.0025	$10^9 A_{\mathrm{s}}$	$2.100^{+0.024}_{-0.032}$	$H(2.33)$	236.4 ± 1.7
$\ln(10^{10} A_{\mathrm{s}})$	$3.044^{+0.012}_{-0.015}$	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.878 ± 0.012	$D_{\mathrm{M}}(2.33)$	5750 ± 37
n_{s}	0.9657 ± 0.0056	D_{40}	1226 ± 14	$f\sigma_8(0.15)$	0.4560 ± 0.0064
y_{cal}	1.0006 ± 0.0025	D_{220}	5710 ± 41	$\sigma_8(0.15)$	0.7501 ± 0.0077
A_{100}^{PS}	242 ± 25	D_{810}	2534 ± 13	$f\sigma_8(0.38)$	0.4748 ± 0.0056
A_{143}^{PS}	40 ± 8	D_{1420}	814.9 ± 5.1	$\sigma_8(0.38)$	0.6651 ± 0.0069
A_{217}^{PS}	101 ± 10	D_{2000}	229.8 ± 1.8	$f\sigma_8(0.51)$	0.4736 ± 0.0052
A_{217}^{CIB}	40 ± 7	$n_{\mathrm{s},0.002}$	0.9657 ± 0.0056	$\sigma_8(0.51)$	0.6226 ± 0.0065
A_{143}^{tSZ}	$3.8^{+1.7}_{-2.7}$	Y_{P}	$0.24532^{+0.00010}_{-0.000087}$	$f\sigma_8(0.61)$	0.4688 ± 0.0049
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.24665^{+0.00010}_{-0.000087}$	$\sigma_8(0.61)$	0.5925 ± 0.0062
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.457	$10^5 \mathrm{D}/\mathrm{H}$	2.619 ± 0.042	$f\sigma_8(2.33)$	0.2988 ± 0.0031
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Age/Gyr	13.763 ± 0.096	$\sigma_8(2.33)$	0.3083 ± 0.0036
A^{kSZ}	—	z_*	1090.11 ± 0.40	f_{2000}^{143}	30.5 ± 3.1
A_{100}^{dust}	1.01 ± 0.20	r_*	144.66 ± 0.44	f_{2000}^{217}	107.5 ± 2.0
A_{143}^{dust}	0.97 ± 0.17	$100\theta_*$	1.04115 ± 0.00047	$f_{2000}^{143 \times 217}$	32.8 ± 2.2
A_{217}^{dust}	0.97 ± 0.10	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.895 ± 0.040	$\chi_{\mathrm{lensing}}^2$	9.44 ± 0.80
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	z_{drag}	1059.50 ± 0.46	χ_{simall}^2	397.1 ± 2.0
c_{100}	0.9975 ± 0.0011	r_{drag}	147.39 ± 0.43	χ_{lowl}^2	23.3 ± 1.3
c_{217}	1.0012 ± 0.0016	k_{D}	0.14042 ± 0.00048	$\chi_{\mathrm{CamSpec}}^2$	7063.5 ± 5.1
H_0	67.86 ± 0.66	$100\theta_{\mathrm{D}}$	0.16102 ± 0.00026	χ_{JLA}^2	1035.06 ± 0.30
Ω_{Λ}	0.6895 ± 0.0065	z_{eq}	3389 ± 44	$\chi_{6\mathrm{DF}}^2$	0.047 ± 0.064
Ω_{m}	0.3094 ± 0.0063	k_{eq}	0.01034 ± 0.00013	χ_{MGS}^2	1.51 ± 0.56
$\Omega_{\mathrm{m}}h^2$	0.1425 ± 0.0018	$100\theta_{\mathrm{eq}}$	0.8153 ± 0.0084	$\chi_{\mathrm{DR12BAO}}^2$	4.4 ± 1.6
$\Omega_{\mathrm{m}}h^3$	$0.0967^{+0.0016}_{-0.0018}$	$100\theta_{\mathrm{s,eq}}$	0.4505 ± 0.0043	χ_{prior}^2	7.6 ± 3.3
σ_8	0.8115 ± 0.0083	$H(0.15)$	73.14 ± 0.65	χ_{CMB}^2	7493.4 ± 5.4
S_8	0.824 ± 0.013	$D_{\mathrm{M}}(0.15)$	639.0 ± 5.9	χ_{BAO}^2	6.0 ± 1.4
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4514 ± 0.0069	$H(0.38)$	83.25 ± 0.66		
$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6052 ± 0.0072	$D_{\mathrm{M}}(0.38)$	1524 ± 13		

$\bar{\chi}_{\mathrm{eff}}^2 = 8542.02$; $\Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.67$; $R - 1 = 0.01706$

12.11 base_omegak_CamSpecHM_TTTEEE_lowl_lowE_BAO

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022328	0.02232 ± 0.00016	$\sigma_8 \Omega_m^{0.5}$	0.4488	0.4485 ± 0.0071	$H(0.38)$	83.29	83.22 ± 0.61
$\Omega_c h^2$	0.11934	0.1192 ± 0.0015	$\sigma_8 \Omega_m^{0.25}$	0.6022	0.6017 ± 0.0074	$D_M(0.38)$	1523.0	1525 ± 13
$100\theta_{MC}$	1.040927	1.04092 ± 0.00032	$\sigma_8/h^{0.5}$	0.9805	0.980 ± 0.011	$H(0.51)$	89.99	89.92 ± 0.61
τ	0.0531	0.0532 ± 0.0079	$r_{\text{drag}} h$	100.08	100.01 ± 0.99	$D_M(0.51)$	1973.4	1975 ± 16
Ω_K	0.00079	0.0005 ± 0.0020	$\langle d^2 \rangle^{1/2}$	2.4229	2.423 ± 0.025	$H(0.61)$	95.60	95.53 ± 0.61
$\ln(10^{10} A_s)$	3.0392	3.038 ± 0.016	z_{re}	7.56	7.55 ± 0.81	$D_M(0.61)$	2296.7	2299 ± 18
n_s	0.96722	0.9668 ± 0.0046	$10^9 A_s$	2.0889	2.088 ± 0.034	$H(2.33)$	236.27	236.1 ± 1.2
y_{cal}	1.00054	1.0004 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.8784	1.877 ± 0.012	$D_M(2.33)$	5748.8	5753 ± 32
A_{100}^{PS}	234.6	240 ± 24	D_{40}	1223.3	1223 ± 13	$f\sigma_8(0.15)$	0.4535	0.4533 ± 0.0067
A_{143}^{PS}	49.2	39 ± 8	D_{220}	5718.7	5720 ± 39	$\sigma_8(0.15)$	0.7471	0.7462 ± 0.0077
A_{217}^{PS}	105.6	102 ± 10	D_{810}	2537.3	2534 ± 13	$f\sigma_8(0.38)$	0.4725	0.4721 ± 0.0059
A_{217}^{CIB}	39.9	40 ± 7	D_{1420}	816.89	815.8 ± 4.8	$\sigma_8(0.38)$	0.6626	0.6618 ± 0.0069
A_{143}^{tSZ}	4.97	$3.8_{-2.6}^{+1.8}$	D_{2000}	230.71	230.3 ± 1.6	$f\sigma_8(0.51)$	0.4714	0.4710 ± 0.0054
$r_{143 \times 217}^{\text{PS}}$	0.758	0.66 ± 0.13	$n_{s,0.002}$	0.96722	0.9668 ± 0.0046	$\sigma_8(0.51)$	0.6203	0.6195 ± 0.0065
$r_{143 \times 217}^{\text{CIB}}$	0.711	$0.56_{-0.18}^{+0.39}$	Y_{P}	0.245378	$0.245375_{-0.000060}^{+0.000070}$	$f\sigma_8(0.61)$	0.4667	0.4663 ± 0.0051
$\xi^{\text{tSZ} \times \text{CIB}}$	0.95	—	$Y_{\text{P}}^{\text{BBN}}$	0.246705	$0.246701_{-0.000060}^{+0.000070}$	$\sigma_8(0.61)$	0.5903	0.5895 ± 0.0062
A^{kSZ}	2.55	$4.8_{-4.0}^{+2.3}$	$10^5 \text{D}/\text{H}$	2.5935	2.595 ± 0.031	$f\sigma_8(2.33)$	0.29772	0.2973 ± 0.0031
A_{100}^{dust}	1.008	1.01 ± 0.20	Age/Gyr	13.761	13.772 ± 0.081	$\sigma_8(2.33)$	0.30720	0.3067 ± 0.0035
A_{143}^{dust}	0.952	0.97 ± 0.18	z_*	1089.916	1089.91 ± 0.30	f_{2000}^{143}	29.71	29.8 ± 2.9
A_{217}^{dust}	0.966	0.97 ± 0.10	r_*	144.635	144.67 ± 0.32	f_{2000}^{217}	106.35	106.8 ± 1.9
$A_{143 \times 217}^{\text{dust}}$	1.019	1.03 ± 0.16	$100\theta_*$	1.041111	1.04111 ± 0.00031	$f_{2000}^{143 \times 217}$	32.07	32.1 ± 2.0
c_{100}	0.99785	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.8923	13.896 ± 0.030	χ_{small}^2	395.85	396.9 ± 1.7
c_{217}	1.00095	1.0011 ± 0.0016	z_{drag}	1059.780	1059.77 ± 0.33	χ_{lowl}^2	22.88	23.0 ± 1.0
c_{TE}	0.99693	0.9966 ± 0.0049	r_{drag}	147.315	147.35 ± 0.32	χ_{CamSpec}^2	11500.8	11514.9 ± 5.6
c_{EE}	0.99225	0.9921 ± 0.0049	k_{D}	0.140600	0.14056 ± 0.00034	$\chi_{6\text{DF}}^2$	0.0063	0.052 ± 0.071
H_0	67.94	67.87 ± 0.67	$100\theta_{\text{D}}$	0.160838	0.16085 ± 0.00019	χ_{MGS}^2	1.47	1.50 ± 0.59
Ω_{Λ}	0.6909	0.6907 ± 0.0061	z_{eq}	3385.4	3382 ± 33	χ_{DR12BAO}^2	3.65	4.6 ± 1.8
Ω_{m}	0.3083	0.3087 ± 0.0066	k_{eq}	0.010333	0.01032 ± 0.00010	χ_{prior}^2	1.81	7.8 ± 3.4
$\Omega_{\text{m}} h^2$	0.14231	0.1422 ± 0.0014	$100\theta_{\text{eq}}$	0.8162	0.8168 ± 0.0063	χ_{BAO}^2	5.13	6.2 ± 1.5
$\Omega_{\text{m}} h^3$	0.09668	0.0965 ± 0.0014	$100\theta_{\text{s,eq}}$	0.45093	0.4512 ± 0.0032	χ_{CMB}^2	11919.5	11934.9 ± 5.8
σ_8	0.8082	0.8072 ± 0.0084	$H(0.15)$	73.20	73.13 ± 0.64			
S_8	0.8193	0.819 ± 0.013	$D_M(0.15)$	638.3	639.0 ± 5.9			

Best-fit $\chi_{\text{eff}}^2 = 11926.45$; $\bar{\chi}_{\text{eff}}^2 = 11948.83$; $\Delta\chi_{\text{eff}}^2 = 0.54$; $R - 1 = 0.01869$
 χ_{eff}^2 : BAO - 6DF: 0.01 MGS: 1.47 DR12BAO: 3.65 CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.85 commander_dx12_v3_2_29: 22.88 CamSpec like_10.7HM_1400_unified: 11500.78

12.12 base_omegak_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02233 ± 0.00016	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4504 ± 0.0059	$H(0.38)$	83.16 ± 0.61
$\Omega_{\mathrm{c}}h^2$	0.1193 ± 0.0014	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6037 ± 0.0061	$D_{\mathrm{M}}(0.38)$	1526 ± 13
$100\theta_{\mathrm{MC}}$	1.04091 ± 0.00031	$\sigma_8/h^{0.5}$	0.9830 ± 0.0086	$H(0.51)$	89.87 ± 0.61
τ	0.0551 ± 0.0074	$r_{\mathrm{drag}}h$	99.87 ± 0.95	$D_{\mathrm{M}}(0.51)$	1977 ± 16
Ω_K	0.0005 ± 0.0020	$\langle d^2 \rangle^{1/2}$	2.431 ± 0.020	$H(0.61)$	95.48 ± 0.61
$\ln(10^{10}A_{\mathrm{s}})$	3.043 ± 0.014	z_{re}	7.74 ± 0.74	$D_{\mathrm{M}}(0.61)$	2301 ± 18
n_{s}	0.9665 ± 0.0045	$10^9 A_{\mathrm{s}}$	2.097 ± 0.030	$H(2.33)$	236.2 ± 1.2
y_{cal}	1.0006 ± 0.0024	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.878 ± 0.011	$D_{\mathrm{M}}(2.33)$	5755 ± 32
A_{100}^{PS}	240 ± 25	D_{40}	1225 ± 13	$f\sigma_8(0.15)$	0.4551 ± 0.0056
A_{143}^{PS}	39 ± 8	D_{220}	5724 ± 38	$\sigma_8(0.15)$	0.7480 ± 0.0068
A_{217}^{PS}	102 ± 10	D_{810}	2536 ± 13	$f\sigma_8(0.38)$	0.4737 ± 0.0048
A_{217}^{CIB}	40 ± 7	D_{1420}	816.1 ± 4.7	$\sigma_8(0.38)$	0.6633 ± 0.0062
A_{143}^{tSZ}	$3.9^{+1.8}_{-2.6}$	D_{2000}	230.4 ± 1.6	$f\sigma_8(0.51)$	0.4725 ± 0.0044
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$n_{\mathrm{s},0.002}$	0.9665 ± 0.0045	$\sigma_8(0.51)$	0.6208 ± 0.0059
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56^{+0.38}_{-0.19}$	Y_{P}	$0.245376^{+0.000068}_{-0.000060}$	$f\sigma_8(0.61)$	0.4677 ± 0.0042
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246702^{+0.000069}_{-0.000060}$	$\sigma_8(0.61)$	0.5908 ± 0.0057
A^{kSZ}	$4.7^{+1.7}_{-4.5}$	$10^5 \mathrm{D}/\mathrm{H}$	2.594 ± 0.030	$f\sigma_8(2.33)$	0.2979 ± 0.0029
A_{100}^{dust}	1.01 ± 0.20	$\mathrm{Age}/\mathrm{Gyr}$	13.777 ± 0.081	$\sigma_8(2.33)$	0.3073 ± 0.0033
A_{143}^{dust}	0.96 ± 0.17	z_*	1089.92 ± 0.29	f_{2000}^{143}	29.6 ± 2.8
A_{217}^{dust}	0.97 ± 0.10	r_*	144.64 ± 0.31	f_{2000}^{217}	106.8 ± 2.0
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04110 ± 0.00031	$f_{2000}^{143 \times 217}$	32.0 ± 2.0
c_{100}	0.9975 ± 0.0011	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.893 ± 0.029	$\chi_{\mathrm{lensing}}^2$	9.31 ± 0.77
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.79 ± 0.33	χ_{simall}^2	397.1 ± 1.8
c_{TE}	0.9965 ± 0.0049	r_{drag}	147.32 ± 0.31	χ_{lowl}^2	23.1 ± 1.0
c_{EE}	0.9921 ± 0.0048	k_{D}	0.14059 ± 0.00034	$\chi_{\mathrm{CamSpec}}^2$	11514.4 ± 5.6
H_0	67.79 ± 0.65	$100\theta_{\mathrm{D}}$	0.16084 ± 0.00019	$\chi_{6\mathrm{DF}}^2$	0.056 ± 0.074
Ω_{Λ}	0.6898 ± 0.0058	z_{eq}	3385 ± 31	χ_{MGS}^2	1.42 ± 0.56
Ω_{m}	0.3097 ± 0.0063	k_{eq}	0.010332 ± 0.000096	$\chi_{\mathrm{DR12BAO}}^2$	4.8 ± 1.9
$\Omega_{\mathrm{m}}h^2$	0.1423 ± 0.0013	$100\theta_{\mathrm{eq}}$	0.8163 ± 0.0060	χ_{prior}^2	7.8 ± 3.5
$\Omega_{\mathrm{m}}h^3$	0.0965 ± 0.0014	$100\theta_{\mathrm{s,eq}}$	0.4510 ± 0.0031	χ_{CMB}^2	11943.9 ± 5.9
σ_8	0.8093 ± 0.0073	$H(0.15)$	73.06 ± 0.63	χ_{BAO}^2	6.2 ± 1.6
S_8	0.822 ± 0.011	$D_{\mathrm{M}}(0.15)$	639.7 ± 5.8		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11957.96; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.56; R - 1 = 0.03026$$

12.13 base_omegak_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_lensing_Pantheon18

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\text{b}}h^2$	0.02233 ± 0.00016	$\sigma_8\Omega_{\text{m}}^{0.5}$	0.4498 ± 0.0058	$H(0.38)$	83.21 ± 0.60
$\Omega_{\text{c}}h^2$	0.1192 ± 0.0014	$\sigma_8\Omega_{\text{m}}^{0.25}$	0.6033 ± 0.0060	$D_{\text{M}}(0.38)$	1525 ± 13
$100\theta_{\text{MC}}$	1.04092 ± 0.00031	$\sigma_8/h^{0.5}$	0.9825 ± 0.0085	$H(0.51)$	89.91 ± 0.60
τ	0.0554 ± 0.0074	$r_{\text{drag}}h$	99.97 ± 0.92	$D_{\text{M}}(0.51)$	1976 ± 16
Ω_K	0.0005 ± 0.0020	$\langle d^2 \rangle^{1/2}$	2.430 ± 0.020	$H(0.61)$	95.52 ± 0.61
$\ln(10^{10}A_{\text{s}})$	3.043 ± 0.014	z_{re}	7.77 ± 0.74	$D_{\text{M}}(0.61)$	2299 ± 18
n_{s}	0.9667 ± 0.0045	$10^9 A_{\text{s}}$	2.098 ± 0.030	$H(2.33)$	236.2 ± 1.2
y_{cal}	1.0006 ± 0.0024	$10^9 A_{\text{s}}e^{-2\tau}$	1.878 ± 0.011	$D_{\text{M}}(2.33)$	5753 ± 31
A_{100}^{PS}	240 ± 25	D_{40}	1225 ± 13	$f\sigma_8(0.15)$	0.4545 ± 0.0054
A_{143}^{PS}	39 ± 8	D_{220}	5725 ± 38	$\sigma_8(0.15)$	0.7481 ± 0.0068
A_{217}^{PS}	102 ± 10	D_{810}	2536 ± 13	$f\sigma_8(0.38)$	0.4734 ± 0.0047
A_{217}^{CIB}	40 ± 7	D_{1420}	816.2 ± 4.7	$\sigma_8(0.38)$	0.6634 ± 0.0062
A_{143}^{tSZ}	$3.9^{+1.8}_{-2.6}$	D_{2000}	230.4 ± 1.6	$f\sigma_8(0.51)$	0.4723 ± 0.0044
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	$n_{\text{s},0.002}$	0.9667 ± 0.0045	$\sigma_8(0.51)$	0.6210 ± 0.0059
$r_{143 \times 217}^{\text{CIB}}$	$0.55^{+0.38}_{-0.19}$	Y_{P}	$0.245379^{+0.000067}_{-0.000060}$	$f\sigma_8(0.61)$	0.4675 ± 0.0042
$\xi^{\text{tSZ} \times \text{CIB}}$	—	$Y_{\text{P}}^{\text{BBN}}$	$0.246705^{+0.000067}_{-0.000060}$	$\sigma_8(0.61)$	0.5910 ± 0.0057
A^{kSZ}	$4.7^{+1.6}_{-4.6}$	$10^5 \text{D}/\text{H}$	2.593 ± 0.030	$f\sigma_8(2.33)$	0.2980 ± 0.0029
A_{100}^{dust}	1.01 ± 0.20	Age/Gyr	13.772 ± 0.080	$\sigma_8(2.33)$	0.3075 ± 0.0033
A_{143}^{dust}	0.96 ± 0.17	z_*	1089.90 ± 0.29	f_{2000}^{143}	29.6 ± 2.8
A_{217}^{dust}	0.97 ± 0.10	r_*	144.66 ± 0.31	f_{2000}^{217}	106.8 ± 2.0
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04110 ± 0.00031	$f_{2000}^{143 \times 217}$	32.0 ± 2.0
c_{100}	0.9975 ± 0.0011	$D_{\text{M}}(z_*)/\text{Gpc}$	13.894 ± 0.028	χ_{lensing}^2	9.33 ± 0.80
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.80 ± 0.33	χ_{simall}^2	397.1 ± 1.8
c_{TE}	0.9965 ± 0.0049	r_{drag}	147.33 ± 0.31	χ_{lowl}^2	23.1 ± 1.0
c_{EE}	0.9921 ± 0.0048	k_{D}	0.14058 ± 0.00033	χ_{CamSpec}^2	11514.4 ± 5.6
H_0	67.86 ± 0.64	$100\theta_{\text{D}}$	0.16083 ± 0.00019	χ_{JLA}^2	1035.02 ± 0.26
Ω_{Λ}	0.6905 ± 0.0056	z_{eq}	3383 ± 31	$\chi_{6\text{DF}}^2$	0.048 ± 0.066
Ω_{m}	0.3090 ± 0.0060	k_{eq}	0.010326 ± 0.000095	χ_{MGS}^2	1.48 ± 0.55
$\Omega_{\text{m}}h^2$	0.1422 ± 0.0013	$100\theta_{\text{eq}}$	0.8166 ± 0.0059	χ_{DR12BAO}^2	4.6 ± 1.8
$\Omega_{\text{m}}h^3$	0.0965 ± 0.0014	$100\theta_{\text{s,eq}}$	0.4511 ± 0.0030	χ_{prior}^2	7.8 ± 3.5
σ_8	0.8093 ± 0.0073	$H(0.15)$	73.12 ± 0.62	χ_{CMB}^2	11944.0 ± 5.8
S_8	0.821 ± 0.011	$D_{\text{M}}(0.15)$	639.1 ± 5.7	χ_{BAO}^2	6.1 ± 1.5

$$\bar{\chi}_{\text{eff}}^2 = 12992.90; \Delta\bar{\chi}_{\text{eff}}^2 = 0.51; R - 1 = 0.03012$$

12.14 base_omegak_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02233 ± 0.00016	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4490 ± 0.0069	$H(0.38)$	83.22 ± 0.62
$\Omega_{\mathrm{c}}h^2$	0.1192 ± 0.0015	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6024 ± 0.0071	$D_{\mathrm{M}}(0.38)$	1524 ± 13
$100\theta_{\mathrm{MC}}$	1.04092 ± 0.00032	$\sigma_8/h^{0.5}$	0.981 ± 0.010	$H(0.51)$	89.92 ± 0.61
τ	$0.0547^{+0.0052}_{-0.0081}$	$r_{\mathrm{drag}}h$	100.02 ± 0.99	$D_{\mathrm{M}}(0.51)$	1975 ± 16
Ω_K	0.0005 ± 0.0020	$\langle d^2 \rangle^{1/2}$	2.426 ± 0.023	$H(0.61)$	95.53 ± 0.62
$\ln(10^{10}A_{\mathrm{s}})$	$3.041^{+0.012}_{-0.016}$	z_{re}	$7.70^{+0.56}_{-0.81}$	$D_{\mathrm{M}}(0.61)$	2299 ± 18
n_{s}	0.9669 ± 0.0046	$10^9 A_{\mathrm{s}}$	$2.093^{+0.025}_{-0.034}$	$H(2.33)$	236.1 ± 1.2
y_{cal}	1.0004 ± 0.0025	$10^9 A_{\mathrm{s}}e^{-2\tau}$	$1.876^{+0.011}_{-0.012}$	$D_{\mathrm{M}}(2.33)$	5753 ± 32
A_{100}^{PS}	240 ± 24	D_{40}	1223 ± 13	$f\sigma_8(0.15)$	0.4538 ± 0.0065
A_{143}^{PS}	39 ± 8	D_{220}	5719 ± 39	$\sigma_8(0.15)$	0.7472 ± 0.0072
A_{217}^{PS}	102 ± 10	D_{810}	2534 ± 13	$f\sigma_8(0.38)$	0.4727 ± 0.0056
A_{217}^{CIB}	40 ± 7	D_{1420}	815.8 ± 4.8	$\sigma_8(0.38)$	$0.6627^{+0.0060}_{-0.0067}$
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	D_{2000}	230.3 ± 1.6	$f\sigma_8(0.51)$	0.4716 ± 0.0052
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$n_{\mathrm{s},0.002}$	0.9669 ± 0.0046	$\sigma_8(0.51)$	0.6203 ± 0.0061
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56^{+0.39}_{-0.18}$	Y_{P}	$0.245377^{+0.000069}_{-0.000060}$	$f\sigma_8(0.61)$	0.4669 ± 0.0048
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246703^{+0.000069}_{-0.000060}$	$\sigma_8(0.61)$	0.5903 ± 0.0058
A^{kSZ}	$4.7^{+2.2}_{-4.1}$	$10^5 \mathrm{D}/\mathrm{H}$	2.594 ± 0.030	$f\sigma_8(2.33)$	0.2977 ± 0.0029
A_{100}^{dust}	1.01 ± 0.20	$\mathrm{Age}/\mathrm{Gyr}$	13.772 ± 0.081	$\sigma_8(2.33)$	0.3072 ± 0.0033
A_{143}^{dust}	0.97 ± 0.18	z_*	1089.90 ± 0.30	f_{2000}^{143}	29.7 ± 2.8
A_{217}^{dust}	0.97 ± 0.10	r_*	144.68 ± 0.32	f_{2000}^{217}	106.8 ± 1.9
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04111 ± 0.00031	$f_{2000}^{143 \times 217}$	32.1 ± 2.0
c_{100}	0.9975 ± 0.0011	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.896 ± 0.030	χ_{simall}^2	396.9 ± 1.7
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.78 ± 0.33	χ_{lowl}^2	23.0 ± 1.0
c_{TE}	0.9965 ± 0.0049	r_{drag}	147.36 ± 0.32	$\chi_{\mathrm{CamSpec}}^2$	11514.7 ± 5.6
c_{EE}	0.9921 ± 0.0048	k_{D}	0.14056 ± 0.00034	$\chi_{6\mathrm{DF}}^2$	0.052 ± 0.071
H_0	67.88 ± 0.67	$100\theta_{\mathrm{D}}$	0.16084 ± 0.00019	χ_{MGS}^2	1.51 ± 0.59
Ω_{Λ}	0.6908 ± 0.0061	z_{eq}	3382 ± 33	$\chi_{\mathrm{DR12BAO}}^2$	4.6 ± 1.8
Ω_{m}	0.3086 ± 0.0066	k_{eq}	0.01032 ± 0.00010	χ_{prior}^2	7.8 ± 3.4
$\Omega_{\mathrm{m}}h^2$	0.1422 ± 0.0014	$100\theta_{\mathrm{eq}}$	0.8169 ± 0.0062	χ_{BAO}^2	6.2 ± 1.6
$\Omega_{\mathrm{m}}h^3$	0.0965 ± 0.0014	$100\theta_{\mathrm{s,eq}}$	0.4513 ± 0.0032	χ_{CMB}^2	11934.6 ± 5.7
σ_8	0.8083 ± 0.0079	$H(0.15)$	73.14 ± 0.64		
S_8	0.820 ± 0.013	$D_{\mathrm{M}}(0.15)$	638.9 ± 6.0		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11948.57; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.58; R - 1 = 0.01907$$

12.15 base_omegak_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02233 ± 0.00016	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4505 ± 0.0059	$H(0.38)$	83.16 ± 0.61
$\Omega_{\mathrm{c}}h^2$	0.1193 ± 0.0014	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6040 ± 0.0060	$D_{\mathrm{M}}(0.38)$	1526 ± 13
$100\theta_{\mathrm{MC}}$	1.04091 ± 0.00031	$\sigma_8/h^{0.5}$	0.9835 ± 0.0083	$H(0.51)$	89.87 ± 0.61
τ	$0.0558^{+0.0058}_{-0.0077}$	$r_{\mathrm{drag}}h$	99.88 ± 0.95	$D_{\mathrm{M}}(0.51)$	1977 ± 16
Ω_K	0.0005 ± 0.0020	$\langle d^2 \rangle^{1/2}$	2.432 ± 0.020	$H(0.61)$	95.48 ± 0.61
$\ln(10^{10}A_{\mathrm{s}})$	$3.044^{+0.012}_{-0.015}$	z_{re}	$7.82^{+0.62}_{-0.75}$	$D_{\mathrm{M}}(0.61)$	2301 ± 18
n_{s}	0.9666 ± 0.0045	$10^9 A_{\mathrm{s}}$	$2.100^{+0.025}_{-0.031}$	$H(2.33)$	236.2 ± 1.2
y_{cal}	1.0006 ± 0.0024	$10^9 A_{\mathrm{s}}e^{-2\tau}$	$1.878^{+0.010}_{-0.012}$	$D_{\mathrm{M}}(2.33)$	5755 ± 32
A_{100}^{PS}	240 ± 25	D_{40}	1225 ± 13	$f\sigma_8(0.15)$	0.4552 ± 0.0055
A_{143}^{PS}	39 ± 8	D_{220}	5724 ± 38	$\sigma_8(0.15)$	0.7485 ± 0.0066
A_{217}^{PS}	102 ± 10	D_{810}	2535 ± 13	$f\sigma_8(0.38)$	0.4739 ± 0.0047
A_{217}^{CIB}	40 ± 7	D_{1420}	816.1 ± 4.7	$\sigma_8(0.38)$	0.6637 ± 0.0060
A_{143}^{tSZ}	$3.9^{+1.8}_{-2.6}$	D_{2000}	230.4 ± 1.6	$f\sigma_8(0.51)$	0.4728 ± 0.0043
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$n_{\mathrm{s},0.002}$	0.9666 ± 0.0045	$\sigma_8(0.51)$	0.6212 ± 0.0057
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56^{+0.38}_{-0.18}$	Y_{P}	$0.245377^{+0.000068}_{-0.000060}$	$f\sigma_8(0.61)$	0.4679 ± 0.0041
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246704^{+0.000068}_{-0.000060}$	$\sigma_8(0.61)$	0.5911 ± 0.0055
A^{kSZ}	$4.7^{+1.6}_{-4.6}$	$10^5 \mathrm{D}/\mathrm{H}$	2.594 ± 0.030	$f\sigma_8(2.33)$	0.2981 ± 0.0028
A_{100}^{dust}	1.01 ± 0.20	$\mathrm{Age}/\mathrm{Gyr}$	13.777 ± 0.081	$\sigma_8(2.33)$	0.3075 ± 0.0032
A_{143}^{dust}	0.96 ± 0.18	z_*	1089.91 ± 0.29	f_{2000}^{143}	29.6 ± 2.8
A_{217}^{dust}	0.97 ± 0.10	r_*	144.65 ± 0.31	f_{2000}^{217}	106.8 ± 2.0
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04110 ± 0.00031	$f_{2000}^{143 \times 217}$	32.0 ± 2.0
c_{100}	0.9975 ± 0.0011	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.894 ± 0.029	$\chi_{\mathrm{lensing}}^2$	9.26 ± 0.70
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.79 ± 0.33	χ_{simall}^2	397.1 ± 1.8
c_{TE}	0.9964 ± 0.0049	r_{drag}	147.32 ± 0.31	χ_{lowl}^2	23.1 ± 1.0
c_{EE}	0.9920 ± 0.0048	k_{D}	0.14059 ± 0.00034	$\chi_{\mathrm{CamSpec}}^2$	11514.3 ± 5.6
H_0	67.80 ± 0.65	$100\theta_{\mathrm{D}}$	0.16084 ± 0.00019	$\chi_{6\mathrm{DF}}^2$	0.055 ± 0.073
Ω_{Λ}	0.6900 ± 0.0057	z_{eq}	3384 ± 31	χ_{MGS}^2	1.43 ± 0.56
Ω_{m}	0.3096 ± 0.0062	k_{eq}	0.010329 ± 0.000095	$\chi_{\mathrm{DR12BAO}}^2$	4.8 ± 1.9
$\Omega_{\mathrm{m}}h^2$	0.1423 ± 0.0013	$100\theta_{\mathrm{eq}}$	0.8164 ± 0.0059	χ_{prior}^2	7.8 ± 3.5
$\Omega_{\mathrm{m}}h^3$	0.0965 ± 0.0014	$100\theta_{\mathrm{s,eq}}$	0.4510 ± 0.0030	χ_{CMB}^2	11943.7 ± 5.8
σ_8	0.8098 ± 0.0071	$H(0.15)$	73.07 ± 0.63	χ_{BAO}^2	6.2 ± 1.6
S_8	0.823 ± 0.011	$D_{\mathrm{M}}(0.15)$	639.6 ± 5.8		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11957.78; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.52; R - 1 = 0.03337$$

12.16 base_omegak_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_lensing_Pantheon18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02234 ± 0.00016	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4499 ± 0.0057	$H(0.38)$	83.21 ± 0.60
$\Omega_{\mathrm{c}}h^2$	0.1192 ± 0.0014	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6036 ± 0.0059	$D_{\mathrm{M}}(0.38)$	1525 ± 13
$100\theta_{\mathrm{MC}}$	1.04092 ± 0.00031	$\sigma_8/h^{0.5}$	0.9829 ± 0.0083	$H(0.51)$	89.91 ± 0.60
τ	$0.0561^{+0.0059}_{-0.0077}$	$r_{\mathrm{drag}}h$	99.99 ± 0.92	$D_{\mathrm{M}}(0.51)$	1975 ± 16
Ω_K	0.0005 ± 0.0020	$\langle d^2 \rangle^{1/2}$	2.431 ± 0.019	$H(0.61)$	95.52 ± 0.61
$\ln(10^{10}A_{\mathrm{s}})$	$3.045^{+0.012}_{-0.015}$	z_{re}	$7.84^{+0.62}_{-0.75}$	$D_{\mathrm{M}}(0.61)$	2299 ± 18
n_{s}	0.9667 ± 0.0045	$10^9 A_{\mathrm{s}}$	$2.101^{+0.025}_{-0.031}$	$H(2.33)$	236.1 ± 1.2
y_{cal}	1.0006 ± 0.0024	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.878 ± 0.011	$D_{\mathrm{M}}(2.33)$	5753 ± 31
A_{100}^{PS}	240 ± 25	D_{40}	1225 ± 13	$f\sigma_8(0.15)$	0.4547 ± 0.0054
A_{143}^{PS}	39 ± 8	D_{220}	5724 ± 38	$\sigma_8(0.15)$	0.7485 ± 0.0066
A_{217}^{PS}	102 ± 10	D_{810}	2535 ± 13	$f\sigma_8(0.38)$	0.4736 ± 0.0047
A_{217}^{CIB}	40 ± 7	D_{1420}	816.2 ± 4.7	$\sigma_8(0.38)$	0.6638 ± 0.0060
A_{143}^{tSZ}	$3.9^{+1.8}_{-2.6}$	D_{2000}	230.4 ± 1.6	$f\sigma_8(0.51)$	0.4725 ± 0.0043
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$n_{\mathrm{s},0.002}$	0.9667 ± 0.0045	$\sigma_8(0.51)$	0.6213 ± 0.0057
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56^{+0.38}_{-0.18}$	Y_{P}	$0.245380^{+0.000066}_{-0.000060}$	$f\sigma_8(0.61)$	0.4677 ± 0.0041
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246706^{+0.000067}_{-0.000060}$	$\sigma_8(0.61)$	0.5913 ± 0.0055
A^{kSZ}	< 6.21	$10^5 \mathrm{D}/\mathrm{H}$	2.592 ± 0.030	$f\sigma_8(2.33)$	0.2982 ± 0.0028
A_{100}^{dust}	1.01 ± 0.20	$\mathrm{Age}/\mathrm{Gyr}$	13.772 ± 0.080	$\sigma_8(2.33)$	0.3077 ± 0.0032
A_{143}^{dust}	0.96 ± 0.17	z_*	1089.90 ± 0.29	f_{2000}^{143}	29.6 ± 2.8
A_{217}^{dust}	0.97 ± 0.10	r_*	144.66 ± 0.31	f_{2000}^{217}	106.7 ± 2.0
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04111 ± 0.00031	$f_{2000}^{143 \times 217}$	32.0 ± 2.0
c_{100}	0.9975 ± 0.0011	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.895 ± 0.028	$\chi_{\mathrm{lensing}}^2$	9.27 ± 0.72
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.80 ± 0.33	χ_{simall}^2	397.1 ± 1.8
c_{TE}	0.9964 ± 0.0049	r_{drag}	147.34 ± 0.30	χ_{lowl}^2	23.1 ± 1.0
c_{EE}	0.9921 ± 0.0048	k_{D}	0.14058 ± 0.00034	$\chi_{\mathrm{CamSpec}}^2$	11514.3 ± 5.6
H_0	67.86 ± 0.64	$100\theta_{\mathrm{D}}$	0.16083 ± 0.00019	χ_{JLA}^2	1035.01 ± 0.26
Ω_{Λ}	0.6907 ± 0.0055	z_{eq}	3383 ± 31	$\chi_{6\mathrm{DF}}^2$	0.048 ± 0.065
Ω_{m}	0.3088 ± 0.0060	k_{eq}	0.010324 ± 0.000094	χ_{MGS}^2	1.48 ± 0.55
$\Omega_{\mathrm{m}}h^2$	0.1422 ± 0.0013	$100\theta_{\mathrm{eq}}$	0.8168 ± 0.0059	$\chi_{\mathrm{DR12BAO}}^2$	4.6 ± 1.7
$\Omega_{\mathrm{m}}h^3$	0.0965 ± 0.0014	$100\theta_{\mathrm{s,eq}}$	0.4512 ± 0.0030	χ_{prior}^2	7.8 ± 3.5
σ_8	0.8097 ± 0.0071	$H(0.15)$	73.13 ± 0.62	χ_{CMB}^2	11943.8 ± 5.8
S_8	0.821 ± 0.010	$D_{\mathrm{M}}(0.15)$	639.0 ± 5.7	χ_{BAO}^2	6.1 ± 1.5

$$\bar{\chi}_{\mathrm{eff}}^2 = 12992.73; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.47; R - 1 = 0.03308$$

12.17 base_omegak_CamSpecHM_TT_lowl_lowE_lensing

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022289	0.02235 ± 0.00025	$\sigma_8 \Omega_m^{0.5}$	0.4678	0.470 ± 0.012	$H(0.15)$	69.30	68.7 ± 2.3
$\Omega_c h^2$	0.11825	0.1177 ± 0.0022	$\sigma_8 \Omega_m^{0.25}$	0.6099	0.6099 ± 0.0075	$D_M(0.15)$	676.6	684 ± 25
$100\theta_{MC}$	1.041032	1.04119 ± 0.00050	$\sigma_8/h^{0.5}$	0.9950	0.996 ± 0.011	$H(0.38)$	79.65	79.0 ± 2.2
τ	0.0498	0.0494 ± 0.0084	$r_{\text{drag}} h$	94.29	93.4 ± 3.5	$D_M(0.38)$	1606	1623 ± 53
Ω_K	-0.0093	$-0.0121^{+0.0084}_{-0.0069}$	$\langle d^2 \rangle^{1/2}$	2.4689	2.472 ± 0.030	$H(0.51)$	86.49	85.9 ± 2.1
$\ln(10^{10} A_s)$	3.0282	3.026 ± 0.017	z_{re}	7.17	$7.07^{+0.90}_{-0.74}$	$D_M(0.51)$	2076	2096 ± 66
n_s	0.9685	0.9705 ± 0.0064	$10^9 A_s$	2.0661	2.062 ± 0.035	$H(0.61)$	92.20	91.6 ± 2.1
y_{cal}	1.00026	1.0001 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.8701	1.868 ± 0.014	$D_M(0.61)$	2411	2434 ± 73
A_{100}^{PS}	241.9	240 ± 25	D_{40}	1213.8	1209 ± 17	$H(2.33)$	233.37	232.6 ± 2.6
A_{143}^{PS}	36.4	38 ± 9	D_{220}	5711.4	5715 ± 41	$D_M(2.33)$	5926	5962 ± 120
A_{217}^{PS}	98.4	101 ± 10	D_{810}	2529.2	2529 ± 14	$f\sigma_8(0.15)$	0.4702	0.472 ± 0.010
A_{217}^{CIB}	42.9	40 ± 7	D_{1420}	813.6	814.2 ± 5.0	$\sigma_8(0.15)$	0.7315	0.727 ± 0.014
A_{143}^{tSZ}	4.37	$3.8^{+1.8}_{-2.6}$	D_{2000}	230.02	230.3 ± 1.8	$f\sigma_8(0.38)$	0.4811	0.4813 ± 0.0062
$r_{143 \times 217}^{\text{PS}}$	0.565	0.65 ± 0.13	$n_{s,0.002}$	0.9685	0.9705 ± 0.0064	$\sigma_8(0.38)$	0.6446	0.640 ± 0.014
$r_{143 \times 217}^{\text{CIB}}$	0.648	$0.56^{+0.39}_{-0.17}$	Y_P	0.245363	$0.24538^{+0.00010}_{-0.000090}$	$f\sigma_8(0.51)$	0.4759	0.4755 ± 0.0050
$\xi^{\text{tSZ} \times \text{CIB}}$	0.07	—	Y_P^{BBN}	0.246689	$0.24671^{+0.00010}_{-0.000090}$	$\sigma_8(0.51)$	0.6017	0.598 ± 0.014
A^{kSZ}	3.8	—	$10^5 D/H$	2.6009	2.591 ± 0.045	$f\sigma_8(0.61)$	0.46843	0.4675 ± 0.0048
A_{100}^{dust}	1.010	1.01 ± 0.19	Age/Gyr	14.208	14.30 ± 0.30	$\sigma_8(0.61)$	0.5715	0.567 ± 0.014
A_{143}^{dust}	0.989	0.98 ± 0.18	z_*	1089.870	1089.75 ± 0.46	$f\sigma_8(2.33)$	0.2872	0.2850 ± 0.0076
A_{217}^{dust}	0.960	0.97 ± 0.10	r_*	144.95	145.06 ± 0.49	$\sigma_8(2.33)$	0.2936	0.2909 ± 0.0094
$A_{143 \times 217}^{\text{dust}}$	1.004	1.02 ± 0.16	$100\theta_*$	1.041227	1.04138 ± 0.00048	f_{2000}^{143}	30.33	29.5 ± 3.1
c_{100}	0.99735	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.9209	13.929 ± 0.045	f_{2000}^{217}	107.02	106.5 ± 2.2
c_{217}	1.00124	1.0011 ± 0.0016	z_{drag}	1059.628	1059.71 ± 0.48	$f_{2000}^{143 \times 217}$	32.32	31.9 ± 2.3
H_0	63.86	63.2 ± 2.4	r_{drag}	147.648	147.74 ± 0.48	χ_{lensing}^2	9.19	10.3 ± 2.1
Ω_Λ	0.6631	0.659 ± 0.018	k_D	0.140219	0.14016 ± 0.00050	χ_{small}^2	395.64	396.8 ± 1.6
Ω_m	0.3461	$0.353^{+0.023}_{-0.026}$	$100\theta_D$	0.160944	0.16091 ± 0.00027	χ_{lowl}^2	21.85	21.8 ± 1.1
$\Omega_m h^2$	0.14118	0.1407 ± 0.0021	z_{eq}	3358	3346 ± 50	χ_{CamSpec}^2	7049.2	7062.9 ± 5.5
$\Omega_m h^3$	0.09016	0.0889 ± 0.0042	k_{eq}	0.010250	0.01021 ± 0.00015	χ_{prior}^2	2.37	7.5 ± 3.4
σ_8	0.7952	0.791 ± 0.013	$100\theta_{\text{eq}}$	0.8211	0.8238 ± 0.0098	χ_{CMB}^2	7475.9	7491.7 ± 5.6
S_8	0.8542	0.858 ± 0.022	$100\theta_{s,\text{eq}}$	0.4535	0.4549 ± 0.0050			

Best-fit $\chi_{\text{eff}}^2 = 7478.30$; $\Delta\chi_{\text{eff}}^2 = -2.38$; $\bar{\chi}_{\text{eff}}^2 = 7499.29$; $\Delta\bar{\chi}_{\text{eff}}^2 = -0.96$; $R - 1 = 0.01550$
 χ_{eff}^2 : CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p_teb_consext8: 9.19 (Δ 0.27) small_100x143_offlike5_EE_Aplanck_B: 395.64 (Δ -0.23) commander_dx12_v3_2_29: 21.85 (Δ -1.57) CamSpec like_10.7HM: 7049.24 (Δ -0.94)

12.18 base_omegak_CamSpecHM_TT_lowl_lowE_lensing_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02236 ± 0.00025	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.469 ± 0.012	$H(0.15)$	69.0 ± 2.3
$\Omega_{\mathrm{c}}h^2$	0.1176 ± 0.0022	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6100 ± 0.0076	$D_{\mathrm{M}}(0.15)$	680 ± 24
$100\theta_{\mathrm{MC}}$	1.04121 ± 0.00050	$\sigma_8/h^{0.5}$	0.996 ± 0.011	$H(0.38)$	79.4 ± 2.2
τ	$0.0528^{+0.0036}_{-0.0074}$	$r_{\mathrm{drag}}h$	94.0 ± 3.4	$D_{\mathrm{M}}(0.38)$	1614 ± 52
Ω_K	$-0.0111^{+0.0083}_{-0.0066}$	$\langle d^2 \rangle^{1/2}$	2.472 ± 0.030	$H(0.51)$	86.2 ± 2.1
$\ln(10^{10}A_{\mathrm{s}})$	$3.033^{+0.010}_{-0.015}$	z_{re}	$7.43^{+0.31}_{-0.83}$	$D_{\mathrm{M}}(0.51)$	2085 ± 64
n_{s}	0.9708 ± 0.0063	$10^9 A_{\mathrm{s}}$	$2.075^{+0.021}_{-0.031}$	$H(0.61)$	91.9 ± 2.1
y_{cal}	1.0000 ± 0.0025	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.867 ± 0.014	$D_{\mathrm{M}}(0.61)$	2422 ± 71
A_{100}^{PS}	240 ± 25	D_{40}	1209 ± 17	$H(2.33)$	232.7 ± 2.6
A_{143}^{PS}	38 ± 9	D_{220}	5714 ± 42	$D_{\mathrm{M}}(2.33)$	5946 ± 110
A_{217}^{PS}	101 ± 10	D_{810}	2528 ± 14	$f\sigma_8(0.15)$	0.471 ± 0.010
A_{217}^{CIB}	40 ± 7	D_{1420}	814.2 ± 5.0	$\sigma_8(0.15)$	0.730 ± 0.013
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	D_{2000}	230.4 ± 1.8	$f\sigma_8(0.38)$	0.4812 ± 0.0064
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	$n_{\mathrm{s},0.002}$	0.9708 ± 0.0063	$\sigma_8(0.38)$	0.644 ± 0.013
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56^{+0.39}_{-0.17}$	Y_{P}	$0.24539^{+0.00010}_{-0.000091}$	$f\sigma_8(0.51)$	0.4759 ± 0.0050
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.24671^{+0.00010}_{-0.000091}$	$\sigma_8(0.51)$	0.601 ± 0.013
A^{kSZ}	—	$10^5 \mathrm{D}/\mathrm{H}$	2.589 ± 0.046	$f\sigma_8(0.61)$	0.4683 ± 0.0046
A_{100}^{dust}	1.01 ± 0.19	$\mathrm{Age}/\mathrm{Gyr}$	14.26 ± 0.29	$\sigma_8(0.61)$	0.570 ± 0.013
A_{143}^{dust}	0.98 ± 0.18	z_*	1089.73 ± 0.46	$f\sigma_8(2.33)$	0.2867 ± 0.0071
A_{217}^{dust}	0.97 ± 0.10	r_*	145.08 ± 0.49	$\sigma_8(2.33)$	0.2929 ± 0.0088
$A_{143 \times 217}^{\mathrm{dust}}$	1.02 ± 0.16	$100\theta_*$	1.04140 ± 0.00049	f_{2000}^{143}	29.5 ± 3.1
c_{100}	0.9975 ± 0.0011	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.931 ± 0.045	f_{2000}^{217}	106.5 ± 2.1
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.72 ± 0.49	$f_{2000}^{143 \times 217}$	31.8 ± 2.3
H_0	63.6 ± 2.4	r_{drag}	147.76 ± 0.48	$\chi_{\mathrm{lensing}}^2$	10.3 ± 2.2
Ω_{Λ}	0.662 ± 0.017	k_{D}	0.14015 ± 0.00050	χ_{simall}^2	396.4 ± 1.3
Ω_{m}	$0.349^{+0.022}_{-0.024}$	$100\theta_{\mathrm{D}}$	0.16091 ± 0.00028	χ_{lowl}^2	21.8 ± 1.1
$\Omega_{\mathrm{m}}h^2$	0.1406 ± 0.0021	z_{eq}	3344 ± 50	$\chi_{\mathrm{CamSpec}}^2$	7063.0 ± 5.5
$\Omega_{\mathrm{m}}h^3$	0.0894 ± 0.0042	k_{eq}	0.01021 ± 0.00015	χ_{prior}^2	7.5 ± 3.4
σ_8	0.794 ± 0.012	$100\theta_{\mathrm{eq}}$	0.8242 ± 0.0098	χ_{CMB}^2	7491.5 ± 5.6
S_8	0.856 ± 0.022	$100\theta_{\mathrm{s,eq}}$	0.4551 ± 0.0050		

$$\bar{\chi}_{\mathrm{eff}}^2 = 7498.95; \Delta\bar{\chi}_{\mathrm{eff}}^2 = -1.06; R - 1 = 0.01796$$

12.19 base_omegak_CamSpecHM_TTTEEE_lowl_lowE_lensing

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022422	0.02242 ± 0.00017	S_8	0.8541	0.857 ± 0.021	$H(0.15)$	69.39	69.0 ± 2.1
$\Omega_c h^2$	0.11833	0.1182 ± 0.0015	$\sigma_8 \Omega_m^{0.5}$	0.4678	0.469 ± 0.012	$D_M(0.15)$	675.7	680 ± 23
$100\theta_{MC}$	1.041001	1.04101 ± 0.00033	$\sigma_8 \Omega_m^{0.25}$	0.6101	0.6101 ± 0.0065	$H(0.38)$	79.74	79.4 ± 2.0
τ	0.0500	0.0488 ± 0.0082	$\sigma_8/h^{0.5}$	0.9949	0.995 ± 0.010	$D_M(0.38)$	1604.1	1614 ± 48
Ω_K	-0.0092	$-0.0106^{+0.0072}_{-0.0059}$	$r_{\text{drag}} h$	94.31	93.8 ± 3.2	$H(0.51)$	86.59	86.3 ± 1.9
$\ln(10^{10} A_s)$	3.0294	3.027 ± 0.017	$\langle d^2 \rangle^{1/2}$	2.4684	2.470 ± 0.028	$D_M(0.51)$	2073	2085 ± 59
n_s	0.96930	0.9694 ± 0.0048	z_{re}	7.16	$7.01^{+0.90}_{-0.75}$	$H(0.61)$	92.30	92.0 ± 1.9
y_{cal}	0.99993	1.0001 ± 0.0024	$10^9 A_s$	2.0685	2.063 ± 0.035	$D_M(0.61)$	2408	2421 ± 66
A_{100}^{PS}	233.1	238 ± 25	$10^9 A_s e^{-2\tau}$	1.8717	1.871 ± 0.012	$H(2.33)$	233.57	233.3 ± 1.9
A_{143}^{PS}	46.5	37 ± 8	D_{40}	1213.6	1212 ± 14	$D_M(2.33)$	5920	5939 ± 100
A_{217}^{PS}	104.8	102 ± 10	D_{220}	5721.4	5722 ± 38	$f\sigma_8(0.15)$	0.4702	0.4713 ± 0.0099
A_{217}^{CIB}	39.1	39^{+7}_{-8}	D_{810}	2531.9	2530 ± 13	$\sigma_8(0.15)$	0.7319	0.729 ± 0.012
A_{143}^{tSZ}	4.82	$4.0^{+2.0}_{-2.5}$	D_{1420}	815.41	814.9 ± 4.8	$f\sigma_8(0.38)$	0.4812	$0.4813^{+0.0061}_{-0.0053}$
$r_{143 \times 217}^{\text{PS}}$	0.753	0.66 ± 0.13	D_{2000}	230.86	230.6 ± 1.6	$\sigma_8(0.38)$	0.6451	0.642 ± 0.013
$r_{143 \times 217}^{\text{CIB}}$	0.684	$0.55^{+0.40}_{-0.19}$	$n_{s,0.002}$	0.96930	0.9694 ± 0.0048	$f\sigma_8(0.51)$	0.47606	0.4757 ± 0.0043
$\xi^{\text{tSZ} \times \text{CIB}}$	0.94	—	Y_P	0.245416	$0.245411^{+0.000068}_{-0.000060}$	$\sigma_8(0.51)$	0.6021	0.599 ± 0.013
A^{kSZ}	3.00	< 6.19	Y_P^{BBN}	0.246743	$0.246737^{+0.000068}_{-0.000061}$	$f\sigma_8(0.61)$	0.46860	0.4680 ± 0.0039
A_{100}^{dust}	1.009	1.01 ± 0.19	$10^5 D/H$	2.5758	2.578 ± 0.031	$\sigma_8(0.61)$	0.5719	0.569 ± 0.013
A_{143}^{dust}	0.950	0.97 ± 0.18	Age/Gyr	14.193	14.24 ± 0.26	$f\sigma_8(2.33)$	0.2874	0.2860 ± 0.0069
A_{217}^{dust}	0.981	0.97 ± 0.10	z_*	1089.707	1089.71 ± 0.30	$\sigma_8(2.33)$	0.2938	0.2922 ± 0.0085
$A_{143 \times 217}^{\text{dust}}$	1.033	1.02 ± 0.16	r_*	144.825	144.87 ± 0.33	f_{2000}^{143}	28.93	28.8 ± 2.9
c_{100}	0.99785	0.9975 ± 0.0011	$100\theta_*$	1.041186	1.04119 ± 0.00032	f_{2000}^{217}	105.89	106.1 ± 2.0
c_{217}	1.00113	1.0010 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.9096	13.914 ± 0.030	$f_{2000}^{143 \times 217}$	31.50	31.4 ± 2.1
c_{TE}	0.99567	0.9955 ± 0.0049	z_{drag}	1059.933	1059.91 ± 0.34	χ_{lensing}^2	9.39	10.2 ± 1.9
c_{EE}	0.99173	0.9914 ± 0.0049	r_{drag}	147.477	147.52 ± 0.32	χ_{small}^2	395.63	396.8 ± 1.5
H_0	63.95	63.6 ± 2.2	k_D	0.140499	0.14045 ± 0.00035	χ_{lowl}^2	21.83	21.93 ± 0.94
Ω_Λ	0.6635	0.660 ± 0.018	$100\theta_D$	0.160754	0.16077 ± 0.00019	χ_{CamSpec}^2	11498.3	11513.1 ± 5.7
Ω_m	0.3457	$0.351^{+0.022}_{-0.025}$	z_{eq}	3363.5	3360 ± 33	χ_{prior}^2	1.96	7.7 ± 3.3
$\Omega_m h^2$	0.14140	0.1413 ± 0.0014	k_{eq}	0.010266	0.01026 ± 0.00010	χ_{CMB}^2	11925.1	11942.0 ± 5.9
$\Omega_m h^3$	0.09043	0.0898 ± 0.0036	$100\theta_{\text{eq}}$	0.8205	0.8212 ± 0.0064			
σ_8	0.7956	0.793 ± 0.011	$100\theta_{s,\text{eq}}$	0.45309	0.4535 ± 0.0033			

Best-fit $\chi_{\text{eff}}^2 = 11927.06$; $\Delta\chi_{\text{eff}}^2 = -2.59$; $\bar{\chi}_{\text{eff}}^2 = 11949.70$; $\Delta\bar{\chi}_{\text{eff}}^2 = -1.75$; $R - 1 = 0.01965$

χ_{eff}^2 : CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p.teb.consext8: 9.39 (Δ 0.56) small_100x143_offlike5_EE_Aplanck_B: 395.63 (Δ -0.24) commander_dx12.v3.2.29: 21.83 (Δ -1.39) CamSpec like_10.7HM_1400_unified: 11498.26 (Δ -1.40)

12.20 base_omegak_CamSpecHM_TTTEEE_lowl_lowE_lensing_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\text{b}}h^2$	0.02242 ± 0.00017	S_8	0.854 ± 0.020	$H(0.15)$	69.5 ± 2.0
$\Omega_{\text{c}}h^2$	0.1181 ± 0.0015	$\sigma_8\Omega_{\text{m}}^{0.5}$	0.468 ± 0.011	$D_{\text{M}}(0.15)$	675 ± 21
$100\theta_{\text{MC}}$	1.04102 ± 0.00033	$\sigma_8\Omega_{\text{m}}^{0.25}$	0.6103 ± 0.0065	$H(0.38)$	79.8 ± 1.9
τ	$0.0523^{+0.0033}_{-0.0074}$	$\sigma_8/h^{0.5}$	0.996 ± 0.010	$D_{\text{M}}(0.38)$	1603 ± 45
Ω_K	$-0.0094^{+0.0067}_{-0.0056}$	$r_{\text{drag}}h$	94.5 ± 3.0	$H(0.51)$	86.7 ± 1.8
$\ln(10^{10}A_{\text{s}})$	$3.033^{+0.010}_{-0.015}$	$\langle d^2 \rangle^{1/2}$	2.470 ± 0.028	$D_{\text{M}}(0.51)$	2072 ± 55
n_{s}	0.9696 ± 0.0048	z_{re}	< 7.62	$H(0.61)$	92.4 ± 1.8
y_{cal}	1.0001 ± 0.0024	$10^9 A_{\text{s}}$	$2.077^{+0.020}_{-0.031}$	$D_{\text{M}}(0.61)$	2407 ± 62
A_{100}^{PS}	238 ± 25	$10^9 A_{\text{s}}e^{-2\tau}$	1.870 ± 0.012	$H(2.33)$	233.5 ± 1.9
A_{143}^{PS}	37 ± 8	D_{40}	1213 ± 14	$D_{\text{M}}(2.33)$	5919 ± 96
A_{217}^{PS}	102 ± 10	D_{220}	5721 ± 38	$f\sigma_8(0.15)$	0.4701 ± 0.0096
A_{217}^{CIB}	39^{+7}_{-8}	D_{810}	2530 ± 13	$\sigma_8(0.15)$	0.733 ± 0.010
A_{143}^{tSZ}	$4.0^{+2.0}_{-2.5}$	D_{1420}	815.0 ± 4.8	$f\sigma_8(0.38)$	$0.4812^{+0.0062}_{-0.0054}$
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	D_{2000}	230.7 ± 1.6	$\sigma_8(0.38)$	0.646 ± 0.011
$r_{143 \times 217}^{\text{CIB}}$	$0.54^{+0.39}_{-0.20}$	$n_{\text{s},0.002}$	0.9696 ± 0.0048	$f\sigma_8(0.51)$	0.4762 ± 0.0043
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_{P}	$0.245411^{+0.000068}_{-0.000061}$	$\sigma_8(0.51)$	0.603 ± 0.011
A^{kSZ}	< 6.16	$Y_{\text{P}}^{\text{BBN}}$	$0.246738^{+0.000068}_{-0.000062}$	$f\sigma_8(0.61)$	0.4688 ± 0.0037
A_{100}^{dust}	1.01 ± 0.19	10^5D/H	2.577 ± 0.031	$\sigma_8(0.61)$	0.573 ± 0.011
A_{143}^{dust}	0.97 ± 0.18	Age/Gyr	14.19 ± 0.24	$f\sigma_8(2.33)$	0.2880 ± 0.0061
A_{217}^{dust}	0.98 ± 0.10	z_*	1089.70 ± 0.31	$\sigma_8(2.33)$	0.2946 ± 0.0076
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	r_*	144.88 ± 0.33	f_{2000}^{143}	28.8 ± 2.9
c_{100}	0.9975 ± 0.0011	$100\theta_*$	1.04120 ± 0.00032	f_{2000}^{217}	106.1 ± 2.0
c_{217}	1.0010 ± 0.0016	$D_{\text{M}}(z_*)/\text{Gpc}$	13.914 ± 0.030	$f_{2000}^{143 \times 217}$	31.4 ± 2.0
c_{TE}	0.9955 ± 0.0049	z_{drag}	1059.91 ± 0.34	χ_{lensing}^2	10.1 ± 1.8
c_{EE}	0.9915 ± 0.0050	r_{drag}	147.53 ± 0.32	χ_{simall}^2	396.3 ± 1.1
H_0	64.1 ± 2.1	k_{D}	0.14044 ± 0.00035	χ_{lowl}^2	21.99 ± 0.96
Ω_{Λ}	0.664 ± 0.016	$100\theta_{\text{D}}$	0.16077 ± 0.00019	χ_{CamSpec}^2	11513.1 ± 5.7
Ω_{m}	0.345 ± 0.021	z_{eq}	3359 ± 33	χ_{prior}^2	7.7 ± 3.4
$\Omega_{\text{m}}h^2$	0.1412 ± 0.0014	k_{eq}	0.01025 ± 0.00010	χ_{CMB}^2	11941.6 ± 5.8
$\Omega_{\text{m}}h^3$	0.0905 ± 0.0035	$100\theta_{\text{eq}}$	0.8214 ± 0.0064		
σ_8	$0.7967^{+0.0090}_{-0.010}$	$100\theta_{\text{s,eq}}$	0.4535 ± 0.0033		

$$\bar{\chi}_{\text{eff}}^2 = 11949.31; \Delta\bar{\chi}_{\text{eff}}^2 = -1.94; R - 1 = 0.03090$$

13 r

13.1 base_r_CamSpecHM_TT_lowl_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022148	0.02214 ± 0.00022	$\sigma_8/h^{0.5}$	0.9893	0.989 ± 0.016	$H(0.51)$	89.435	89.43 ± 0.46
$\Omega_c h^2$	0.12010	0.1201 ± 0.0021	$r_{\text{drag}} h$	98.89	98.9 ± 1.7	$D_M(0.51)$	1991.4	1992 ± 19
$100\theta_{\text{MC}}$	1.040896	1.04087 ± 0.00048	$\langle d^2 \rangle^{1/2}$	2.4429	2.440 ± 0.039	$H(0.61)$	95.094	95.09 ± 0.37
τ	0.0527	0.0520 ± 0.0080	z_{re}	7.56	7.47 ± 0.82	$D_M(0.61)$	2316.5	2317 ± 20
$\ln(10^{10} A_s)$	3.0397	3.038 ± 0.016	$10^9 A_s$	2.0899	2.086 ± 0.034	$H(2.33)$	236.40	236.4 ± 1.3
n_s	0.9648	0.9652 ± 0.0059	$10^9 A_s e^{-2\tau}$	1.8810	1.880 ± 0.014	$D_M(2.33)$	5773.7	5774 ± 17
r	0.0000	< 0.0497	D_{40}	1227.6	1240^{+17}_{-19}	$f\sigma_8(0.15)$	0.4606	0.460 ± 0.012
y_{cal}	1.00069	1.0005 ± 0.0025	D_{220}	5706.3	5700 ± 42	$\sigma_8(0.15)$	0.7484	0.7476 ± 0.0076
A_{100}^{PS}	239.9	242 ± 25	D_{810}	2535.5	2534 ± 14	$f\sigma_8(0.38)$	0.4776	0.4773 ± 0.0098
A_{143}^{PS}	44.7	41 ± 8	D_{1420}	815.0	814.5 ± 5.2	$\sigma_8(0.38)$	0.6628	0.6621 ± 0.0060
A_{217}^{PS}	101.0	102 ± 10	D_{2000}	229.80	229.7 ± 1.8	$f\sigma_8(0.51)$	0.4756	0.4751 ± 0.0084
A_{217}^{CIB}	43.6	41 ± 7	$n_{s,0.002}$	0.9648	0.9652 ± 0.0059	$\sigma_8(0.51)$	0.6200	0.6193 ± 0.0055
A_{143}^{tSZ}	5.20	$3.8^{+1.8}_{-2.6}$	Y_P	0.245304	$0.24530^{+0.00010}_{-0.000088}$	$f\sigma_8(0.61)$	0.4702	0.4697 ± 0.0074
$r_{143 \times 217}^{\text{PS}}$	0.633	0.65 ± 0.13	Y_P^{BBN}	0.246630	$0.24662^{+0.00010}_{-0.000088}$	$\sigma_8(0.61)$	0.5898	0.5891 ± 0.0051
$r_{143 \times 217}^{\text{CIB}}$	0.787	$0.58^{+0.41}_{-0.14}$	$10^5 D/H$	2.6280	2.629 ± 0.042	$f\sigma_8(2.33)$	0.29717	0.2968 ± 0.0025
$\xi^{\text{tSZ} \times \text{CIB}}$	0.41	—	Age/Gyr	13.8211	13.822 ± 0.037	$\sigma_8(2.33)$	0.30613	0.3058 ± 0.0026
A^{kSZ}	2.2	—	z_*	1090.211	1090.22 ± 0.42	$r_{0.002}$	0.0000	< 0.0453
A_{100}^{dust}	1.011	1.01 ± 0.20	r_*	144.575	144.57 ± 0.49	$r_{0.01}$	0.0000	< 0.0475
A_{143}^{dust}	0.987	0.98 ± 0.18	$100\theta_*$	1.041103	1.04108 ± 0.00047	$\ln(10^{10} A_t)$	-7.90	$-0.67^{+1.4}_{-0.60}$
A_{217}^{dust}	0.969	0.97 ± 0.10	$D_M(z_*)/\text{Gpc}$	13.8867	13.887 ± 0.045	r_{10}	0.0000	< 0.0233
$A_{143 \times 217}^{\text{dust}}$	0.998	1.03 ± 0.16	z_{drag}	1059.437	1059.41 ± 0.46	$10^9 A_t$	0.000	< 0.104
c_{100}	0.99756	0.9974 ± 0.0011	r_{drag}	147.312	147.31 ± 0.49	$10^9 A_t e^{-2\tau}$	0.0000	< 0.0934
c_{217}	1.00143	1.0012 ± 0.0016	k_D	0.14046	0.14045 ± 0.00053	f_{2000}^{143}	31.13	30.6 ± 3.1
H_0	67.13	67.11 ± 0.95	$100\theta_D$	0.161063	0.16107 ± 0.00027	f_{2000}^{217}	107.56	107.5 ± 2.0
Ω_Λ	0.6829	$0.682^{+0.014}_{-0.013}$	z_{eq}	3399.3	3400 ± 49	$f_{2000}^{143 \times 217}$	32.96	32.8 ± 2.2
Ω_m	0.3171	0.318 ± 0.013	k_{eq}	0.010375	0.01038 ± 0.00015	χ_{small}^2	395.88	397.1 ± 1.6
$\Omega_m h^2$	0.14289	0.1429 ± 0.0020	$100\theta_{\text{eq}}$	0.8132	0.8132 ± 0.0092	χ_{lowl}^2	23.22	24.7 ± 1.8
$\Omega_m h^3$	0.095920	0.09590 ± 0.00046	$100\theta_{s,\text{eq}}$	0.44948	0.4495 ± 0.0047	χ_{CamSpec}^2	7050.5	7063.7 ± 5.5
σ_8	0.8105	0.8097 ± 0.0090	$H(0.15)$	72.46	72.45 ± 0.81	χ_{prior}^2	2.23	7.6 ± 3.5
S_8	0.8333	0.833 ± 0.025	$D_M(0.15)$	645.4	645.6 ± 8.2	χ_{CMB}^2	7469.6	7485.5 ± 5.7
$\sigma_8 \Omega_m^{0.5}$	0.4564	0.456 ± 0.013	$H(0.38)$	82.67	82.66 ± 0.58			
$\sigma_8 \Omega_m^{0.25}$	0.6082	0.608 ± 0.012	$D_M(0.38)$	1538.0	1538 ± 16			

Best-fit $\chi_{\text{eff}}^2 = 7471.85$; $\Delta\chi_{\text{eff}}^2 = 0.12$; $\bar{\chi}_{\text{eff}}^2 = 7493.09$; $\Delta\bar{\chi}_{\text{eff}}^2 = 1.55$; $R - 1 = 0.00732$

χ_{eff}^2 : CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.88 (Δ 0.05) commander_dx12_v3.2.29: 23.22 (Δ -0.18) CamSpec like_10.7HM: 7050.52 (Δ 0.19)

13.2 base_r_CamSpecHM_TT_lowl_lowE_post_BAO

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02222 ± 0.00020	$r_{\mathrm{drag}}h$	99.92 ± 0.94	$H(0.61)$	95.30 ± 0.25
$\Omega_{\mathrm{c}}h^2$	0.1188 ± 0.0012	$\langle d^2 \rangle^{1/2}$	2.419 ± 0.028	$D_{\mathrm{M}}(0.61)$	2304 ± 12
$100\theta_{\mathrm{MC}}$	1.04105 ± 0.00042	z_{re}	7.57 ± 0.81	$H(2.33)$	235.63 ± 0.79
τ	0.0533 ± 0.0079	$10^9 A_{\mathrm{s}}$	2.085 ± 0.034	$D_{\mathrm{M}}(2.33)$	5766 ± 12
$\ln(10^{10} A_{\mathrm{s}})$	3.037 ± 0.016	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.874 ± 0.012	$f\sigma_8(0.15)$	0.4529 ± 0.0077
n_{s}	0.9682 ± 0.0044	D_{40}	1235^{+15}_{-19}	$\sigma_8(0.15)$	0.7450 ± 0.0068
r	< 0.0532	D_{220}	5704 ± 41	$f\sigma_8(0.38)$	0.4716 ± 0.0065
y_{cal}	1.0005 ± 0.0025	D_{810}	2533 ± 14	$\sigma_8(0.38)$	0.6606 ± 0.0058
A_{100}^{PS}	241 ± 25	D_{1420}	815.2 ± 5.2	$f\sigma_8(0.51)$	0.4705 ± 0.0058
A_{143}^{PS}	40 ± 8	D_{2000}	229.9 ± 1.8	$\sigma_8(0.51)$	0.6184 ± 0.0054
A_{217}^{PS}	101 ± 10	$n_{\mathrm{s},0.002}$	0.9682 ± 0.0044	$f\sigma_8(0.61)$	0.4657 ± 0.0054
A_{217}^{CIB}	41 ± 7	Y_{P}	0.245331 ± 0.000083	$\sigma_8(0.61)$	0.5884 ± 0.0051
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.5}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246657 ± 0.000084	$f\sigma_8(2.33)$	0.2968 ± 0.0026
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	$10^5 \mathrm{D}/\mathrm{H}$	2.615 ± 0.037	$\sigma_8(2.33)$	0.3061 ± 0.0026
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.58^{+0.39}_{-0.15}$	Age/Gyr	13.804 ± 0.028	$r_{0.002}$	< 0.0491
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	z_*	1090.01 ± 0.30	$r_{0.01}$	< 0.0512
A^{kSZ}	4.9 ± 2.7	r_*	144.86 ± 0.32	$\ln(10^{10} A_{\mathrm{t}})$	$-0.60^{+1.4}_{-0.59}$
A_{100}^{dust}	1.01 ± 0.20	$100\theta_*$	1.04125 ± 0.00042	r_{10}	< 0.0251
A_{143}^{dust}	0.98 ± 0.18	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.912 ± 0.031	$10^9 A_{\mathrm{t}}$	< 0.111
A_{217}^{dust}	0.97 ± 0.10	z_{drag}	1059.50 ± 0.45	$10^9 A_{\mathrm{t}} e^{-2\tau}$	< 0.0996
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	r_{drag}	147.58 ± 0.35	f_{2000}^{143}	30.4 ± 3.0
c_{100}	0.9975 ± 0.0011	k_{D}	0.14023 ± 0.00045	f_{2000}^{217}	107.3 ± 2.0
c_{217}	1.0012 ± 0.0016	$100\theta_{\mathrm{D}}$	0.16103 ± 0.00026	$f_{2000}^{143 \times 217}$	32.6 ± 2.2
H_0	67.70 ± 0.55	z_{eq}	3370 ± 29	χ_{simall}^2	397.2 ± 1.7
Ω_{Λ}	0.6908 ± 0.0073	k_{eq}	0.010285 ± 0.000087	χ_{lowl}^2	24.1 ± 1.6
Ω_{m}	0.3092 ± 0.0073	$100\theta_{\mathrm{eq}}$	0.8189 ± 0.0053	$\chi_{\mathrm{CamSpec}}^2$	7064.2 ± 5.4
$\Omega_{\mathrm{m}}h^2$	0.1417 ± 0.0012	$100\theta_{\mathrm{s,eq}}$	0.4524 ± 0.0027	$\chi_{6\mathrm{DF}}^2$	0.051 ± 0.069
$\Omega_{\mathrm{m}}h^3$	0.09590 ± 0.00046	$H(0.15)$	72.95 ± 0.47	χ_{MGS}^2	1.44 ± 0.54
σ_8	0.8060 ± 0.0077	$D_{\mathrm{M}}(0.15)$	640.6 ± 4.7	$\chi_{\mathrm{DR12BAO}}^2$	4.6 ± 1.5
S_8	0.818 ± 0.015	$H(0.38)$	83.01 ± 0.35	χ_{prior}^2	7.6 ± 3.5
$\sigma_8 \Omega_{\mathrm{m}}^{0.5}$	0.4481 ± 0.0081	$D_{\mathrm{M}}(0.38)$	1528.3 ± 9.4	χ_{BAO}^2	6.1 ± 1.2
$\sigma_8 \Omega_{\mathrm{m}}^{0.25}$	0.6010 ± 0.0080	$H(0.51)$	89.70 ± 0.29	χ_{CMB}^2	7485.4 ± 5.6
$\sigma_8/h^{0.5}$	0.980 ± 0.011	$D_{\mathrm{M}}(0.51)$	1980 ± 11		

$$\bar{\chi}_{\mathrm{eff}}^2 = 7499.09; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 1.54; R - 1 = 0.01122$$

13.3 base_r_CamSpecHM_TT_lowl_lowE_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02215 ± 0.00022	$\sigma_8/h^{0.5}$	0.989 ± 0.016	$H(0.51)$	89.45 ± 0.46
$\Omega_{\mathrm{c}}h^2$	0.1200 ± 0.0021	$r_{\mathrm{drag}}h$	98.9 ± 1.7	$D_{\mathrm{M}}(0.51)$	1991 ± 19
$100\theta_{\mathrm{MC}}$	1.04088 ± 0.00048	$\langle d^2 \rangle^{1/2}$	2.442 ± 0.038	$H(0.61)$	$95.11^{+0.34}_{-0.38}$
τ	$0.0537^{+0.0045}_{-0.0083}$	z_{re}	$7.65^{+0.52}_{-0.82}$	$D_{\mathrm{M}}(0.61)$	2316 ± 20
$\ln(10^{10}A_{\mathrm{s}})$	$3.041^{+0.012}_{-0.016}$	$10^9 A_{\mathrm{s}}$	$2.092^{+0.024}_{-0.033}$	$H(2.33)$	236.4 ± 1.3
n_{s}	0.9654 ± 0.0059	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.879 ± 0.014	$D_{\mathrm{M}}(2.33)$	5773 ± 17
r	< 0.0495	D_{40}	1240^{+17}_{-19}	$f\sigma_8(0.15)$	0.461 ± 0.012
y_{cal}	1.0005 ± 0.0025	D_{220}	5700 ± 42	$\sigma_8(0.15)$	0.7486 ± 0.0071
A_{100}^{PS}	242 ± 25	D_{810}	2533 ± 14	$f\sigma_8(0.38)$	0.4776 ± 0.0097
A_{143}^{PS}	41 ± 8	D_{1420}	814.6 ± 5.2	$\sigma_8(0.38)$	$0.6630^{+0.0051}_{-0.0057}$
A_{217}^{PS}	102 ± 10	D_{2000}	229.7 ± 1.8	$f\sigma_8(0.51)$	0.4756 ± 0.0083
A_{217}^{CIB}	41 ± 7	$n_{\mathrm{s},0.002}$	0.9654 ± 0.0059	$\sigma_8(0.51)$	$0.6202^{+0.0045}_{-0.0052}$
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	Y_{P}	$0.24530^{+0.00010}_{-0.000088}$	$f\sigma_8(0.61)$	0.4702 ± 0.0073
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.24663^{+0.00010}_{-0.000088}$	$\sigma_8(0.61)$	$0.5900^{+0.0041}_{-0.0049}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.58^{+0.40}_{-0.14}$	$10^5 \mathrm{D}/\mathrm{H}$	2.628 ± 0.042	$f\sigma_8(2.33)$	$0.2973^{+0.0019}_{-0.0024}$
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Age/Gyr	13.821 ± 0.037	$\sigma_8(2.33)$	$0.3063^{+0.0019}_{-0.0026}$
A^{kSZ}	$4.9^{+2.8}_{-3.5}$	z_{*}	1090.21 ± 0.41	$r_{0.002}$	< 0.0451
A_{100}^{dust}	1.00 ± 0.19	r_{*}	144.59 ± 0.49	$r_{0.01}$	< 0.0473
A_{143}^{dust}	0.98 ± 0.17	$100\theta_{*}$	1.04109 ± 0.00047	$\ln(10^{10}A_{\mathrm{t}})$	$-0.67^{+1.4}_{-0.61}$
A_{217}^{dust}	0.97 ± 0.10	$D_{\mathrm{M}}(z_{*})/\mathrm{Gpc}$	13.888 ± 0.045	r_{10}	< 0.0232
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	z_{drag}	1059.43 ± 0.46	$10^9 A_{\mathrm{t}}$	< 0.104
c_{100}	0.9974 ± 0.0011	r_{drag}	147.33 ± 0.49	$10^9 A_{\mathrm{t}}e^{-2\tau}$	< 0.0930
c_{217}	1.0012 ± 0.0016	k_{D}	0.14045 ± 0.00053	f_{2000}^{143}	30.5 ± 3.0
H_0	67.15 ± 0.94	$100\theta_{\mathrm{D}}$	0.16106 ± 0.00026	f_{2000}^{217}	107.4 ± 2.0
Ω_{Λ}	0.683 ± 0.013	z_{eq}	3398 ± 49	$f_{2000}^{143 \times 217}$	32.8 ± 2.2
Ω_{m}	0.317 ± 0.013	k_{eq}	0.01037 ± 0.00015	χ_{simall}^2	397.0 ± 1.6
$\Omega_{\mathrm{m}}h^2$	0.1428 ± 0.0020	$100\theta_{\mathrm{eq}}$	0.8135 ± 0.0091	χ_{lowl}^2	24.6 ± 1.8
$\Omega_{\mathrm{m}}h^3$	0.09590 ± 0.00046	$100\theta_{\mathrm{s,eq}}$	0.4497 ± 0.0047	$\chi_{\mathrm{CamSpec}}^2$	7063.6 ± 5.5
σ_8	0.8108 ± 0.0086	$H(0.15)$	72.49 ± 0.80	χ_{prior}^2	7.6 ± 3.4
S_8	0.833 ± 0.025	$D_{\mathrm{M}}(0.15)$	645.3 ± 8.1	χ_{CMB}^2	7485.2 ± 5.6
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.456 ± 0.013	$H(0.38)$	82.69 ± 0.58		
$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.608 ± 0.012	$D_{\mathrm{M}}(0.38)$	1538 ± 16		

$\bar{\chi}_{\mathrm{eff}}^2 = 7492.76$; $\Delta\bar{\chi}_{\mathrm{eff}}^2 = 1.50$; $R - 1 = 0.00713$

13.4 base_r_CamSpecHM_TT_lowl_lowE_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02222 ± 0.00020	$r_{\mathrm{drag}}h$	99.93 ± 0.94	$H(0.61)$	95.30 ± 0.25
$\Omega_{\mathrm{c}}h^2$	0.1188 ± 0.0012	$\langle d^2 \rangle^{1/2}$	2.422 ± 0.026	$D_{\mathrm{M}}(0.61)$	2304 ± 12
$100\theta_{\mathrm{MC}}$	1.04105 ± 0.00042	z_{re}	$7.72^{+0.56}_{-0.82}$	$H(2.33)$	235.61 ± 0.79
τ	$0.0547^{+0.0050}_{-0.0082}$	$10^9 A_{\mathrm{s}}$	$2.090^{+0.025}_{-0.034}$	$D_{\mathrm{M}}(2.33)$	5765 ± 12
$\ln(10^{10} A_{\mathrm{s}})$	$3.040^{+0.012}_{-0.016}$	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.873 ± 0.012	$f\sigma_8(0.15)$	0.4533 ± 0.0075
n_{s}	0.9683 ± 0.0043	D_{40}	1234^{+15}_{-19}	$\sigma_8(0.15)$	$0.7459^{+0.0057}_{-0.0066}$
r	< 0.0529	D_{220}	5704 ± 41	$f\sigma_8(0.38)$	0.4722 ± 0.0063
y_{cal}	1.0005 ± 0.0025	D_{810}	2533 ± 14	$\sigma_8(0.38)$	$0.6615^{+0.0047}_{-0.0057}$
A_{100}^{PS}	241 ± 25	D_{1420}	815.2 ± 5.2	$f\sigma_8(0.51)$	0.4710 ± 0.0056
A_{143}^{PS}	40 ± 8	D_{2000}	230.0 ± 1.8	$\sigma_8(0.51)$	$0.6192^{+0.0042}_{-0.0053}$
A_{217}^{PS}	101 ± 10	$n_{\mathrm{s},0.002}$	0.9683 ± 0.0043	$f\sigma_8(0.61)$	0.4663 ± 0.0051
A_{217}^{CIB}	41 ± 7	Y_{P}	0.245332 ± 0.000083	$\sigma_8(0.61)$	$0.5892^{+0.0040}_{-0.0050}$
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.5}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246658 ± 0.000083	$f\sigma_8(2.33)$	$0.2972^{+0.0019}_{-0.0025}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	$10^5 \mathrm{D}/\mathrm{H}$	2.614 ± 0.037	$\sigma_8(2.33)$	$0.3065^{+0.0020}_{-0.0026}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.57^{+0.39}_{-0.16}$	$\mathrm{Age}/\mathrm{Gyr}$	13.803 ± 0.028	$r_{0.002}$	< 0.0488
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	z_*	1090.00 ± 0.30	$r_{0.01}$	< 0.0508
A^{kSZ}	4.9 ± 2.7	r_*	144.86 ± 0.32	$\ln(10^{10} A_{\mathrm{t}})$	$-0.61^{+1.4}_{-0.59}$
A_{100}^{dust}	1.01 ± 0.20	$100\theta_*$	1.04125 ± 0.00042	r_{10}	< 0.0249
A_{143}^{dust}	0.98 ± 0.18	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.912 ± 0.031	$10^9 A_{\mathrm{t}}$	< 0.111
A_{217}^{dust}	0.97 ± 0.10	z_{drag}	1059.50 ± 0.45	$10^9 A_{\mathrm{t}} e^{-2\tau}$	< 0.0992
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	r_{drag}	147.58 ± 0.35	f_{2000}^{143}	30.3 ± 3.0
c_{100}	0.9975 ± 0.0011	k_{D}	0.14023 ± 0.00045	f_{2000}^{217}	107.2 ± 2.0
c_{217}	1.0012 ± 0.0016	$100\theta_{\mathrm{D}}$	0.16103 ± 0.00026	$f_{2000}^{143 \times 217}$	32.6 ± 2.2
H_0	67.71 ± 0.54	z_{eq}	3369 ± 29	χ_{simall}^2	397.1 ± 1.7
Ω_{Λ}	0.6910 ± 0.0073	k_{eq}	0.010283 ± 0.000087	χ_{lowl}^2	24.1 ± 1.6
Ω_{m}	0.3090 ± 0.0073	$100\theta_{\mathrm{eq}}$	0.8190 ± 0.0053	$\chi_{\mathrm{CamSpec}}^2$	7064.0 ± 5.4
$\Omega_{\mathrm{m}}h^2$	0.1416 ± 0.0012	$100\theta_{\mathrm{s,eq}}$	0.4524 ± 0.0027	$\chi_{6\mathrm{DF}}^2$	0.050 ± 0.067
$\Omega_{\mathrm{m}}h^3$	0.09590 ± 0.00046	$H(0.15)$	72.96 ± 0.47	χ_{MGS}^2	1.44 ± 0.54
σ_8	$0.8070^{+0.0066}_{-0.0075}$	$D_{\mathrm{M}}(0.15)$	640.5 ± 4.6	$\chi_{\mathrm{DR12BAO}}^2$	4.5 ± 1.5
S_8	0.819 ± 0.015	$H(0.38)$	83.02 ± 0.35	χ_{prior}^2	7.6 ± 3.4
$\sigma_8 \Omega_{\mathrm{m}}^{0.5}$	0.4486 ± 0.0080	$D_{\mathrm{M}}(0.38)$	1528.1 ± 9.4	χ_{BAO}^2	6.0 ± 1.2
$\sigma_8 \Omega_{\mathrm{m}}^{0.25}$	0.6017 ± 0.0077	$H(0.51)$	89.71 ± 0.29	χ_{CMB}^2	7485.2 ± 5.6
$\sigma_8/h^{0.5}$	0.981 ± 0.011	$D_{\mathrm{M}}(0.51)$	1980 ± 11		

$$\bar{\chi}_{\mathrm{eff}}^2 = 7498.81; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 1.50; R - 1 = 0.01239$$

13.5 base_r_CamSpecHM_TTTEE_lowl_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022286	0.02230 ± 0.00016	$\sigma_8 \Omega_m^{0.5}$	0.4524	0.4509 ± 0.0092	$H(0.38)$	82.863	82.93 ± 0.40
$\Omega_c h^2$	0.11958	0.1193 ± 0.0014	$\sigma_8 \Omega_m^{0.25}$	0.6046	0.6032 ± 0.0086	$D_M(0.38)$	1532.8	1531 ± 11
$100\theta_{MC}$	1.040880	1.04090 ± 0.00032	$\sigma_8/h^{0.5}$	0.9839	0.982 ± 0.012	$H(0.51)$	89.600	89.65 ± 0.31
τ	0.0524	0.0524 ± 0.0078	$r_{\text{drag}} h$	99.30	99.5 ± 1.1	$D_M(0.51)$	1985.3	1983 ± 13
$\ln(10^{10} A_s)$	3.0375	3.037 ± 0.016	$\langle d^2 \rangle^{1/2}$	2.4306	2.426 ± 0.029	$H(0.61)$	95.234	95.28 ± 0.25
n_s	0.96661	0.9673 ± 0.0047	z_{re}	7.49	7.47 ± 0.80	$D_M(0.61)$	2309.9	2308 ± 14
r	0.0103	< 0.0751	$10^9 A_s$	2.0854	2.084 ± 0.033	$H(2.33)$	236.20	236.06 ± 0.85
y_{cal}	1.00042	1.0005 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.8780	1.877 ± 0.012	$D_M(2.33)$	5766.9	5765 ± 11
A_{100}^{PS}	234.2	239 ± 25	D_{40}	1227.1	1243_{-20}^{+16}	$f\sigma_8(0.15)$	0.4568	0.4554 ± 0.0086
A_{143}^{PS}	39.9	39 ± 8	D_{220}	5712.4	5713 ± 39	$\sigma_8(0.15)$	0.7463	0.7456 ± 0.0067
A_{217}^{PS}	102.1	103 ± 10	D_{810}	2534.9	2535 ± 14	$f\sigma_8(0.38)$	0.4746	0.4735 ± 0.0070
A_{217}^{CIB}	44.4	39 ± 7	D_{1420}	815.98	816.1 ± 4.9	$\sigma_8(0.38)$	0.6613	0.6609 ± 0.0056
A_{143}^{tSZ}	6.41	$3.9_{-2.5}^{+1.9}$	D_{2000}	230.33	230.4 ± 1.7	$f\sigma_8(0.51)$	0.4730	0.4720 ± 0.0062
$r_{143 \times 217}^{\text{PS}}$	0.599	0.66 ± 0.13	$n_{s,0.002}$	0.96661	0.9673 ± 0.0047	$\sigma_8(0.51)$	0.6188	0.6184 ± 0.0052
$r_{143 \times 217}^{\text{CIB}}$	0.770	$0.55_{-0.19}^{+0.39}$	Y_{P}	0.245362	0.245365 ± 0.000066	$f\sigma_8(0.61)$	0.4679	0.4670 ± 0.0056
$\xi^{\text{tSZ} \times \text{CIB}}$	0.11	—	$Y_{\text{P}}^{\text{BBN}}$	0.246688	0.246691 ± 0.000066	$\sigma_8(0.61)$	0.58874	0.5884 ± 0.0049
A^{kSZ}	0.14	$4.6_{-4.5}^{+1.6}$	$10^5 \text{D}/\text{H}$	2.6014	2.599 ± 0.031	$f\sigma_8(2.33)$	0.29677	0.2967 ± 0.0024
A_{100}^{dust}	1.014	1.00 ± 0.19	Age/Gyr	13.8056	13.802 ± 0.026	$\sigma_8(2.33)$	0.30586	0.3058 ± 0.0026
A_{143}^{dust}	0.973	0.96 ± 0.18	z_*	1089.991	1089.95 ± 0.29	$r_{0.002}$	0.0093	< 0.0696
A_{217}^{dust}	0.971	0.97 ± 0.10	r_*	144.603	144.66 ± 0.32	$r_{0.01}$	0.0098	< 0.0723
$A_{143 \times 217}^{\text{dust}}$	1.008	1.03 ± 0.16	$100\theta_*$	1.041064	1.04109 ± 0.00032	$\ln(10^{10} A_t)$	-1.54	$-0.18_{-0.46}^{+1.2}$
c_{100}	0.99764	0.9975 ± 0.0010	$D_M(z_*)/\text{Gpc}$	13.8899	13.895 ± 0.030	r_{10}	0.0048	< 0.0358
c_{217}	1.00129	1.0011 ± 0.0016	z_{drag}	1059.704	1059.72 ± 0.34	$10^9 A_t$	0.022	< 0.156
c_{TE}	0.99664	0.9968 ± 0.0049	r_{drag}	147.296	147.34 ± 0.32	$10^9 A_t e^{-2\tau}$	0.019	< 0.141
c_{EE}	0.99215	0.9923 ± 0.0049	k_{D}	0.140589	0.14055 ± 0.00035	f_{2000}^{143}	29.94	29.5 ± 2.9
H_0	67.41	67.52 ± 0.63	$100\theta_{\text{D}}$	0.160879	0.16088 ± 0.00020	f_{2000}^{217}	106.83	106.7 ± 1.9
Ω_{Λ}	0.6864	0.6878 ± 0.0087	z_{eq}	3390.3	3385 ± 32	$f_{2000}^{143 \times 217}$	32.08	32.0 ± 2.0
Ω_{m}	0.3136	0.3122 ± 0.0087	k_{eq}	0.010347	0.010331 ± 0.000098	χ_{small}^2	395.84	397.1 ± 1.6
$\Omega_{\text{m}} h^2$	0.14252	0.1423 ± 0.0013	$100\theta_{\text{eq}}$	0.8152	0.8162 ± 0.0061	χ_{lowl}^2	23.19	24.9 ± 1.9
$\Omega_{\text{m}} h^3$	0.096076	0.09607 ± 0.00032	$100\theta_{\text{s,eq}}$	0.45042	0.4510 ± 0.0031	χ_{CamSpec}^2	11499.5	11513.6 ± 5.8
σ_8	0.8079	0.8070 ± 0.0076	$H(0.15)$	72.72	72.81 ± 0.54	χ_{prior}^2	2.16	7.8 ± 3.4
S_8	0.8260	0.823 ± 0.017	$D_M(0.15)$	642.9	642.0 ± 5.4	χ_{CMB}^2	11918.6	11935.7 ± 5.9

Best-fit $\chi_{\text{eff}}^2 = 11920.72$; $\Delta\chi_{\text{eff}}^2 = -0.04$; $\bar{\chi}_{\text{eff}}^2 = 11943.49$; $\Delta\bar{\chi}_{\text{eff}}^2 = 1.03$; $R - 1 = 0.01020$

χ_{eff}^2 : CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.84 (Δ -0.06) commander_dx12_v3.2.29: 23.20 (Δ 0.19) CamSpec like_10.7HM_1400_unified: 11499.52 (Δ -0.12)

13.6 base_r_CamSpecHM_TTTEEE_lowl_lowE_post_BAO

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02234 ± 0.00015	$\sigma_8/h^{0.5}$	0.978 ± 0.010	$H(0.61)$	95.37 ± 0.20
$\Omega_{\mathrm{c}}h^2$	0.1188 ± 0.0010	$r_{\mathrm{drag}}h$	99.94 ± 0.81	$D_{\mathrm{M}}(0.61)$	2302 ± 10
$100\theta_{\mathrm{MC}}$	1.04097 ± 0.00030	$\langle d^2 \rangle^{1/2}$	2.418 ± 0.025	$H(2.33)$	235.72 ± 0.64
τ	0.0530 ± 0.0078	z_{re}	7.52 ± 0.79	$D_{\mathrm{M}}(2.33)$	5761.4 ± 9.4
$\ln(10^{10}A_{\mathrm{s}})$	3.037 ± 0.016	$10^9 A_{\mathrm{s}}$	2.085 ± 0.033	$f\sigma_8(0.15)$	0.4522 ± 0.0067
n_{s}	0.9686 ± 0.0041	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.875 ± 0.011	$\sigma_8(0.15)$	0.7446 ± 0.0065
r	< 0.0786	D_{40}	1241^{+15}_{-20}	$f\sigma_8(0.38)$	0.4711 ± 0.0058
y_{cal}	1.0005 ± 0.0025	D_{220}	5716 ± 39	$\sigma_8(0.38)$	0.6603 ± 0.0056
A_{100}^{PS}	238 ± 25	D_{810}	2534 ± 14	$f\sigma_8(0.51)$	0.4700 ± 0.0053
A_{143}^{PS}	39 ± 8	D_{1420}	816.5 ± 4.8	$\sigma_8(0.51)$	0.6181 ± 0.0052
A_{217}^{PS}	103 ± 10	D_{2000}	230.5 ± 1.6	$f\sigma_8(0.61)$	0.4653 ± 0.0049
A_{217}^{CIB}	39 ± 7	$n_{\mathrm{s},0.002}$	0.9686 ± 0.0041	$\sigma_8(0.61)$	0.5882 ± 0.0049
A_{143}^{tSZ}	$4.0^{+1.9}_{-2.4}$	Y_{P}	0.245380 ± 0.000059	$f\sigma_8(2.33)$	0.2967 ± 0.0025
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246707 ± 0.000060	$\sigma_8(2.33)$	0.3060 ± 0.0025
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.55^{+0.40}_{-0.18}$	$10^5 \mathrm{D}/\mathrm{H}$	2.592 ± 0.028	$r_{0.002}$	< 0.0735
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Age/Gyr	13.794 ± 0.021	$r_{0.01}$	< 0.0760
A^{kSZ}	< 6.05	z_*	1089.86 ± 0.24	$\ln(10^{10}A_{\mathrm{t}})$	$-0.12^{+1.2}_{-0.45}$
A_{100}^{dust}	1.01 ± 0.20	r_*	144.77 ± 0.25	r_{10}	< 0.0377
A_{143}^{dust}	0.96 ± 0.17	$100\theta_*$	1.04116 ± 0.00030	$10^9 A_{\mathrm{t}}$	< 0.163
A_{217}^{dust}	0.98 ± 0.10	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.905 ± 0.024	$10^9 A_{\mathrm{t}}e^{-2\tau}$	< 0.147
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	z_{drag}	1059.77 ± 0.32	f_{2000}^{143}	29.3 ± 2.9
c_{100}	0.9975 ± 0.0010	r_{drag}	147.45 ± 0.26	f_{2000}^{217}	106.6 ± 1.9
c_{217}	1.0011 ± 0.0016	k_{D}	0.14046 ± 0.00032	$f_{2000}^{143 \times 217}$	31.8 ± 2.0
c_{TE}	0.9968 ± 0.0049	$100\theta_{\mathrm{D}}$	0.16085 ± 0.00019	χ_{small}^2	397.2 ± 1.6
c_{EE}	0.9925 ± 0.0049	z_{eq}	3372 ± 24	χ_{lowl}^2	24.7 ± 1.8
H_0	67.78 ± 0.47	k_{eq}	0.010292 ± 0.000073	$\chi_{\mathrm{CamSpec}}^2$	11513.5 ± 5.7
Ω_{Λ}	0.6913 ± 0.0063	$100\theta_{\mathrm{eq}}$	0.8187 ± 0.0045	$\chi_{6\mathrm{DF}}^2$	0.040 ± 0.052
Ω_{m}	0.3087 ± 0.0063	$100\theta_{\mathrm{s,eq}}$	0.4522 ± 0.0023	χ_{MGS}^2	1.44 ± 0.46
$\Omega_{\mathrm{m}}h^2$	0.1418 ± 0.0010	$H(0.15)$	73.03 ± 0.40	$\chi_{\mathrm{DR12BAO}}^2$	4.4 ± 1.2
$\Omega_{\mathrm{m}}h^3$	0.09608 ± 0.00031	$D_{\mathrm{M}}(0.15)$	639.9 ± 4.0	χ_{prior}^2	7.8 ± 3.4
σ_8	0.8054 ± 0.0072	$H(0.38)$	83.09 ± 0.30	χ_{BAO}^2	5.89 ± 0.90
S_8	0.817 ± 0.013	$D_{\mathrm{M}}(0.38)$	1526.7 ± 8.0	χ_{CMB}^2	11935.4 ± 5.8
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4475 ± 0.0071	$H(0.51)$	89.77 ± 0.24		
$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6003 ± 0.0071	$D_{\mathrm{M}}(0.51)$	1978.2 ± 9.4		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11949.07; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.79; R - 1 = 0.01061$$

13.7 base_r_CamSpecHM_TTTEE_lowl_lowE_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02230 ± 0.00016	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4513 ± 0.0091	$H(0.38)$	82.94 ± 0.40
$\Omega_{\mathrm{c}}h^2$	0.1193 ± 0.0014	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6039 ± 0.0084	$D_{\mathrm{M}}(0.38)$	1531 ± 11
$100\theta_{\mathrm{MC}}$	1.04091 ± 0.00032	$\sigma_8/h^{0.5}$	0.983 ± 0.012	$H(0.51)$	89.66 ± 0.31
τ	$0.0540^{+0.0047}_{-0.0080}$	$r_{\mathrm{drag}}h$	99.5 ± 1.1	$D_{\mathrm{M}}(0.51)$	1983 ± 13
$\ln(10^{10}A_{\mathrm{s}})$	$3.040^{+0.011}_{-0.016}$	$\langle d^2 \rangle^{1/2}$	2.429 ± 0.028	$H(0.61)$	95.28 ± 0.25
n_{s}	0.9675 ± 0.0047	z_{re}	$7.64^{+0.52}_{-0.80}$	$D_{\mathrm{M}}(0.61)$	2307 ± 14
r	< 0.0751	$10^9 A_{\mathrm{s}}$	$2.091^{+0.023}_{-0.033}$	$H(2.33)$	236.03 ± 0.85
y_{cal}	1.0005 ± 0.0025	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.877 ± 0.012	$D_{\mathrm{M}}(2.33)$	5765 ± 11
A_{100}^{PS}	238 ± 25	D_{40}	1243^{+16}_{-20}	$f\sigma_8(0.15)$	0.4558 ± 0.0085
A_{143}^{PS}	39 ± 8	D_{220}	5713 ± 39	$\sigma_8(0.15)$	$0.7467^{+0.0056}_{-0.0064}$
A_{217}^{PS}	103 ± 10	D_{810}	2534 ± 14	$f\sigma_8(0.38)$	0.4740 ± 0.0069
A_{217}^{CIB}	39 ± 7	D_{1420}	816.1 ± 4.9	$\sigma_8(0.38)$	$0.6619^{+0.0044}_{-0.0054}$
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	D_{2000}	230.4 ± 1.7	$f\sigma_8(0.51)$	0.4726 ± 0.0060
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$n_{\mathrm{s},0.002}$	0.9675 ± 0.0047	$\sigma_8(0.51)$	$0.6194^{+0.0040}_{-0.0050}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.55^{+0.39}_{-0.19}$	Y_{P}	0.245367 ± 0.000066	$f\sigma_8(0.61)$	0.4676 ± 0.0054
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246693 ± 0.000066	$\sigma_8(0.61)$	$0.5894^{+0.0037}_{-0.0048}$
A^{kSZ}	$4.6^{+1.7}_{-4.4}$	$10^5 \mathrm{D}/\mathrm{H}$	2.598 ± 0.030	$f\sigma_8(2.33)$	$0.2971^{+0.0018}_{-0.0024}$
A_{100}^{dust}	1.01 ± 0.19	$\mathrm{Age}/\mathrm{Gyr}$	13.801 ± 0.026	$\sigma_8(2.33)$	$0.3063^{+0.0018}_{-0.0025}$
A_{143}^{dust}	0.96 ± 0.18	z_*	1089.94 ± 0.29	$r_{0.002}$	< 0.0697
A_{217}^{dust}	0.98 ± 0.10	r_*	144.66 ± 0.32	$r_{0.01}$	< 0.0723
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04110 ± 0.00032	$\ln(10^{10}A_{\mathrm{t}})$	$-0.17^{+1.2}_{-0.46}$
c_{100}	0.9975 ± 0.0011	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.895 ± 0.030	r_{10}	< 0.0358
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.73 ± 0.33	$10^9 A_{\mathrm{t}}$	< 0.157
c_{TE}	0.9966 ± 0.0049	r_{drag}	147.35 ± 0.32	$10^9 A_{\mathrm{t}}e^{-2\tau}$	< 0.141
c_{EE}	0.9922 ± 0.0049	k_{D}	0.14054 ± 0.00035	f_{2000}^{143}	29.4 ± 2.9
H_0	67.55 ± 0.63	$100\theta_{\mathrm{D}}$	0.16087 ± 0.00020	f_{2000}^{217}	106.7 ± 1.9
Ω_{Λ}	0.6881 ± 0.0087	z_{eq}	3384 ± 32	$f_{2000}^{143 \times 217}$	31.9 ± 2.0
Ω_{m}	0.3119 ± 0.0087	k_{eq}	0.010328 ± 0.000098	χ_{small}^2	397.0 ± 1.6
$\Omega_{\mathrm{m}}h^2$	0.1422 ± 0.0013	$100\theta_{\mathrm{eq}}$	0.8165 ± 0.0061	χ_{lowl}^2	24.9 ± 1.9
$\Omega_{\mathrm{m}}h^3$	0.09607 ± 0.00032	$100\theta_{\mathrm{s,eq}}$	0.4511 ± 0.0031	$\chi_{\mathrm{CamSpec}}^2$	11513.5 ± 5.8
σ_8	0.8081 ± 0.0070	$H(0.15)$	72.83 ± 0.54	χ_{prior}^2	7.8 ± 3.4
S_8	0.824 ± 0.017	$D_{\mathrm{M}}(0.15)$	641.9 ± 5.4	χ_{CMB}^2	11935.4 ± 5.9

$$\bar{\chi}_{\mathrm{eff}}^2 = 11943.24; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 1.05; R - 1 = 0.00947$$

13.8 base_r_CamSpecHM_TTTEEE_lowl_lowE_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02234 ± 0.00015	$\sigma_8/h^{0.5}$	0.9796 ± 0.0099	$H(0.61)$	95.37 ± 0.20
$\Omega_{\mathrm{c}}h^2$	0.1187 ± 0.0010	$r_{\mathrm{drag}}h$	99.96 ± 0.81	$D_{\mathrm{M}}(0.61)$	2302 ± 10
$100\theta_{\mathrm{MC}}$	1.04098 ± 0.00030	$\langle d^2 \rangle^{1/2}$	2.420 ± 0.024	$H(2.33)$	235.71 ± 0.65
τ	$0.0545^{+0.0049}_{-0.0079}$	z_{re}	$7.68^{+0.53}_{-0.80}$	$D_{\mathrm{M}}(2.33)$	5761.2 ± 9.5
$\ln(10^{10}A_{\mathrm{s}})$	$3.040^{+0.012}_{-0.016}$	$10^9 A_{\mathrm{s}}$	$2.091^{+0.025}_{-0.033}$	$f\sigma_8(0.15)$	0.4528 ± 0.0066
n_{s}	0.9688 ± 0.0041	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.874 ± 0.011	$\sigma_8(0.15)$	$0.7456^{+0.0052}_{-0.0063}$
r	< 0.0783	D_{40}	1241^{+15}_{-20}	$f\sigma_8(0.38)$	0.4717 ± 0.0056
y_{cal}	1.0005 ± 0.0025	D_{220}	5715 ± 39	$\sigma_8(0.38)$	$0.6612^{+0.0043}_{-0.0054}$
A_{100}^{PS}	238 ± 25	D_{810}	2534 ± 14	$f\sigma_8(0.51)$	0.4706 ± 0.0050
A_{143}^{PS}	39 ± 8	D_{1420}	816.5 ± 4.9	$\sigma_8(0.51)$	$0.6190^{+0.0040}_{-0.0050}$
A_{217}^{PS}	103 ± 10	D_{2000}	230.6 ± 1.6	$f\sigma_8(0.61)$	0.4659 ± 0.0046
A_{217}^{CIB}	39 ± 7	$n_{\mathrm{s},0.002}$	0.9688 ± 0.0041	$\sigma_8(0.61)$	$0.5890^{+0.0037}_{-0.0048}$
A_{143}^{tSZ}	$4.0^{+1.9}_{-2.5}$	Y_{P}	0.245381 ± 0.000059	$f\sigma_8(2.33)$	$0.2971^{+0.0019}_{-0.0024}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246708 ± 0.000060	$\sigma_8(2.33)$	$0.3065^{+0.0019}_{-0.0025}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.55^{+0.39}_{-0.18}$	$10^5 \mathrm{D}/\mathrm{H}$	2.592 ± 0.028	$r_{0.002}$	< 0.0733
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Age/Gyr	13.794 ± 0.021	$r_{0.01}$	< 0.0758
A^{kSZ}	< 6.05	z_*	1089.85 ± 0.24	$\ln(10^{10}A_{\mathrm{t}})$	$-0.11^{+1.2}_{-0.46}$
A_{100}^{dust}	1.01 ± 0.20	r_*	144.78 ± 0.25	r_{10}	< 0.0375
A_{143}^{dust}	0.96 ± 0.17	$100\theta_*$	1.04116 ± 0.00030	$10^9 A_{\mathrm{t}}$	< 0.163
A_{217}^{dust}	0.98 ± 0.10	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.905 ± 0.024	$10^9 A_{\mathrm{t}}e^{-2\tau}$	< 0.147
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	z_{drag}	1059.78 ± 0.33	f_{2000}^{143}	29.2 ± 2.9
c_{100}	0.9975 ± 0.0010	r_{drag}	147.46 ± 0.26	f_{2000}^{217}	106.6 ± 1.9
c_{217}	1.0011 ± 0.0016	k_{D}	0.14046 ± 0.00032	$f_{2000}^{143 \times 217}$	31.8 ± 2.0
c_{TE}	0.9966 ± 0.0049	$100\theta_{\mathrm{D}}$	0.16085 ± 0.00019	χ_{simall}^2	397.1 ± 1.6
c_{EE}	0.9925 ± 0.0049	z_{eq}	3372 ± 24	χ_{lowl}^2	24.7 ± 1.8
H_0	67.79 ± 0.47	k_{eq}	0.010290 ± 0.000073	$\chi_{\mathrm{CamSpec}}^2$	11513.4 ± 5.7
Ω_{Λ}	0.6915 ± 0.0063	$100\theta_{\mathrm{eq}}$	0.8188 ± 0.0045	$\chi_{6\mathrm{DF}}^2$	0.039 ± 0.051
Ω_{m}	0.3085 ± 0.0063	$100\theta_{\mathrm{s,eq}}$	0.4523 ± 0.0023	χ_{MGS}^2	1.45 ± 0.47
$\Omega_{\mathrm{m}}h^2$	0.1417 ± 0.0010	$H(0.15)$	73.04 ± 0.40	$\chi_{\mathrm{DR12BAO}}^2$	4.4 ± 1.2
$\Omega_{\mathrm{m}}h^3$	0.09608 ± 0.00031	$D_{\mathrm{M}}(0.15)$	639.8 ± 4.0	χ_{prior}^2	7.8 ± 3.4
σ_8	$0.8066^{+0.0060}_{-0.0070}$	$H(0.38)$	83.09 ± 0.30	χ_{BAO}^2	5.88 ± 0.89
S_8	0.818 ± 0.013	$D_{\mathrm{M}}(0.38)$	1526.5 ± 8.0	χ_{CMB}^2	11935.2 ± 5.8
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4480 ± 0.0070	$H(0.51)$	89.78 ± 0.24		
$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6011 ± 0.0069	$D_{\mathrm{M}}(0.51)$	1977.9 ± 9.4		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11948.86; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.87; R - 1 = 0.01058$$

13.9 base_r_CamSpecHM_TTTEEE_lowl_lowE_lensing

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022281	0.02230 ± 0.00015	$\sigma_8 \Omega_m^{0.25}$	0.6059	0.6051 ± 0.0065	$H(0.51)$	89.567	89.62 ± 0.27
$\Omega_c h^2$	0.11978	0.1195 ± 0.0012	$\sigma_8/h^{0.5}$	0.9858	0.9849 ± 0.0091	$D_M(0.51)$	1986.9	1985 ± 11
$100\theta_{MC}$	1.040852	1.04088 ± 0.00031	$r_{\text{drag}} h$	99.15	99.36 ± 0.93	$H(0.61)$	95.210	95.25 ± 0.22
τ	0.0528	0.0538 ± 0.0073	$\langle d^2 \rangle^{1/2}$	2.4373	2.433 ± 0.022	$D_M(0.61)$	2311.6	2309 ± 12
$\ln(10^{10} A_s)$	3.0394	3.041 ± 0.014	z_{re}	7.54	7.62 ± 0.74	$H(2.33)$	236.32	236.17 ± 0.73
n_s	0.96541	0.9669 ± 0.0043	$10^9 A_s$	2.0893	2.092 ± 0.030	$D_M(2.33)$	5767.8	5766 ± 10
r	0.0020	< 0.0725	$10^9 A_s e^{-2\tau}$	1.8800	1.878 ± 0.011	$f\sigma_8(0.15)$	0.4581	0.4571 ± 0.0065
y_{cal}	1.00051	1.0006 ± 0.0025	D_{40}	1228.2	1244^{+15}_{-20}	$\sigma_8(0.15)$	0.7472	0.7473 ± 0.0054
A_{100}^{PS}	234.2	238 ± 25	D_{220}	5719.5	5715 ± 39	$f\sigma_8(0.38)$	0.4757	0.4750 ± 0.0053
A_{143}^{PS}	39.8	39 ± 8	D_{810}	2535.9	2535 ± 13	$\sigma_8(0.38)$	0.66197	0.6622 ± 0.0047
A_{217}^{PS}	101.8	103 ± 10	D_{1420}	815.83	816.3 ± 4.8	$f\sigma_8(0.51)$	0.47394	0.4734 ± 0.0046
A_{217}^{CIB}	44.7	39 ± 7	D_{2000}	230.25	230.5 ± 1.6	$\sigma_8(0.51)$	0.61935	0.6197 ± 0.0044
A_{143}^{tSZ}	6.62	$3.9^{+1.9}_{-2.5}$	$n_{s,0.002}$	0.96541	0.9669 ± 0.0043	$f\sigma_8(0.61)$	0.46872	0.4683 ± 0.0042
$r_{143 \times 217}^{\text{PS}}$	0.597	0.66 ± 0.13	Y_{P}	0.245359	$0.245365^{+0.000065}_{-0.000058}$	$\sigma_8(0.61)$	0.58923	0.5896 ± 0.0042
$r_{143 \times 217}^{\text{CIB}}$	0.776	$0.55^{+0.38}_{-0.20}$	$Y_{\text{P}}^{\text{BBN}}$	0.246686	$0.246691^{+0.000065}_{-0.000058}$	$f\sigma_8(2.33)$	0.29697	0.2972 ± 0.0022
$\xi^{\text{tSZ} \times \text{CIB}}$	0.09	—	$10^5 \text{D}/\text{H}$	2.6025	2.599 ± 0.029	$\sigma_8(2.33)$	0.30602	0.3063 ± 0.0024
A^{kSZ}	0.01	< 6.08	Age/Gyr	13.8075	13.804 ± 0.023	$r_{0.002}$	0.0018	< 0.0671
A_{100}^{dust}	1.010	1.01 ± 0.19	z_*	1090.015	1089.97 ± 0.26	$r_{0.01}$	0.0019	< 0.0698
A_{143}^{dust}	0.973	0.96 ± 0.18	r_*	144.556	144.61 ± 0.28	$\ln(10^{10} A_t)$	-3.19	$-0.22^{+1.3}_{-0.47}$
A_{217}^{dust}	0.969	0.98 ± 0.10	$100\theta_*$	1.041048	1.04107 ± 0.00030	r_{10}	0.0009	< 0.0344
$A_{143 \times 217}^{\text{dust}}$	1.007	1.03 ± 0.16	$D_M(z_*)/\text{Gpc}$	13.8857	13.891 ± 0.026	$10^9 A_t$	0.004	< 0.152
c_{100}	0.99766	0.9975 ± 0.0011	z_{drag}	1059.704	1059.74 ± 0.33	$10^9 A_t e^{-2\tau}$	0.004	< 0.136
c_{217}	1.00131	1.0011 ± 0.0016	r_{drag}	147.250	147.30 ± 0.28	f_{2000}^{143}	30.16	29.4 ± 2.8
c_{TE}	0.99652	0.9965 ± 0.0049	k_{D}	0.140632	0.14059 ± 0.00033	f_{2000}^{217}	106.93	106.7 ± 1.9
c_{EE}	0.99231	0.9921 ± 0.0050	$100\theta_{\text{D}}$	0.160879	0.16087 ± 0.00019	$f_{2000}^{143 \times 217}$	32.28	31.9 ± 2.0
H_0	67.34	67.45 ± 0.54	z_{eq}	3394.8	3389 ± 27	χ_{lensing}^2	8.858	9.38 ± 0.76
Ω_Λ	0.6853	0.6868 ± 0.0074	k_{eq}	0.010361	0.010343 ± 0.000083	χ_{small}^2	395.87	397.2 ± 1.6
Ω_m	0.3147	0.3132 ± 0.0074	$100\theta_{\text{eq}}$	0.8143	0.8155 ± 0.0051	χ_{lowl}^2	23.23	25.0 ± 1.9
$\Omega_m h^2$	0.14271	0.1425 ± 0.0011	$100\theta_{s,\text{eq}}$	0.44998	0.4506 ± 0.0026	χ_{CamSpec}^2	11499.4	11512.9 ± 5.5
$\Omega_m h^3$	0.096092	0.09609 ± 0.00032	$H(0.15)$	72.650	72.75 ± 0.46	χ_{prior}^2	2.19	7.8 ± 3.4
σ_8	0.8089	0.8089 ± 0.0060	$D_M(0.15)$	643.60	642.6 ± 4.6	χ_{CMB}^2	11927.4	11944.5 ± 5.9
S_8	0.8286	0.826 ± 0.013	$H(0.38)$	82.818	82.89 ± 0.34			
$\sigma_8 \Omega_m^{0.5}$	0.4538	0.4527 ± 0.0070	$D_M(0.38)$	1534.2	1532.2 ± 9.2			

Best-fit $\chi_{\text{eff}}^2 = 11929.59$; $\Delta\chi_{\text{eff}}^2 = -0.06$; $\bar{\chi}_{\text{eff}}^2 = 11952.27$; $\Delta\bar{\chi}_{\text{eff}}^2 = 0.82$; $R - 1 = 0.00977$
 χ_{eff}^2 : CMB - smicadx12_Dec5_ftl_mv2_ndclpp.p_teb_consext8: 8.86 (Δ 0.03) small_100x143_offlike5_EE_Aplanck_B: 395.87 (Δ 0.00) commander_dx12_v3.2.29: 23.23 (Δ 0.02) CamSpec like_10.7HM_1400.unified: 11499.43 (Δ -0.22)

13.10 base_r_CamSpecHM_TTTEE_lowl_lowE_lensing_post_BAO

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02234 ± 0.00014	$\sigma_8/h^{0.5}$	0.9823 ± 0.0084	$H(0.61)$	95.34 ± 0.19
$\Omega_{\mathrm{c}}h^2$	0.11898 ± 0.00096	$r_{\mathrm{drag}}h$	99.78 ± 0.73	$D_{\mathrm{M}}(0.61)$	2304.0 ± 9.3
$100\theta_{\mathrm{MC}}$	1.04094 ± 0.00029	$\langle d^2 \rangle^{1/2}$	2.427 ± 0.021	$H(2.33)$	235.86 ± 0.59
τ	0.0552 ± 0.0072	z_{re}	7.75 ± 0.72	$D_{\mathrm{M}}(2.33)$	5762.4 ± 9.1
$\ln(10^{10}A_{\mathrm{s}})$	3.042 ± 0.014	$10^9 A_{\mathrm{s}}$	2.096 ± 0.030	$f\sigma_8(0.15)$	0.4546 ± 0.0055
n_{s}	0.9682 ± 0.0039	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.877 ± 0.010	$\sigma_8(0.15)$	0.7470 ± 0.0054
r	< 0.0744	D_{40}	1243^{+15}_{-20}	$f\sigma_8(0.38)$	0.4732 ± 0.0047
y_{cal}	1.0007 ± 0.0024	D_{220}	5719 ± 38	$\sigma_8(0.38)$	0.6623 ± 0.0047
A_{100}^{PS}	238 ± 25	D_{810}	2536 ± 13	$f\sigma_8(0.51)$	0.4720 ± 0.0042
A_{143}^{PS}	39 ± 8	D_{1420}	816.9 ± 4.8	$\sigma_8(0.51)$	0.6199 ± 0.0044
A_{217}^{PS}	103 ± 10	D_{2000}	230.7 ± 1.6	$f\sigma_8(0.61)$	0.4672 ± 0.0039
A_{217}^{CIB}	39 ± 7	$n_{\mathrm{s},0.002}$	0.9682 ± 0.0039	$\sigma_8(0.61)$	0.5899 ± 0.0042
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	Y_{P}	0.245380 ± 0.000058	$f\sigma_8(2.33)$	0.2975 ± 0.0022
$r_{143 \times 217}^{\mathrm{PS}}$	0.67 ± 0.13	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246706 ± 0.000058	$\sigma_8(2.33)$	0.3068 ± 0.0023
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.54^{+0.37}_{-0.21}$	$10^5 \mathrm{D}/\mathrm{H}$	2.592 ± 0.027	$r_{0.002}$	< 0.0693
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$\mathrm{Age}/\mathrm{Gyr}$	13.796 ± 0.021	$r_{0.01}$	< 0.0718
A^{kSZ}	< 5.95	z_*	1089.88 ± 0.23	$\ln(10^{10}A_{\mathrm{t}})$	$-0.19^{+1.2}_{-0.47}$
A_{100}^{dust}	1.01 ± 0.19	r_*	144.72 ± 0.23	r_{10}	< 0.0355
A_{143}^{dust}	0.96 ± 0.18	$100\theta_*$	1.04113 ± 0.00029	$10^9 A_{\mathrm{t}}$	< 0.156
A_{217}^{dust}	0.98 ± 0.10	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.900 ± 0.023	$10^9 A_{\mathrm{t}}e^{-2\tau}$	< 0.140
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	z_{drag}	1059.78 ± 0.32	f_{2000}^{143}	29.2 ± 2.8
c_{100}	0.9975 ± 0.0010	r_{drag}	147.40 ± 0.25	f_{2000}^{217}	106.6 ± 1.9
c_{217}	1.0011 ± 0.0016	k_{D}	0.14052 ± 0.00031	$f_{2000}^{143 \times 217}$	31.7 ± 2.0
c_{TE}	0.9966 ± 0.0049	$100\theta_{\mathrm{D}}$	0.16084 ± 0.00019	$\chi_{\mathrm{lensing}}^2$	9.40 ± 0.83
c_{EE}	0.9923 ± 0.0049	z_{eq}	3377 ± 22	χ_{small}^2	397.3 ± 1.7
H_0	67.69 ± 0.43	k_{eq}	0.010307 ± 0.000067	χ_{lowl}^2	24.8 ± 1.9
Ω_{Λ}	0.6901 ± 0.0057	$100\theta_{\mathrm{eq}}$	0.8178 ± 0.0041	$\chi_{\mathrm{CamSpec}}^2$	11512.9 ± 5.5
Ω_{m}	0.3099 ± 0.0057	$100\theta_{\mathrm{s,eq}}$	0.4517 ± 0.0021	$\chi_{6\mathrm{DF}}^2$	0.043 ± 0.053
$\Omega_{\mathrm{m}}h^2$	0.14197 ± 0.00091	$H(0.15)$	72.95 ± 0.37	χ_{MGS}^2	1.34 ± 0.41
$\Omega_{\mathrm{m}}h^3$	0.09610 ± 0.00031	$D_{\mathrm{M}}(0.15)$	640.6 ± 3.6	$\chi_{\mathrm{DR12BAO}}^2$	4.6 ± 1.2
σ_8	0.8082 ± 0.0059	$H(0.38)$	83.04 ± 0.27	χ_{prior}^2	7.7 ± 3.4
S_8	0.821 ± 0.011	$D_{\mathrm{M}}(0.38)$	1528.1 ± 7.3	χ_{CMB}^2	11944.4 ± 5.8
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4499 ± 0.0059	$H(0.51)$	89.74 ± 0.22	χ_{BAO}^2	5.95 ± 0.91
$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6030 ± 0.0057	$D_{\mathrm{M}}(0.51)$	1979.8 ± 8.6		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11958.11; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.70; R - 1 = 0.01271$$

13.11 base_r_CamSpecHM_TTTEE_lowl_lowE_lensing_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02230 ± 0.00015	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6054 ± 0.0064	$H(0.51)$	89.64 ± 0.27
$\Omega_{\mathrm{c}}h^2$	0.1195 ± 0.0012	$\sigma_8/h^{0.5}$	0.9855 ± 0.0090	$D_{\mathrm{M}}(0.51)$	1984 ± 11
$100\theta_{\mathrm{MC}}$	1.04088 ± 0.00031	$r_{\mathrm{drag}}h$	99.40 ± 0.92	$H(0.61)$	95.26 ± 0.22
τ	$0.0549^{+0.0053}_{-0.0077}$	$\langle d^2 \rangle^{1/2}$	2.434 ± 0.022	$D_{\mathrm{M}}(0.61)$	2309 ± 12
$\ln(10^{10}A_{\mathrm{s}})$	$3.042^{+0.011}_{-0.014}$	z_{re}	$7.73^{+0.58}_{-0.74}$	$H(2.33)$	236.13 ± 0.72
n_{s}	0.9671 ± 0.0042	$10^9 A_{\mathrm{s}}$	$2.096^{+0.023}_{-0.030}$	$D_{\mathrm{M}}(2.33)$	5766 ± 10
r	< 0.0727	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.878 ± 0.011	$f\sigma_8(0.15)$	0.4572 ± 0.0065
y_{cal}	1.0006 ± 0.0025	D_{40}	1244^{+15}_{-20}	$\sigma_8(0.15)$	$0.7479^{+0.0047}_{-0.0053}$
A_{100}^{PS}	238 ± 25	D_{220}	5715 ± 39	$f\sigma_8(0.38)$	0.4752 ± 0.0052
A_{143}^{PS}	39 ± 8	D_{810}	2535 ± 13	$\sigma_8(0.38)$	$0.6628^{+0.0039}_{-0.0047}$
A_{217}^{PS}	103 ± 10	D_{1420}	816.3 ± 4.8	$f\sigma_8(0.51)$	0.4737 ± 0.0046
A_{217}^{CIB}	39 ± 7	D_{2000}	230.5 ± 1.6	$\sigma_8(0.51)$	$0.6202^{+0.0036}_{-0.0044}$
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	$n_{\mathrm{s},0.002}$	0.9671 ± 0.0042	$f\sigma_8(0.61)$	0.4686 ± 0.0041
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	Y_{P}	$0.245367^{+0.000064}_{-0.000057}$	$\sigma_8(0.61)$	$0.5901^{+0.0034}_{-0.0043}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.55^{+0.38}_{-0.20}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246693^{+0.000065}_{-0.000058}$	$f\sigma_8(2.33)$	$0.2975^{+0.0017}_{-0.0022}$
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$10^5 \mathrm{D}/\mathrm{H}$	2.599 ± 0.029	$\sigma_8(2.33)$	$0.3066^{+0.0019}_{-0.0024}$
A^{kSZ}	< 6.05	$\mathrm{Age}/\mathrm{Gyr}$	13.803 ± 0.023	$r_{0.002}$	< 0.0673
A_{100}^{dust}	1.01 ± 0.19	z_*	1089.96 ± 0.26	$r_{0.01}$	< 0.0700
A_{143}^{dust}	0.96 ± 0.18	r_*	144.62 ± 0.27	$\ln(10^{10}A_{\mathrm{t}})$	$-0.22^{+1.3}_{-0.47}$
A_{217}^{dust}	0.98 ± 0.10	$100\theta_*$	1.04107 ± 0.00030	r_{10}	< 0.0345
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.892 ± 0.026	$10^9 A_{\mathrm{t}}$	< 0.152
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.74 ± 0.33	$10^9 A_{\mathrm{t}}e^{-2\tau}$	< 0.136
c_{217}	1.0011 ± 0.0016	r_{drag}	147.31 ± 0.28	f_{2000}^{143}	29.3 ± 2.8
c_{TE}	0.9965 ± 0.0049	k_{D}	0.14058 ± 0.00033	f_{2000}^{217}	106.7 ± 1.9
c_{EE}	0.9921 ± 0.0050	$100\theta_{\mathrm{D}}$	0.16086 ± 0.00019	$f_{2000}^{143 \times 217}$	31.9 ± 2.0
H_0	67.48 ± 0.53	z_{eq}	3388 ± 27	$\chi_{\mathrm{lensing}}^2$	9.32 ± 0.71
Ω_{Λ}	0.6872 ± 0.0073	k_{eq}	0.010340 ± 0.000082	χ_{simall}^2	397.1 ± 1.6
Ω_{m}	0.3128 ± 0.0073	$100\theta_{\mathrm{eq}}$	0.8157 ± 0.0051	χ_{lowl}^2	25.0 ± 1.9
$\Omega_{\mathrm{m}}h^2$	0.1424 ± 0.0011	$100\theta_{\mathrm{s,eq}}$	0.4507 ± 0.0026	$\chi_{\mathrm{CamSpec}}^2$	11512.8 ± 5.5
$\Omega_{\mathrm{m}}h^3$	0.09609 ± 0.00032	$H(0.15)$	72.77 ± 0.46	χ_{prior}^2	7.7 ± 3.4
σ_8	0.8095 ± 0.0056	$D_{\mathrm{M}}(0.15)$	642.4 ± 4.5	χ_{CMB}^2	11944.3 ± 5.8
S_8	0.827 ± 0.013	$H(0.38)$	82.91 ± 0.33		
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4528 ± 0.0070	$D_{\mathrm{M}}(0.38)$	1531.8 ± 9.1		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11952.03; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.78; R - 1 = 0.00998$$

13.12 base_r_CamSpecHM_TTTEE_lowl_lowE_lensing_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02234 ± 0.00014	$\sigma_8/h^{0.5}$	0.9828 ± 0.0082	$H(0.61)$	95.34 ± 0.19
$\Omega_{\mathrm{c}}h^2$	0.11896 ± 0.00095	$r_{\mathrm{drag}}h$	99.80 ± 0.73	$D_{\mathrm{M}}(0.61)$	2303.7 ± 9.3
$100\theta_{\mathrm{MC}}$	1.04095 ± 0.00029	$\langle d^2 \rangle^{1/2}$	2.428 ± 0.020	$H(2.33)$	235.84 ± 0.59
τ	$0.0559^{+0.0058}_{-0.0073}$	z_{re}	$7.82^{+0.62}_{-0.70}$	$D_{\mathrm{M}}(2.33)$	5762.2 ± 9.0
$\ln(10^{10}A_{\mathrm{s}})$	$3.044^{+0.012}_{-0.014}$	$10^9 A_{\mathrm{s}}$	$2.099^{+0.025}_{-0.030}$	$f\sigma_8(0.15)$	0.4547 ± 0.0055
n_{s}	0.9683 ± 0.0039	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.876 ± 0.010	$\sigma_8(0.15)$	$0.7474^{+0.0047}_{-0.0054}$
r	< 0.0745	D_{40}	1243^{+15}_{-20}	$f\sigma_8(0.38)$	0.4734 ± 0.0046
y_{cal}	1.0007 ± 0.0024	D_{220}	5719 ± 38	$\sigma_8(0.38)$	$0.6627^{+0.0041}_{-0.0048}$
A_{100}^{PS}	238 ± 25	D_{810}	2536 ± 13	$f\sigma_8(0.51)$	0.4722 ± 0.0041
A_{143}^{PS}	39 ± 8	D_{1420}	816.8 ± 4.8	$\sigma_8(0.51)$	$0.6203^{+0.0038}_{-0.0045}$
A_{217}^{PS}	103 ± 10	D_{2000}	230.7 ± 1.6	$f\sigma_8(0.61)$	0.4674 ± 0.0038
A_{217}^{CIB}	39 ± 7	$n_{\mathrm{s},0.002}$	0.9683 ± 0.0039	$\sigma_8(0.61)$	$0.5903^{+0.0036}_{-0.0043}$
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	Y_{P}	0.245381 ± 0.000057	$f\sigma_8(2.33)$	$0.2977^{+0.0018}_{-0.0022}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.67 ± 0.13	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246707 ± 0.000058	$\sigma_8(2.33)$	$0.3070^{+0.0019}_{-0.0023}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.54^{+0.37}_{-0.22}$	$10^5 \mathrm{D}/\mathrm{H}$	2.592 ± 0.027	$r_{0.002}$	< 0.0693
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Age/Gyr	13.795 ± 0.021	$r_{0.01}$	< 0.0719
A^{kSZ}	< 5.95	z_*	1089.87 ± 0.23	$\ln(10^{10}A_{\mathrm{t}})$	$-0.19^{+1.3}_{-0.47}$
A_{100}^{dust}	1.01 ± 0.19	r_*	144.73 ± 0.23	r_{10}	< 0.0356
A_{143}^{dust}	0.96 ± 0.18	$100\theta_*$	1.04114 ± 0.00029	$10^9 A_{\mathrm{t}}$	< 0.156
A_{217}^{dust}	0.98 ± 0.10	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.901 ± 0.022	$10^9 A_{\mathrm{t}}e^{-2\tau}$	< 0.140
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	z_{drag}	1059.79 ± 0.32	f_{2000}^{143}	29.1 ± 2.8
c_{100}	0.9975 ± 0.0010	r_{drag}	147.40 ± 0.25	f_{2000}^{217}	106.5 ± 1.9
c_{217}	1.0011 ± 0.0016	k_{D}	0.14051 ± 0.00031	$f_{2000}^{143 \times 217}$	31.7 ± 2.0
c_{TE}	0.9966 ± 0.0049	$100\theta_{\mathrm{D}}$	0.16084 ± 0.00019	$\chi_{\mathrm{lensing}}^2$	9.34 ± 0.75
c_{EE}	0.9923 ± 0.0049	z_{eq}	3377 ± 22	χ_{simall}^2	397.3 ± 1.8
H_0	67.70 ± 0.42	k_{eq}	0.010306 ± 0.000066	χ_{lowl}^2	24.8 ± 1.9
Ω_{Λ}	0.6903 ± 0.0057	$100\theta_{\mathrm{eq}}$	0.8179 ± 0.0041	$\chi_{\mathrm{CamSpec}}^2$	11512.8 ± 5.5
Ω_{m}	0.3097 ± 0.0057	$100\theta_{\mathrm{s,eq}}$	0.4518 ± 0.0021	$\chi_{6\mathrm{DF}}^2$	0.042 ± 0.051
$\Omega_{\mathrm{m}}h^2$	0.14194 ± 0.00091	$H(0.15)$	72.97 ± 0.37	χ_{MGS}^2	1.35 ± 0.41
$\Omega_{\mathrm{m}}h^3$	0.09610 ± 0.00031	$D_{\mathrm{M}}(0.15)$	640.5 ± 3.6	$\chi_{\mathrm{DR12BAO}}^2$	4.5 ± 1.2
σ_8	$0.8086^{+0.0053}_{-0.0060}$	$H(0.38)$	83.04 ± 0.27	χ_{prior}^2	7.7 ± 3.4
S_8	0.822 ± 0.011	$D_{\mathrm{M}}(0.38)$	1527.9 ± 7.3	χ_{CMB}^2	11944.3 ± 5.7
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4500 ± 0.0059	$H(0.51)$	89.74 ± 0.22	χ_{BAO}^2	5.92 ± 0.88
$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6032 ± 0.0056	$D_{\mathrm{M}}(0.51)$	1979.6 ± 8.6		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11957.91; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.65; R - 1 = 0.01331$$

13.13 base_r_CamSpecHM_TT_lowl_lowE_BK15

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022078	0.02209 ± 0.00022	$\Omega_m h^3$	0.095901	0.09591 ± 0.00046	$D_M(0.15)$	649.4	649.0 ± 8.0
$\Omega_c h^2$	0.12113	0.1210 ± 0.0021	σ_8	0.8143	0.8137 ± 0.0088	$H(0.38)$	82.39	82.43 ± 0.56
$100\theta_{MC}$	1.040754	1.04078 ± 0.00048	S_8	0.8458	0.844 ± 0.024	$D_M(0.38)$	1545.8	1545 ± 16
τ	0.0528	0.0526 ± 0.0079	$\sigma_8 \Omega_m^{0.5}$	0.4632	0.463 ± 0.013	$H(0.51)$	89.222	89.26 ± 0.44
$\ln(10^{10} A_s)$	3.0420	3.042 ± 0.016	$\sigma_8 \Omega_m^{0.25}$	0.6142	0.613 ± 0.012	$D_M(0.51)$	2000.6	1999 ± 19
n_s	0.9626	0.9628 ± 0.0058	$\sigma_8/h^{0.5}$	0.9973	0.996 ± 0.016	$H(0.61)$	94.930	94.96 ± 0.35
r	0.0132	< 0.0316	$r_{\text{drag}} h$	98.08	98.2 ± 1.6	$D_M(0.61)$	2326.4	2325 ± 20
y_{cal}	1.00060	1.0007 ± 0.0025	$\langle d^2 \rangle^{1/2}$	2.4611	2.459 ± 0.038	$H(2.33)$	237.00	236.9 ± 1.3
$A_{B,\text{dust}}$	4.60	$4.87_{-1.2}^{+0.81}$	z_{re}	7.60	7.56 ± 0.82	$D_M(2.33)$	5780.7	5779 ± 16
$A_{B,\text{sync}}$	1.48	$1.64_{-1.4}^{+0.52}$	$10^9 A_s$	2.0947	2.094 ± 0.034	$f\sigma_8(0.15)$	0.4668	0.466 ± 0.012
$\alpha_{B,\text{dust}}$	-0.522	$-0.57_{-0.32}^{+0.21}$	$10^9 A_s e^{-2\tau}$	1.8849	1.885 ± 0.014	$\sigma_8(0.15)$	0.7512	0.7507 ± 0.0074
$\beta_{B,\text{dust}}$	1.573	1.597 ± 0.096	D_{40}	1237.0	1241 ± 16	$f\sigma_8(0.38)$	0.4825	0.4818 ± 0.0095
$\alpha_{B,\text{sync}}$	-0.31	—	D_{220}	5699.9	5702 ± 41	$\sigma_8(0.38)$	0.6646	0.6642 ± 0.0060
$\beta_{B,\text{sync}}$	-3.032	-3.10 ± 0.27	D_{810}	2535.5	2536 ± 14	$f\sigma_8(0.51)$	0.4797	0.4791 ± 0.0081
$\epsilon_{\text{dust,sync}}$	-0.338	-0.35 ± 0.28	D_{1420}	814.2	814.4 ± 5.2	$\sigma_8(0.51)$	0.6214	0.6211 ± 0.0054
A_{100}^{PS}	237.4	242 ± 25	D_{2000}	229.52	229.6 ± 1.8	$f\sigma_8(0.61)$	0.4737	0.4732 ± 0.0072
A_{143}^{PS}	40.8	41 ± 8	$n_{s,0.002}$	0.9626	0.9628 ± 0.0058	$\sigma_8(0.61)$	0.59095	0.5907 ± 0.0051
A_{217}^{PS}	100.4	102 ± 10	Y_P	0.245274	$0.24527_{-0.000087}^{+0.00011}$	$f\sigma_8(2.33)$	0.29749	0.2974 ± 0.0025
A_{217}^{CIB}	46.1	41 ± 7	Y_P^{BBN}	0.246601	$0.24660_{-0.000087}^{+0.00011}$	$\sigma_8(2.33)$	0.30619	0.3061 ± 0.0027
A_{143}^{tSZ}	6.47	$3.7_{-2.6}^{+1.7}$	$10^5 D/H$	2.6414	2.639 ± 0.042	$r_{0.002}$	0.0117	< 0.0284
$r_{143 \times 217}^{\text{PS}}$	0.565	0.65 ± 0.13	Age/Gyr	13.8364	13.834 ± 0.037	$r_{0.01}$	0.0124	< 0.0300
$r_{143 \times 217}^{\text{CIB}}$	0.806	$0.58_{-0.14}^{+0.41}$	z_*	1090.391	1090.37 ± 0.41	$\ln(10^{10} A_t)$	-1.29	$-0.97_{-0.42}^{+1.1}$
$\xi^{\text{tSZ} \times \text{CIB}}$	0.02	—	r_*	144.364	144.38 ± 0.48	r_{10}	0.0060	< 0.0146
A^{kSZ}	0.2	—	$100\theta_*$	1.040973	1.04099 ± 0.00047	$10^9 A_t$	0.0276	< 0.0662
A_{100}^{dust}	1.011	1.01 ± 0.19	$D_M(z_*)/\text{Gpc}$	13.8682	13.870 ± 0.044	$10^9 A_t e^{-2\tau}$	0.0248	< 0.0595
A_{143}^{dust}	0.985	0.97 ± 0.18	z_{drag}	1059.322	1059.36 ± 0.46	f_{2000}^{143}	31.32	30.8 ± 3.0
A_{217}^{dust}	0.963	0.97 ± 0.10	r_{drag}	147.121	147.14 ± 0.48	f_{2000}^{217}	107.68	107.7 ± 2.0
$A_{143 \times 217}^{\text{dust}}$	0.996	1.03 ± 0.16	k_D	0.14061	0.14060 ± 0.00052	$f_{2000}^{143 \times 217}$	33.07	33.1 ± 2.2
c_{100}	0.99756	0.9975 ± 0.0011	$100\theta_D$	0.161109	0.16110 ± 0.00027	χ_{BKPLANCK}^2	734.95	739.3 ± 2.7
c_{217}	1.00141	1.0012 ± 0.0016	z_{eq}	3422.2	3420 ± 48	χ_{small}^2	396.01	397.1 ± 1.8
H_0	66.67	66.73 ± 0.92	k_{eq}	0.010445	0.01044 ± 0.00015	χ_{lowl}^2	24.16	24.7 ± 1.5
Ω_Λ	0.6763	0.677 ± 0.013	$100\theta_{\text{eq}}$	0.8088	0.8094 ± 0.0088	χ_{CamSpec}^2	7049.9	7063.0 ± 5.3
Ω_m	0.3237	0.323 ± 0.013	$100\theta_{s,\text{eq}}$	0.44726	0.4475 ± 0.0046	χ_{prior}^2	2.29	9.2 ± 3.8
$\Omega_m h^2$	0.14385	0.1438 ± 0.0020	$H(0.15)$	72.07	72.13 ± 0.78	χ_{CMB}^2	8205.0	8224.0 ± 6.1

Best-fit $\chi_{\text{eff}}^2 = 8207.30$; $\bar{\chi}_{\text{eff}}^2 = 8233.28$; $R - 1 = 0.00244$

χ_{eff}^2 : CMB - BK15_dust: 734.95 simall_100x143_offlike5_EE_Aplanck_B: 396.00 commander_dx12_v3_2_29: 24.16 CamSpec like_10.7HM: 7049.91

13.14 base_r_CamSpecHM_TT_lowl_lowE_BK15_post_BAO

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022205	0.02220 ± 0.00020	S_8	0.8233	0.823 ± 0.015	$D_M(0.51)$	1983.0	1983 ± 11
$\Omega_c h^2$	0.11915	0.1191 ± 0.0012	$\sigma_8 \Omega_m^{0.5}$	0.4510	0.4509 ± 0.0081	$H(0.61)$	95.246	95.25 ± 0.25
$100\theta_{MC}$	1.041025	1.04104 ± 0.00041	$\sigma_8 \Omega_m^{0.25}$	0.6038	0.6038 ± 0.0079	$D_M(0.61)$	2307.5	2307 ± 12
τ	0.0547	0.0547 ± 0.0077	$\sigma_8/h^{0.5}$	0.9836	0.984 ± 0.011	$H(2.33)$	235.85	235.82 ± 0.78
$\ln(10^{10} A_s)$	3.0410	3.041 ± 0.016	$r_{\text{drag}} h$	99.64	99.68 ± 0.93	$D_M(2.33)$	5767.4	5767 ± 12
n_s	0.96676	0.9672 ± 0.0043	$\langle d^2 \rangle^{1/2}$	2.4305	2.430 ± 0.027	$f\sigma_8(0.15)$	0.4556	0.4555 ± 0.0076
r	0.0188	$0.0276^{+0.0073}_{-0.027}$	z_{re}	7.74	7.72 ± 0.78	$\sigma_8(0.15)$	0.7470	0.7472 ± 0.0067
y_{cal}	1.00052	1.0008 ± 0.0025	$10^9 A_s$	2.0927	2.094 ± 0.034	$f\sigma_8(0.38)$	0.4739	0.4739 ± 0.0064
$A_{B,\text{dust}}$	4.62	$4.87^{+0.83}_{-1.2}$	$10^9 A_s e^{-2\tau}$	1.8758	1.877 ± 0.012	$\sigma_8(0.38)$	0.6622	0.6624 ± 0.0057
$A_{B,\text{sync}}$	1.44	$1.64^{+0.52}_{-1.4}$	D_{40}	1229.8	1233 ± 14	$f\sigma_8(0.51)$	0.4726	0.4726 ± 0.0058
$\alpha_{B,\text{dust}}$	-0.504	$-0.56^{+0.22}_{-0.31}$	D_{220}	5708.8	5710 ± 41	$\sigma_8(0.51)$	0.6197	0.6199 ± 0.0053
$\beta_{B,\text{dust}}$	1.578	1.595 ± 0.096	D_{810}	2533.2	2535 ± 14	$f\sigma_8(0.61)$	0.4676	0.4676 ± 0.0053
$\alpha_{B,\text{sync}}$	-0.29	—	D_{1420}	814.9	815.5 ± 5.1	$\sigma_8(0.61)$	0.58970	0.5899 ± 0.0050
$\beta_{B,\text{sync}}$	-3.044	-3.10 ± 0.27	D_{2000}	229.82	230.0 ± 1.8	$f\sigma_8(2.33)$	0.29734	0.2974 ± 0.0025
$\epsilon_{\text{dust,sync}}$	-0.343	-0.35 ± 0.28	$n_{s,0.002}$	0.96676	0.9672 ± 0.0043	$\sigma_8(2.33)$	0.30656	0.3067 ± 0.0026
A_{100}^{PS}	240.3	242 ± 25	Y_{P}	0.245328	$0.245324^{+0.000087}_{-0.000075}$	$r_{0.002}$	0.0171	$0.0253^{+0.0061}_{-0.025}$
A_{143}^{PS}	39.2	40 ± 8	$Y_{\text{P}}^{\text{BBN}}$	0.246654	$0.246650^{+0.000087}_{-0.000075}$	$r_{0.01}$	0.0179	$0.0264^{+0.0067}_{-0.026}$
A_{217}^{PS}	99.8	102 ± 10	10^5D/H	2.6170	2.618 ± 0.037	$\ln(10^{10} A_t)$	-0.93	$-0.87^{+1.1}_{-0.41}$
A_{217}^{CIB}	44.8	40 ± 7	Age/Gyr	13.8074	13.807 ± 0.028	r_{10}	0.0087	$0.0129^{+0.0031}_{-0.013}$
A_{143}^{tSZ}	5.62	$3.8^{+1.8}_{-2.6}$	z_*	1090.057	1090.05 ± 0.29	$10^9 A_t$	0.0394	$0.058^{+0.015}_{-0.056}$
$r_{143 \times 217}^{\text{PS}}$	0.569	0.65 ± 0.13	r_*	144.777	144.79 ± 0.31	$10^9 A_t e^{-2\tau}$	0.0353	$0.052^{+0.014}_{-0.050}$
$r_{143 \times 217}^{\text{CIB}}$	0.735	$0.57^{+0.39}_{-0.16}$	$100\theta_*$	1.041228	1.04124 ± 0.00041	f_{2000}^{143}	30.98	30.4 ± 3.0
$\xi^{\text{tSZ} \times \text{CIB}}$	0.04	—	$D_M(z_*)/\text{Gpc}$	13.9044	13.906 ± 0.031	f_{2000}^{217}	107.48	107.4 ± 2.0
A^{kSZ}	1.6	—	z_{drag}	1059.475	1059.48 ± 0.44	$f_{2000}^{143 \times 217}$	32.87	32.7 ± 2.1
A_{100}^{dust}	1.005	1.01 ± 0.19	r_{drag}	147.502	147.52 ± 0.34	χ_{BKPLANCK}^2	735.63	740.0 ± 2.7
A_{143}^{dust}	0.992	0.97 ± 0.18	k_{D}	0.140310	0.14029 ± 0.00044	χ_{simall}^2	396.19	397.3 ± 1.9
A_{217}^{dust}	0.966	0.97 ± 0.10	$100\theta_{\text{D}}$	0.161031	0.16104 ± 0.00026	χ_{lowl}^2	23.47	23.7 ± 1.1
$A_{143 \times 217}^{\text{dust}}$	1.011	1.03 ± 0.16	z_{eq}	3378.0	3377 ± 28	χ_{CamSpec}^2	7050.82	7063.3 ± 5.2
c_{100}	0.99750	0.9975 ± 0.0011	k_{eq}	0.010310	0.010307 ± 0.000086	$\chi_{6\text{DF}}^2$	0.0298	0.064 ± 0.081
c_{217}	1.00140	1.0012 ± 0.0016	$100\theta_{\text{eq}}$	0.8173	0.8175 ± 0.0052	χ_{MGS}^2	1.22	1.30 ± 0.51
H_0	67.55	67.57 ± 0.54	$100\theta_{s,\text{eq}}$	0.45158	0.4517 ± 0.0027	χ_{DR12BAO}^2	4.37	4.9 ± 1.7
Ω_{Λ}	0.6888	0.6890 ± 0.0073	$H(0.15)$	72.825	72.84 ± 0.47	χ_{prior}^2	2.30	9.2 ± 3.8
Ω_{m}	0.3112	0.3110 ± 0.0073	$D_M(0.15)$	641.80	641.7 ± 4.6	χ_{BAO}^2	5.62	6.3 ± 1.4
$\Omega_{\text{m}} h^2$	0.14200	0.1420 ± 0.0012	$H(0.38)$	82.924	82.94 ± 0.35	χ_{CMB}^2	8206.1	8224.3 ± 6.0
$\Omega_{\text{m}} h^3$	0.095925	0.09592 ± 0.00045	$D_M(0.38)$	1530.7	1530.4 ± 9.4			
σ_8	0.8084	0.8085 ± 0.0076	$H(0.51)$	89.633	89.64 ± 0.29			

Best-fit $\chi_{\text{eff}}^2 = 8214.03$; $\bar{\chi}_{\text{eff}}^2 = 8239.80$; $R - 1 = 0.00717$
 χ_{eff}^2 : BAO - 6DF: 0.03 MGS: 1.22 DR12BAO: 4.37 CMB - BK15_dust: 735.63 simall.100x143_offlike5_EE_Aplanck_B: 396.19 commander_dx12_v3_2_29: 23.46 CamSpec like_10.7HM: 7050.82

13.15 base_r_CamSpecHM_TT_lowl_lowE_BK15_post_lensing

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022111	0.02212 ± 0.00021	σ_8	0.8124	0.8118 ± 0.0062	$D_M(0.38)$	1542.3	1541 ± 12
$\Omega_c h^2$	0.12065	0.1205 ± 0.0016	S_8	0.8399	0.838 ± 0.016	$H(0.51)$	89.316	89.36 ± 0.36
$100\theta_{MC}$	1.040806	1.04083 ± 0.00045	$\sigma_8 \Omega_m^{0.5}$	0.4601	0.4589 ± 0.0089	$D_M(0.51)$	1996.5	1995 ± 15
τ	0.0529	0.0528 ± 0.0078	$\sigma_8 \Omega_m^{0.25}$	0.6114	0.6103 ± 0.0077	$H(0.61)$	95.002	95.04 ± 0.30
$\ln(10^{10} A_s)$	3.0410	3.041 ± 0.015	$\sigma_8/h^{0.5}$	0.9935	0.992 ± 0.010	$D_M(0.61)$	2322.0	2320 ± 16
n_s	0.96325	0.9638 ± 0.0050	$r_{drag} h$	98.44	98.6 ± 1.2	$H(2.33)$	236.72	236.62 ± 0.96
r	0.0132	< 0.0323	$\langle d^2 \rangle^{1/2}$	2.4535	2.450 ± 0.025	$D_M(2.33)$	5777.7	5776 ± 14
y_{cal}	1.00056	1.0007 ± 0.0025	z_{re}	7.61	7.56 ± 0.79	$f\sigma_8(0.15)$	0.4639	0.4628 ± 0.0081
$A_{B,dust}$	4.61	$4.87_{-1.2}^{+0.83}$	$10^9 A_s$	2.0926	2.092 ± 0.031	$\sigma_8(0.15)$	0.7498	0.7493 ± 0.0055
$A_{B,sync}$	1.47	$1.64_{-1.4}^{+0.53}$	$10^9 A_s e^{-2\tau}$	1.8824	1.882 ± 0.011	$f\sigma_8(0.38)$	0.4802	0.4793 ± 0.0063
$\alpha_{B,dust}$	-0.518	$-0.57_{-0.32}^{+0.21}$	D_{40}	1235.3	1239 ± 14	$\sigma_8(0.38)$	0.66367	0.6633 ± 0.0048
$\beta_{B,dust}$	1.576	1.596 ± 0.096	D_{220}	5702.9	5705 ± 41	$f\sigma_8(0.51)$	0.4777	0.4770 ± 0.0053
$\alpha_{B,sync}$	-0.27	—	D_{810}	2534.3	2535 ± 13	$\sigma_8(0.51)$	0.62068	0.6204 ± 0.0045
$\beta_{B,sync}$	-3.037	-3.10 ± 0.27	D_{1420}	814.0	814.5 ± 5.2	$f\sigma_8(0.61)$	0.47201	0.4713 ± 0.0047
$\epsilon_{dust,sync}$	-0.338	-0.35 ± 0.28	D_{2000}	229.47	229.6 ± 1.8	$\sigma_8(0.61)$	0.59034	0.5901 ± 0.0044
A_{100}^{PS}	240.5	242 ± 25	$n_{s,0.002}$	0.96325	0.9638 ± 0.0050	$f\sigma_8(2.33)$	0.29730	0.2972 ± 0.0023
A_{143}^{PS}	39.3	41 ± 8	Y_P	0.245289	$0.24529_{-0.000081}^{+0.00010}$	$\sigma_8(2.33)$	0.30611	0.3061 ± 0.0026
A_{217}^{PS}	99.6	102 ± 10	Y_P^{BBN}	0.246615	$0.24661_{-0.000081}^{+0.00010}$	$r_{0.002}$	0.0118	< 0.0291
A_{217}^{CIB}	45.3	41 ± 7	$10^5 D/H$	2.6350	2.633 ± 0.040	$r_{0.01}$	0.0125	< 0.0306
A_{143}^{tSZ}	5.64	$3.7_{-2.6}^{+1.7}$	Age/Gyr	13.8298	13.827 ± 0.033	$\ln(10^{10} A_t)$	-1.29	$-0.95_{-0.42}^{+1.1}$
$r_{143 \times 217}^{PS}$	0.562	0.65 ± 0.13	z_*	1090.309	1090.28 ± 0.35	r_{10}	0.0060	< 0.0149
$r_{143 \times 217}^{CIB}$	0.746	$0.58_{-0.15}^{+0.39}$	r_*	144.461	144.50 ± 0.36	$10^9 A_t$	0.0276	< 0.0676
$\xi^{tSZ \times CIB}$	0.01	—	$100\theta_*$	1.041012	1.04104 ± 0.00045	$10^9 A_t e^{-2\tau}$	0.0248	< 0.0607
A^{kSZ}	1.6	—	$D_M(z_*)/Gpc$	13.8770	13.880 ± 0.034	f_{2000}^{143}	31.30	30.8 ± 3.0
A_{100}^{dust}	1.003	1.01 ± 0.19	z_{drag}	1059.399	1059.39 ± 0.45	f_{2000}^{217}	107.83	107.7 ± 2.0
A_{143}^{dust}	0.986	0.97 ± 0.18	r_{drag}	147.207	147.25 ± 0.38	$f_{2000}^{143 \times 217}$	33.19	33.0 ± 2.2
A_{217}^{dust}	0.961	0.97 ± 0.10	k_D	0.140542	0.14051 ± 0.00045	$\chi_{lensing}^2$	9.00	9.56 ± 0.92
$A_{143 \times 217}^{dust}$	0.999	1.03 ± 0.16	$100\theta_D$	0.161082	0.16108 ± 0.00026	$\chi_{BKPLANCK}^2$	735.17	739.4 ± 2.6
c_{100}	0.99746	0.9975 ± 0.0011	z_{eq}	3411.6	3408 ± 36	χ_{small}^2	396.01	397.0 ± 1.6
c_{217}	1.00143	1.0012 ± 0.0016	k_{eq}	0.010412	0.01040 ± 0.00011	χ_{lowl}^2	23.99	24.4 ± 1.2
H_0	66.87	66.96 ± 0.71	$100\theta_{eq}$	0.8108	0.8117 ± 0.0067	$\chi_{CamSpec}^2$	7049.83	7062.6 ± 5.1
Ω_Λ	0.6793	0.6804 ± 0.0099	$100\theta_{s,eq}$	0.44828	0.4487 ± 0.0034	χ_{prior}^2	2.43	9.2 ± 3.8
Ω_m	0.3207	0.3196 ± 0.0099	$H(0.15)$	72.25	72.32 ± 0.61	χ_{CMB}^2	8214.0	8233.0 ± 6.1
$\Omega_m h^2$	0.14341	0.1432 ± 0.0015	$D_M(0.15)$	647.6	646.9 ± 6.2			
$\Omega_m h^3$	0.095902	0.09590 ± 0.00045	$H(0.38)$	82.512	82.57 ± 0.45			

Best-fit $\chi_{eff}^2 = 8216.43$; $\bar{\chi}_{eff}^2 = 8242.24$; $R - 1 = 0.00337$

χ_{eff}^2 : CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p.teb_consext8: 9.00 BK15_dust: 735.17 small_100x143_offlike5_EE_Aplanck_B: 396.01 commander_dx12_v3_2_29: 23.99 CamSpec like_10.7HM: 7049.83

13.16 base_r_CamSpecHM_TT_lowl_lowE_BK15_post_BAO_lensing

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022189	0.02221 ± 0.00019	S_8	0.8268	0.826 ± 0.012	$D_M(0.51)$	1985.4	1984 ± 10
$\Omega_c h^2$	0.11942	0.1193 ± 0.0011	$\sigma_8 \Omega_m^{0.5}$	0.4529	0.4524 ± 0.0065	$H(0.61)$	95.200	95.24 ± 0.24
$100\theta_{MC}$	1.040976	1.04102 ± 0.00041	$\sigma_8 \Omega_m^{0.25}$	0.6055	0.6054 ± 0.0062	$D_M(0.61)$	2310.1	2308 ± 11
τ	0.0546	0.0559 ± 0.0073	$\sigma_8/h^{0.5}$	0.9860	0.9860 ± 0.0089	$H(2.33)$	236.00	235.91 ± 0.70
$\ln(10^{10} A_s)$	3.0425	3.045 ± 0.014	$r_{\text{drag}} h$	99.42	99.57 ± 0.84	$D_M(2.33)$	5769.3	5768 ± 12
n_s	0.96584	0.9667 ± 0.0042	$\langle d^2 \rangle^{1/2}$	2.4370	2.436 ± 0.021	$f\sigma_8(0.15)$	0.4573	0.4569 ± 0.0061
r	0.0130	< 0.0337	z_{re}	7.74	7.85 ± 0.72	$\sigma_8(0.15)$	0.7480	0.7486 ± 0.0055
y_{cal}	1.00083	1.0009 ± 0.0025	$10^9 A_s$	2.0957	2.101 ± 0.030	$f\sigma_8(0.38)$	0.4754	0.4752 ± 0.0050
$A_{B,\text{dust}}$	4.59	$4.87_{-1.2}^{+0.83}$	$10^9 A_s e^{-2\tau}$	1.8789	1.878 ± 0.011	$\sigma_8(0.38)$	0.66288	0.6636 ± 0.0048
$A_{B,\text{sync}}$	1.46	$1.64_{-1.4}^{+0.53}$	D_{40}	1231.2	1235 ± 13	$f\sigma_8(0.51)$	0.47379	0.4738 ± 0.0045
$\alpha_{B,\text{dust}}$	-0.501	$-0.56_{-0.31}^{+0.22}$	D_{220}	5714.9	5714 ± 40	$\sigma_8(0.51)$	0.62029	0.6210 ± 0.0045
$\beta_{B,\text{dust}}$	1.573	1.595 ± 0.096	D_{810}	2535.6	2536 ± 13	$f\sigma_8(0.61)$	0.46871	0.4688 ± 0.0041
$\alpha_{B,\text{sync}}$	-0.41	—	D_{1420}	815.3	815.8 ± 5.0	$\sigma_8(0.61)$	0.59018	0.5909 ± 0.0043
$\beta_{B,\text{sync}}$	-3.034	-3.10 ± 0.27	D_{2000}	229.91	230.1 ± 1.8	$f\sigma_8(2.33)$	0.29752	0.2979 ± 0.0022
$\epsilon_{\text{dust,sync}}$	-0.325	-0.35 ± 0.28	$n_{s,0.002}$	0.96584	0.9667 ± 0.0042	$\sigma_8(2.33)$	0.30666	0.3071 ± 0.0024
A_{100}^{PS}	239.7	242 ± 25	Y_{P}	0.245321	$0.245326_{-0.000074}^{+0.000085}$	$r_{0.002}$	0.0117	< 0.0307
A_{143}^{PS}	40.7	41 ± 8	$Y_{\text{P}}^{\text{BBN}}$	0.246648	$0.246652_{-0.000075}^{+0.000086}$	$r_{0.01}$	0.0123	< 0.0322
A_{217}^{PS}	100.5	102 ± 10	$10^5 \text{D}/\text{H}$	2.6200	2.617 ± 0.037	$\ln(10^{10} A_t)$	-1.30	$-0.89_{-0.41}^{+1.1}$
A_{217}^{CIB}	44.9	40 ± 7	Age/Gyr	13.8115	13.808 ± 0.027	r_{10}	0.0060	< 0.0157
A_{143}^{tSZ}	5.78	$3.8_{-2.6}^{+1.8}$	z_*	1090.099	1090.06 ± 0.29	$10^9 A_t$	0.0272	< 0.0707
$r_{143 \times 217}^{\text{PS}}$	0.583	0.65 ± 0.13	r_*	144.719	144.75 ± 0.28	$10^9 A_t e^{-2\tau}$	0.0244	< 0.0633
$r_{143 \times 217}^{\text{CIB}}$	0.761	$0.57_{-0.16}^{+0.38}$	$100\theta_*$	1.041182	1.04122 ± 0.00041	f_{2000}^{143}	30.98	30.4 ± 3.0
$\xi^{\text{tSZ} \times \text{CIB}}$	0.10	—	$D_M(z_*)/\text{Gpc}$	13.8995	13.902 ± 0.028	f_{2000}^{217}	107.56	107.4 ± 2.0
A^{kSZ}	1.3	—	z_{drag}	1059.475	1059.50 ± 0.44	$f_{2000}^{143 \times 217}$	32.87	32.7 ± 2.1
A_{100}^{dust}	1.011	1.01 ± 0.19	r_{drag}	147.446	147.47 ± 0.31	χ_{lensing}^2	8.896	9.33 ± 0.73
A_{143}^{dust}	0.977	0.97 ± 0.18	k_{D}	0.140354	0.14034 ± 0.00042	χ_{BKPLANCK}^2	735.61	739.8 ± 2.6
A_{217}^{dust}	0.966	0.97 ± 0.10	$100\theta_{\text{D}}$	0.161037	0.16103 ± 0.00025	χ_{small}^2	396.19	397.4 ± 1.9
$A_{143 \times 217}^{\text{dust}}$	1.002	1.03 ± 0.16	z_{eq}	3384.1	3380 ± 25	χ_{lowl}^2	23.50	23.9 ± 1.1
c_{100}	0.99759	0.9975 ± 0.0011	k_{eq}	0.010329	0.010317 ± 0.000077	χ_{CamSpec}^2	7050.59	7062.9 ± 5.1
c_{217}	1.00142	1.0012 ± 0.0016	$100\theta_{\text{eq}}$	0.81609	0.8169 ± 0.0047	$\chi_{6\text{DF}}^2$	0.0474	0.064 ± 0.076
H_0	67.43	67.52 ± 0.50	$100\theta_{s,\text{eq}}$	0.45098	0.4514 ± 0.0024	χ_{MGS}^2	1.097	1.24 ± 0.45
Ω_{Λ}	0.6871	0.6882 ± 0.0066	$H(0.15)$	72.719	72.80 ± 0.43	χ_{DR12BAO}^2	4.77	5.0 ± 1.6
Ω_{m}	0.3129	0.3118 ± 0.0066	$D_M(0.15)$	642.86	642.1 ± 4.3	χ_{prior}^2	2.30	9.2 ± 3.8
$\Omega_{\text{m}} h^2$	0.14226	0.1421 ± 0.0011	$H(0.38)$	82.848	82.91 ± 0.33	χ_{CMB}^2	8214.8	8233.2 ± 6.1
$\Omega_{\text{m}} h^3$	0.095920	0.09594 ± 0.00045	$D_M(0.38)$	1532.8	1531.3 ± 8.6	χ_{BAO}^2	5.92	6.3 ± 1.3
σ_8	0.8096	0.8102 ± 0.0061	$H(0.51)$	89.574	89.62 ± 0.27			

Best-fit $\chi_{\text{eff}}^2 = 8223.00$; $\bar{\chi}_{\text{eff}}^2 = 8248.72$; $R - 1 = 0.00847$
 χ_{eff}^2 : BAO - 6DF: 0.05 MGS: 1.10 DR12BAO: 4.77 CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p_teb_consext8: 8.90 BK15_dust: 735.61 simall_100x143_offlike5_EE_Aplanck_B: 396.19 commander_dx12_v3.2.29: 23.50 CamSpec like_10.7HM: 7050.59

13.17 base_r_CamSpecHM_TT_lowl_lowE_BK15_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02210 ± 0.00022	$\Omega_{\mathrm{m}}h^3$	0.09592 ± 0.00046	$D_{\mathrm{M}}(0.15)$	648.6 ± 7.9
$\Omega_{\mathrm{c}}h^2$	0.1209 ± 0.0021	σ_8	0.8146 ± 0.0085	$H(0.38)$	82.46 ± 0.56
$100\theta_{\mathrm{MC}}$	1.04079 ± 0.00047	S_8	0.845 ± 0.024	$D_{\mathrm{M}}(0.38)$	1544 ± 16
τ	$0.0540^{+0.0049}_{-0.0083}$	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.463 ± 0.013	$H(0.51)$	89.28 ± 0.44
$\ln(10^{10}A_{\mathrm{s}})$	$3.044^{+0.012}_{-0.016}$	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.614 ± 0.012	$D_{\mathrm{M}}(0.51)$	1999 ± 18
n_{s}	0.9631 ± 0.0058	$\sigma_8/h^{0.5}$	0.997 ± 0.016	$H(0.61)$	94.98 ± 0.35
r	< 0.0317	$r_{\mathrm{drag}}h$	98.2 ± 1.6	$D_{\mathrm{M}}(0.61)$	2324 ± 20
y_{cal}	1.0007 ± 0.0025	$\langle d^2 \rangle^{1/2}$	2.461 ± 0.037	$H(2.33)$	236.9 ± 1.3
$A_{B,\mathrm{dust}}$	$4.86^{+0.81}_{-1.2}$	z_{re}	$7.72^{+0.55}_{-0.81}$	$D_{\mathrm{M}}(2.33)$	5779 ± 16
$A_{B,\mathrm{sync}}$	$1.64^{+0.52}_{-1.4}$	$10^9 A_{\mathrm{s}}$	$2.100^{+0.025}_{-0.033}$	$f\sigma_8(0.15)$	0.466 ± 0.012
$\alpha_{B,\mathrm{dust}}$	$-0.57^{+0.21}_{-0.32}$	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.884 ± 0.014	$\sigma_8(0.15)$	0.7516 ± 0.0070
$\beta_{B,\mathrm{dust}}$	1.598 ± 0.096	D_{40}	1241 ± 16	$f\sigma_8(0.38)$	0.4822 ± 0.0095
$\alpha_{B,\mathrm{sync}}$	—	D_{220}	5702 ± 41	$\sigma_8(0.38)$	$0.6651^{+0.0051}_{-0.0057}$
$\beta_{B,\mathrm{sync}}$	-3.10 ± 0.27	D_{810}	2536 ± 14	$f\sigma_8(0.51)$	0.4795 ± 0.0081
$\epsilon_{\mathrm{dust},\mathrm{sync}}$	-0.35 ± 0.28	D_{1420}	814.4 ± 5.2	$\sigma_8(0.51)$	$0.6219^{+0.0044}_{-0.0052}$
A_{100}^{PS}	242 ± 25	D_{2000}	229.6 ± 1.8	$f\sigma_8(0.61)$	0.4736 ± 0.0071
A_{143}^{PS}	41 ± 8	$n_{\mathrm{s},0.002}$	0.9631 ± 0.0058	$\sigma_8(0.61)$	$0.5915^{+0.0041}_{-0.0049}$
A_{217}^{PS}	102 ± 10	Y_{P}	$0.24528^{+0.00011}_{-0.000086}$	$f\sigma_8(2.33)$	$0.2978^{+0.0019}_{-0.0025}$
A_{217}^{CIB}	41 ± 7	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.24660^{+0.00011}_{-0.000086}$	$\sigma_8(2.33)$	$0.3066^{+0.0020}_{-0.0026}$
A_{143}^{tSZ}	$3.7^{+1.8}_{-2.6}$	$10^5 \mathrm{D}/\mathrm{H}$	2.638 ± 0.042	$r_{0.002}$	< 0.0285
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	$\mathrm{Age}/\mathrm{Gyr}$	13.832 ± 0.036	$r_{0.01}$	< 0.0300
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.58^{+0.40}_{-0.14}$	z_*	1090.35 ± 0.41	$\ln(10^{10}A_{\mathrm{t}})$	$-0.97^{+1.1}_{-0.42}$
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	r_*	144.40 ± 0.48	r_{10}	< 0.0146
A^{kSZ}	4.9 ± 2.7	$100\theta_*$	1.04100 ± 0.00046	$10^9 A_{\mathrm{t}}$	< 0.0665
A_{100}^{dust}	1.01 ± 0.19	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.871 ± 0.044	$10^9 A_{\mathrm{t}}e^{-2\tau}$	< 0.0596
A_{143}^{dust}	0.97 ± 0.18	z_{drag}	1059.37 ± 0.45	f_{2000}^{143}	30.8 ± 3.0
A_{217}^{dust}	0.97 ± 0.10	r_{drag}	147.15 ± 0.48	f_{2000}^{217}	107.6 ± 2.0
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	k_{D}	0.14059 ± 0.00052	$f_{2000}^{143 \times 217}$	33.0 ± 2.2
c_{100}	0.9975 ± 0.0011	$100\theta_{\mathrm{D}}$	0.16110 ± 0.00026	$\chi_{\mathrm{BKPLANCK}}^2$	739.2 ± 2.7
c_{217}	1.0012 ± 0.0016	z_{eq}	3418 ± 48	χ_{simall}^2	397.0 ± 1.8
H_0	66.77 ± 0.91	k_{eq}	0.01043 ± 0.00015	χ_{lowl}^2	24.7 ± 1.5
Ω_{Λ}	0.677 ± 0.013	$100\theta_{\mathrm{eq}}$	0.8097 ± 0.0088	$\chi_{\mathrm{CamSpec}}^2$	7062.9 ± 5.3
Ω_{m}	0.323 ± 0.013	$100\theta_{\mathrm{s},\mathrm{eq}}$	0.4477 ± 0.0045	χ_{prior}^2	9.2 ± 3.8
$\Omega_{\mathrm{m}}h^2$	0.1437 ± 0.0020	$H(0.15)$	72.16 ± 0.78	χ_{CMB}^2	8223.8 ± 6.1

$$\bar{\chi}_{\mathrm{eff}}^2 = 8233.01; R - 1 = 0.00318$$

13.18 base_r_CamSpecHM_TT_lowl_lowE_BK15_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02221 ± 0.00019	S_8	0.824 ± 0.015	$D_{\mathrm{M}}(0.51)$	1982 ± 11
$\Omega_{\mathrm{c}}h^2$	0.1191 ± 0.0012	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4512 ± 0.0080	$H(0.61)$	95.26 ± 0.24
$100\theta_{\mathrm{MC}}$	1.04104 ± 0.00041	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6042 ± 0.0077	$D_{\mathrm{M}}(0.61)$	2307 ± 12
τ	$0.0556^{+0.0055}_{-0.0080}$	$\sigma_8/h^{0.5}$	0.984 ± 0.011	$H(2.33)$	235.81 ± 0.78
$\ln(10^{10}A_{\mathrm{s}})$	$3.043^{+0.013}_{-0.016}$	$r_{\mathrm{drag}}h$	99.70 ± 0.93	$D_{\mathrm{M}}(2.33)$	5767 ± 12
n_{s}	0.9673 ± 0.0043	$\langle d^2 \rangle^{1/2}$	2.432 ± 0.026	$f\sigma_8(0.15)$	0.4558 ± 0.0075
r	$0.0276^{+0.0071}_{-0.027}$	z_{re}	$7.82^{+0.60}_{-0.78}$	$\sigma_8(0.15)$	$0.7478^{+0.0058}_{-0.0067}$
y_{cal}	1.0008 ± 0.0025	$10^9 A_{\mathrm{s}}$	$2.098^{+0.026}_{-0.034}$	$f\sigma_8(0.38)$	0.4742 ± 0.0063
$A_{B,\mathrm{dust}}$	$4.87^{+0.82}_{-1.2}$	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.877 ± 0.012	$\sigma_8(0.38)$	$0.6630^{+0.0048}_{-0.0057}$
$A_{B,\mathrm{sync}}$	$1.64^{+0.52}_{-1.4}$	D_{40}	1233 ± 14	$f\sigma_8(0.51)$	0.4729 ± 0.0056
$\alpha_{B,\mathrm{dust}}$	$-0.56^{+0.22}_{-0.31}$	D_{220}	5710 ± 41	$\sigma_8(0.51)$	$0.6205^{+0.0044}_{-0.0053}$
$\beta_{B,\mathrm{dust}}$	1.595 ± 0.096	D_{810}	2535 ± 14	$f\sigma_8(0.61)$	0.4680 ± 0.0051
$\alpha_{B,\mathrm{sync}}$	—	D_{1420}	815.5 ± 5.1	$\sigma_8(0.61)$	$0.5904^{+0.0041}_{-0.0050}$
$\beta_{B,\mathrm{sync}}$	-3.10 ± 0.27	D_{2000}	230.1 ± 1.8	$f\sigma_8(2.33)$	$0.2977^{+0.0020}_{-0.0025}$
$\epsilon_{\mathrm{dust},\mathrm{sync}}$	-0.35 ± 0.28	$n_{\mathrm{s},0.002}$	0.9673 ± 0.0043	$\sigma_8(2.33)$	$0.3070^{+0.0021}_{-0.0026}$
A_{100}^{PS}	242 ± 25	Y_{P}	$0.245325^{+0.000086}_{-0.000075}$	$r_{0.002}$	< 0.0313
A_{143}^{PS}	40 ± 8	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246652^{+0.000087}_{-0.000075}$	$r_{0.01}$	$0.0265^{+0.0065}_{-0.026}$
A_{217}^{PS}	102 ± 10	$10^5 \mathrm{D}/\mathrm{H}$	2.617 ± 0.037	$\ln(10^{10}A_{\mathrm{t}})$	$-0.87^{+1.1}_{-0.41}$
A_{217}^{CIB}	40 ± 7	$\mathrm{Age}/\mathrm{Gyr}$	13.807 ± 0.028	r_{10}	< 0.0160
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	z_*	1090.05 ± 0.29	$10^9 A_{\mathrm{t}}$	$0.058^{+0.015}_{-0.057}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	r_*	144.79 ± 0.31	$10^9 A_{\mathrm{t}}e^{-2\tau}$	$0.052^{+0.013}_{-0.051}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.57^{+0.39}_{-0.16}$	$100\theta_*$	1.04124 ± 0.00041	f_{2000}^{143}	30.4 ± 3.0
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.906 ± 0.031	f_{2000}^{217}	107.4 ± 2.0
A^{kSZ}	—	z_{drag}	1059.49 ± 0.44	$f_{2000}^{143 \times 217}$	32.7 ± 2.1
A_{100}^{dust}	1.01 ± 0.19	r_{drag}	147.52 ± 0.34	$\chi_{\mathrm{BKPLANCK}}^2$	739.9 ± 2.7
A_{143}^{dust}	0.97 ± 0.18	k_{D}	0.14029 ± 0.00044	χ_{simall}^2	397.2 ± 1.9
A_{217}^{dust}	0.97 ± 0.10	$100\theta_{\mathrm{D}}$	0.16104 ± 0.00026	χ_{lowl}^2	23.8 ± 1.1
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	z_{eq}	3376 ± 28	$\chi_{\mathrm{CamSpec}}^2$	7063.2 ± 5.2
c_{100}	0.9975 ± 0.0011	k_{eq}	0.010305 ± 0.000086	$\chi_{6\mathrm{DF}}^2$	0.062 ± 0.080
c_{217}	1.0012 ± 0.0016	$100\theta_{\mathrm{eq}}$	0.8176 ± 0.0052	χ_{MGS}^2	1.31 ± 0.51
H_0	67.58 ± 0.54	$100\theta_{\mathrm{s},\mathrm{eq}}$	0.4517 ± 0.0027	$\chi_{\mathrm{DR12BAO}}^2$	4.9 ± 1.7
Ω_{Λ}	0.6891 ± 0.0073	$H(0.15)$	72.85 ± 0.47	χ_{prior}^2	9.2 ± 3.8
Ω_{m}	0.3109 ± 0.0073	$D_{\mathrm{M}}(0.15)$	641.6 ± 4.6	χ_{BAO}^2	6.2 ± 1.4
$\Omega_{\mathrm{m}}h^2$	0.1419 ± 0.0012	$H(0.38)$	82.94 ± 0.35	χ_{CMB}^2	8224.1 ± 5.9
$\Omega_{\mathrm{m}}h^3$	0.09592 ± 0.00045	$D_{\mathrm{M}}(0.38)$	1530.2 ± 9.3		
σ_8	$0.8092^{+0.0067}_{-0.0075}$	$H(0.51)$	89.65 ± 0.29		

$$\bar{\chi}_{\mathrm{eff}}^2 = 8239.57; R - 1 = 0.00860$$

13.19 base_r_CamSpecHM_TT_lowl_lowE_BK15_post_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02213 ± 0.00021	σ_8	0.8124 ± 0.0059	$D_{\mathrm{M}}(0.38)$	1540 ± 12
$\Omega_{\mathrm{c}}h^2$	0.1203 ± 0.0015	S_8	0.837 ± 0.016	$H(0.51)$	89.39 ± 0.35
$100\theta_{\mathrm{MC}}$	1.04085 ± 0.00045	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4587 ± 0.0089	$D_{\mathrm{M}}(0.51)$	1994 ± 14
τ	$0.0541^{+0.0050}_{-0.0081}$	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6104 ± 0.0077	$H(0.61)$	95.06 ± 0.29
$\ln(10^{10}A_{\mathrm{s}})$	$3.043^{+0.011}_{-0.014}$	$\sigma_8/h^{0.5}$	0.992 ± 0.010	$D_{\mathrm{M}}(0.61)$	2319 ± 15
n_{s}	0.9642 ± 0.0049	$r_{\mathrm{drag}}h$	98.7 ± 1.2	$H(2.33)$	236.54 ± 0.93
r	< 0.0324	$\langle d^2 \rangle^{1/2}$	2.451 ± 0.025	$D_{\mathrm{M}}(2.33)$	5775 ± 14
y_{cal}	1.0007 ± 0.0025	z_{re}	$7.71^{+0.56}_{-0.78}$	$f\sigma_8(0.15)$	0.4627 ± 0.0081
$A_{B,\mathrm{dust}}$	$4.87^{+0.82}_{-1.2}$	$10^9 A_{\mathrm{s}}$	$2.097^{+0.023}_{-0.031}$	$\sigma_8(0.15)$	0.7500 ± 0.0051
$A_{B,\mathrm{sync}}$	$1.64^{+0.53}_{-1.4}$	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.882 ± 0.011	$f\sigma_8(0.38)$	0.4794 ± 0.0063
$\alpha_{B,\mathrm{dust}}$	$-0.57^{+0.21}_{-0.32}$	D_{40}	1239 ± 14	$\sigma_8(0.38)$	$0.6640^{+0.0040}_{-0.0047}$
$\beta_{B,\mathrm{dust}}$	1.597 ± 0.096	D_{220}	5705 ± 41	$f\sigma_8(0.51)$	0.4771 ± 0.0053
$\alpha_{B,\mathrm{sync}}$	—	D_{810}	2535 ± 13	$\sigma_8(0.51)$	$0.6211^{+0.0037}_{-0.0044}$
$\beta_{B,\mathrm{sync}}$	-3.10 ± 0.27	D_{1420}	814.6 ± 5.2	$f\sigma_8(0.61)$	0.4715 ± 0.0047
$\epsilon_{\mathrm{dust},\mathrm{sync}}$	-0.35 ± 0.28	D_{2000}	229.7 ± 1.8	$\sigma_8(0.61)$	$0.5908^{+0.0035}_{-0.0043}$
A_{100}^{PS}	242 ± 25	$n_{\mathrm{s},0.002}$	0.9642 ± 0.0049	$f\sigma_8(2.33)$	$0.2976^{+0.0018}_{-0.0023}$
A_{143}^{PS}	41 ± 8	Y_{P}	$0.245293^{+0.000097}_{-0.000081}$	$\sigma_8(2.33)$	$0.3065^{+0.0019}_{-0.0025}$
A_{217}^{PS}	102 ± 10	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246619^{+0.000098}_{-0.000081}$	$r_{0.002}$	< 0.0293
A_{217}^{CIB}	41 ± 7	$10^5 \mathrm{D}/\mathrm{H}$	2.631 ± 0.040	$r_{0.01}$	< 0.0308
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.6}$	$\mathrm{Age}/\mathrm{Gyr}$	13.825 ± 0.032	$\ln(10^{10}A_{\mathrm{t}})$	$-0.94^{+1.1}_{-0.42}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	z_*	1090.25 ± 0.35	r_{10}	< 0.0150
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.58^{+0.39}_{-0.15}$	r_*	144.53 ± 0.36	$10^9 A_{\mathrm{t}}$	< 0.0679
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$100\theta_*$	1.04105 ± 0.00044	$10^9 A_{\mathrm{t}}e^{-2\tau}$	< 0.0609
A^{kSZ}	—	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.883 ± 0.034	f_{2000}^{143}	30.7 ± 3.0
A_{100}^{dust}	1.01 ± 0.19	z_{drag}	1059.41 ± 0.45	f_{2000}^{217}	107.6 ± 2.0
A_{143}^{dust}	0.97 ± 0.18	r_{drag}	147.27 ± 0.37	$f_{2000}^{143 \times 217}$	33.0 ± 2.2
A_{217}^{dust}	0.97 ± 0.10	k_{D}	0.14050 ± 0.00045	$\chi_{\mathrm{lensing}}^2$	9.54 ± 0.92
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$100\theta_{\mathrm{D}}$	0.16107 ± 0.00026	$\chi_{\mathrm{BKPLANCK}}^2$	739.4 ± 2.6
c_{100}	0.9975 ± 0.0011	z_{eq}	3405 ± 35	χ_{small}^2	397.0 ± 1.6
c_{217}	1.0012 ± 0.0016	k_{eq}	0.01039 ± 0.00011	χ_{lowl}^2	24.4 ± 1.2
H_0	67.02 ± 0.69	$100\theta_{\mathrm{eq}}$	0.8122 ± 0.0065	$\chi_{\mathrm{CamSpec}}^2$	7062.5 ± 5.1
Ω_{Λ}	0.6812 ± 0.0096	$100\theta_{\mathrm{s},\mathrm{eq}}$	0.4490 ± 0.0033	χ_{prior}^2	9.2 ± 3.8
Ω_{m}	0.3188 ± 0.0096	$H(0.15)$	72.37 ± 0.60	χ_{CMB}^2	8232.8 ± 6.0
$\Omega_{\mathrm{m}}h^2$	0.1431 ± 0.0014	$D_{\mathrm{M}}(0.15)$	646.4 ± 6.0		
$\Omega_{\mathrm{m}}h^3$	0.09591 ± 0.00045	$H(0.38)$	82.60 ± 0.44		

$$\bar{\chi}_{\mathrm{eff}}^2 = 8241.99; R - 1 = 0.00437$$

13.20 base_r_CamSpecHM_TT_lowl_lowE_BK15_post_BAO_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02221 ± 0.00019	S_8	0.826 ± 0.012	$D_{\mathrm{M}}(0.51)$	1983 ± 10
$\Omega_{\mathrm{c}}h^2$	0.1192 ± 0.0011	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4524 ± 0.0065	$H(0.61)$	95.25 ± 0.23
$100\theta_{\mathrm{MC}}$	1.04102 ± 0.00041	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6055 ± 0.0061	$D_{\mathrm{M}}(0.61)$	2308 ± 11
τ	$0.0564^{+0.0058}_{-0.0076}$	$\sigma_8/h^{0.5}$	0.9863 ± 0.0087	$H(2.33)$	235.90 ± 0.69
$\ln(10^{10}A_{\mathrm{s}})$	$3.046^{+0.012}_{-0.014}$	$r_{\mathrm{drag}}h$	99.60 ± 0.83	$D_{\mathrm{M}}(2.33)$	5767 ± 12
n_{s}	0.9668 ± 0.0042	$\langle d^2 \rangle^{1/2}$	2.437 ± 0.021	$f\sigma_8(0.15)$	0.4570 ± 0.0061
r	< 0.0338	z_{re}	$7.91^{+0.62}_{-0.73}$	$\sigma_8(0.15)$	0.7489 ± 0.0053
y_{cal}	1.0009 ± 0.0025	$10^9 A_{\mathrm{s}}$	$2.103^{+0.025}_{-0.031}$	$f\sigma_8(0.38)$	0.4753 ± 0.0050
$A_{B,\mathrm{dust}}$	$4.87^{+0.82}_{-1.2}$	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.878 ± 0.011	$\sigma_8(0.38)$	$0.6639^{+0.0043}_{-0.0049}$
$A_{B,\mathrm{sync}}$	$1.64^{+0.53}_{-1.4}$	D_{40}	1235 ± 13	$f\sigma_8(0.51)$	0.4739 ± 0.0044
$\alpha_{B,\mathrm{dust}}$	$-0.56^{+0.22}_{-0.31}$	D_{220}	5714 ± 41	$\sigma_8(0.51)$	$0.6213^{+0.0040}_{-0.0046}$
$\beta_{B,\mathrm{dust}}$	1.595 ± 0.096	D_{810}	2536 ± 13	$f\sigma_8(0.61)$	0.4689 ± 0.0041
$\alpha_{B,\mathrm{sync}}$	—	D_{1420}	815.7 ± 5.0	$\sigma_8(0.61)$	$0.5911^{+0.0038}_{-0.0044}$
$\beta_{B,\mathrm{sync}}$	-3.10 ± 0.27	D_{2000}	230.1 ± 1.8	$f\sigma_8(2.33)$	$0.2981^{+0.0019}_{-0.0023}$
$\epsilon_{\mathrm{dust},\mathrm{sync}}$	-0.35 ± 0.28	$n_{\mathrm{s},0.002}$	0.9668 ± 0.0042	$\sigma_8(2.33)$	$0.3073^{+0.0020}_{-0.0024}$
A_{100}^{PS}	242 ± 25	Y_{P}	$0.245327^{+0.000085}_{-0.000075}$	$r_{0.002}$	< 0.0307
A_{143}^{PS}	40 ± 8	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246653^{+0.000085}_{-0.000075}$	$r_{0.01}$	< 0.0322
A_{217}^{PS}	102 ± 10	$10^5 \mathrm{D}/\mathrm{H}$	2.616 ± 0.037	$\ln(10^{10}A_{\mathrm{t}})$	$-0.89^{+1.1}_{-0.41}$
A_{217}^{CIB}	40 ± 7	$\mathrm{Age}/\mathrm{Gyr}$	13.807 ± 0.027	r_{10}	< 0.0157
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	z_*	1090.06 ± 0.28	$10^9 A_{\mathrm{t}}$	< 0.0709
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	r_*	144.76 ± 0.28	$10^9 A_{\mathrm{t}}e^{-2\tau}$	< 0.0634
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.57^{+0.38}_{-0.16}$	$100\theta_*$	1.04123 ± 0.00041	f_{2000}^{143}	30.3 ± 3.0
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.902 ± 0.028	f_{2000}^{217}	107.4 ± 2.0
A^{kSZ}	—	z_{drag}	1059.51 ± 0.44	$f_{2000}^{143 \times 217}$	32.6 ± 2.1
A_{100}^{dust}	1.01 ± 0.19	r_{drag}	147.48 ± 0.31	$\chi_{\mathrm{lensing}}^2$	9.30 ± 0.69
A_{143}^{dust}	0.97 ± 0.18	k_{D}	0.14034 ± 0.00042	$\chi_{\mathrm{BKPLANCK}}^2$	739.8 ± 2.6
A_{217}^{dust}	0.97 ± 0.10	$100\theta_{\mathrm{D}}$	0.16103 ± 0.00025	χ_{simall}^2	397.4 ± 1.9
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	z_{eq}	3380 ± 25	χ_{lowl}^2	23.9 ± 1.1
c_{100}	0.9975 ± 0.0011	k_{eq}	0.010315 ± 0.000076	$\chi_{\mathrm{CamSpec}}^2$	7062.8 ± 5.1
c_{217}	1.0011 ± 0.0016	$100\theta_{\mathrm{eq}}$	0.8170 ± 0.0046	$\chi_{6\mathrm{DF}}^2$	0.062 ± 0.073
H_0	67.53 ± 0.49	$100\theta_{\mathrm{s},\mathrm{eq}}$	0.4514 ± 0.0024	χ_{MGS}^2	1.25 ± 0.45
Ω_{Λ}	0.6884 ± 0.0065	$H(0.15)$	72.81 ± 0.43	$\chi_{\mathrm{DR12BAO}}^2$	4.9 ± 1.6
Ω_{m}	0.3116 ± 0.0065	$D_{\mathrm{M}}(0.15)$	642.0 ± 4.2	χ_{prior}^2	9.2 ± 3.8
$\Omega_{\mathrm{m}}h^2$	0.1421 ± 0.0010	$H(0.38)$	82.92 ± 0.32	χ_{CMB}^2	8233.1 ± 6.0
$\Omega_{\mathrm{m}}h^3$	0.09594 ± 0.00045	$D_{\mathrm{M}}(0.38)$	1531.1 ± 8.6	χ_{BAO}^2	6.2 ± 1.3
σ_8	0.8105 ± 0.0059	$H(0.51)$	89.63 ± 0.27		

$$\bar{\chi}_{\mathrm{eff}}^2 = 8248.57; R - 1 = 0.00954$$

13.21 base_r_CamSpecHM_TTTEE_lowl_lowE_BK15

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022276	0.02228 ± 0.00016	$\Omega_m h^2$	0.14281	0.1427 ± 0.0013	$D_M(0.15)$	644.0	643.6 ± 5.3
$\Omega_c h^2$	0.11989	0.1198 ± 0.0014	$\Omega_m h^3$	0.096098	0.09608 ± 0.00032	$H(0.38)$	82.792	82.82 ± 0.38
$100\theta_{MC}$	1.040845	1.04086 ± 0.00032	σ_8	0.8095	0.8096 ± 0.0076	$D_M(0.38)$	1534.9	1534 ± 11
τ	0.0530	0.0535 ± 0.0080	S_8	0.8300	0.829 ± 0.016	$H(0.51)$	89.548	89.57 ± 0.30
$\ln(10^{10} A_s)$	3.0398	3.041 ± 0.016	$\sigma_8 \Omega_m^{0.5}$	0.4546	0.4542 ± 0.0089	$D_M(0.51)$	1987.7	1987 ± 12
n_s	0.96560	0.9660 ± 0.0045	$\sigma_8 \Omega_m^{0.25}$	0.6066	0.6064 ± 0.0084	$H(0.61)$	95.196	95.21 ± 0.24
r	0.0194	$0.032^{+0.012}_{-0.027}$	$\sigma_8/h^{0.5}$	0.9868	0.987 ± 0.012	$D_M(0.61)$	2312.5	2311 ± 13
y_{cal}	1.00054	1.0007 ± 0.0025	$r_{drag} h$	99.07	99.2 ± 1.1	$H(2.33)$	236.38	236.30 ± 0.84
$A_{B,dust}$	4.60	$4.87^{+0.81}_{-1.2}$	$\langle d^2 \rangle^{1/2}$	2.4385	2.438 ± 0.029	$D_M(2.33)$	5768.3	5768 ± 11
$A_{B,sync}$	1.49	$1.62^{+0.52}_{-1.4}$	z_{re}	7.56	7.60 ± 0.81	$f\sigma_8(0.15)$	0.4589	0.4585 ± 0.0083
$\alpha_{B,dust}$	-0.503	$-0.56^{+0.21}_{-0.33}$	$10^9 A_s$	2.0901	2.092 ± 0.034	$\sigma_8(0.15)$	0.7477	0.7478 ± 0.0067
$\beta_{B,dust}$	1.580	1.600 ± 0.096	$10^9 A_s e^{-2\tau}$	1.8801	1.880 ± 0.012	$f\sigma_8(0.38)$	0.4763	0.4761 ± 0.0068
$\alpha_{B,sync}$	-0.23	—	D_{40}	1233.5	1237 ± 14	$\sigma_8(0.38)$	0.6623	0.6625 ± 0.0057
$\beta_{B,sync}$	-3.040	-3.10 ± 0.27	D_{220}	5716.1	5716 ± 39	$f\sigma_8(0.51)$	0.4745	0.4743 ± 0.0060
$\epsilon_{dust,sync}$	-0.349	-0.36 ± 0.28	D_{810}	2535.9	2536 ± 14	$\sigma_8(0.51)$	0.6196	0.6199 ± 0.0053
A_{100}^{PS}	235.0	239 ± 24	D_{1420}	815.94	816.1 ± 4.9	$f\sigma_8(0.61)$	0.4692	0.4690 ± 0.0055
A_{143}^{PS}	39.6	39 ± 8	D_{2000}	230.31	230.4 ± 1.7	$\sigma_8(0.61)$	0.58950	0.5897 ± 0.0050
A_{217}^{PS}	102.6	103 ± 10	$n_{s,0.002}$	0.96560	0.9660 ± 0.0045	$f\sigma_8(2.33)$	0.29708	0.2972 ± 0.0025
A_{217}^{CIB}	44.2	40 ± 7	Y_P	0.245357	$0.245356^{+0.000069}_{-0.000061}$	$\sigma_8(2.33)$	0.30611	0.3063 ± 0.0026
A_{143}^{tSZ}	6.51	$3.9^{+1.9}_{-2.5}$	Y_P^{BBN}	0.246684	$0.246682^{+0.000069}_{-0.000061}$	$r_{0.002}$	0.0175	$0.029^{+0.010}_{-0.026}$
$r_{143 \times 217}^{PS}$	0.601	0.66 ± 0.13	$10^5 D/H$	2.6034	2.604 ± 0.030	$r_{0.01}$	0.0184	$0.031^{+0.011}_{-0.026}$
$r_{143 \times 217}^{CIB}$	0.758	$0.56^{+0.38}_{-0.19}$	Age/Gyr	13.8086	13.808 ± 0.025	$\ln(10^{10} A_t)$	-0.90	$-0.69^{+1.0}_{-0.38}$
$\xi^{tSZ \times CIB}$	0.09	—	z_*	1090.030	1090.02 ± 0.28	r_{10}	0.0089	$0.0150^{+0.0051}_{-0.013}$
A^{kSZ}	0.14	$4.7^{+2.0}_{-4.1}$	r_*	144.533	144.57 ± 0.31	$10^9 A_t$	0.0405	$0.067^{+0.024}_{-0.057}$
A_{100}^{dust}	1.004	1.00 ± 0.20	$100\theta_*$	1.041042	1.04105 ± 0.00031	$10^9 A_t e^{-2\tau}$	0.0364	$0.060^{+0.022}_{-0.051}$
A_{143}^{dust}	0.972	0.96 ± 0.18	$D_M(z_*)/\text{Gpc}$	13.8835	13.887 ± 0.029	f_{2000}^{143}	30.08	29.6 ± 2.9
A_{217}^{dust}	0.971	0.98 ± 0.10	z_{drag}	1059.704	1059.70 ± 0.33	f_{2000}^{217}	106.92	106.9 ± 1.9
$A_{143 \times 217}^{dust}$	1.009	1.03 ± 0.16	r_{drag}	147.227	147.26 ± 0.32	$f_{2000}^{143 \times 217}$	32.25	32.1 ± 2.0
c_{100}	0.99764	0.9975 ± 0.0011	k_D	0.140652	0.14062 ± 0.00035	$\chi_{BKPLANCK}^2$	735.45	739.9 ± 2.7
c_{217}	1.00126	1.0011 ± 0.0016	$100\theta_D$	0.160882	0.16089 ± 0.00020	χ_{small}^2	395.96	397.2 ± 1.8
c_{TE}	0.99660	0.9967 ± 0.0049	z_{eq}	3397.2	3394 ± 31	χ_{lowl}^2	23.74	24.2 ± 1.2
c_{EE}	0.99213	0.9921 ± 0.0049	k_{eq}	0.010369	0.010359 ± 0.000096	$\chi_{CamSpec}^2$	11498.9	11513.5 ± 5.6
H_0	67.29	67.34 ± 0.62	$100\theta_{eq}$	0.8139	0.8145 ± 0.0059	χ_{prior}^2	2.23	9.5 ± 3.8
Ω_Λ	0.6846	0.6853 ± 0.0085	$100\theta_{s,eq}$	0.44975	0.4501 ± 0.0030	χ_{CMB}^2	12654.1	12674.8 ± 6.4
Ω_m	0.3154	0.3147 ± 0.0085	$H(0.15)$	72.61	72.66 ± 0.53			

Best-fit $\chi_{\text{eff}}^2 = 12656.30$; $\bar{\chi}_{\text{eff}}^2 = 12684.27$; $R - 1 = 0.00430$

χ_{eff}^2 : CMB - BK15_dust: 735.45 small_100x143_offlike5_EE_Aplanck_B: 395.96 commander_dx12_v3_2_29: 23.74 CamSpec like_10.7HM_1400_unified: 11498.91

13.22 base_r_CamSpecHM_TTTEE_lowl_lowE_BK15_post_BAO

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022330	0.02233 ± 0.00015	$\Omega_m h^3$	0.096093	0.09608 ± 0.00032	$D_M(0.38)$	1528.3	1528.4 ± 7.8
$\Omega_c h^2$	0.11901	0.1190 ± 0.0010	σ_8	0.8079	0.8078 ± 0.0073	$H(0.51)$	89.727	89.73 ± 0.23
$100\theta_{MC}$	1.040953	1.04095 ± 0.00030	S_8	0.8213	0.821 ± 0.013	$D_M(0.51)$	1980.1	1980.2 ± 9.1
τ	0.0548	0.0546 ± 0.0080	$\sigma_8 \Omega_m^{0.5}$	0.4498	0.4498 ± 0.0070	$H(0.61)$	95.333	95.33 ± 0.19
$\ln(10^{10} A_s)$	3.0415	3.041 ± 0.017	$\sigma_8 \Omega_m^{0.25}$	0.6028	0.6027 ± 0.0071	$D_M(0.61)$	2304.3	2304.4 ± 9.9
n_s	0.96809	0.9678 ± 0.0040	$\sigma_8/h^{0.5}$	0.9821	0.982 ± 0.010	$H(2.33)$	235.87	235.87 ± 0.63
r	0.0213	$0.033^{+0.013}_{-0.027}$	$r_{\text{drag}} h$	99.76	99.76 ± 0.78	$D_M(2.33)$	5762.7	5762.8 ± 9.4
y_{cal}	1.00068	1.0008 ± 0.0025	$\langle d^2 \rangle^{1/2}$	2.4264	2.427 ± 0.025	$f\sigma_8(0.15)$	0.4545	0.4545 ± 0.0066
$A_{B,\text{dust}}$	4.57	$4.87^{+0.82}_{-1.2}$	z_{re}	7.72	7.68 ± 0.81	$\sigma_8(0.15)$	0.7467	0.7466 ± 0.0066
$A_{B,\text{sync}}$	1.40	$1.61^{+0.52}_{-1.3}$	$10^9 A_s$	2.0938	2.094 ± 0.035	$f\sigma_8(0.38)$	0.4731	0.4731 ± 0.0057
$\alpha_{B,\text{dust}}$	-0.491	$-0.56^{+0.22}_{-0.32}$	$10^9 A_s e^{-2\tau}$	1.8765	1.877 ± 0.011	$\sigma_8(0.38)$	0.6621	0.6619 ± 0.0057
$\beta_{B,\text{dust}}$	1.580	1.600 ± 0.096	D_{40}	1229.1	1234 ± 13	$f\sigma_8(0.51)$	0.4719	0.4718 ± 0.0052
$\alpha_{B,\text{sync}}$	-0.35	—	D_{220}	5718.0	5720 ± 39	$\sigma_8(0.51)$	0.6197	0.6195 ± 0.0053
$\beta_{B,\text{sync}}$	-3.042	-3.10 ± 0.27	D_{810}	2535.9	2536 ± 14	$f\sigma_8(0.61)$	0.46709	0.4670 ± 0.0049
$\epsilon_{\text{dust,sync}}$	-0.352	-0.36 ± 0.28	D_{1420}	816.79	816.6 ± 4.9	$\sigma_8(0.61)$	0.58966	0.5895 ± 0.0051
A_{100}^{PS}	232.9	239 ± 24	D_{2000}	230.66	230.6 ± 1.6	$f\sigma_8(2.33)$	0.29737	0.2973 ± 0.0025
A_{143}^{PS}	38.7	39 ± 8	$n_{s,0.002}$	0.96809	0.9678 ± 0.0040	$\sigma_8(2.33)$	0.30664	0.3066 ± 0.0026
A_{217}^{PS}	102.6	103 ± 10	Y_P	0.245379	$0.245376^{+0.000062}_{-0.000055}$	$r_{0.002}$	0.0194	$0.030^{+0.011}_{-0.026}$
A_{217}^{CIB}	44.1	39^{+7}_{-8}	Y_P^{BBN}	0.246706	$0.246702^{+0.000062}_{-0.000055}$	$r_{0.01}$	0.0204	$0.032^{+0.012}_{-0.027}$
A_{143}^{tSZ}	6.61	$3.9^{+1.9}_{-2.5}$	$10^5 D/H$	2.5931	2.594 ± 0.028	$\ln(10^{10} A_t)$	-0.81	$-0.64^{+0.96}_{-0.38}$
$r_{143 \times 217}^{\text{PS}}$	0.594	0.66 ± 0.13	Age/Gyr	13.7965	13.797 ± 0.021	r_{10}	0.0099	$0.0156^{+0.0056}_{-0.013}$
$r_{143 \times 217}^{\text{CIB}}$	0.769	$0.55^{+0.39}_{-0.19}$	z_*	1089.883	1089.89 ± 0.23	$10^9 A_t$	0.0447	$0.069^{+0.026}_{-0.057}$
$\xi^{\text{tSZ} \times \text{CIB}}$	0.08	—	r_*	144.718	144.72 ± 0.25	$10^9 A_t e^{-2\tau}$	0.0400	$0.062^{+0.024}_{-0.051}$
A^{kSZ}	0.01	$4.6^{+1.9}_{-4.3}$	$100\theta_*$	1.041140	1.04114 ± 0.00029	f_{2000}^{143}	29.67	29.4 ± 2.8
A_{100}^{dust}	1.009	1.00 ± 0.20	$D_M(z_*)/\text{Gpc}$	13.9000	13.900 ± 0.024	f_{2000}^{217}	106.70	106.8 ± 1.9
A_{143}^{dust}	0.968	0.96 ± 0.18	z_{drag}	1059.780	1059.76 ± 0.32	$f_{2000}^{143 \times 217}$	31.86	31.9 ± 2.0
A_{217}^{dust}	0.972	0.98 ± 0.10	r_{drag}	147.398	147.40 ± 0.26	χ_{BKPLANCK}^2	735.72	740.2 ± 2.7
$A_{143 \times 217}^{\text{dust}}$	1.004	1.03 ± 0.16	k_D	0.140512	0.14050 ± 0.00032	χ_{small}^2	396.16	397.3 ± 2.0
c_{100}	0.99763	0.9975 ± 0.0011	$100\theta_D$	0.160851	0.16086 ± 0.00019	χ_{lowl}^2	23.32	23.8 ± 1.1
c_{217}	1.00128	1.0011 ± 0.0016	z_{eq}	3377.6	3378 ± 23	χ_{CamSpec}^2	11499.2	11513.4 ± 5.6
c_{TE}	0.99659	0.9968 ± 0.0049	k_{eq}	0.010309	0.010308 ± 0.000071	$\chi_{6\text{DF}}^2$	0.0223	0.048 ± 0.060
c_{EE}	0.99226	0.9924 ± 0.0049	$100\theta_{\text{eq}}$	0.81763	0.8177 ± 0.0044	χ_{MGS}^2	1.279	1.33 ± 0.44
H_0	67.678	67.68 ± 0.45	$100\theta_{s,\text{eq}}$	0.45167	0.4517 ± 0.0023	χ_{DR12BAO}^2	4.23	4.6 ± 1.3
Ω_Λ	0.6900	0.6899 ± 0.0061	$H(0.15)$	72.942	72.94 ± 0.39	χ_{prior}^2	2.28	9.5 ± 3.8
Ω_m	0.3100	0.3101 ± 0.0061	$D_M(0.15)$	640.68	640.7 ± 3.9	χ_{BAO}^2	5.536	6.0 ± 1.0
$\Omega_m h^2$	0.14199	0.14198 ± 0.00098	$H(0.38)$	83.026	83.02 ± 0.29	χ_{CMB}^2	12654.4	12674.7 ± 6.3

Best-fit $\chi_{\text{eff}}^2 = 12662.21$; $\bar{\chi}_{\text{eff}}^2 = 12690.24$; $R - 1 = 0.00669$
 χ_{eff}^2 : BAO - 6DF: 0.02 MGS: 1.28 DR12BAO: 4.24 CMB - BK15_dust: 735.72 small_100x143_offlike5_EE_Aplanck_B: 396.17 commander_dx12_v3_2_29: 23.32 CamSpec like_10.7HM_1400_unified: 11499.19

13.23 base_r_CamSpecHM_TTTEE_lowl_lowE_BK15_post_lensing

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022288	0.02228 ± 0.00016	$\Omega_m h^2$	0.14281	0.1427 ± 0.0011	$D_M(0.15)$	643.81	643.6 ± 4.7
$\Omega_c h^2$	0.11988	0.1198 ± 0.0012	$\Omega_m h^3$	0.096126	0.09608 ± 0.00032	$H(0.38)$	82.807	82.82 ± 0.34
$100\theta_{MC}$	1.040861	1.04085 ± 0.00031	σ_8	0.8100	0.8102 ± 0.0060	$D_M(0.38)$	1534.5	1534.1 ± 9.4
τ	0.0534	0.0542 ± 0.0076	S_8	0.8303	0.830 ± 0.013	$H(0.51)$	89.562	89.57 ± 0.28
$\ln(10^{10} A_s)$	3.0412	3.042 ± 0.015	$\sigma_8 \Omega_m^{0.5}$	0.4548	0.4545 ± 0.0070	$D_M(0.51)$	1987.3	1987 ± 11
n_s	0.96574	0.9658 ± 0.0043	$\sigma_8 \Omega_m^{0.25}$	0.6070	0.6068 ± 0.0064	$H(0.61)$	95.210	95.21 ± 0.23
r	0.0192	$0.032^{+0.011}_{-0.027}$	$\sigma_8/h^{0.5}$	0.9873	0.9874 ± 0.0091	$D_M(0.61)$	2312.0	2312 ± 12
y_{cal}	1.00074	1.0008 ± 0.0025	$r_{drag} h$	99.09	99.16 ± 0.94	$H(2.33)$	236.39	236.31 ± 0.73
$A_{B,dust}$	4.62	$4.87^{+0.82}_{-1.2}$	$\langle d^2 \rangle^{1/2}$	2.4397	2.440 ± 0.022	$D_M(2.33)$	5767.6	5768 ± 11
$A_{B,sync}$	1.43	$1.62^{+0.52}_{-1.4}$	z_{re}	7.60	7.67 ± 0.76	$f\sigma_8(0.15)$	0.4591	0.4588 ± 0.0065
$\alpha_{B,dust}$	-0.506	$-0.56^{+0.22}_{-0.32}$	$10^9 A_s$	2.0930	2.096 ± 0.031	$\sigma_8(0.15)$	0.7482	0.7484 ± 0.0054
$\beta_{B,dust}$	1.580	1.600 ± 0.096	$10^9 A_s e^{-2\tau}$	1.8811	1.880 ± 0.011	$f\sigma_8(0.38)$	0.4766	0.4764 ± 0.0052
$\alpha_{B,sync}$	-0.35	—	D_{40}	1234.0	1238 ± 13	$\sigma_8(0.38)$	0.66278	0.6630 ± 0.0048
$\beta_{B,sync}$	-3.036	-3.10 ± 0.27	D_{220}	5719.7	5719 ± 39	$f\sigma_8(0.51)$	0.47473	0.4747 ± 0.0046
$\epsilon_{dust,sync}$	-0.357	-0.36 ± 0.28	D_{810}	2537.4	2537 ± 13	$\sigma_8(0.51)$	0.62009	0.6203 ± 0.0045
A_{100}^{PS}	233.7	240 ± 24	D_{1420}	816.52	816.2 ± 4.9	$f\sigma_8(0.61)$	0.46946	0.4694 ± 0.0042
A_{143}^{PS}	42.9	40 ± 8	D_{2000}	230.52	230.4 ± 1.7	$\sigma_8(0.61)$	0.58992	0.5902 ± 0.0043
A_{217}^{PS}	102.9	103 ± 10	$n_{s,0.002}$	0.96574	0.9658 ± 0.0043	$f\sigma_8(2.33)$	0.29730	0.2974 ± 0.0023
A_{217}^{CIB}	44.0	40 ± 7	Y_P	0.245362	0.245357 ± 0.000064	$\sigma_8(2.33)$	0.30634	0.3065 ± 0.0024
A_{143}^{tSZ}	6.56	$3.9^{+1.9}_{-2.5}$	Y_P^{BBN}	0.246689	0.246683 ± 0.000064	$r_{0.002}$	0.0173	$0.0289^{+0.0099}_{-0.025}$
$r_{143 \times 217}^{PS}$	0.632	0.66 ± 0.13	$10^5 D/H$	2.6010	2.603 ± 0.030	$r_{0.01}$	0.0182	$0.030^{+0.011}_{-0.026}$
$r_{143 \times 217}^{CIB}$	0.820	$0.56^{+0.39}_{-0.18}$	Age/Gyr	13.8069	13.808 ± 0.024	$\ln(10^{10} A_t)$	-0.91	$-0.70^{+0.99}_{-0.38}$
$\xi^{tSZ \times CIB}$	0.29	—	z_*	1090.013	1090.02 ± 0.27	r_{10}	0.0088	$0.0148^{+0.0050}_{-0.013}$
A^{kSZ}	0.03	$4.6^{+2.0}_{-4.2}$	r_*	144.525	144.56 ± 0.28	$10^9 A_t$	0.0401	$0.066^{+0.024}_{-0.057}$
A_{100}^{dust}	1.003	1.00 ± 0.20	$100\theta_*$	1.041053	1.04104 ± 0.00031	$10^9 A_t e^{-2\tau}$	0.0360	$0.060^{+0.022}_{-0.051}$
A_{143}^{dust}	0.981	0.96 ± 0.18	$D_M(z_*)/\text{Gpc}$	13.8826	13.886 ± 0.026	f_{2000}^{143}	30.05	29.7 ± 2.8
A_{217}^{dust}	0.973	0.98 ± 0.10	z_{drag}	1059.742	1059.71 ± 0.33	f_{2000}^{217}	106.80	106.9 ± 2.0
$A_{143 \times 217}^{dust}$	1.001	1.03 ± 0.16	r_{drag}	147.215	147.25 ± 0.28	$f_{2000}^{143 \times 217}$	32.13	32.1 ± 2.0
c_{100}	0.99768	0.9975 ± 0.0010	k_D	0.140675	0.14062 ± 0.00033	$\chi^2_{lensing}$	8.845	9.29 ± 0.67
c_{217}	1.00130	1.0011 ± 0.0016	$100\theta_D$	0.160866	0.16088 ± 0.00019	$\chi^2_{BKPLANCK}$	735.41	739.9 ± 2.7
c_{TE}	0.99639	0.9966 ± 0.0049	z_{eq}	3397.3	3394 ± 27	χ^2_{small}	396.01	397.2 ± 1.8
c_{EE}	0.99192	0.9922 ± 0.0049	k_{eq}	0.010369	0.010360 ± 0.000083	χ^2_{lowl}	23.74	24.2 ± 1.1
H_0	67.31	67.34 ± 0.55	$100\theta_{eq}$	0.8139	0.8144 ± 0.0051	$\chi^2_{CamSpec}$	11498.9	11513.1 ± 5.5
Ω_Λ	0.6848	0.6852 ± 0.0075	$100\theta_{s,eq}$	0.44976	0.4500 ± 0.0026	χ^2_{prior}	2.25	9.4 ± 3.8
Ω_m	0.3152	0.3148 ± 0.0075	$H(0.15)$	72.630	72.65 ± 0.47	χ^2_{CMB}	12662.9	12683.6 ± 6.4

Best-fit $\chi^2_{eff} = 12665.14$; $\bar{\chi}^2_{eff} = 12693.08$; $R - 1 = 0.00549$

χ^2_{eff} : CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p.teb_consext8: 8.85 BK15_dust: 735.41 small_100x143_offlike5_EE_Aplanck_B: 396.01 commander_dx12_v3_2.29: 23.74 CamSpec like_10.7HM.1400_unified: 11498.88

13.24 base_r_CamSpecHM_TTTEE_lowl_lowE_BK15_post_BAO_lensing

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022314	0.02233 ± 0.00015	σ_8	0.8091	0.8095 ± 0.0060	$D_M(0.51)$	1982.5	1981.0 ± 8.7
$\Omega_c h^2$	0.11928	0.11912 ± 0.00095	S_8	0.8247	0.824 ± 0.011	$H(0.61)$	95.288	95.32 ± 0.19
$100\theta_{MC}$	1.040908	1.04094 ± 0.00030	$\sigma_8 \Omega_m^{0.5}$	0.4517	0.4512 ± 0.0058	$D_M(0.61)$	2306.9	2305.2 ± 9.4
τ	0.0547	0.0560 ± 0.0074	$\sigma_8 \Omega_m^{0.25}$	0.6046	0.6043 ± 0.0057	$H(2.33)$	236.03	235.94 ± 0.59
$\ln(10^{10} A_s)$	3.0431	3.045 ± 0.015	$\sigma_8/h^{0.5}$	0.9845	0.9843 ± 0.0084	$D_M(2.33)$	5764.5	5763.2 ± 9.2
n_s	0.96699	0.9674 ± 0.0039	$r_{drag} h$	99.54	99.67 ± 0.73	$f\sigma_8(0.15)$	0.4563	0.4558 ± 0.0054
r	0.0197	$0.033^{+0.012}_{-0.027}$	$\langle d^2 \rangle^{1/2}$	2.4334	2.433 ± 0.021	$\sigma_8(0.15)$	0.7477	0.7481 ± 0.0055
y_{cal}	1.00104	1.0009 ± 0.0025	z_{re}	7.72	7.83 ± 0.74	$f\sigma_8(0.38)$	0.47457	0.4743 ± 0.0046
$A_{B,dust}$	4.62	$4.87^{+0.82}_{-1.1}$	$10^9 A_s$	2.0970	$2.101^{+0.029}_{-0.032}$	$\sigma_8(0.38)$	0.66274	0.6632 ± 0.0049
$A_{B,sync}$	1.48	$1.62^{+0.52}_{-1.3}$	$10^9 A_s e^{-2\tau}$	1.8796	1.878 ± 0.011	$f\sigma_8(0.51)$	0.47315	0.4730 ± 0.0042
$\alpha_{B,dust}$	-0.504	$-0.56^{+0.22}_{-0.32}$	D_{40}	1232.4	1236 ± 13	$\sigma_8(0.51)$	0.62020	0.6207 ± 0.0046
$\beta_{B,dust}$	1.579	1.601 ± 0.096	D_{220}	5725.2	5724 ± 39	$f\sigma_8(0.61)$	0.46817	0.4681 ± 0.0039
$\alpha_{B,sync}$	-0.22	—	D_{810}	2538.2	2537 ± 13	$\sigma_8(0.61)$	0.59013	0.5906 ± 0.0044
$\beta_{B,sync}$	-3.045	-3.10 ± 0.27	D_{1420}	817.11	816.9 ± 4.8	$f\sigma_8(2.33)$	0.29754	0.2978 ± 0.0023
$\epsilon_{dust,sync}$	-0.339	-0.36 ± 0.28	D_{2000}	230.72	230.7 ± 1.6	$\sigma_8(2.33)$	0.30674	0.3071 ± 0.0024
A_{100}^{PS}	233.6	239 ± 24	$n_{s,0.002}$	0.96699	0.9674 ± 0.0039	$r_{0.002}$	0.0179	$0.030^{+0.011}_{-0.025}$
A_{143}^{PS}	40.5	39 ± 8	Y_P	0.245373	$0.245376^{+0.000061}_{-0.000055}$	$r_{0.01}$	0.0188	$0.031^{+0.011}_{-0.026}$
A_{217}^{PS}	103.0	103 ± 10	Y_P^{BBN}	0.246699	$0.246702^{+0.000062}_{-0.000055}$	$\ln(10^{10} A_t)$	-0.88	$-0.66^{+0.97}_{-0.38}$
A_{217}^{CIB}	44.1	39 ± 7	$10^5 D/H$	2.5960	2.594 ± 0.028	r_{10}	0.0091	$0.0152^{+0.0054}_{-0.013}$
A_{143}^{tSZ}	6.54	$3.9^{+1.9}_{-2.5}$	Age/Gyr	13.8005	13.798 ± 0.021	$10^9 A_t$	0.0414	$0.068^{+0.026}_{-0.057}$
$r_{143 \times 217}^{PS}$	0.609	0.66 ± 0.13	z_*	1089.927	1089.90 ± 0.23	$10^9 A_t e^{-2\tau}$	0.0371	$0.061^{+0.023}_{-0.051}$
$r_{143 \times 217}^{CIB}$	0.785	$0.55^{+0.39}_{-0.19}$	r_*	144.660	144.69 ± 0.23	f_{2000}^{143}	29.89	29.4 ± 2.8
$\xi^{tSZ \times CIB}$	0.16	—	$100\theta_*$	1.041098	1.04113 ± 0.00029	f_{2000}^{217}	106.89	106.8 ± 1.9
A^{kSZ}	0.04	$4.6^{+1.7}_{-4.3}$	$D_M(z_*)/\text{Gpc}$	13.8949	13.898 ± 0.022	$f_{2000}^{143 \times 217}$	32.05	31.9 ± 2.0
A_{100}^{dust}	1.007	1.00 ± 0.20	z_{drag}	1059.742	1059.77 ± 0.32	$\chi^2_{lensing}$	8.869	9.25 ± 0.69
A_{143}^{dust}	0.972	0.96 ± 0.18	r_{drag}	147.345	147.37 ± 0.25	$\chi^2_{BKPLANCK}$	735.58	740.0 ± 2.6
A_{217}^{dust}	0.973	0.98 ± 0.10	k_D	0.140558	0.14053 ± 0.00031	χ^2_{small}	396.18	397.4 ± 2.0
$A_{143 \times 217}^{dust}$	1.003	1.03 ± 0.16	$100\theta_D$	0.160857	0.16085 ± 0.00019	χ^2_{lowl}	23.52	24.0 ± 1.1
c_{100}	0.99766	0.9975 ± 0.0010	z_{eq}	3383.7	3380 ± 22	$\chi^2_{CamSpec}$	11498.9	11512.9 ± 5.5
c_{217}	1.00128	1.0011 ± 0.0016	k_{eq}	0.010327	0.010317 ± 0.000066	χ^2_{6DF}	0.0375	0.050 ± 0.058
c_{TE}	0.99658	0.9966 ± 0.0049	$100\theta_{eq}$	0.81645	0.8172 ± 0.0040	χ^2_{MGS}	1.156	1.28 ± 0.40
c_{EE}	0.99248	0.9924 ± 0.0049	$100\theta_{s,eq}$	0.45107	0.4514 ± 0.0021	$\chi^2_{DR12BAO}$	4.60	4.7 ± 1.3
H_0	67.556	67.63 ± 0.43	$H(0.15)$	72.837	72.90 ± 0.37	χ^2_{prior}	2.32	9.4 ± 3.8
Ω_Λ	0.6883	0.6893 ± 0.0057	$D_M(0.15)$	641.72	641.1 ± 3.7	χ^2_{CMB}	12663.0	12683.6 ± 6.4
Ω_m	0.3117	0.3107 ± 0.0057	$H(0.38)$	82.951	83.00 ± 0.28	χ^2_{BAO}	5.79	6.1 ± 1.0
$\Omega_m h^2$	0.14224	0.14209 ± 0.00090	$D_M(0.38)$	1530.4	1529.1 ± 7.4			
$\Omega_m h^3$	0.096092	0.09610 ± 0.00032	$H(0.51)$	89.669	89.71 ± 0.23			

Best-fit $\chi^2_{eff} = 12671.15$; $\bar{\chi}^2_{eff} = 12699.13$; $R - 1 = 0.00878$

χ^2_{eff} : BAO - 6DF: 0.04 MGS: 1.16 DR12BAO: 4.59 CMB - smicadx12_Dec5_ftl_mv2_ndclpp_p_teb_consext8: 8.87 BK15_dust: 735.58 simall_100x143_offlike5_EE_Aplanck_B: 396.18 commander_dx12_v3.2.29: 23.52 CamSpec like_10.7HM_1400.unified: 11498.90

13.25 base_r_CamSpecHM_TTTEE_lowl_lowE_BK15_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02228 ± 0.00016	$\Omega_{\mathrm{m}}h^2$	0.1426 ± 0.0013	$D_{\mathrm{M}}(0.15)$	643.4 ± 5.3
$\Omega_{\mathrm{c}}h^2$	0.1197 ± 0.0014	$\Omega_{\mathrm{m}}h^3$	0.09608 ± 0.00032	$H(0.38)$	82.84 ± 0.38
$100\theta_{\mathrm{MC}}$	1.04086 ± 0.00032	σ_8	$0.8105^{+0.0066}_{-0.0075}$	$D_{\mathrm{M}}(0.38)$	1534 ± 11
τ	$0.0548^{+0.0051}_{-0.0084}$	S_8	0.830 ± 0.016	$H(0.51)$	89.58 ± 0.30
$\ln(10^{10}A_{\mathrm{s}})$	$3.043^{+0.012}_{-0.016}$	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4545 ± 0.0088	$D_{\mathrm{M}}(0.51)$	1986 ± 12
n_{s}	0.9662 ± 0.0045	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6069 ± 0.0082	$H(0.61)$	95.22 ± 0.24
r	$0.032^{+0.012}_{-0.027}$	$\sigma_8/h^{0.5}$	0.988 ± 0.011	$D_{\mathrm{M}}(0.61)$	2311 ± 13
y_{cal}	1.0007 ± 0.0025	$r_{\mathrm{drag}}h$	99.2 ± 1.1	$H(2.33)$	236.28 ± 0.83
$A_{B,\mathrm{dust}}$	$4.87^{+0.81}_{-1.2}$	$\langle d^2 \rangle^{1/2}$	2.440 ± 0.028	$D_{\mathrm{M}}(2.33)$	5767 ± 11
$A_{B,\mathrm{sync}}$	$1.62^{+0.53}_{-1.4}$	z_{re}	$7.74^{+0.56}_{-0.82}$	$f\sigma_8(0.15)$	0.4588 ± 0.0082
$\alpha_{B,\mathrm{dust}}$	$-0.57^{+0.21}_{-0.33}$	$10^9 A_{\mathrm{s}}$	$2.098^{+0.024}_{-0.035}$	$\sigma_8(0.15)$	$0.7487^{+0.0056}_{-0.0066}$
$\beta_{B,\mathrm{dust}}$	1.600 ± 0.096	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.880 ± 0.012	$f\sigma_8(0.38)$	0.4765 ± 0.0067
$\alpha_{B,\mathrm{sync}}$	—	D_{40}	1237 ± 14	$\sigma_8(0.38)$	$0.6633^{+0.0044}_{-0.0057}$
$\beta_{B,\mathrm{sync}}$	-3.10 ± 0.27	D_{220}	5716 ± 39	$f\sigma_8(0.51)$	0.4747 ± 0.0058
$\epsilon_{\mathrm{dust},\mathrm{sync}}$	-0.36 ± 0.28	D_{810}	2536 ± 14	$\sigma_8(0.51)$	$0.6206^{+0.0040}_{-0.0053}$
A_{100}^{PS}	239 ± 24	D_{1420}	816.1 ± 4.9	$f\sigma_8(0.61)$	0.4695 ± 0.0053
A_{143}^{PS}	39 ± 8	D_{2000}	230.4 ± 1.7	$\sigma_8(0.61)$	$0.5905^{+0.0037}_{-0.0050}$
A_{217}^{PS}	103 ± 10	$n_{\mathrm{s},0.002}$	0.9662 ± 0.0045	$f\sigma_8(2.33)$	$0.2976^{+0.0018}_{-0.0025}$
A_{217}^{CIB}	39 ± 7	Y_{P}	$0.245357^{+0.000068}_{-0.000061}$	$\sigma_8(2.33)$	$0.3067^{+0.0019}_{-0.0027}$
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246684^{+0.000068}_{-0.000061}$	$r_{0.002}$	$0.029^{+0.010}_{-0.026}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$10^5 \mathrm{D}/\mathrm{H}$	2.603 ± 0.030	$r_{0.01}$	$0.031^{+0.011}_{-0.026}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.55^{+0.38}_{-0.19}$	$\mathrm{Age}/\mathrm{Gyr}$	13.807 ± 0.025	$\ln(10^{10}A_{\mathrm{t}})$	$-0.69^{+1.0}_{-0.38}$
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	z_*	1090.01 ± 0.28	r_{10}	$0.0150^{+0.0051}_{-0.013}$
A^{kSZ}	$4.6^{+1.9}_{-4.2}$	r_*	144.57 ± 0.31	$10^9 A_{\mathrm{t}}$	$0.067^{+0.024}_{-0.057}$
A_{100}^{dust}	1.00 ± 0.20	$100\theta_*$	1.04105 ± 0.00031	$10^9 A_{\mathrm{t}}e^{-2\tau}$	$0.060^{+0.022}_{-0.051}$
A_{143}^{dust}	0.96 ± 0.18	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.887 ± 0.029	f_{2000}^{143}	29.6 ± 2.8
A_{217}^{dust}	0.98 ± 0.10	z_{drag}	1059.71 ± 0.33	f_{2000}^{217}	106.8 ± 1.9
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	r_{drag}	147.27 ± 0.32	$f_{2000}^{143 \times 217}$	32.1 ± 2.0
c_{100}	0.9975 ± 0.0011	k_{D}	0.14061 ± 0.00035	$\chi_{\mathrm{BKPLANCK}}^2$	739.9 ± 2.7
c_{217}	1.0011 ± 0.0016	$100\theta_{\mathrm{D}}$	0.16088 ± 0.00019	χ_{simall}^2	397.1 ± 1.8
c_{TE}	0.9966 ± 0.0049	z_{eq}	3393 ± 31	χ_{lowl}^2	24.2 ± 1.2
c_{EE}	0.9921 ± 0.0049	k_{eq}	0.010357 ± 0.000095	$\chi_{\mathrm{CamSpec}}^2$	11513.4 ± 5.6
H_0	67.36 ± 0.61	$100\theta_{\mathrm{eq}}$	0.8146 ± 0.0059	χ_{prior}^2	9.5 ± 3.8
Ω_{Λ}	0.6855 ± 0.0085	$100\theta_{\mathrm{s},\mathrm{eq}}$	0.4501 ± 0.0030	χ_{CMB}^2	12674.6 ± 6.3
Ω_{m}	0.3145 ± 0.0085	$H(0.15)$	72.67 ± 0.52		

$$\bar{\chi}_{\mathrm{eff}}^2 = 12684.04; R - 1 = 0.00482$$

13.26 base_r_CamSpecHM_TTTEE_lowl_lowE_BK15_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02233 ± 0.00015	$\Omega_{\mathrm{m}}h^3$	0.09609 ± 0.00032	$D_{\mathrm{M}}(0.38)$	1528.3 ± 7.8
$\Omega_{\mathrm{c}}h^2$	0.1190 ± 0.0010	σ_8	$0.8086^{+0.0059}_{-0.0074}$	$H(0.51)$	89.73 ± 0.23
$100\theta_{\mathrm{MC}}$	1.04095 ± 0.00030	S_8	0.822 ± 0.012	$D_{\mathrm{M}}(0.51)$	1980.0 ± 9.1
τ	$0.0557^{+0.0054}_{-0.0084}$	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4502 ± 0.0068	$H(0.61)$	95.34 ± 0.19
$\ln(10^{10}A_{\mathrm{s}})$	$3.044^{+0.012}_{-0.017}$	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6033 ± 0.0068	$D_{\mathrm{M}}(0.61)$	2304.2 ± 9.8
n_{s}	0.9679 ± 0.0040	$\sigma_8/h^{0.5}$	$0.9829^{+0.0092}_{-0.010}$	$H(2.33)$	235.86 ± 0.63
r	$0.033^{+0.013}_{-0.027}$	$r_{\mathrm{drag}}h$	99.77 ± 0.78	$D_{\mathrm{M}}(2.33)$	5762.7 ± 9.4
y_{cal}	1.0008 ± 0.0025	$\langle d^2 \rangle^{1/2}$	2.429 ± 0.024	$f\sigma_8(0.15)$	0.4549 ± 0.0064
$A_{B,\mathrm{dust}}$	$4.87^{+0.82}_{-1.2}$	z_{re}	$7.81^{+0.60}_{-0.82}$	$\sigma_8(0.15)$	$0.7474^{+0.0052}_{-0.0066}$
$A_{B,\mathrm{sync}}$	$1.61^{+0.52}_{-1.3}$	$10^9 A_{\mathrm{s}}$	$2.098^{+0.025}_{-0.036}$	$f\sigma_8(0.38)$	0.4735 ± 0.0055
$\alpha_{B,\mathrm{dust}}$	$-0.56^{+0.22}_{-0.32}$	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.877 ± 0.011	$\sigma_8(0.38)$	$0.6627^{+0.0043}_{-0.0058}$
$\beta_{B,\mathrm{dust}}$	1.601 ± 0.096	D_{40}	1234 ± 13	$f\sigma_8(0.51)$	0.4723 ± 0.0050
$\alpha_{B,\mathrm{sync}}$	—	D_{220}	5720 ± 39	$\sigma_8(0.51)$	$0.6202^{+0.0040}_{-0.0054}$
$\beta_{B,\mathrm{sync}}$	-3.10 ± 0.27	D_{810}	2536 ± 14	$f\sigma_8(0.61)$	$0.4675^{+0.0043}_{-0.0048}$
$\epsilon_{\mathrm{dust},\mathrm{sync}}$	-0.36 ± 0.28	D_{1420}	816.6 ± 4.9	$\sigma_8(0.61)$	$0.5902^{+0.0038}_{-0.0051}$
A_{100}^{PS}	239 ± 24	D_{2000}	230.6 ± 1.6	$f\sigma_8(2.33)$	$0.2976^{+0.0019}_{-0.0026}$
A_{143}^{PS}	39 ± 8	$n_{\mathrm{s},0.002}$	0.9679 ± 0.0040	$\sigma_8(2.33)$	$0.3069^{+0.0019}_{-0.0027}$
A_{217}^{PS}	103 ± 10	Y_{P}	$0.245377^{+0.000061}_{-0.000055}$	$r_{0.002}$	$0.030^{+0.011}_{-0.026}$
A_{217}^{CIB}	39^{+7}_{-8}	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246703^{+0.000062}_{-0.000055}$	$r_{0.01}$	$0.032^{+0.012}_{-0.027}$
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	$10^5 \mathrm{D}/\mathrm{H}$	2.594 ± 0.027	$\ln(10^{10}A_{\mathrm{t}})$	$-0.64^{+0.96}_{-0.38}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$\mathrm{Age}/\mathrm{Gyr}$	13.797 ± 0.021	r_{10}	$0.0156^{+0.0056}_{-0.013}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.55^{+0.39}_{-0.19}$	z_*	1089.89 ± 0.23	$10^9 A_{\mathrm{t}}$	$0.069^{+0.027}_{-0.057}$
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	r_*	144.72 ± 0.25	$10^9 A_{\mathrm{t}}e^{-2\tau}$	$0.062^{+0.024}_{-0.051}$
A^{kSZ}	$4.6^{+1.8}_{-4.3}$	$100\theta_*$	1.04114 ± 0.00030	f_{2000}^{143}	29.4 ± 2.8
A_{100}^{dust}	1.00 ± 0.20	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.901 ± 0.024	f_{2000}^{217}	106.7 ± 1.9
A_{143}^{dust}	0.96 ± 0.18	z_{drag}	1059.76 ± 0.32	$f_{2000}^{143 \times 217}$	31.9 ± 2.0
A_{217}^{dust}	0.98 ± 0.10	r_{drag}	147.41 ± 0.26	$\chi_{\mathrm{BKPLANCK}}^2$	740.1 ± 2.7
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	k_{D}	0.14050 ± 0.00032	χ_{simall}^2	397.3 ± 2.0
c_{100}	0.9975 ± 0.0011	$100\theta_{\mathrm{D}}$	0.16086 ± 0.00019	χ_{lowl}^2	23.9 ± 1.1
c_{217}	1.0011 ± 0.0016	z_{eq}	3377 ± 23	$\chi_{\mathrm{CamSpec}}^2$	11513.3 ± 5.6
c_{TE}	0.9967 ± 0.0049	k_{eq}	0.010308 ± 0.000071	$\chi_{6\mathrm{DF}}^2$	0.047 ± 0.059
c_{EE}	0.9923 ± 0.0049	$100\theta_{\mathrm{eq}}$	0.8177 ± 0.0044	χ_{MGS}^2	1.34 ± 0.44
H_0	67.68 ± 0.45	$100\theta_{\mathrm{s},\mathrm{eq}}$	0.4517 ± 0.0022	$\chi_{\mathrm{DR12BAO}}^2$	4.6 ± 1.3
Ω_{Λ}	0.6900 ± 0.0061	$H(0.15)$	72.95 ± 0.39	χ_{prior}^2	9.5 ± 3.8
Ω_{m}	0.3100 ± 0.0061	$D_{\mathrm{M}}(0.15)$	640.6 ± 3.9	χ_{BAO}^2	6.0 ± 1.0
$\Omega_{\mathrm{m}}h^2$	0.14197 ± 0.00097	$H(0.38)$	83.03 ± 0.29	χ_{CMB}^2	12674.5 ± 6.3

$$\bar{\chi}_{\mathrm{eff}}^2 = 12690.02; R - 1 = 0.00713$$

13.27 base_r_CamSpecHM_TTTEE_lowl_lowE_BK15_post_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02228 ± 0.00016	$\Omega_{\mathrm{m}}h^2$	0.1426 ± 0.0011	$D_{\mathrm{M}}(0.15)$	643.4 ± 4.6
$\Omega_{\mathrm{c}}h^2$	0.1197 ± 0.0012	$\Omega_{\mathrm{m}}h^3$	0.09608 ± 0.00032	$H(0.38)$	82.84 ± 0.34
$100\theta_{\mathrm{MC}}$	1.04086 ± 0.00031	σ_8	0.8108 ± 0.0057	$D_{\mathrm{M}}(0.38)$	1533.7 ± 9.3
τ	$0.0552^{+0.0054}_{-0.0080}$	S_8	0.830 ± 0.013	$H(0.51)$	89.58 ± 0.27
$\ln(10^{10}A_{\mathrm{s}})$	$3.044^{+0.011}_{-0.015}$	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4546 ± 0.0070	$D_{\mathrm{M}}(0.51)$	1986 ± 11
n_{s}	0.9660 ± 0.0043	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6071 ± 0.0064	$H(0.61)$	95.22 ± 0.22
r	$0.032^{+0.011}_{-0.027}$	$\sigma_8/h^{0.5}$	0.9878 ± 0.0089	$D_{\mathrm{M}}(0.61)$	2311 ± 12
y_{cal}	1.0008 ± 0.0025	$r_{\mathrm{drag}}h$	99.21 ± 0.93	$H(2.33)$	236.28 ± 0.72
$A_{B,\mathrm{dust}}$	$4.87^{+0.82}_{-1.2}$	$\langle d^2 \rangle^{1/2}$	2.441 ± 0.022	$D_{\mathrm{M}}(2.33)$	5767 ± 11
$A_{B,\mathrm{sync}}$	$1.63^{+0.52}_{-1.4}$	z_{re}	$7.77^{+0.59}_{-0.77}$	$f\sigma_8(0.15)$	0.4589 ± 0.0065
$\alpha_{B,\mathrm{dust}}$	$-0.56^{+0.21}_{-0.32}$	$10^9 A_{\mathrm{s}}$	$2.100^{+0.023}_{-0.032}$	$\sigma_8(0.15)$	$0.7489^{+0.0047}_{-0.0054}$
$\beta_{B,\mathrm{dust}}$	1.601 ± 0.096	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.880 ± 0.011	$f\sigma_8(0.38)$	0.4766 ± 0.0052
$\alpha_{B,\mathrm{sync}}$	—	D_{40}	1238 ± 13	$\sigma_8(0.38)$	$0.6635^{+0.0040}_{-0.0048}$
$\beta_{B,\mathrm{sync}}$	-3.10 ± 0.27	D_{220}	5719 ± 39	$f\sigma_8(0.51)$	0.4749 ± 0.0045
$\epsilon_{\mathrm{dust},\mathrm{sync}}$	-0.36 ± 0.28	D_{810}	2536 ± 13	$\sigma_8(0.51)$	$0.6208^{+0.0036}_{-0.0046}$
A_{100}^{PS}	239 ± 24	D_{1420}	816.2 ± 4.9	$f\sigma_8(0.61)$	0.4697 ± 0.0041
A_{143}^{PS}	39 ± 8	D_{2000}	230.4 ± 1.7	$\sigma_8(0.61)$	$0.5907^{+0.0035}_{-0.0044}$
A_{217}^{PS}	103 ± 10	$n_{\mathrm{s},0.002}$	0.9660 ± 0.0043	$f\sigma_8(2.33)$	$0.2977^{+0.0018}_{-0.0023}$
A_{217}^{CIB}	40 ± 7	Y_{P}	0.245359 ± 0.000064	$\sigma_8(2.33)$	$0.3068^{+0.0019}_{-0.0025}$
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246685 ± 0.000064	$r_{0.002}$	$0.0290^{+0.0099}_{-0.025}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$10^5 \mathrm{D}/\mathrm{H}$	2.602 ± 0.029	$r_{0.01}$	$0.030^{+0.011}_{-0.026}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56^{+0.40}_{-0.18}$	$\mathrm{Age}/\mathrm{Gyr}$	13.807 ± 0.024	$\ln(10^{10}A_{\mathrm{t}})$	$-0.69^{+0.99}_{-0.38}$
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	z_*	1090.00 ± 0.26	r_{10}	$0.0148^{+0.0050}_{-0.013}$
A^{kSZ}	$4.6^{+1.9}_{-4.2}$	r_*	144.57 ± 0.27	$10^9 A_{\mathrm{t}}$	$0.067^{+0.024}_{-0.057}$
A_{100}^{dust}	1.00 ± 0.20	$100\theta_*$	1.04105 ± 0.00031	$10^9 A_{\mathrm{t}}e^{-2\tau}$	$0.060^{+0.022}_{-0.051}$
A_{143}^{dust}	0.96 ± 0.18	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.887 ± 0.026	f_{2000}^{143}	29.6 ± 2.8
A_{217}^{dust}	0.98 ± 0.10	z_{drag}	1059.71 ± 0.33	f_{2000}^{217}	106.9 ± 2.0
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	r_{drag}	147.27 ± 0.28	$f_{2000}^{143 \times 217}$	32.1 ± 2.0
c_{100}	0.9975 ± 0.0010	k_{D}	0.14062 ± 0.00033	$\chi_{\mathrm{lensing}}^2$	9.25 ± 0.63
c_{217}	1.0011 ± 0.0016	$100\theta_{\mathrm{D}}$	0.16088 ± 0.00019	$\chi_{\mathrm{BKPLANCK}}^2$	739.8 ± 2.7
c_{TE}	0.9966 ± 0.0049	z_{eq}	3393 ± 27	χ_{small}^2	397.1 ± 1.8
c_{EE}	0.9921 ± 0.0049	k_{eq}	0.010356 ± 0.000082	χ_{lowl}^2	24.2 ± 1.1
H_0	67.37 ± 0.54	$100\theta_{\mathrm{eq}}$	0.8147 ± 0.0051	$\chi_{\mathrm{CamSpec}}^2$	11513.0 ± 5.5
Ω_{Λ}	0.6856 ± 0.0074	$100\theta_{\mathrm{s},\mathrm{eq}}$	0.4502 ± 0.0026	χ_{prior}^2	9.4 ± 3.8
Ω_{m}	0.3144 ± 0.0074	$H(0.15)$	72.68 ± 0.46	χ_{CMB}^2	12683.5 ± 6.3

$$\bar{\chi}_{\mathrm{eff}}^2 = 12692.90; R - 1 = 0.00651$$

13.28 base_r_CamSpecHM_TTTEE_lowl_lowE_BK15_post_BAO_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02233 ± 0.00015	σ_8	$0.8098^{+0.0053}_{-0.0062}$	$D_M(0.51)$	1980.8 ± 8.6
$\Omega_c h^2$	0.11910 ± 0.00094	S_8	0.824 ± 0.011	$H(0.61)$	95.32 ± 0.19
$100\theta_{MC}$	1.04094 ± 0.00030	$\sigma_8 \Omega_m^{0.5}$	0.4513 ± 0.0058	$D_M(0.61)$	2305.0 ± 9.3
τ	$0.0566^{+0.0059}_{-0.0079}$	$\sigma_8 \Omega_m^{0.25}$	0.6045 ± 0.0056	$H(2.33)$	235.93 ± 0.58
$\ln(10^{10} A_s)$	$3.046^{+0.012}_{-0.015}$	$\sigma_8/h^{0.5}$	0.9847 ± 0.0082	$D_M(2.33)$	5763.1 ± 9.2
n_s	0.9674 ± 0.0039	$r_{\text{drag}} h$	99.69 ± 0.73	$f\sigma_8(0.15)$	0.4559 ± 0.0054
r	$0.033^{+0.012}_{-0.027}$	$\langle d^2 \rangle^{1/2}$	2.434 ± 0.020	$\sigma_8(0.15)$	$0.7484^{+0.0048}_{-0.0057}$
y_{cal}	1.0009 ± 0.0025	z_{re}	$7.89^{+0.63}_{-0.76}$	$f\sigma_8(0.38)$	0.4745 ± 0.0046
$A_{B,\text{dust}}$	$4.87^{+0.82}_{-1.1}$	$10^9 A_s$	$2.103^{+0.025}_{-0.032}$	$\sigma_8(0.38)$	$0.6635^{+0.0041}_{-0.0050}$
$A_{B,\text{sync}}$	$1.62^{+0.52}_{-1.3}$	$10^9 A_s e^{-2\tau}$	1.878 ± 0.010	$f\sigma_8(0.51)$	0.4732 ± 0.0041
$\alpha_{B,\text{dust}}$	$-0.56^{+0.22}_{-0.32}$	D_{40}	1236 ± 13	$\sigma_8(0.51)$	$0.6210^{+0.0038}_{-0.0047}$
$\beta_{B,\text{dust}}$	1.601 ± 0.096	D_{220}	5724 ± 38	$f\sigma_8(0.61)$	0.4683 ± 0.0038
$\alpha_{B,\text{sync}}$	—	D_{810}	2537 ± 13	$\sigma_8(0.61)$	$0.5909^{+0.0036}_{-0.0045}$
$\beta_{B,\text{sync}}$	-3.10 ± 0.27	D_{1420}	816.8 ± 4.8	$f\sigma_8(2.33)$	$0.2980^{+0.0019}_{-0.0023}$
$\epsilon_{\text{dust,sync}}$	-0.36 ± 0.28	D_{2000}	230.7 ± 1.6	$\sigma_8(2.33)$	$0.3073^{+0.0020}_{-0.0025}$
A_{100}^{PS}	239 ± 24	$n_{s,0.002}$	0.9674 ± 0.0039	$r_{0.002}$	$0.030^{+0.011}_{-0.025}$
A_{143}^{PS}	39 ± 8	Y_P	$0.245377^{+0.000061}_{-0.000055}$	$r_{0.01}$	$0.031^{+0.011}_{-0.026}$
A_{217}^{PS}	103 ± 10	Y_P^{BBN}	$0.246703^{+0.000062}_{-0.000055}$	$\ln(10^{10} A_t)$	$-0.66^{+0.97}_{-0.38}$
A_{217}^{CIB}	39 ± 7	$10^5 D/H$	2.594 ± 0.027	r_{10}	$0.0153^{+0.0054}_{-0.013}$
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	Age/Gyr	13.797 ± 0.021	$10^9 A_t$	$0.068^{+0.026}_{-0.057}$
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	z_*	1089.90 ± 0.23	$10^9 A_t e^{-2\tau}$	$0.061^{+0.023}_{-0.051}$
$r_{143 \times 217}^{\text{CIB}}$	$0.55^{+0.39}_{-0.19}$	r_*	144.70 ± 0.23	f_{2000}^{143}	29.4 ± 2.8
$\xi^{\text{tSZ} \times \text{CIB}}$	—	$100\theta_*$	1.04113 ± 0.00029	f_{2000}^{217}	106.8 ± 1.9
A^{kSZ}	$4.6^{+1.7}_{-4.3}$	$D_M(z_*)/\text{Gpc}$	13.898 ± 0.022	$f_{2000}^{143 \times 217}$	31.9 ± 2.0
A_{100}^{dust}	1.00 ± 0.20	z_{drag}	1059.77 ± 0.32	χ_{lensing}^2	9.21 ± 0.64
A_{143}^{dust}	0.96 ± 0.18	r_{drag}	147.38 ± 0.25	χ_{BKPLANCK}^2	740.0 ± 2.6
A_{217}^{dust}	0.98 ± 0.10	k_D	0.14053 ± 0.00031	χ_{small}^2	397.4 ± 2.0
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$100\theta_D$	0.16085 ± 0.00019	χ_{lowl}^2	24.0 ± 1.1
c_{100}	0.9975 ± 0.0010	z_{eq}	3380 ± 21	χ_{CamSpec}^2	11512.9 ± 5.5
c_{217}	1.0011 ± 0.0016	k_{eq}	0.010315 ± 0.000065	$\chi_{6\text{DF}}^2$	0.049 ± 0.057
c_{TE}	0.9966 ± 0.0049	$100\theta_{\text{eq}}$	0.8173 ± 0.0040	χ_{MGS}^2	1.29 ± 0.40
c_{EE}	0.9924 ± 0.0049	$100\theta_{s,\text{eq}}$	0.4515 ± 0.0021	χ_{DR12BAO}^2	4.7 ± 1.3
H_0	67.64 ± 0.43	$H(0.15)$	72.91 ± 0.37	χ_{prior}^2	9.4 ± 3.8
Ω_Λ	0.6894 ± 0.0057	$D_M(0.15)$	641.0 ± 3.6	χ_{CMB}^2	12683.5 ± 6.3
Ω_m	0.3106 ± 0.0057	$H(0.38)$	83.01 ± 0.27	χ_{BAO}^2	6.03 ± 0.99
$\Omega_m h^2$	0.14207 ± 0.00090	$D_M(0.38)$	1528.9 ± 7.3		
$\Omega_m h^3$	0.09610 ± 0.00032	$H(0.51)$	89.71 ± 0.22		

$$\bar{\chi}_{\text{eff}}^2 = 12699.00; R - 1 = 0.00924$$

14 w

14.1 base_w_CamSpecHM_TT_lowl_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022221	0.02217 ± 0.00022	$\sigma_8 \Omega_m^{0.5}$	0.4063	$0.430^{+0.016}_{-0.023}$	$H(0.15)$	88.72	$81.6^{+6.7}_{-2.9}$
$\Omega_c h^2$	0.11998	0.1202 ± 0.0020	$\sigma_8 \Omega_m^{0.25}$	0.6599	$0.641^{+0.023}_{-0.018}$	$D_M(0.15)$	481.3	548^{+21}_{-66}
$100\theta_{MC}$	1.040963	1.04088 ± 0.00047	$\sigma_8/h^{0.5}$	1.0733	$1.042^{+0.037}_{-0.026}$	$H(0.38)$	84.46	$84.1^{+1.1}_{-0.87}$
τ	0.0524	0.0523 ± 0.0082	$r_{\text{drag}} h$	146.8	125^{+20}_{-9}	$D_M(0.38)$	1288	1388^{+36}_{-100}
w_0	-1.956	$-1.54^{+0.20}_{-0.39}$	$\langle d^2 \rangle^{1/2}$	2.5205	$2.498^{+0.047}_{-0.041}$	$H(0.51)$	86.77	$88.2^{+1.3}_{-0.85}$
$\ln(10^{10} A_s)$	3.0381	3.039 ± 0.017	z_{re}	7.45	7.45 ± 0.85	$D_M(0.51)$	1744	1841^{+36}_{-99}
n_s	0.9653	0.9643 ± 0.0056	$10^9 A_s$	2.0866	2.088 ± 0.035	$H(0.61)$	90.19	92.5 ± 1.6
y_{cal}	1.00015	1.0004 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.8790	1.881 ± 0.013	$D_M(0.61)$	2083	2173^{+35}_{-93}
A_{100}^{PS}	234.9	241 ± 25	D_{40}	1221.3	1226 ± 15	$H(2.33)$	230.35	$232.3^{+1.4}_{-2.7}$
A_{143}^{PS}	42.9	40 ± 8	D_{220}	5706.6	5707 ± 41	$D_M(2.33)$	5735.6	5748^{+18}_{-23}
A_{217}^{PS}	101.3	102 ± 10	D_{810}	2532.2	2533 ± 14	$f\sigma_8(0.15)$	0.5076	0.489 ± 0.021
A_{217}^{CIB}	45.1	40 ± 7	D_{1420}	814.0	813.8 ± 5.1	$\sigma_8(0.15)$	1.010	$0.896^{+0.11}_{-0.053}$
A_{143}^{tSZ}	6.50	$3.8^{+1.8}_{-2.6}$	D_{2000}	229.96	229.7 ± 1.8	$f\sigma_8(0.38)$	0.644	$0.570^{+0.065}_{-0.046}$
$r_{143 \times 217}^{\text{PS}}$	0.610	0.65 ± 0.13	$n_{s,0.002}$	0.9653	0.9643 ± 0.0056	$\sigma_8(0.38)$	0.904	$0.799^{+0.10}_{-0.047}$
$r_{143 \times 217}^{\text{CIB}}$	0.838	$0.57^{+0.41}_{-0.14}$	Y_P	0.245335	$0.24531^{+0.00010}_{-0.000081}$	$f\sigma_8(0.51)$	0.675	$0.586^{+0.080}_{-0.051}$
$\xi^{\text{tSZ} \times \text{CIB}}$	0.24	—	Y_P^{BBN}	0.246661	$0.24664^{+0.00010}_{-0.000082}$	$\sigma_8(0.51)$	0.845	$0.747^{+0.093}_{-0.043}$
A^{kSZ}	0.1	—	$10^5 D/H$	2.6139	2.624 ± 0.042	$f\sigma_8(0.61)$	0.681	$0.587^{+0.086}_{-0.050}$
A_{100}^{dust}	1.010	1.01 ± 0.20	Age/Gyr	13.449	$13.592^{+0.057}_{-0.15}$	$\sigma_8(0.61)$	0.802	$0.710^{+0.088}_{-0.040}$
A_{143}^{dust}	0.991	0.97 ± 0.18	z_*	1090.106	1090.20 ± 0.40	$f\sigma_8(2.33)$	0.3991	$0.356^{+0.042}_{-0.018}$
A_{217}^{dust}	0.967	0.97 ± 0.10	r_*	144.551	144.52 ± 0.47	$\sigma_8(2.33)$	0.3997	$0.359^{+0.039}_{-0.017}$
$A_{143 \times 217}^{\text{dust}}$	0.993	1.03 ± 0.16	$100\theta_*$	1.041162	1.04108 ± 0.00047	f_{2000}^{143}	30.54	30.5 ± 3.0
c_{100}	0.99763	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.8836	13.882 ± 0.043	f_{2000}^{217}	107.03	107.3 ± 2.0
c_{217}	1.00138	1.0011 ± 0.0016	z_{drag}	1059.589	1059.49 ± 0.45	$f_{2000}^{143 \times 217}$	32.41	32.7 ± 2.2
H_0	99.7	> 79.9	r_{drag}	147.264	147.25 ± 0.47	χ_{small}^2	395.72	396.9 ± 1.7
Ω_Λ	0.8562	$0.790^{+0.067}_{-0.017}$	k_D	0.14057	0.14054 ± 0.00051	χ_{lowl}^2	22.46	23.0 ± 1.1
Ω_m	0.1438	$0.210^{+0.017}_{-0.067}$	$100\theta_D$	0.160973	0.16103 ± 0.00026	χ_{CamSpec}^2	7048.6	7062.0 ± 5.3
$\Omega_m h^2$	0.14284	0.1431 ± 0.0019	z_{eq}	3398.1	3403 ± 46	χ_{prior}^2	2.03	7.6 ± 3.4
$\Omega_m h^3$	0.1424	$0.121^{+0.020}_{-0.0095}$	k_{eq}	0.010371	0.01039 ± 0.00014	χ_{CMB}^2	7466.8	7481.8 ± 5.5
σ_8	1.072	$0.958^{+0.11}_{-0.055}$	$100\theta_{\text{eq}}$	0.8137	0.8126 ± 0.0087			
S_8	0.7418	$0.786^{+0.030}_{-0.042}$	$100\theta_{s,\text{eq}}$	0.44968	0.4492 ± 0.0045			

Best-fit $\chi_{\text{eff}}^2 = 7468.79$; $\Delta\chi_{\text{eff}}^2 = -2.94$; $\bar{\chi}_{\text{eff}}^2 = 7489.40$; $\Delta\bar{\chi}_{\text{eff}}^2 = -2.14$; $R - 1 = 0.00889$

χ_{eff}^2 : CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.72 (Δ -0.11) commander_dx12_v3_2_29: 22.46 (Δ -0.94) CamSpec like_10.7HM: 7048.57 (Δ -1.76)

14.2 base_w_CamSpecHM_TT_lowl_lowE_post_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}} h^2$	0.02222 ± 0.00021	$\sigma_8 \Omega_{\mathrm{m}}^{0.5}$	$0.424^{+0.014}_{-0.023}$	$H(0.15)$	$82.2^{+6.5}_{-2.8}$
$\Omega_{\mathrm{c}} h^2$	0.1193 ± 0.0016	$\sigma_8 \Omega_{\mathrm{m}}^{0.25}$	$0.635^{+0.017}_{-0.013}$	$D_{\mathrm{M}}(0.15)$	544^{+21}_{-62}
$100\theta_{\mathrm{MC}}$	1.04097 ± 0.00046	$\sigma_8/h^{0.5}$	$1.034^{+0.028}_{-0.019}$	$H(0.38)$	$84.5^{+1.0}_{-0.73}$
τ	0.0517 ± 0.0081	$r_{\mathrm{drag}} h$	126^{+20}_{-9}	$D_{\mathrm{M}}(0.38)$	1378^{+35}_{-95}
w_0	$-1.53^{+0.19}_{-0.35}$	$\langle d^2 \rangle^{1/2}$	$2.481^{+0.030}_{-0.027}$	$H(0.51)$	$88.5^{+1.1}_{-0.70}$
$\ln(10^{10} A_{\mathrm{s}})$	3.035 ± 0.015	z_{re}	7.37 ± 0.83	$D_{\mathrm{M}}(0.51)$	1829^{+35}_{-94}
n_{s}	0.9661 ± 0.0050	$10^9 A_{\mathrm{s}}$	2.081 ± 0.032	$H(0.61)$	92.7 ± 1.4
y_{cal}	1.0003 ± 0.0025	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.876 ± 0.011	$D_{\mathrm{M}}(0.61)$	2161^{+34}_{-89}
A_{100}^{PS}	242 ± 25	D_{40}	1221 ± 13	$H(2.33)$	$231.5^{+1.1}_{-2.6}$
A_{143}^{PS}	40 ± 8	D_{220}	5709 ± 41	$D_{\mathrm{M}}(2.33)$	5742^{+16}_{-22}
A_{217}^{PS}	101 ± 10	D_{810}	2531 ± 13	$f\sigma_8(0.15)$	0.482 ± 0.015
A_{217}^{CIB}	41 ± 7	D_{1420}	813.8 ± 5.2	$\sigma_8(0.15)$	$0.893^{+0.097}_{-0.049}$
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	D_{2000}	229.7 ± 1.8	$f\sigma_8(0.38)$	$0.563^{+0.057}_{-0.039}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	$n_{\mathrm{s},0.002}$	0.9661 ± 0.0050	$\sigma_8(0.38)$	$0.797^{+0.091}_{-0.044}$
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.451	Y_{P}	$0.245330^{+0.000096}_{-0.000079}$	$f\sigma_8(0.51)$	$0.580^{+0.071}_{-0.045}$
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246656^{+0.000097}_{-0.000080}$	$\sigma_8(0.51)$	$0.746^{+0.085}_{-0.041}$
A^{kSZ}	—	$10^5 \mathrm{D}/\mathrm{H}$	2.615 ± 0.040	$f\sigma_8(0.61)$	$0.583^{+0.076}_{-0.045}$
A_{100}^{dust}	1.02 ± 0.20	$\mathrm{Age}/\mathrm{Gyr}$	$13.574^{+0.057}_{-0.14}$	$\sigma_8(0.61)$	$0.709^{+0.080}_{-0.038}$
A_{143}^{dust}	0.98 ± 0.18	z_*	1090.05 ± 0.36	$f\sigma_8(2.33)$	$0.356^{+0.038}_{-0.017}$
A_{217}^{dust}	0.97 ± 0.10	r_*	144.73 ± 0.37	$\sigma_8(2.33)$	$0.359^{+0.036}_{-0.017}$
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04117 ± 0.00045	f_{2000}^{143}	30.5 ± 3.0
c_{100}	0.9975 ± 0.0010	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.900 ± 0.035	f_{2000}^{217}	107.3 ± 2.0
c_{217}	1.0012 ± 0.0016	z_{drag}	1059.53 ± 0.45	$f_{2000}^{143 \times 217}$	32.7 ± 2.2
H_0	> 80.6	r_{drag}	147.45 ± 0.38	$\chi_{\mathrm{lensing}}^2$	9.0 ± 1.1
Ω_{Λ}	$0.796^{+0.062}_{-0.018}$	k_{D}	0.14038 ± 0.00045	χ_{simall}^2	396.8 ± 1.5
Ω_{m}	$0.204^{+0.018}_{-0.062}$	$100\theta_{\mathrm{D}}$	0.16100 ± 0.00026	χ_{lowl}^2	22.56 ± 0.89
$\Omega_{\mathrm{m}} h^2$	0.1422 ± 0.0015	z_{eq}	3382 ± 36	$\chi_{\mathrm{CamSpec}}^2$	7062.1 ± 5.1
$\Omega_{\mathrm{m}} h^3$	$0.121^{+0.018}_{-0.0094}$	k_{eq}	0.01032 ± 0.00011	χ_{prior}^2	7.6 ± 3.4
σ_8	$0.954^{+0.096}_{-0.050}$	$100\theta_{\mathrm{eq}}$	0.8166 ± 0.0069	χ_{CMB}^2	7490.4 ± 5.5
S_8	$0.774^{+0.025}_{-0.041}$	$100\theta_{\mathrm{s,eq}}$	0.4512 ± 0.0035		

$$\bar{\chi}_{\mathrm{eff}}^2 = 7497.94; \Delta\bar{\chi}_{\mathrm{eff}}^2 = -2.30; R - 1 = 0.01572$$

14.3 base_w_CamSpecHM_TT_lowl_lowE_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02218 ± 0.00022	$\sigma_8 \Omega_m^{0.5}$	$0.431^{+0.016}_{-0.023}$	$H(0.15)$	$81.6^{+6.7}_{-2.9}$
$\Omega_c h^2$	0.1201 ± 0.0020	$\sigma_8 \Omega_m^{0.25}$	$0.641^{+0.023}_{-0.018}$	$D_M(0.15)$	548^{+22}_{-67}
$100\theta_{MC}$	1.04089 ± 0.00047	$\sigma_8/h^{0.5}$	$1.043^{+0.037}_{-0.026}$	$H(0.38)$	$84.1^{+1.1}_{-0.87}$
τ	$0.0542^{+0.0045}_{-0.0086}$	$r_{\text{drag}} h$	124^{+20}_{-9}	$D_M(0.38)$	1388^{+36}_{-100}
w_0	$-1.53^{+0.20}_{-0.39}$	$\langle d^2 \rangle^{1/2}$	$2.500^{+0.047}_{-0.041}$	$H(0.51)$	$88.3^{+1.3}_{-0.84}$
$\ln(10^{10} A_s)$	$3.042^{+0.012}_{-0.016}$	z_{re}	$7.66^{+0.52}_{-0.84}$	$D_M(0.51)$	1841^{+37}_{-99}
n_s	0.9646 ± 0.0056	$10^9 A_s$	$2.095^{+0.024}_{-0.034}$	$H(0.61)$	92.6 ± 1.6
y_{cal}	1.0004 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.880 ± 0.013	$D_M(0.61)$	2173^{+35}_{-94}
A_{100}^{PS}	241 ± 25	D_{40}	1225 ± 15	$H(2.33)$	$232.2^{+1.4}_{-2.7}$
A_{143}^{PS}	40 ± 8	D_{220}	5707 ± 41	$D_M(2.33)$	5748^{+18}_{-23}
A_{217}^{PS}	102 ± 10	D_{810}	2533 ± 14	$f\sigma_8(0.15)$	0.489 ± 0.021
A_{217}^{CIB}	40 ± 7	D_{1420}	813.8 ± 5.1	$\sigma_8(0.15)$	$0.896^{+0.11}_{-0.054}$
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	D_{2000}	229.8 ± 1.8	$f\sigma_8(0.38)$	$0.569^{+0.065}_{-0.046}$
$r_{143 \times 217}^{\text{PS}}$	0.65 ± 0.13	$n_{s,0.002}$	0.9646 ± 0.0056	$\sigma_8(0.38)$	$0.799^{+0.10}_{-0.048}$
$r_{143 \times 217}^{\text{CIB}}$	$0.57^{+0.41}_{-0.15}$	Y_P	$0.24531^{+0.00010}_{-0.000081}$	$f\sigma_8(0.51)$	$0.585^{+0.079}_{-0.051}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	$0.24664^{+0.00010}_{-0.000081}$	$\sigma_8(0.51)$	$0.748^{+0.093}_{-0.043}$
A^{kSZ}	—	$10^5 D/H$	2.622 ± 0.041	$f\sigma_8(0.61)$	$0.587^{+0.085}_{-0.051}$
A_{100}^{dust}	1.01 ± 0.20	Age/Gyr	$13.591^{+0.057}_{-0.15}$	$\sigma_8(0.61)$	$0.710^{+0.088}_{-0.040}$
A_{143}^{dust}	0.97 ± 0.18	z_*	1090.18 ± 0.40	$f\sigma_8(2.33)$	$0.356^{+0.042}_{-0.018}$
A_{217}^{dust}	0.97 ± 0.10	r_*	144.54 ± 0.46	$\sigma_8(2.33)$	$0.359^{+0.039}_{-0.017}$
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	$100\theta_*$	1.04109 ± 0.00047	f_{2000}^{143}	30.4 ± 3.0
c_{100}	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.884 ± 0.043	f_{2000}^{217}	107.3 ± 2.0
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.50 ± 0.45	$f_{2000}^{143 \times 217}$	32.6 ± 2.2
H_0	> 79.8	r_{drag}	147.27 ± 0.47	χ_{simall}^2	396.8 ± 1.6
Ω_Λ	$0.790^{+0.067}_{-0.018}$	k_D	0.14053 ± 0.00051	χ_{lowl}^2	22.9 ± 1.1
Ω_m	$0.210^{+0.018}_{-0.067}$	$100\theta_D$	0.16102 ± 0.00026	χ_{CamSpec}^2	7061.9 ± 5.3
$\Omega_m h^2$	0.1430 ± 0.0019	z_{eq}	3401 ± 46	χ_{prior}^2	7.6 ± 3.4
$\Omega_m h^3$	$0.121^{+0.019}_{-0.0097}$	k_{eq}	0.01038 ± 0.00014	χ_{CMB}^2	7481.6 ± 5.4
σ_8	$0.959^{+0.11}_{-0.055}$	$100\theta_{\text{eq}}$	0.8131 ± 0.0086		
S_8	$0.787^{+0.030}_{-0.042}$	$100\theta_{s,\text{eq}}$	0.4494 ± 0.0045		

$$\bar{\chi}_{\text{eff}}^2 = 7489.13; \Delta\bar{\chi}_{\text{eff}}^2 = -2.13; R - 1 = 0.01149$$

14.4 base_w_CamSpecHM_TT_lowl_lowE_post_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}} h^2$	0.02223 ± 0.00021	$\sigma_8 \Omega_{\mathrm{m}}^{0.5}$	$0.424^{+0.014}_{-0.023}$	$H(0.15)$	$82.2^{+6.6}_{-2.9}$
$\Omega_{\mathrm{c}} h^2$	0.1191 ± 0.0016	$\sigma_8 \Omega_{\mathrm{m}}^{0.25}$	$0.635^{+0.017}_{-0.013}$	$D_{\mathrm{M}}(0.15)$	544^{+22}_{-63}
$100\theta_{\mathrm{MC}}$	1.04099 ± 0.00046	$\sigma_8/h^{0.5}$	$1.034^{+0.028}_{-0.020}$	$H(0.38)$	$84.5^{+1.1}_{-0.70}$
τ	$0.0538^{+0.0043}_{-0.0084}$	$r_{\mathrm{drag}} h$	125^{+20}_{-9}	$D_{\mathrm{M}}(0.38)$	1379^{+36}_{-97}
w_0	$-1.52^{+0.19}_{-0.35}$	$\langle d^2 \rangle^{1/2}$	$2.482^{+0.030}_{-0.027}$	$H(0.51)$	$88.6^{+1.1}_{-0.67}$
$\ln(10^{10} A_{\mathrm{s}})$	$3.039^{+0.011}_{-0.015}$	z_{re}	$7.59^{+0.45}_{-0.87}$	$D_{\mathrm{M}}(0.51)$	1830^{+36}_{-96}
n_{s}	0.9666 ± 0.0048	$10^9 A_{\mathrm{s}}$	$2.088^{+0.022}_{-0.031}$	$H(0.61)$	92.8 ± 1.4
y_{cal}	1.0003 ± 0.0025	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.875 ± 0.011	$D_{\mathrm{M}}(0.61)$	2161^{+34}_{-91}
A_{100}^{PS}	242 ± 25	D_{40}	1220 ± 13	$H(2.33)$	$231.5^{+1.1}_{-2.6}$
A_{143}^{PS}	40 ± 8	D_{220}	5709 ± 41	$D_{\mathrm{M}}(2.33)$	5740^{+16}_{-22}
A_{217}^{PS}	101 ± 10	D_{810}	2531 ± 13	$f\sigma_8(0.15)$	0.481 ± 0.015
A_{217}^{CIB}	41 ± 7	D_{1420}	813.9 ± 5.1	$\sigma_8(0.15)$	$0.892^{+0.098}_{-0.051}$
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	D_{2000}	229.8 ± 1.8	$f\sigma_8(0.38)$	$0.562^{+0.056}_{-0.040}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	$n_{\mathrm{s},0.002}$	0.9666 ± 0.0048	$\sigma_8(0.38)$	$0.796^{+0.091}_{-0.045}$
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.450	Y_{P}	$0.245336^{+0.000094}_{-0.000079}$	$f\sigma_8(0.51)$	$0.579^{+0.070}_{-0.046}$
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246662^{+0.000094}_{-0.000080}$	$\sigma_8(0.51)$	$0.745^{+0.085}_{-0.042}$
A^{kSZ}	—	$10^5 \mathrm{D}/\mathrm{H}$	2.612 ± 0.040	$f\sigma_8(0.61)$	$0.581^{+0.076}_{-0.046}$
A_{100}^{dust}	1.01 ± 0.20	$\mathrm{Age}/\mathrm{Gyr}$	$13.574^{+0.057}_{-0.14}$	$\sigma_8(0.61)$	$0.708^{+0.081}_{-0.039}$
A_{143}^{dust}	0.98 ± 0.18	z_*	1090.02 ± 0.35	$f\sigma_8(2.33)$	$0.355^{+0.039}_{-0.017}$
A_{217}^{dust}	0.97 ± 0.10	r_*	144.76 ± 0.36	$\sigma_8(2.33)$	$0.359^{+0.036}_{-0.017}$
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04119 ± 0.00045	f_{2000}^{143}	30.4 ± 3.0
c_{100}	0.9975 ± 0.0010	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.904 ± 0.034	f_{2000}^{217}	107.2 ± 2.1
c_{217}	1.0012 ± 0.0016	z_{drag}	1059.55 ± 0.45	$f_{2000}^{143 \times 217}$	32.6 ± 2.2
H_0	> 80.4	r_{drag}	147.48 ± 0.37	$\chi_{\mathrm{lensing}}^2$	9.0 ± 1.1
Ω_{Λ}	$0.795^{+0.063}_{-0.018}$	k_{D}	0.14035 ± 0.00045	χ_{simall}^2	396.6 ± 1.4
Ω_{m}	$0.205^{+0.018}_{-0.063}$	$100\theta_{\mathrm{D}}$	0.16099 ± 0.00026	χ_{lowl}^2	22.52 ± 0.88
$\Omega_{\mathrm{m}} h^2$	0.1420 ± 0.0015	z_{eq}	3378 ± 35	$\chi_{\mathrm{CamSpec}}^2$	7062.0 ± 5.2
$\Omega_{\mathrm{m}} h^3$	$0.121^{+0.018}_{-0.0096}$	k_{eq}	0.01031 ± 0.00011	χ_{prior}^2	7.6 ± 3.4
σ_8	$0.953^{+0.096}_{-0.052}$	$100\theta_{\mathrm{eq}}$	0.8174 ± 0.0067	χ_{CMB}^2	7490.1 ± 5.4
S_8	$0.775^{+0.025}_{-0.042}$	$100\theta_{\mathrm{s,eq}}$	0.4516 ± 0.0034		

$$\bar{\chi}_{\mathrm{eff}}^2 = 7497.68; \Delta\bar{\chi}_{\mathrm{eff}}^2 = -2.33; R - 1 = 0.02078$$

14.5 base_w_CamSpecHM_TTTEEE_lowl_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022361	0.02233 ± 0.00016	σ_8	1.060	$0.952^{+0.11}_{-0.051}$	$100\theta_{\text{eq}}$	0.8166	0.8160 ± 0.0058
$\Omega_c h^2$	0.11924	0.1194 ± 0.0014	S_8	0.7367	$0.776^{+0.025}_{-0.039}$	$100\theta_{\text{s,eq}}$	0.45110	0.4508 ± 0.0030
$100\theta_{\text{MC}}$	1.040932	1.04091 ± 0.00032	$\sigma_8 \Omega_{\text{m}}^{0.5}$	0.4035	$0.425^{+0.014}_{-0.021}$	$H(0.15)$	88.79	$82.1^{+6.7}_{-2.8}$
τ	0.0528	0.0523 ± 0.0077	$\sigma_8 \Omega_{\text{m}}^{0.25}$	0.6540	$0.635^{+0.021}_{-0.014}$	$D_{\text{M}}(0.15)$	482.4	546^{+21}_{-65}
w_0	-1.916	$-1.52^{+0.18}_{-0.39}$	$\sigma_8/h^{0.5}$	1.0650	$1.034^{+0.034}_{-0.021}$	$H(0.38)$	84.89	$84.46^{+0.97}_{-0.54}$
$\ln(10^{10} A_{\text{s}})$	3.0380	3.037 ± 0.016	$r_{\text{drag}} h$	146.0	125^{+20}_{-9}	$D_{\text{M}}(0.38)$	1286	1381^{+34}_{-98}
n_{s}	0.96761	0.9665 ± 0.0044	$\langle d^2 \rangle^{1/2}$	2.5066	$2.481^{+0.041}_{-0.032}$	$H(0.51)$	87.21	$88.6^{+1.2}_{-0.74}$
y_{cal}	1.00017	1.0003 ± 0.0025	z_{re}	7.45	$7.41^{+0.80}_{-0.70}$	$D_{\text{M}}(0.51)$	1740	1832^{+33}_{-97}
A_{100}^{PS}	230.4	238 ± 25	$10^9 A_{\text{s}}$	2.0863	2.085 ± 0.033	$H(0.61)$	90.60	$92.8^{+1.8}_{-2.0}$
A_{143}^{PS}	43.8	39 ± 8	$10^9 A_{\text{s}} e^{-2\tau}$	1.8772	1.877 ± 0.012	$D_{\text{M}}(0.61)$	2078	2163^{+31}_{-91}
A_{217}^{PS}	105.9	103 ± 10	D_{40}	1217.6	1221 ± 13	$H(2.33)$	229.95	$231.83^{+0.87}_{-2.5}$
A_{217}^{CIB}	40.9	39 ± 7	D_{220}	5718.9	5719 ± 38	$D_{\text{M}}(2.33)$	5727.8	5739^{+11}_{-19}
A_{143}^{tSZ}	6.01	$3.9^{+1.9}_{-2.5}$	D_{810}	2534.2	2534 ± 14	$f\sigma_8(0.15)$	0.5003	$0.482^{+0.018}_{-0.016}$
$r_{143 \times 217}^{\text{PS}}$	0.718	0.66 ± 0.13	D_{1420}	815.93	815.3 ± 4.8	$\sigma_8(0.15)$	0.999	$0.891^{+0.11}_{-0.050}$
$r_{143 \times 217}^{\text{CIB}}$	0.692	$0.55^{+0.38}_{-0.20}$	D_{2000}	230.76	230.4 ± 1.6	$f\sigma_8(0.38)$	0.632	$0.562^{+0.065}_{-0.040}$
$\xi^{\text{tSZ} \times \text{CIB}}$	0.53	—	$n_{\text{s},0.002}$	0.96761	0.9665 ± 0.0044	$\sigma_8(0.38)$	0.895	$0.795^{+0.098}_{-0.045}$
A^{kSZ}	0.84	$4.6^{+1.7}_{-4.4}$	Y_{P}	0.245392	$0.245378^{+0.000065}_{-0.000058}$	$f\sigma_8(0.51)$	0.663	$0.579^{+0.079}_{-0.045}$
A_{100}^{dust}	1.001	1.01 ± 0.20	$Y_{\text{P}}^{\text{BBN}}$	0.246719	$0.246705^{+0.000065}_{-0.000059}$	$\sigma_8(0.51)$	0.837	$0.744^{+0.092}_{-0.041}$
A_{143}^{dust}	0.943	0.96 ± 0.18	$10^5 \text{D}/\text{H}$	2.5871	2.593 ± 0.029	$f\sigma_8(0.61)$	0.670	$0.581^{+0.085}_{-0.045}$
A_{217}^{dust}	0.977	0.98 ± 0.10	Age/Gyr	13.437	$13.571^{+0.049}_{-0.14}$	$\sigma_8(0.61)$	0.794	$0.707^{+0.086}_{-0.039}$
$A_{143 \times 217}^{\text{dust}}$	1.037	1.03 ± 0.16	z_*	1089.863	1089.92 ± 0.27	$f\sigma_8(2.33)$	0.3961	$0.355^{+0.041}_{-0.018}$
c_{100}	0.99782	0.9975 ± 0.0011	r_*	144.635	144.62 ± 0.31	$\sigma_8(2.33)$	0.3968	$0.358^{+0.038}_{-0.017}$
c_{217}	1.00110	1.0011 ± 0.0016	$100\theta_*$	1.041112	1.04110 ± 0.00031	f_{2000}^{143}	28.86	29.3 ± 2.8
c_{TE}	0.99588	0.9958 ± 0.0049	$D_{\text{M}}(z_*)/\text{Gpc}$	13.8924	13.891 ± 0.029	f_{2000}^{217}	105.98	106.6 ± 1.9
c_{EE}	0.99188	0.9917 ± 0.0050	z_{drag}	1059.856	1059.81 ± 0.32	$f_{2000}^{143 \times 217}$	31.53	31.8 ± 2.0
H_0	99.1	> 80.2	r_{drag}	147.303	147.29 ± 0.31	χ_{small}^2	395.73	396.7 ± 1.5
Ω_{Λ}	0.8551	$0.793^{+0.064}_{-0.017}$	k_{D}	0.140636	0.14062 ± 0.00035	χ_{lowl}^2	22.18	22.57 ± 0.82
Ω_{m}	0.1449	$0.207^{+0.017}_{-0.064}$	$100\theta_{\text{D}}$	0.160796	0.16083 ± 0.00019	χ_{CamSpec}^2	11498.2	11513.3 ± 5.6
$\Omega_{\text{m}} h^2$	0.14224	0.1424 ± 0.0013	z_{eq}	3383.8	3387 ± 31	χ_{prior}^2	1.93	7.8 ± 3.4
$\Omega_{\text{m}} h^3$	0.1409	$0.121^{+0.019}_{-0.0090}$	k_{eq}	0.010328	0.010337 ± 0.000094	χ_{CMB}^2	11916.1	11932.6 ± 5.8

Best-fit $\chi_{\text{eff}}^2 = 11918.08$; $\Delta\chi_{\text{eff}}^2 = -2.68$; $\bar{\chi}_{\text{eff}}^2 = 11940.42$; $\Delta\bar{\chi}_{\text{eff}}^2 = -2.04$; $R - 1 = 0.01476$

χ_{eff}^2 : CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.73 (Δ -0.16) commander_dx12_v3.2.29: 22.18 (Δ -0.83) CamSpec like_10.7HM_1400_unified: 11498.24 (Δ -1.41)

14.6 base_w_CamSpecHM_TTTEEE_lowl_lowE_post_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02235 ± 0.00015	S_8	$0.770^{+0.022}_{-0.039}$	$H(0.15)$	$82.6^{+6.3}_{-2.8}$
$\Omega_c h^2$	0.1191 ± 0.0012	$\sigma_8 \Omega_m^{0.5}$	$0.422^{+0.012}_{-0.021}$	$D_M(0.15)$	541^{+22}_{-60}
$100\theta_{MC}$	1.04093 ± 0.00031	$\sigma_8 \Omega_m^{0.25}$	$0.634^{+0.017}_{-0.012}$	$H(0.38)$	$84.65^{+0.88}_{-0.51}$
τ	0.0516 ± 0.0073	$\sigma_8/h^{0.5}$	$1.032^{+0.028}_{-0.018}$	$D_M(0.38)$	1372^{+34}_{-90}
w_0	$-1.54^{+0.17}_{-0.35}$	$r_{\text{drag}} h$	126^{+20}_{-10}	$H(0.51)$	$88.7^{+1.1}_{-0.71}$
$\ln(10^{10} A_s)$	3.035 ± 0.014	$\langle d^2 \rangle^{1/2}$	$2.476^{+0.030}_{-0.025}$	$D_M(0.51)$	1823^{+34}_{-89}
n_s	0.9671 ± 0.0041	z_{re}	$7.33^{+0.77}_{-0.67}$	$H(0.61)$	$92.8^{+1.4}_{-1.8}$
y_{cal}	1.0002 ± 0.0025	$10^9 A_s$	2.080 ± 0.030	$D_M(0.61)$	2154^{+32}_{-84}
A_{100}^{PS}	239 ± 25	$10^9 A_s e^{-2\tau}$	1.875 ± 0.011	$H(2.33)$	$231.41^{+0.85}_{-2.3}$
A_{143}^{PS}	39 ± 8	D_{40}	1219 ± 12	$D_M(2.33)$	5735^{+11}_{-17}
A_{217}^{PS}	103 ± 10	D_{220}	5719 ± 38	$f\sigma_8(0.15)$	$0.480^{+0.015}_{-0.013}$
A_{217}^{CIB}	39 ± 7	D_{810}	2532 ± 13	$\sigma_8(0.15)$	$0.894^{+0.096}_{-0.048}$
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	D_{1420}	815.1 ± 4.8	$f\sigma_8(0.38)$	$0.563^{+0.058}_{-0.036}$
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	D_{2000}	230.3 ± 1.6	$\sigma_8(0.38)$	$0.799^{+0.089}_{-0.043}$
$r_{143 \times 217}^{\text{CIB}}$	$0.55^{+0.38}_{-0.19}$	$n_{s,0.002}$	0.9671 ± 0.0041	$f\sigma_8(0.51)$	$0.580^{+0.072}_{-0.041}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P	$0.245385^{+0.000063}_{-0.000057}$	$\sigma_8(0.51)$	$0.747^{+0.083}_{-0.040}$
A^{kSZ}	$4.7^{+2.3}_{-3.9}$	Y_P^{BBN}	$0.246711^{+0.000063}_{-0.000057}$	$f\sigma_8(0.61)$	$0.583^{+0.077}_{-0.042}$
A_{100}^{dust}	1.01 ± 0.20	10^5D/H	2.590 ± 0.029	$\sigma_8(0.61)$	$0.710^{+0.078}_{-0.037}$
A_{143}^{dust}	0.96 ± 0.18	Age/Gyr	$13.557^{+0.050}_{-0.13}$	$f\sigma_8(2.33)$	$0.356^{+0.037}_{-0.017}$
A_{217}^{dust}	0.98 ± 0.10	z_*	1089.87 ± 0.26	$\sigma_8(2.33)$	$0.359^{+0.035}_{-0.017}$
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	r_*	144.68 ± 0.28	f_{2000}^{143}	29.4 ± 2.8
c_{100}	0.9975 ± 0.0010	$100\theta_*$	1.04112 ± 0.00031	f_{2000}^{217}	106.6 ± 1.9
c_{217}	1.0011 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.897 ± 0.026	$f_{2000}^{143 \times 217}$	31.9 ± 2.0
c_{TE}	0.9960 ± 0.0049	z_{drag}	1059.82 ± 0.33	χ_{lensing}^2	8.75 ± 0.84
c_{EE}	0.9918 ± 0.0049	r_{drag}	147.36 ± 0.28	χ_{simall}^2	396.6 ± 1.3
H_0	> 81.0	k_D	0.14057 ± 0.00033	χ_{lowl}^2	22.42 ± 0.74
Ω_Λ	$0.799^{+0.059}_{-0.021}$	$100\theta_D$	0.16082 ± 0.00019	χ_{CamSpec}^2	11513.1 ± 5.4
Ω_m	$0.201^{+0.021}_{-0.059}$	z_{eq}	3380 ± 27	χ_{prior}^2	7.8 ± 3.4
$\Omega_m h^2$	0.1421 ± 0.0011	k_{eq}	0.010316 ± 0.000083	χ_{CMB}^2	11940.9 ± 5.8
$\Omega_m h^3$	$0.122^{+0.018}_{-0.0087}$	$100\theta_{\text{eq}}$	0.8173 ± 0.0052		
σ_8	$0.955^{+0.095}_{-0.048}$	$100\theta_{s,\text{eq}}$	0.4515 ± 0.0026		

$$\bar{\chi}_{\text{eff}}^2 = 11948.65; \Delta\bar{\chi}_{\text{eff}}^2 = -2.80; R - 1 = 0.02333$$

14.7 base_w_CamSpecHM_TTTEEE_lowl_lowE_post_Riess18

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02232 ± 0.00014	S_8	0.809 ± 0.015	$H(0.15)$	76.36 ± 0.98
$\Omega_{\mathrm{c}}h^2$	0.1196 ± 0.0014	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4434 ± 0.0085	$D_{\mathrm{M}}(0.15)$	601 ± 11
$100\theta_{\mathrm{MC}}$	1.04089 ± 0.00032	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.619 ± 0.010	$H(0.38)$	83.85 ± 0.41
τ	0.0522 ± 0.0073	$\sigma_8/h^{0.5}$	1.007 ± 0.015	$D_{\mathrm{M}}(0.38)$	1466 ± 17
w_0	$-1.199^{+0.063}_{-0.055}$	$r_{\mathrm{drag}}h$	108.3 ± 2.5	$H(0.51)$	89.56 ± 0.36
$\ln(10^{10}A_{\mathrm{s}})$	$3.038^{+0.016}_{-0.015}$	$\langle d^2 \rangle^{1/2}$	2.460 ± 0.031	$D_{\mathrm{M}}(0.51)$	1916 ± 18
n_{s}	0.9659 ± 0.0043	z_{re}	$7.42^{+0.79}_{-0.69}$	$H(0.61)$	$94.59^{+0.43}_{-0.38}$
y_{cal}	1.0006 ± 0.0024	$10^9 A_{\mathrm{s}}$	$2.086^{+0.034}_{-0.031}$	$D_{\mathrm{M}}(0.61)$	2242 ± 18
A_{100}^{PS}	239 ± 24	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.879 ± 0.012	$H(2.33)$	233.79 ± 0.89
A_{143}^{PS}	39^{+8}_{-9}	D_{40}	1225 ± 13	$D_{\mathrm{M}}(2.33)$	5749 ± 10
A_{217}^{PS}	103 ± 10	D_{220}	5721 ± 38	$f\sigma_8(0.15)$	0.467 ± 0.010
A_{217}^{CIB}	39 ± 7	D_{810}	2535 ± 13	$\sigma_8(0.15)$	0.802 ± 0.018
A_{143}^{tSZ}	$3.9^{+1.8}_{-2.5}$	D_{1420}	$815.8^{+4.5}_{-5.0}$	$f\sigma_8(0.38)$	0.507 ± 0.014
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.12	D_{2000}	$230.4^{+1.5}_{-1.7}$	$\sigma_8(0.38)$	0.713 ± 0.016
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.55^{+0.39}_{-0.19}$	$n_{\mathrm{s},0.002}$	0.9659 ± 0.0043	$f\sigma_8(0.51)$	0.512 ± 0.014
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Y_{P}	0.245372 ± 0.000058	$\sigma_8(0.51)$	0.667 ± 0.015
A^{kSZ}	$4.8^{+2.3}_{-4.0}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246699 ± 0.000058	$f\sigma_8(0.61)$	0.509 ± 0.015
A_{100}^{dust}	$1.00^{+0.21}_{-0.18}$	$10^5 \mathrm{D}/\mathrm{H}$	2.596 ± 0.027	$\sigma_8(0.61)$	0.634 ± 0.014
A_{143}^{dust}	0.96 ± 0.17	$\mathrm{Age}/\mathrm{Gyr}$	13.693 ± 0.031	$f\sigma_8(2.33)$	0.3200 ± 0.0068
A_{217}^{dust}	0.98 ± 0.10	z_*	1089.96 ± 0.26	$\sigma_8(2.33)$	0.3260 ± 0.0060
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	r_*	144.57 ± 0.32	f_{2000}^{143}	29.6 ± 2.8
c_{100}	0.9975 ± 0.0010	$100\theta_*$	1.04108 ± 0.00032	f_{2000}^{217}	106.8 ± 2.0
c_{217}	1.0011 ± 0.0015	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.887 ± 0.030	$f_{2000}^{143 \times 217}$	32.0 ± 2.0
c_{TE}	0.9961 ± 0.0049	z_{drag}	1059.78 ± 0.30	χ_{small}^2	396.7 ± 1.3
c_{EE}	0.9918 ± 0.0049	r_{drag}	147.25 ± 0.33	χ_{lowl}^2	22.85 ± 0.85
H_0	73.5 ± 1.7	k_{D}	0.14066 ± 0.00036	$\chi_{\mathrm{CamSpec}}^2$	11513.7 ± 5.3
Ω_{Λ}	0.736 ± 0.012	$100\theta_{\mathrm{D}}$	0.16084 ± 0.00018	$\chi_{\mathrm{H073p45}}^2$	1.0 ± 1.4
Ω_{m}	0.264 ± 0.012	z_{eq}	3392 ± 32	χ_{prior}^2	7.7 ± 3.4
$\Omega_{\mathrm{m}}h^2$	0.1426 ± 0.0013	k_{eq}	0.010352 ± 0.000097	χ_{CMB}^2	11933.2 ± 5.5
$\Omega_{\mathrm{m}}h^3$	0.1049 ± 0.0026	$100\theta_{\mathrm{eq}}$	0.8150 ± 0.0060		
σ_8	0.863 ± 0.019	$100\theta_{\mathrm{s,eq}}$	0.4503 ± 0.0031		

$\bar{\chi}_{\mathrm{eff}}^2 = 11941.94$; $\Delta\bar{\chi}_{\mathrm{eff}}^2 = -12.32$; $R - 1 = 0.08175$

14.8 base_w_CamSpecHM_TTTEEE_lowl_lowE_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02234 ± 0.00015	σ_8	$0.953^{+0.11}_{-0.052}$	$100\theta_{\text{eq}}$	0.8161 ± 0.0058
$\Omega_c h^2$	0.1194 ± 0.0013	S_8	$0.777^{+0.025}_{-0.039}$	$100\theta_{\text{s,eq}}$	0.4509 ± 0.0030
$100\theta_{\text{MC}}$	1.04092 ± 0.00031	$\sigma_8 \Omega_{\text{m}}^{0.5}$	$0.426^{+0.014}_{-0.021}$	$H(0.15)$	$82.0^{+6.8}_{-2.8}$
τ	$0.0540^{+0.0045}_{-0.0076}$	$\sigma_8 \Omega_{\text{m}}^{0.25}$	$0.636^{+0.021}_{-0.014}$	$D_{\text{M}}(0.15)$	546^{+22}_{-65}
w_0	$-1.52^{+0.18}_{-0.39}$	$\sigma_8/h^{0.5}$	$1.035^{+0.035}_{-0.021}$	$H(0.38)$	$84.47^{+0.98}_{-0.54}$
$\ln(10^{10} A_{\text{s}})$	$3.040^{+0.011}_{-0.015}$	$r_{\text{drag}} h$	125^{+20}_{-9}	$D_{\text{M}}(0.38)$	1381^{+34}_{-99}
n_{s}	0.9667 ± 0.0044	$\langle d^2 \rangle^{1/2}$	$2.484^{+0.040}_{-0.031}$	$H(0.51)$	$88.6^{+1.2}_{-0.74}$
y_{cal}	1.0003 ± 0.0025	z_{re}	$7.60^{+0.51}_{-0.76}$	$D_{\text{M}}(0.51)$	1833^{+33}_{-97}
A_{100}^{PS}	238 ± 25	$10^9 A_{\text{s}}$	$2.092^{+0.023}_{-0.032}$	$H(0.61)$	92.8 ± 1.5
A_{143}^{PS}	39 ± 8	$10^9 A_{\text{s}} e^{-2\tau}$	1.877 ± 0.012	$D_{\text{M}}(0.61)$	2164^{+31}_{-92}
A_{217}^{PS}	103 ± 10	D_{40}	1221 ± 13	$H(2.33)$	$231.84^{+0.86}_{-2.6}$
A_{217}^{CIB}	39 ± 7	D_{220}	5719 ± 38	$D_{\text{M}}(2.33)$	5738^{+11}_{-19}
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	D_{810}	2533 ± 14	$f\sigma_8(0.15)$	$0.482^{+0.019}_{-0.016}$
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	D_{1420}	815.3 ± 4.8	$\sigma_8(0.15)$	$0.891^{+0.11}_{-0.051}$
$r_{143 \times 217}^{\text{CIB}}$	$0.55^{+0.38}_{-0.20}$	D_{2000}	230.4 ± 1.6	$f\sigma_8(0.38)$	$0.563^{+0.065}_{-0.040}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	$n_{\text{s},0.002}$	0.9667 ± 0.0044	$\sigma_8(0.38)$	$0.796^{+0.099}_{-0.046}$
A^{kSZ}	$4.6^{+1.7}_{-4.4}$	Y_{P}	0.245381 ± 0.000061	$f\sigma_8(0.51)$	$0.579^{+0.080}_{-0.045}$
A_{100}^{dust}	1.01 ± 0.20	$Y_{\text{P}}^{\text{BBN}}$	0.246707 ± 0.000062	$\sigma_8(0.51)$	$0.744^{+0.092}_{-0.042}$
A_{143}^{dust}	0.96 ± 0.18	$10^5 \text{D}/\text{H}$	2.592 ± 0.029	$f\sigma_8(0.61)$	$0.581^{+0.085}_{-0.046}$
A_{217}^{dust}	0.98 ± 0.10	Age/Gyr	$13.571^{+0.049}_{-0.15}$	$\sigma_8(0.61)$	$0.707^{+0.087}_{-0.039}$
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	z_*	1089.91 ± 0.27	$f\sigma_8(2.33)$	$0.355^{+0.041}_{-0.018}$
c_{100}	0.9975 ± 0.0010	r_*	144.62 ± 0.31	$\sigma_8(2.33)$	$0.358^{+0.038}_{-0.017}$
c_{217}	1.0010 ± 0.0016	$100\theta_*$	1.04111 ± 0.00031	f_{2000}^{143}	29.2 ± 2.8
c_{TE}	0.9957 ± 0.0049	$D_{\text{M}}(z_*)/\text{Gpc}$	13.891 ± 0.029	f_{2000}^{217}	106.5 ± 1.9
c_{EE}	0.9916 ± 0.0050	z_{drag}	1059.82 ± 0.32	$f_{2000}^{143 \times 217}$	31.8 ± 2.0
H_0	> 80.1	r_{drag}	147.30 ± 0.31	χ_{small}^2	396.6 ± 1.4
Ω_{Λ}	$0.793^{+0.065}_{-0.018}$	k_{D}	0.14063 ± 0.00035	χ_{lowl}^2	22.57 ± 0.83
Ω_{m}	$0.207^{+0.018}_{-0.065}$	$100\theta_{\text{D}}$	0.16082 ± 0.00019	χ_{CamSpec}^2	11513.1 ± 5.6
$\Omega_{\text{m}} h^2$	0.1423 ± 0.0013	z_{eq}	3386 ± 31	χ_{prior}^2	7.8 ± 3.4
$\Omega_{\text{m}} h^3$	$0.121^{+0.019}_{-0.0092}$	k_{eq}	0.010335 ± 0.000093	χ_{CMB}^2	11932.3 ± 5.7
$\bar{\chi}_{\text{eff}}^2 = 11940.09; \Delta\bar{\chi}_{\text{eff}}^2 = -2.09; R - 1 = 0.01385$					

14.9 base_w_CamSpecHM_TTTEEE_lowl_lowE_post_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}} h^2$	0.02236 ± 0.00015	S_8	$0.771^{+0.023}_{-0.039}$	$H(0.15)$	$82.5^{+6.4}_{-2.9}$
$\Omega_{\mathrm{c}} h^2$	0.1190 ± 0.0012	$\sigma_8 \Omega_{\mathrm{m}}^{0.5}$	$0.422^{+0.012}_{-0.021}$	$D_{\mathrm{M}}(0.15)$	542^{+23}_{-61}
$100\theta_{\mathrm{MC}}$	1.04095 ± 0.00030	$\sigma_8 \Omega_{\mathrm{m}}^{0.25}$	$0.634^{+0.018}_{-0.012}$	$H(0.38)$	$84.67^{+0.90}_{-0.50}$
τ	$0.0534^{+0.0042}_{-0.0073}$	$\sigma_8/h^{0.5}$	$1.032^{+0.029}_{-0.018}$	$D_{\mathrm{M}}(0.38)$	1374^{+36}_{-92}
w_0	$-1.53^{+0.17}_{-0.36}$	$r_{\mathrm{drag}} h$	126^{+20}_{-10}	$H(0.51)$	$88.7^{+1.1}_{-0.70}$
$\ln(10^{10} A_{\mathrm{s}})$	$3.038^{+0.010}_{-0.014}$	$\langle d^2 \rangle^{1/2}$	$2.478^{+0.029}_{-0.024}$	$D_{\mathrm{M}}(0.51)$	1824^{+35}_{-91}
n_{s}	0.9674 ± 0.0041	z_{re}	$7.52^{+0.45}_{-0.74}$	$H(0.61)$	$92.9^{+1.5}_{-1.8}$
y_{cal}	1.0002 ± 0.0025	$10^9 A_{\mathrm{s}}$	$2.086^{+0.021}_{-0.029}$	$D_{\mathrm{M}}(0.61)$	2155^{+32}_{-86}
A_{100}^{PS}	238 ± 25	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.875 ± 0.011	$H(2.33)$	$231.41^{+0.85}_{-2.4}$
A_{143}^{PS}	39 ± 8	D_{40}	1219 ± 12	$D_{\mathrm{M}}(2.33)$	5735^{+11}_{-18}
A_{217}^{PS}	102 ± 10	D_{220}	5719 ± 37	$f\sigma_8(0.15)$	$0.480^{+0.015}_{-0.013}$
A_{217}^{CIB}	39 ± 7	D_{810}	2532 ± 13	$\sigma_8(0.15)$	$0.893^{+0.097}_{-0.049}$
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	D_{1420}	815.0 ± 4.8	$f\sigma_8(0.38)$	$0.562^{+0.059}_{-0.037}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	D_{2000}	230.3 ± 1.6	$\sigma_8(0.38)$	$0.798^{+0.090}_{-0.044}$
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.55^{+0.38}_{-0.19}$	$n_{\mathrm{s},0.002}$	0.9674 ± 0.0041	$f\sigma_8(0.51)$	$0.579^{+0.072}_{-0.042}$
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Y_{P}	$0.245388^{+0.000063}_{-0.000057}$	$\sigma_8(0.51)$	$0.746^{+0.084}_{-0.041}$
A^{kSZ}	$4.7^{+2.3}_{-3.9}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246715^{+0.000063}_{-0.000057}$	$f\sigma_8(0.61)$	$0.582^{+0.077}_{-0.043}$
A_{100}^{dust}	1.01 ± 0.20	$10^5 \mathrm{D}/\mathrm{H}$	2.588 ± 0.028	$\sigma_8(0.61)$	$0.709^{+0.079}_{-0.038}$
A_{143}^{dust}	0.96 ± 0.18	$\mathrm{Age}/\mathrm{Gyr}$	$13.559^{+0.051}_{-0.13}$	$f\sigma_8(2.33)$	$0.356^{+0.038}_{-0.017}$
A_{217}^{dust}	0.98 ± 0.10	z_*	1089.85 ± 0.26	$\sigma_8(2.33)$	$0.359^{+0.035}_{-0.017}$
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	r_*	144.70 ± 0.27	f_{2000}^{143}	29.3 ± 2.8
c_{100}	0.9975 ± 0.0010	$100\theta_*$	1.04113 ± 0.00030	f_{2000}^{217}	106.5 ± 1.9
c_{217}	1.0011 ± 0.0016	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.898 ± 0.026	$f_{2000}^{143 \times 217}$	31.8 ± 2.0
c_{TE}	0.9958 ± 0.0049	z_{drag}	1059.83 ± 0.32	$\chi_{\mathrm{lensing}}^2$	8.76 ± 0.85
c_{EE}	0.9917 ± 0.0049	r_{drag}	147.37 ± 0.28	χ_{simall}^2	396.4 ± 1.2
H_0	> 80.7	k_{D}	0.14056 ± 0.00033	χ_{lowl}^2	22.41 ± 0.75
Ω_{Λ}	$0.797^{+0.060}_{-0.019}$	$100\theta_{\mathrm{D}}$	0.16081 ± 0.00019	$\chi_{\mathrm{CamSpec}}^2$	11513.0 ± 5.4
Ω_{m}	$0.203^{+0.019}_{-0.060}$	z_{eq}	3378 ± 27	χ_{prior}^2	7.8 ± 3.4
$\Omega_{\mathrm{m}} h^2$	0.1420 ± 0.0011	k_{eq}	0.010310 ± 0.000082	χ_{CMB}^2	11940.6 ± 5.7
$\Omega_{\mathrm{m}} h^3$	$0.121^{+0.018}_{-0.0090}$	$100\theta_{\mathrm{eq}}$	0.8177 ± 0.0051		
σ_8	$0.954^{+0.096}_{-0.049}$	$100\theta_{\mathrm{s,eq}}$	0.4517 ± 0.0026		

$\bar{\chi}_{\mathrm{eff}}^2 = 11948.34$; $\Delta\bar{\chi}_{\mathrm{eff}}^2 = -2.91$; $R - 1 = 0.02464$

14.10 base_w_CamSpecHM_TTTEEE_lowl_lowE_post_Riess18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02232 ± 0.00014	S_8	0.810 ± 0.015	$H(0.15)$	76.35 ± 0.98
$\Omega_{\mathrm{c}}h^2$	0.1196 ± 0.0014	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4438 ± 0.0082	$D_{\mathrm{M}}(0.15)$	602 ± 11
$100\theta_{\mathrm{MC}}$	1.04090 ± 0.00032	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6192 ± 0.0099	$H(0.38)$	83.86 ± 0.40
τ	$0.0537^{+0.0052}_{-0.0068}$	$\sigma_8/h^{0.5}$	1.008 ± 0.014	$D_{\mathrm{M}}(0.38)$	1466 ± 17
w_0	$-1.198^{+0.062}_{-0.053}$	$r_{\mathrm{drag}}h$	108.3 ± 2.5	$H(0.51)$	89.58 ± 0.35
$\ln(10^{10}A_{\mathrm{s}})$	$3.041^{+0.012}_{-0.014}$	$\langle d^2 \rangle^{1/2}$	2.462 ± 0.029	$D_{\mathrm{M}}(0.51)$	1916 ± 18
n_{s}	0.9661 ± 0.0041	z_{re}	$7.59^{+0.52}_{-0.75}$	$H(0.61)$	94.60 ± 0.40
y_{cal}	1.0006 ± 0.0024	$10^9 A_{\mathrm{s}}$	$2.092^{+0.025}_{-0.030}$	$D_{\mathrm{M}}(0.61)$	2242 ± 18
A_{100}^{PS}	238 ± 24	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.879 ± 0.011	$H(2.33)$	233.77 ± 0.88
A_{143}^{PS}	39^{+8}_{-9}	D_{40}	1225 ± 12	$D_{\mathrm{M}}(2.33)$	5749 ± 10
A_{217}^{PS}	103 ± 10	D_{220}	5722^{+40}_{-36}	$f\sigma_8(0.15)$	0.4676 ± 0.0098
A_{217}^{CIB}	39 ± 7	D_{810}	2535 ± 13	$\sigma_8(0.15)$	0.802 ± 0.018
A_{143}^{tSZ}	$3.9^{+1.8}_{-2.5}$	D_{1420}	$815.8^{+4.5}_{-5.0}$	$f\sigma_8(0.38)$	0.507 ± 0.013
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.12	D_{2000}	$230.4^{+1.4}_{-1.7}$	$\sigma_8(0.38)$	0.713 ± 0.016
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.55^{+0.40}_{-0.18}$	$n_{\mathrm{s},0.002}$	0.9661 ± 0.0041	$f\sigma_8(0.51)$	0.512 ± 0.014
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Y_{P}	0.245374 ± 0.000056	$\sigma_8(0.51)$	0.668 ± 0.015
A^{kSZ}	$4.8^{+2.2}_{-4.1}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246700 ± 0.000056	$f\sigma_8(0.61)$	0.509 ± 0.014
A_{100}^{dust}	$0.995^{+0.20}_{-0.18}$	$10^5 \mathrm{D}/\mathrm{H}$	2.595 ± 0.026	$\sigma_8(0.61)$	0.635 ± 0.014
A_{143}^{dust}	0.96 ± 0.18	$\mathrm{Age}/\mathrm{Gyr}$	13.693 ± 0.031	$f\sigma_8(2.33)$	0.3203 ± 0.0067
A_{217}^{dust}	$0.981^{+0.094}_{-0.11}$	z_*	1089.95 ± 0.25	$\sigma_8(2.33)$	0.3263 ± 0.0059
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.15	r_*	144.58 ± 0.32	f_{2000}^{143}	29.5 ± 2.8
c_{100}	0.9975 ± 0.0010	$100\theta_*$	1.04109 ± 0.00032	f_{2000}^{217}	106.8 ± 1.9
c_{217}	1.0011 ± 0.0015	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.887 ± 0.029	$f_{2000}^{143 \times 217}$	32.0 ± 2.0
c_{TE}	0.9959 ± 0.0049	z_{drag}	1059.79 ± 0.29	χ_{small}^2	396.6 ± 1.3
c_{EE}	0.9918 ± 0.0049	r_{drag}	147.26 ± 0.32	χ_{lowl}^2	22.86 ± 0.82
H_0	73.5 ± 1.7	k_{D}	0.14065 ± 0.00035	$\chi_{\mathrm{CamSpec}}^2$	11513.4 ± 5.3
Ω_{Λ}	0.736 ± 0.012	$100\theta_{\mathrm{D}}$	0.16084 ± 0.00017	$\chi_{\mathrm{H073p45}}^2$	1.0 ± 1.4
Ω_{m}	0.264 ± 0.012	z_{eq}	3391 ± 31	χ_{prior}^2	7.7 ± 3.5
$\Omega_{\mathrm{m}}h^2$	0.1425 ± 0.0013	k_{eq}	0.010349 ± 0.000095	χ_{CMB}^2	11932.9 ± 5.4
$\Omega_{\mathrm{m}}h^3$	0.1048 ± 0.0025	$100\theta_{\mathrm{eq}}$	0.8152 ± 0.0058		
σ_8	0.864 ± 0.018	$100\theta_{\mathrm{s},\mathrm{eq}}$	0.4504 ± 0.0030		

$\bar{\chi}_{\mathrm{eff}}^2 = 11941.58$; $\Delta\bar{\chi}_{\mathrm{eff}}^2 = -12.43$; $R - 1 = 0.09840$

14.11 base_w_CamSpecHM_TTTEEE_lowl_lowE_BAO

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022331	0.02232 ± 0.00015	$\sigma_8 \Omega_m^{0.5}$	0.4490	0.4493 ± 0.0073	$H(0.38)$	83.108	83.08 ± 0.32
$\Omega_c h^2$	0.11915	0.1193 ± 0.0013	$\sigma_8 \Omega_m^{0.25}$	0.6039	0.605 ± 0.011	$D_M(0.38)$	1522.4	1522 ± 17
$100\theta_{MC}$	1.040919	1.04092 ± 0.00031	$\sigma_8/h^{0.5}$	0.9835	0.984 ± 0.016	$H(0.51)$	89.718	89.68 ± 0.26
τ	0.0534	0.0529 ± 0.0079	$r_{\text{drag}} h$	100.49	$100.6^{+1.9}_{-2.2}$	$D_M(0.51)$	1973.9	1974 ± 17
w_0	-1.019	$-1.024^{+0.059}_{-0.051}$	$\langle d^2 \rangle^{1/2}$	2.4295	2.431 ± 0.032	$H(0.61)$	95.270	$95.22^{+0.35}_{-0.29}$
$\ln(10^{10} A_s)$	3.0385	3.038 ± 0.016	z_{re}	7.58	7.51 ± 0.81	$D_M(0.61)$	2298.3	2298 ± 17
n_s	0.96691	0.9668 ± 0.0042	$10^9 A_s$	2.0873	2.087 ± 0.034	$H(2.33)$	235.67	235.71 ± 0.75
y_{cal}	1.00030	1.0005 ± 0.0026	$10^9 A_s e^{-2\tau}$	1.8758	1.877 ± 0.012	$D_M(2.33)$	5761.2	5762.0 ± 9.3
A_{100}^{PS}	241.5	240 ± 24	D_{40}	1223.2	1224 ± 13	$f\sigma_8(0.15)$	0.4555	0.4562 ± 0.0097
A_{143}^{PS}	42.1	39 ± 8	D_{220}	5718.5	5719 ± 40	$\sigma_8(0.15)$	0.7510	0.752 ± 0.018
A_{217}^{PS}	102.2	102 ± 10	D_{810}	2533.6	2535 ± 14	$f\sigma_8(0.38)$	0.4759	0.477 ± 0.013
A_{217}^{CIB}	39.1	40 ± 7	D_{1420}	815.6	815.9 ± 5.0	$\sigma_8(0.38)$	0.6660	0.667 ± 0.016
A_{143}^{tSZ}	3.40	$3.9^{+1.9}_{-2.5}$	D_{2000}	230.26	230.3 ± 1.7	$f\sigma_8(0.51)$	0.4752	0.476 ± 0.014
$r_{143 \times 217}^{\text{PS}}$	0.669	0.66 ± 0.13	$n_{s,0.002}$	0.96691	0.9668 ± 0.0042	$\sigma_8(0.51)$	0.6233	0.624 ± 0.015
$r_{143 \times 217}^{\text{CIB}}$	0.605	$0.56^{+0.39}_{-0.18}$	Y_{P}	0.245380	0.245373 ± 0.000061	$f\sigma_8(0.61)$	0.4705	0.472 ± 0.015
$\xi^{\text{tSZ} \times \text{CIB}}$	0.69	—	$Y_{\text{P}}^{\text{BBN}}$	0.246706	0.246700 ± 0.000061	$\sigma_8(0.61)$	0.5931	0.594 ± 0.014
A^{kSZ}	5.16	$4.7^{+2.1}_{-4.1}$	$10^5 \text{D}/\text{H}$	2.5929	2.596 ± 0.028	$f\sigma_8(2.33)$	0.2992	0.2995 ± 0.0072
A_{100}^{dust}	1.018	1.01 ± 0.20	Age/Gyr	13.7859	13.786 ± 0.032	$\sigma_8(2.33)$	0.3080	0.3084 ± 0.0062
A_{143}^{dust}	0.972	0.96 ± 0.18	z_*	1089.895	1089.92 ± 0.26	f_{2000}^{143}	29.88	29.7 ± 2.8
A_{217}^{dust}	0.983	0.97 ± 0.10	r_*	144.681	144.66 ± 0.30	f_{2000}^{217}	106.82	106.8 ± 1.9
$A_{143 \times 217}^{\text{dust}}$	1.024	1.03 ± 0.16	$100\theta_*$	1.041113	1.04111 ± 0.00030	$f_{2000}^{143 \times 217}$	32.13	32.1 ± 2.0
c_{100}	0.99750	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.8967	13.895 ± 0.028	χ_{simall}^2	395.90	396.9 ± 1.7
c_{217}	1.00129	1.0011 ± 0.0016	z_{drag}	1059.780	1059.76 ± 0.32	χ_{lowl}^2	22.84	22.91 ± 0.85
c_{TE}	0.99648	0.9967 ± 0.0049	r_{drag}	147.360	147.35 ± 0.30	χ_{CamSpec}^2	11499.9	11514.7 ± 5.7
c_{EE}	0.99203	0.9921 ± 0.0049	k_{D}	0.140553	0.14056 ± 0.00035	$\chi_{6\text{DF}}^2$	0.001	0.13 ± 0.20
H_0	68.20	$68.3^{+1.3}_{-1.5}$	$100\theta_{\text{D}}$	0.160841	0.16085 ± 0.00019	χ_{MGS}^2	1.61	1.78 ± 0.99
Ω_{Λ}	0.6944	0.695 ± 0.012	z_{eq}	3381.0	3383 ± 29	χ_{DR12BAO}^2	4.04	4.9 ± 1.4
Ω_{m}	0.3056	0.305 ± 0.012	k_{eq}	0.010319	0.010326 ± 0.000088	χ_{prior}^2	2.37	7.9 ± 3.4
$\Omega_{\text{m}} h^2$	0.14213	0.1422 ± 0.0012	$100\theta_{\text{eq}}$	0.8170	0.8166 ± 0.0054	χ_{BAO}^2	5.65	6.9 ± 1.8
$\Omega_{\text{m}} h^3$	0.09693	$0.0971^{+0.0023}_{-0.0025}$	$100\theta_{s,\text{eq}}$	0.45134	0.4512 ± 0.0028	χ_{CMB}^2	11918.6	11934.5 ± 5.8
σ_8	0.8122	0.814 ± 0.019	$H(0.15)$	73.25	73.28 ± 0.87			
S_8	0.8198	0.820 ± 0.013	$D_M(0.15)$	636.9	637 ± 10			

Best-fit $\chi_{\text{eff}}^2 = 11926.60$; $\bar{\chi}_{\text{eff}}^2 = 11949.21$; $\Delta\chi_{\text{eff}}^2 = 0.93$; $R - 1 = 0.01464$
 χ_{eff}^2 : BAO - 6DF: 0.00 MGS: 1.61 DR12BAO: 4.04 CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.90 commander_dx12_v3_2_29: 22.84 CamSpec like_10.7HM_1400_unified: 11499.85

14.12 base_w_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02232 ± 0.00015	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4505 ± 0.0059	$H(0.38)$	83.09 ± 0.31
$\Omega_{\mathrm{c}}h^2$	0.1194 ± 0.0011	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6067 ± 0.0081	$D_{\mathrm{M}}(0.38)$	1520 ± 16
$100\theta_{\mathrm{MC}}$	1.04091 ± 0.00031	$\sigma_8/h^{0.5}$	0.988 ± 0.012	$H(0.51)$	89.66 ± 0.24
τ	$0.0538^{+0.0070}_{-0.0078}$	$r_{\mathrm{drag}}h$	$100.8^{+1.9}_{-2.1}$	$D_{\mathrm{M}}(0.51)$	1972 ± 17
w_0	$-1.032^{+0.055}_{-0.049}$	$\langle d^2 \rangle^{1/2}$	2.438 ± 0.024	$H(0.61)$	$95.18^{+0.32}_{-0.27}$
$\ln(10^{10}A_{\mathrm{s}})$	3.041 ± 0.015	z_{re}	7.61 ± 0.76	$D_{\mathrm{M}}(0.61)$	2297 ± 17
n_{s}	0.9662 ± 0.0040	$10^9 A_{\mathrm{s}}$	2.092 ± 0.031	$H(2.33)$	235.70 ± 0.75
y_{cal}	1.0006 ± 0.0026	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.878 ± 0.011	$D_{\mathrm{M}}(2.33)$	5761.9 ± 9.2
A_{100}^{PS}	240 ± 25	D_{40}	1226 ± 12	$f\sigma_8(0.15)$	0.4581 ± 0.0075
A_{143}^{PS}	40 ± 8	D_{220}	5722 ± 39	$\sigma_8(0.15)$	0.756 ± 0.016
A_{217}^{PS}	103 ± 10	D_{810}	2536 ± 14	$f\sigma_8(0.38)$	0.480 ± 0.011
A_{217}^{CIB}	40 ± 7	D_{1420}	816.0 ± 5.0	$\sigma_8(0.38)$	0.670 ± 0.014
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	D_{2000}	230.4 ± 1.7	$f\sigma_8(0.51)$	0.479 ± 0.012
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$n_{\mathrm{s},0.002}$	0.9662 ± 0.0040	$\sigma_8(0.51)$	0.627 ± 0.013
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56^{+0.39}_{-0.18}$	Y_{P}	0.245372 ± 0.000060	$f\sigma_8(0.61)$	0.474 ± 0.012
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246698 ± 0.000060	$\sigma_8(0.61)$	0.597 ± 0.012
A^{kSZ}	$4.6^{+1.8}_{-4.3}$	$10^5 \mathrm{D}/\mathrm{H}$	2.596 ± 0.028	$f\sigma_8(2.33)$	0.3009 ± 0.0063
A_{100}^{dust}	1.00 ± 0.20	$\mathrm{Age}/\mathrm{Gyr}$	13.783 ± 0.031	$\sigma_8(2.33)$	0.3095 ± 0.0053
A_{143}^{dust}	0.96 ± 0.18	z_*	1089.94 ± 0.24	f_{2000}^{143}	29.7 ± 2.8
A_{217}^{dust}	0.98 ± 0.10	r_*	144.62 ± 0.26	f_{2000}^{217}	106.8 ± 1.9
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04110 ± 0.00030	$f_{2000}^{143 \times 217}$	32.1 ± 2.0
c_{100}	0.9975 ± 0.0011	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.892 ± 0.024	$\chi_{\mathrm{lensing}}^2$	9.26 ± 0.77
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.77 ± 0.32	χ_{small}^2	396.9 ± 1.7
c_{TE}	0.9966 ± 0.0049	r_{drag}	147.31 ± 0.27	χ_{lowl}^2	23.05 ± 0.80
c_{EE}	0.9922 ± 0.0050	k_{D}	0.14060 ± 0.00032	$\chi_{\mathrm{CamSpec}}^2$	11514.0 ± 5.5
H_0	$68.5^{+1.3}_{-1.5}$	$100\theta_{\mathrm{D}}$	0.16085 ± 0.00019	$\chi_{6\mathrm{DF}}^2$	0.13 ± 0.20
Ω_{Λ}	0.696 ± 0.012	z_{eq}	3387 ± 25	χ_{MGS}^2	1.87 ± 0.99
Ω_{m}	0.304 ± 0.012	k_{eq}	0.010338 ± 0.000076	$\chi_{\mathrm{DR12BAO}}^2$	5.0 ± 1.3
$\Omega_{\mathrm{m}}h^2$	0.1424 ± 0.0010	$100\theta_{\mathrm{eq}}$	0.8159 ± 0.0047	χ_{prior}^2	7.9 ± 3.5
$\Omega_{\mathrm{m}}h^3$	0.0975 ± 0.0023	$100\theta_{\mathrm{s,eq}}$	0.4508 ± 0.0024	χ_{CMB}^2	11943.2 ± 5.8
σ_8	0.817 ± 0.016	$H(0.15)$	73.37 ± 0.85	χ_{BAO}^2	7.0 ± 1.7
S_8	0.822 ± 0.011	$D_{\mathrm{M}}(0.15)$	635 ± 10		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11958.08; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.68; R - 1 = 0.01812$$

14.13 base_w_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02232 ± 0.00015	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4498 ± 0.0071	$H(0.38)$	83.09 ± 0.32
$\Omega_{\mathrm{c}}h^2$	0.1192 ± 0.0013	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.605 ± 0.010	$D_{\mathrm{M}}(0.38)$	1522 ± 17
$100\theta_{\mathrm{MC}}$	1.04093 ± 0.00031	$\sigma_8/h^{0.5}$	0.986 ± 0.015	$H(0.51)$	89.68 ± 0.26
τ	$0.0544^{+0.0047}_{-0.0084}$	$r_{\mathrm{drag}}h$	$100.6^{+1.9}_{-2.2}$	$D_{\mathrm{M}}(0.51)$	1974 ± 17
w_0	$-1.024^{+0.059}_{-0.051}$	$\langle d^2 \rangle^{1/2}$	2.433 ± 0.031	$H(0.61)$	$95.23^{+0.35}_{-0.29}$
$\ln(10^{10}A_{\mathrm{s}})$	$3.041^{+0.011}_{-0.016}$	z_{re}	$7.67^{+0.53}_{-0.84}$	$D_{\mathrm{M}}(0.61)$	2298 ± 17
n_{s}	0.9669 ± 0.0042	$10^9 A_{\mathrm{s}}$	$2.093^{+0.024}_{-0.034}$	$H(2.33)$	235.71 ± 0.75
y_{cal}	1.0005 ± 0.0026	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.877 ± 0.012	$D_{\mathrm{M}}(2.33)$	5761.8 ± 9.3
A_{100}^{PS}	240 ± 24	D_{40}	1224 ± 12	$f\sigma_8(0.15)$	0.4567 ± 0.0096
A_{143}^{PS}	39 ± 8	D_{220}	5719 ± 40	$\sigma_8(0.15)$	0.753 ± 0.018
A_{217}^{PS}	102 ± 10	D_{810}	2535 ± 14	$f\sigma_8(0.38)$	0.478 ± 0.013
A_{217}^{CIB}	40 ± 7	D_{1420}	815.9 ± 5.0	$\sigma_8(0.38)$	0.668 ± 0.016
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	D_{2000}	230.4 ± 1.7	$f\sigma_8(0.51)$	0.477 ± 0.014
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$n_{\mathrm{s},0.002}$	0.9669 ± 0.0042	$\sigma_8(0.51)$	0.625 ± 0.015
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56^{+0.39}_{-0.18}$	Y_{P}	0.245375 ± 0.000060	$f\sigma_8(0.61)$	0.472 ± 0.015
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246701 ± 0.000060	$\sigma_8(0.61)$	0.595 ± 0.014
A^{kSZ}	$4.7^{+2.0}_{-4.1}$	$10^5 \mathrm{D}/\mathrm{H}$	2.595 ± 0.028	$f\sigma_8(2.33)$	0.2999 ± 0.0072
A_{100}^{dust}	1.01 ± 0.20	$\mathrm{Age}/\mathrm{Gyr}$	13.786 ± 0.032	$\sigma_8(2.33)$	0.3088 ± 0.0061
A_{143}^{dust}	0.96 ± 0.18	z_*	1089.91 ± 0.26	f_{2000}^{143}	29.6 ± 2.8
A_{217}^{dust}	0.98 ± 0.10	r_*	144.67 ± 0.30	f_{2000}^{217}	106.8 ± 1.9
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04112 ± 0.00031	$f_{2000}^{143 \times 217}$	32.0 ± 2.0
c_{100}	0.9975 ± 0.0011	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.896 ± 0.028	χ_{simall}^2	396.8 ± 1.7
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.77 ± 0.32	χ_{lowl}^2	22.93 ± 0.85
c_{TE}	0.9966 ± 0.0049	r_{drag}	147.35 ± 0.30	$\chi_{\mathrm{CamSpec}}^2$	11514.5 ± 5.7
c_{EE}	0.9921 ± 0.0049	k_{D}	0.14056 ± 0.00035	$\chi_{6\mathrm{DF}}^2$	0.13 ± 0.20
H_0	$68.3^{+1.3}_{-1.5}$	$100\theta_{\mathrm{D}}$	0.16085 ± 0.00019	χ_{MGS}^2	1.78 ± 0.99
Ω_{Λ}	0.695 ± 0.012	z_{eq}	3382 ± 29	$\chi_{\mathrm{DR12BAO}}^2$	4.9 ± 1.4
Ω_{m}	0.305 ± 0.012	k_{eq}	0.010324 ± 0.000088	χ_{prior}^2	7.9 ± 3.4
$\Omega_{\mathrm{m}}h^2$	0.1422 ± 0.0012	$100\theta_{\mathrm{eq}}$	0.8167 ± 0.0054	χ_{BAO}^2	6.8 ± 1.8
$\Omega_{\mathrm{m}}h^3$	$0.0971^{+0.0023}_{-0.0025}$	$100\theta_{\mathrm{s,eq}}$	0.4512 ± 0.0028	χ_{CMB}^2	11934.2 ± 5.7
σ_8	0.815 ± 0.019	$H(0.15)$	73.28 ± 0.87		
S_8	0.821 ± 0.013	$D_{\mathrm{M}}(0.15)$	637 ± 10		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11948.94; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.95; R - 1 = 0.01259$$

14.14 base_w_CamSpecHM_TTTEEE_lowl_lowE_BAO_post_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02232 ± 0.00015	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4507 ± 0.0058	$H(0.38)$	83.10 ± 0.31
$\Omega_{\mathrm{c}}h^2$	0.1194 ± 0.0011	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6069 ± 0.0081	$D_{\mathrm{M}}(0.38)$	1521 ± 16
$100\theta_{\mathrm{MC}}$	1.04091 ± 0.00031	$\sigma_8/h^{0.5}$	0.988 ± 0.012	$H(0.51)$	89.67 ± 0.24
τ	$0.0548^{+0.0050}_{-0.0080}$	$r_{\mathrm{drag}}h$	$100.8^{+1.9}_{-2.1}$	$D_{\mathrm{M}}(0.51)$	1972 ± 17
w_0	$-1.030^{+0.054}_{-0.049}$	$\langle d^2 \rangle^{1/2}$	2.439 ± 0.023	$H(0.61)$	$95.20^{+0.31}_{-0.27}$
$\ln(10^{10}A_{\mathrm{s}})$	$3.043^{+0.011}_{-0.015}$	z_{re}	$7.72^{+0.56}_{-0.80}$	$D_{\mathrm{M}}(0.61)$	2297 ± 17
n_{s}	0.9664 ± 0.0040	$10^9 A_{\mathrm{s}}$	$2.096^{+0.024}_{-0.032}$	$H(2.33)$	235.69 ± 0.74
y_{cal}	1.0006 ± 0.0026	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.878 ± 0.011	$D_{\mathrm{M}}(2.33)$	5761.7 ± 9.1
A_{100}^{PS}	240 ± 25	D_{40}	1226 ± 11	$f\sigma_8(0.15)$	0.4581 ± 0.0075
A_{143}^{PS}	39 ± 8	D_{220}	5722 ± 39	$\sigma_8(0.15)$	0.756 ± 0.016
A_{217}^{PS}	103 ± 10	D_{810}	2535 ± 14	$f\sigma_8(0.38)$	0.479 ± 0.011
A_{217}^{CIB}	40 ± 7	D_{1420}	816.0 ± 5.0	$\sigma_8(0.38)$	0.670 ± 0.014
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	D_{2000}	230.4 ± 1.7	$f\sigma_8(0.51)$	$0.479^{+0.011}_{-0.012}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$n_{\mathrm{s},0.002}$	0.9664 ± 0.0040	$\sigma_8(0.51)$	0.627 ± 0.013
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56^{+0.39}_{-0.18}$	Y_{P}	0.245373 ± 0.000059	$f\sigma_8(0.61)$	0.474 ± 0.012
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246700 ± 0.000059	$\sigma_8(0.61)$	0.597 ± 0.012
A^{kSZ}	$4.6^{+1.7}_{-4.3}$	$10^5 \mathrm{D}/\mathrm{H}$	2.596 ± 0.028	$f\sigma_8(2.33)$	0.3010 ± 0.0063
A_{100}^{dust}	1.00 ± 0.20	$\mathrm{Age}/\mathrm{Gyr}$	13.783 ± 0.031	$\sigma_8(2.33)$	0.3096 ± 0.0053
A_{143}^{dust}	0.96 ± 0.18	z_*	1089.93 ± 0.24	f_{2000}^{143}	29.7 ± 2.8
A_{217}^{dust}	0.98 ± 0.10	r_*	144.63 ± 0.26	f_{2000}^{217}	106.8 ± 1.9
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04110 ± 0.00030	$f_{2000}^{143 \times 217}$	32.0 ± 2.0
c_{100}	0.9975 ± 0.0011	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.892 ± 0.024	$\chi_{\mathrm{lensing}}^2$	9.22 ± 0.72
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.77 ± 0.32	χ_{simall}^2	396.9 ± 1.7
c_{TE}	0.9965 ± 0.0049	r_{drag}	147.32 ± 0.27	χ_{lowl}^2	23.04 ± 0.79
c_{EE}	0.9921 ± 0.0050	k_{D}	0.14059 ± 0.00032	$\chi_{\mathrm{CamSpec}}^2$	11513.9 ± 5.6
H_0	$68.4^{+1.3}_{-1.5}$	$100\theta_{\mathrm{D}}$	0.16085 ± 0.00019	$\chi_{6\mathrm{DF}}^2$	0.13 ± 0.20
Ω_{Λ}	0.696 ± 0.012	z_{eq}	3386 ± 24	χ_{MGS}^2	1.86 ± 0.99
Ω_{m}	0.304 ± 0.012	k_{eq}	0.010334 ± 0.000075	$\chi_{\mathrm{DR12BAO}}^2$	4.9 ± 1.3
$\Omega_{\mathrm{m}}h^2$	0.1423 ± 0.0010	$100\theta_{\mathrm{eq}}$	0.8161 ± 0.0046	χ_{prior}^2	7.9 ± 3.5
$\Omega_{\mathrm{m}}h^3$	0.0974 ± 0.0023	$100\theta_{\mathrm{s,eq}}$	0.4509 ± 0.0024	χ_{CMB}^2	11943.0 ± 5.8
σ_8	0.817 ± 0.016	$H(0.15)$	73.36 ± 0.85	χ_{BAO}^2	6.9 ± 1.7
S_8	0.823 ± 0.011	$D_{\mathrm{M}}(0.15)$	636 ± 10		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11957.86; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.60; R - 1 = 0.01772$$

14.15 base_w_CamSpecHM_TT_lowl_lowE_BAO_Pantheon18

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022151	0.02219 ± 0.00020	$\sigma_8 \Omega_m^{0.25}$	0.6135	0.606 ± 0.011	$H(0.38)$	82.860	82.98 ± 0.34
$\Omega_c h^2$	0.12025	0.1194 ± 0.0015	$\sigma_8/h^{0.5}$	0.9976	0.987 ± 0.016	$D_M(0.38)$	1525.4	1524 ± 10
$100\theta_{MC}$	1.040924	1.04098 ± 0.00043	$r_{drag}h$	100.43	100.5 ± 1.2	$H(0.51)$	89.447	89.59 ± 0.33
τ	0.0540	0.0532 ± 0.0078	$\langle d^2 \rangle^{1/2}$	2.4599	2.436 ± 0.034	$D_M(0.51)$	1978.3	1977 ± 11
w_0	-1.0374	-1.024 ± 0.037	z_{re}	7.69	7.57 ± 0.80	$H(0.61)$	94.995	95.14 ± 0.35
$\ln(10^{10} A_s)$	3.0460	3.039 ± 0.016	$10^9 A_s$	2.1031	2.088 ± 0.034	$D_M(0.61)$	2303.6	2301 ± 12
n_s	0.96375	0.9660 ± 0.0048	$10^9 A_s e^{-2\tau}$	1.8880	1.877 ± 0.012	$H(2.33)$	235.96	235.68 ± 0.75
y_{cal}	1.00232	1.0005 ± 0.0025	D_{40}	1234.6	1225 ± 13	$D_M(2.33)$	5769.7	5767 ± 12
A_{100}^{PS}	245.2	243 ± 25	D_{220}	5730.3	5709 ± 41	$f\sigma_8(0.15)$	0.4646	0.458 ± 0.011
A_{143}^{PS}	38.9	41 ± 8	D_{810}	2543.3	2533 ± 14	$\sigma_8(0.15)$	0.7614	0.753 ± 0.014
A_{217}^{PS}	99.3	101 ± 10	D_{1420}	817.0	814.6 ± 5.2	$f\sigma_8(0.38)$	0.4855	0.478 ± 0.012
A_{217}^{CIB}	45.0	41 ± 7	D_{2000}	230.42	229.7 ± 1.8	$\sigma_8(0.38)$	0.6747	0.668 ± 0.012
A_{143}^{tSZ}	5.17	$3.7_{-2.6}^{+1.8}$	$n_{s,0.002}$	0.96375	0.9660 ± 0.0048	$f\sigma_8(0.51)$	0.4845	0.478 ± 0.012
$r_{143 \times 217}^{PS}$	0.560	0.65 ± 0.13	Y_P	0.245306	$0.245319_{-0.000075}^{+0.000092}$	$\sigma_8(0.51)$	0.6311	0.625 ± 0.011
$r_{143 \times 217}^{CIB}$	0.703	$0.58_{-0.13}^{+0.42}$	Y_P^{BBN}	0.246632	$0.246646_{-0.000075}^{+0.000092}$	$f\sigma_8(0.61)$	0.4796	0.473 ± 0.012
$\xi^{tSZ \times CIB}$	0.00	—	$10^5 D/H$	2.6272	2.620 ± 0.038	$\sigma_8(0.61)$	0.6003	0.595 ± 0.010
A^{kSZ}	2.3	—	Age/Gyr	13.7980	13.797 ± 0.028	$f\sigma_8(2.33)$	0.3026	0.2998 ± 0.0051
A_{100}^{dust}	1.029	1.01 ± 0.19	z_*	1090.218	1090.10 ± 0.33	$\sigma_8(2.33)$	0.31086	0.3085 ± 0.0044
A_{143}^{dust}	0.987	0.98 ± 0.17	r_*	144.535	144.72 ± 0.37	f_{2000}^{143}	31.33	30.7 ± 3.0
A_{217}^{dust}	0.965	0.97 ± 0.10	$100\theta_*$	1.041127	1.04118 ± 0.00043	f_{2000}^{217}	108.07	107.5 ± 2.0
$A_{143 \times 217}^{dust}$	1.017	1.03 ± 0.16	$D_M(z_*)/\text{Gpc}$	13.8825	13.899 ± 0.035	$f_{2000}^{143 \times 217}$	33.18	32.9 ± 2.1
c_{100}	0.99756	0.9975 ± 0.0011	z_{drag}	1059.437	1059.48 ± 0.44	χ_{simall}^2	396.06	396.9 ± 1.7
c_{217}	1.00140	1.0012 ± 0.0016	r_{drag}	147.271	147.44 ± 0.39	χ_{lowl}^2	23.45	23.05 ± 0.98
H_0	68.19	68.14 ± 0.83	k_D	0.140509	0.14036 ± 0.00046	$\chi_{CamSpec}^2$	7049.7	7063.4 ± 5.4
Ω_Λ	0.6924	0.6935 ± 0.0078	$100\theta_D$	0.161057	0.16104 ± 0.00026	χ_{JLA}^2	1034.747	1035.42 ± 0.98
Ω_m	0.3076	0.3065 ± 0.0078	z_{eq}	3402.9	3384 ± 35	χ_{6DF}^2	0.0035	0.049 ± 0.068
$\Omega_m h^2$	0.14304	0.1423 ± 0.0015	k_{eq}	0.010386	0.01033 ± 0.00011	χ_{MGS}^2	1.47	1.64 ± 0.61
$\Omega_m h^3$	0.09754	0.0969 ± 0.0016	$100\theta_{eq}$	0.8126	0.8161 ± 0.0066	$\chi_{DR12BAO}^2$	4.86	4.8 ± 1.4
σ_8	0.8238	0.815 ± 0.015	$100\theta_{s,eq}$	0.44917	0.4510 ± 0.0034	χ_{prior}^2	3.04	7.7 ± 3.5
S_8	0.8342	0.824 ± 0.016	$H(0.15)$	73.11	73.16 ± 0.53	χ_{BAO}^2	6.33	6.5 ± 1.3
$\sigma_8 \Omega_m^{0.5}$	0.4569	0.4511 ± 0.0090	$D_M(0.15)$	637.6	637.7 ± 6.1	χ_{CMB}^2	7469.2	7483.4 ± 5.4

Best-fit $\chi_{eff}^2 = 8513.28$; $\bar{\chi}_{eff}^2 = 8532.92$; $R - 1 = 0.00642$

χ_{eff}^2 : BAO - 6DF: 0.00 MGS: 1.47 DR12BAO: 4.86 CMB - simall_100x143_offlike5_EE_Aplanck_B: 396.06 commander_dx12_v3.2_29: 23.45 CamSpec like_10.7HM: 7049.66
SN - JLA Pantheon18: 1034.75

14.16 base_w_CamSpecHM_TT_lowl_lowE_BAO_Pantheon18_post_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02219 ± 0.00020	$\sigma_8/h^{0.5}$	0.990 ± 0.011	$H(0.51)$	89.56 ± 0.29
$\Omega_{\mathrm{c}}h^2$	0.1196 ± 0.0012	$r_{\mathrm{drag}}h$	100.5 ± 1.2	$D_{\mathrm{M}}(0.51)$	1976 ± 11
$100\theta_{\mathrm{MC}}$	1.04096 ± 0.00043	$\langle d^2 \rangle^{1/2}$	2.442 ± 0.024	$H(0.61)$	95.11 ± 0.31
τ	0.0540 ± 0.0074	z_{re}	7.66 ± 0.75	$D_{\mathrm{M}}(0.61)$	2301 ± 12
w_0	-1.028 ± 0.033	$10^9 A_{\mathrm{s}}$	$2.093^{+0.027}_{-0.031}$	$H(2.33)$	235.71 ± 0.68
$\ln(10^{10} A_{\mathrm{s}})$	3.041 ± 0.014	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.878 ± 0.011	$D_{\mathrm{M}}(2.33)$	5767 ± 12
n_{s}	0.9655 ± 0.0044	D_{40}	1227 ± 12	$f\sigma_8(0.15)$	0.4593 ± 0.0078
y_{cal}	1.0006 ± 0.0025	D_{220}	5712 ± 41	$\sigma_8(0.15)$	0.755 ± 0.011
A_{100}^{PS}	243 ± 25	D_{810}	2534 ± 14	$f\sigma_8(0.38)$	0.4800 ± 0.0090
A_{143}^{PS}	41 ± 8	D_{1420}	814.7 ± 5.2	$\sigma_8(0.38)$	0.6697 ± 0.0097
A_{217}^{PS}	101 ± 10	D_{2000}	229.8 ± 1.8	$f\sigma_8(0.51)$	0.4792 ± 0.0092
A_{217}^{CIB}	41 ± 7	$n_{\mathrm{s},0.002}$	0.9655 ± 0.0044	$\sigma_8(0.51)$	0.6267 ± 0.0090
A_{143}^{tSZ}	$3.7^{+1.8}_{-2.6}$	Y_{P}	$0.245319^{+0.000088}_{-0.000074}$	$f\sigma_8(0.61)$	0.4744 ± 0.0092
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246646^{+0.000089}_{-0.000074}$	$\sigma_8(0.61)$	0.5962 ± 0.0084
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.58^{+0.41}_{-0.14}$	$10^5 D/H$	2.620 ± 0.037	$f\sigma_8(2.33)$	0.3006 ± 0.0042
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Age/Gyr	13.796 ± 0.028	$\sigma_8(2.33)$	0.3092 ± 0.0036
A^{kSZ}	—	z_*	1090.11 ± 0.30	f_{2000}^{143}	30.6 ± 3.0
A_{100}^{dust}	1.01 ± 0.19	r_*	144.68 ± 0.31	f_{2000}^{217}	107.5 ± 2.0
A_{143}^{dust}	0.97 ± 0.18	$100\theta_*$	1.04116 ± 0.00042	$f_{2000}^{143 \times 217}$	32.9 ± 2.1
A_{217}^{dust}	0.97 ± 0.10	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.896 ± 0.030	$\chi_{\mathrm{lensing}}^2$	9.34 ± 0.80
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	z_{drag}	1059.49 ± 0.44	χ_{small}^2	397.0 ± 1.7
c_{100}	0.9975 ± 0.0011	r_{drag}	147.40 ± 0.33	χ_{lowl}^2	23.17 ± 0.87
c_{217}	1.0012 ± 0.0016	k_{D}	0.14040 ± 0.00043	$\chi_{\mathrm{CamSpec}}^2$	7062.8 ± 5.1
H_0	68.19 ± 0.82	$100\theta_{\mathrm{D}}$	0.16103 ± 0.00026	χ_{JLA}^2	1035.38 ± 0.93
Ω_{Λ}	0.6936 ± 0.0076	z_{eq}	3388 ± 29	$\chi_{6\mathrm{DF}}^2$	0.047 ± 0.065
Ω_{m}	0.3064 ± 0.0076	k_{eq}	0.010340 ± 0.000087	χ_{MGS}^2	1.65 ± 0.60
$\Omega_{\mathrm{m}}h^2$	0.1424 ± 0.0012	$100\theta_{\mathrm{eq}}$	0.8155 ± 0.0053	$\chi_{\mathrm{DR12BAO}}^2$	4.8 ± 1.2
$\Omega_{\mathrm{m}}h^3$	0.0971 ± 0.0015	$100\theta_{\mathrm{s,eq}}$	0.4506 ± 0.0027	χ_{prior}^2	7.6 ± 3.5
σ_8	0.817 ± 0.012	$H(0.15)$	73.18 ± 0.53	χ_{CMB}^2	7492.3 ± 5.3
S_8	0.826 ± 0.012	$D_{\mathrm{M}}(0.15)$	637.4 ± 6.0	χ_{BAO}^2	6.5 ± 1.1
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4522 ± 0.0066	$H(0.38)$	82.97 ± 0.31		
$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6079 ± 0.0080	$D_{\mathrm{M}}(0.38)$	1524 ± 10		

$\bar{\chi}_{\mathrm{eff}}^2 = 8541.75$; $\Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.26$; $R - 1 = 0.00879$

14.17 base_w_CamSpecHM_TT_lowl_lowE_BAO_Pantheon18_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02220 ± 0.00020	$\sigma_8 \Omega_m^{0.25}$	0.607 ± 0.011	$H(0.38)$	82.99 ± 0.34
$\Omega_c h^2$	0.1194 ± 0.0015	$\sigma_8 / h^{0.5}$	0.988 ± 0.016	$D_M(0.38)$	1524 ± 10
$100\theta_{MC}$	1.04098 ± 0.00043	$r_{drag} h$	100.5 ± 1.2	$H(0.51)$	89.59 ± 0.33
τ	$0.0545^{+0.0048}_{-0.0082}$	$\langle d^2 \rangle^{1/2}$	2.438 ± 0.033	$D_M(0.51)$	1977 ± 11
w_0	-1.024 ± 0.037	z_{re}	$7.71^{+0.54}_{-0.80}$	$H(0.61)$	95.14 ± 0.35
$\ln(10^{10} A_s)$	$3.041^{+0.012}_{-0.016}$	$10^9 A_s$	$2.093^{+0.024}_{-0.034}$	$D_M(0.61)$	2301 ± 12
n_s	0.9661 ± 0.0048	$10^9 A_s e^{-2\tau}$	1.877 ± 0.012	$H(2.33)$	235.67 ± 0.75
y_{cal}	1.0005 ± 0.0025	D_{40}	1225 ± 13	$D_M(2.33)$	5767 ± 12
A_{100}^{PS}	242 ± 25	D_{220}	5709 ± 40	$f\sigma_8(0.15)$	0.458 ± 0.011
A_{143}^{PS}	40 ± 8	D_{810}	2533 ± 14	$\sigma_8(0.15)$	0.754 ± 0.014
A_{217}^{PS}	101 ± 10	D_{1420}	814.6 ± 5.2	$f\sigma_8(0.38)$	0.479 ± 0.012
A_{217}^{CIB}	41 ± 7	D_{2000}	229.7 ± 1.8	$\sigma_8(0.38)$	0.669 ± 0.012
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	$n_{s,0.002}$	0.9661 ± 0.0048	$f\sigma_8(0.51)$	0.478 ± 0.012
$r_{143 \times 217}^{PS}$	0.65 ± 0.13	Y_P	$0.245321^{+0.000092}_{-0.000075}$	$\sigma_8(0.51)$	0.626 ± 0.011
$r_{143 \times 217}^{CIB}$	$0.58^{+0.41}_{-0.14}$	Y_P^{BBN}	$0.246647^{+0.000092}_{-0.000075}$	$f\sigma_8(0.61)$	0.473 ± 0.012
$\xi^{tSZ \times CIB}$	—	$10^5 D/H$	2.619 ± 0.038	$\sigma_8(0.61)$	0.595 ± 0.010
A^{kSZ}	—	Age/Gyr	13.797 ± 0.028	$f\sigma_8(2.33)$	0.3001 ± 0.0050
A_{100}^{dust}	1.01 ± 0.19	z_*	1090.09 ± 0.33	$\sigma_8(2.33)$	0.3089 ± 0.0043
A_{143}^{dust}	0.98 ± 0.17	r_*	144.72 ± 0.37	f_{2000}^{143}	30.6 ± 3.0
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04118 ± 0.00043	f_{2000}^{217}	107.4 ± 2.0
$A_{143 \times 217}^{dust}$	1.03 ± 0.16	$D_M(z_*)/\text{Gpc}$	13.900 ± 0.035	$f_{2000}^{143 \times 217}$	32.8 ± 2.1
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.49 ± 0.44	χ_{simall}^2	396.9 ± 1.7
c_{217}	1.0012 ± 0.0016	r_{drag}	147.45 ± 0.39	χ_{lowl}^2	23.07 ± 0.98
H_0	68.14 ± 0.83	k_D	0.14036 ± 0.00046	$\chi_{CamSpec}^2$	7063.2 ± 5.4
Ω_Λ	0.6935 ± 0.0078	$100\theta_D$	0.16103 ± 0.00026	χ_{JLA}^2	1035.42 ± 0.97
Ω_m	0.3065 ± 0.0078	z_{eq}	3384 ± 35	χ_{6DF}^2	0.049 ± 0.067
$\Omega_m h^2$	0.1422 ± 0.0015	k_{eq}	0.01033 ± 0.00011	χ_{MGS}^2	1.64 ± 0.61
$\Omega_m h^3$	0.0969 ± 0.0016	$100\theta_{eq}$	0.8162 ± 0.0066	$\chi_{DR12BAO}^2$	4.8 ± 1.4
σ_8	0.816 ± 0.015	$100\theta_{s,eq}$	0.4510 ± 0.0034	χ_{prior}^2	7.7 ± 3.5
S_8	0.824 ± 0.016	$H(0.15)$	73.16 ± 0.53	χ_{BAO}^2	6.5 ± 1.3
$\sigma_8 \Omega_m^{0.5}$	0.4515 ± 0.0089	$D_M(0.15)$	637.7 ± 6.1	χ_{CMB}^2	7483.1 ± 5.3

$\bar{\chi}_{eff}^2 = 8532.67$; $R - 1 = 0.00753$

14.18 base_w_CamSpecHM_TT_lowl_lowE_BAO_Pantheon18_post_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02220 ± 0.00020	$\sigma_8/h^{0.5}$	0.990 ± 0.011	$H(0.51)$	89.57 ± 0.29
$\Omega_{\mathrm{c}}h^2$	0.1195 ± 0.0012	$r_{\mathrm{drag}}h$	100.5 ± 1.2	$D_{\mathrm{M}}(0.51)$	1976 ± 11
$100\theta_{\mathrm{MC}}$	1.04096 ± 0.00043	$\langle d^2 \rangle^{1/2}$	2.443 ± 0.024	$H(0.61)$	95.12 ± 0.31
τ	$0.0549^{+0.0052}_{-0.0078}$	z_{re}	$7.76^{+0.57}_{-0.76}$	$D_{\mathrm{M}}(0.61)$	2301 ± 12
w_0	-1.027 ± 0.033	$10^9 A_{\mathrm{s}}$	$2.096^{+0.022}_{-0.031}$	$H(2.33)$	235.70 ± 0.68
$\ln(10^{10} A_{\mathrm{s}})$	$3.043^{+0.011}_{-0.015}$	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.878 ± 0.011	$D_{\mathrm{M}}(2.33)$	5767 ± 12
n_{s}	0.9656 ± 0.0044	D_{40}	1226 ± 12	$f\sigma_8(0.15)$	0.4594 ± 0.0078
y_{cal}	1.0005 ± 0.0025	D_{220}	5711 ± 40	$\sigma_8(0.15)$	0.756 ± 0.011
A_{100}^{PS}	243 ± 25	D_{810}	2534 ± 14	$f\sigma_8(0.38)$	0.4801 ± 0.0090
A_{143}^{PS}	41 ± 8	D_{1420}	814.6 ± 5.2	$\sigma_8(0.38)$	0.6700 ± 0.0096
A_{217}^{PS}	101 ± 10	D_{2000}	229.8 ± 1.8	$f\sigma_8(0.51)$	0.4793 ± 0.0092
A_{217}^{CIB}	41 ± 7	$n_{\mathrm{s},0.002}$	0.9656 ± 0.0044	$\sigma_8(0.51)$	0.6269 ± 0.0089
A_{143}^{tSZ}	$3.7^{+1.8}_{-2.6}$	Y_{P}	$0.245321^{+0.000088}_{-0.000074}$	$f\sigma_8(0.61)$	0.4745 ± 0.0092
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246647^{+0.000088}_{-0.000074}$	$\sigma_8(0.61)$	0.5965 ± 0.0083
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.58^{+0.41}_{-0.14}$	$10^5 \mathrm{D}/\mathrm{H}$	2.619 ± 0.037	$f\sigma_8(2.33)$	0.3007 ± 0.0042
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Age/Gyr	13.796 ± 0.028	$\sigma_8(2.33)$	0.3094 ± 0.0036
A^{kSZ}	—	z_*	1090.10 ± 0.30	f_{2000}^{143}	30.6 ± 3.0
A_{100}^{dust}	1.01 ± 0.19	r_*	144.69 ± 0.31	f_{2000}^{217}	107.4 ± 2.0
A_{143}^{dust}	0.97 ± 0.18	$100\theta_*$	1.04116 ± 0.00042	$f_{2000}^{143 \times 217}$	32.8 ± 2.1
A_{217}^{dust}	0.97 ± 0.10	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.897 ± 0.030	$\chi_{\mathrm{lensing}}^2$	9.30 ± 0.76
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	z_{drag}	1059.50 ± 0.44	χ_{small}^2	396.9 ± 1.7
c_{100}	0.9975 ± 0.0011	r_{drag}	147.41 ± 0.33	χ_{lowl}^2	23.16 ± 0.88
c_{217}	1.0012 ± 0.0016	k_{D}	0.14039 ± 0.00043	$\chi_{\mathrm{CamSpec}}^2$	7062.8 ± 5.1
H_0	68.19 ± 0.81	$100\theta_{\mathrm{D}}$	0.16103 ± 0.00026	χ_{JLA}^2	1035.37 ± 0.92
Ω_{Λ}	0.6937 ± 0.0076	z_{eq}	3387 ± 28	$\chi_{6\mathrm{DF}}^2$	0.047 ± 0.065
Ω_{m}	0.3063 ± 0.0076	k_{eq}	0.010337 ± 0.000086	χ_{MGS}^2	1.65 ± 0.60
$\Omega_{\mathrm{m}}h^2$	0.1424 ± 0.0012	$100\theta_{\mathrm{eq}}$	0.8157 ± 0.0053	$\chi_{\mathrm{DR12BAO}}^2$	4.8 ± 1.2
$\Omega_{\mathrm{m}}h^3$	0.0971 ± 0.0014	$100\theta_{\mathrm{s,eq}}$	0.4507 ± 0.0027	χ_{prior}^2	7.6 ± 3.5
σ_8	0.817 ± 0.012	$H(0.15)$	73.18 ± 0.53	χ_{CMB}^2	7492.2 ± 5.3
S_8	0.826 ± 0.012	$D_{\mathrm{M}}(0.15)$	637.4 ± 6.0	χ_{BAO}^2	6.5 ± 1.1
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4523 ± 0.0066	$H(0.38)$	82.98 ± 0.31		
$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6081 ± 0.0079	$D_{\mathrm{M}}(0.38)$	1524 ± 10		

$\bar{\chi}_{\mathrm{eff}}^2 = 8541.57$; $\Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.22$; $R - 1 = 0.00916$

14.19 base_w_CamSpecHM_TTTEEE_lowl_lowE_BAO_Pantheon18

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_{\mathrm{b}}h^2$	0.022333	0.02232 ± 0.00015	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4496	0.4494 ± 0.0074	$H(0.38)$	83.093	83.09 ± 0.28
$\Omega_{\mathrm{c}}h^2$	0.11922	0.1192 ± 0.0012	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6042	0.6042 ± 0.0093	$D_{\mathrm{M}}(0.38)$	1523.4	1523 ± 10
$100\theta_{\mathrm{MC}}$	1.040965	1.04093 ± 0.00031	$\sigma_8/h^{0.5}$	0.9839	0.984 ± 0.014	$H(0.51)$	89.720	89.70 ± 0.26
τ	0.0533	0.0532 ± 0.0077	$r_{\mathrm{drag}}h$	100.36	100.5 ± 1.2	$D_{\mathrm{M}}(0.51)$	1975.0	1974 ± 11
w_0	-1.0166	-1.020 ± 0.034	$\langle d^2 \rangle^{1/2}$	2.4297	2.431 ± 0.030	$H(0.61)$	95.282	95.25 ± 0.27
$\ln(10^{10}A_{\mathrm{s}})$	3.0390	3.039 ± 0.016	z_{re}	7.57	7.54 ± 0.79	$D_{\mathrm{M}}(0.61)$	2299.3	2299 ± 11
n_{s}	0.96719	0.9668 ± 0.0041	10^9A_{s}	2.0884	2.088 ± 0.034	$H(2.33)$	235.76	235.72 ± 0.62
y_{cal}	1.00050	1.0005 ± 0.0025	$10^9A_{\mathrm{s}}e^{-2\tau}$	1.8774	1.877 ± 0.011	$D_{\mathrm{M}}(2.33)$	5761.0	5761.7 ± 9.1
A_{100}^{PS}	233.9	239 ± 24	D_{40}	1223.3	1224 ± 12	$f\sigma_8(0.15)$	0.4558	0.4559 ± 0.0087
A_{143}^{PS}	39.1	39 ± 8	D_{220}	5720.1	5721 ± 39	$\sigma_8(0.15)$	0.7508	0.751 ± 0.013
A_{217}^{PS}	102.1	102 ± 10	D_{810}	2535.6	2535 ± 14	$f\sigma_8(0.38)$	0.4759	0.476 ± 0.010
A_{217}^{CIB}	44.4	40 ± 7	D_{1420}	816.43	815.9 ± 4.9	$\sigma_8(0.38)$	0.6657	0.666 ± 0.011
A_{143}^{tSZ}	6.56	$3.9_{-2.5}^{+1.9}$	D_{2000}	230.53	230.3 ± 1.6	$f\sigma_8(0.51)$	0.4751	0.476 ± 0.010
$r_{143 \times 217}^{\mathrm{PS}}$	0.597	0.66 ± 0.13	$n_{\mathrm{s},0.002}$	0.96719	0.9668 ± 0.0041	$\sigma_8(0.51)$	0.6231	0.623 ± 0.010
$r_{143 \times 217}^{\mathrm{CIB}}$	0.756	$0.56_{-0.16}^{+0.41}$	Y_{P}	0.245381	$0.245375_{-0.000055}^{+0.000062}$	$f\sigma_8(0.61)$	0.4704	0.471 ± 0.010
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	0.08	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246707	$0.246701_{-0.000056}^{+0.000062}$	$\sigma_8(0.61)$	0.5929	0.5932 ± 0.0097
A^{kSZ}	0.06	$4.7_{-4.1}^{+2.0}$	$10^5\mathrm{D}/\mathrm{H}$	2.5924	2.595 ± 0.028	$f\sigma_8(2.33)$	0.29901	0.2992 ± 0.0048
A_{100}^{dust}	1.014	1.01 ± 0.19	Age/Gyr	13.7863	13.787 ± 0.023	$\sigma_8(2.33)$	0.30791	0.3080 ± 0.0042
A_{143}^{dust}	0.966	0.96 ± 0.18	z_*	1089.897	1089.91 ± 0.25	f_{2000}^{143}	29.87	29.6 ± 2.8
A_{217}^{dust}	0.967	0.97 ± 0.10	r_*	144.662	144.67 ± 0.28	f_{2000}^{217}	106.72	106.8 ± 1.9
$A_{143 \times 217}^{\mathrm{dust}}$	1.011	1.03 ± 0.16	$100\theta_*$	1.041150	1.04112 ± 0.00031	$f_{2000}^{143 \times 217}$	31.99	32.1 ± 2.0
c_{100}	0.99766	0.9975 ± 0.0011	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.8945	13.896 ± 0.027	χ_{small}^2	395.88	396.9 ± 1.6
c_{217}	1.00123	1.0011 ± 0.0016	z_{drag}	1059.780	1059.77 ± 0.32	χ_{lowl}^2	22.80	22.94 ± 0.85
c_{TE}	0.99644	0.9966 ± 0.0049	r_{drag}	147.341	147.35 ± 0.29	$\chi_{\mathrm{CamSpec}}^2$	11499.9	11514.5 ± 5.6
c_{EE}	0.99222	0.9922 ± 0.0049	k_{D}	0.140576	0.14055 ± 0.00034	χ_{JLA}^2	1034.719	1035.39 ± 0.94
H_0	68.11	68.19 ± 0.83	$100\theta_{\mathrm{D}}$	0.160841	0.16085 ± 0.00019	$\chi_{6\mathrm{DF}}^2$	0.0022	0.048 ± 0.065
Ω_{Λ}	0.6935	0.6941 ± 0.0076	z_{eq}	3382.6	3382 ± 27	χ_{MGS}^2	1.54	1.66 ± 0.60
Ω_{m}	0.3065	0.3059 ± 0.0076	k_{eq}	0.010324	0.010323 ± 0.000084	$\chi_{\mathrm{DR12BAO}}^2$	4.10	4.6 ± 1.1
$\Omega_{\mathrm{m}}h^2$	0.14219	0.1422 ± 0.0012	$100\theta_{\mathrm{eq}}$	0.8167	0.8168 ± 0.0052	χ_{prior}^2	2.16	7.8 ± 3.4
$\Omega_{\mathrm{m}}h^3$	0.09685	0.0969 ± 0.0015	$100\theta_{\mathrm{s,eq}}$	0.45121	0.4512 ± 0.0027	χ_{BAO}^2	5.64	6.26 ± 0.97
σ_8	0.8120	0.813 ± 0.014	$H(0.15)$	73.20	73.23 ± 0.53	χ_{CMB}^2	11918.5	11934.4 ± 5.7
S_8	0.8208	0.820 ± 0.014	$D_{\mathrm{M}}(0.15)$	637.5	637.1 ± 6.1			

Best-fit $\chi_{\mathrm{eff}}^2 = 12961.06$; $\bar{\chi}_{\mathrm{eff}}^2 = 12983.86$; $R - 1 = 0.00833$
 χ_{eff}^2 : BAO - 6DF: 0.00 MGS: 1.54 DR12BAO: 4.10 CMB - small_100x143_offlike5_EE_Aplanck_B: 395.88 commander_dx12_v3.2.29: 22.80 CamSpec like_10.7HM_1400_unified: 11499.86 SN - JLA Pantheon18: 1034.72

14.20 base_w_CamSpecHM_TTTEEE_lowl_lowE_BAO_Pantheon18_post_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02232 ± 0.00015	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4507 ± 0.0059	$H(0.38)$	83.07 ± 0.27
$\Omega_{\mathrm{c}}h^2$	0.1194 ± 0.0011	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6061 ± 0.0072	$D_{\mathrm{M}}(0.38)$	1522 ± 10
$100\theta_{\mathrm{MC}}$	1.04091 ± 0.00031	$\sigma_8/h^{0.5}$	0.987 ± 0.010	$H(0.51)$	89.68 ± 0.24
τ	0.0542 ± 0.0071	$r_{\mathrm{drag}}h$	100.5 ± 1.2	$D_{\mathrm{M}}(0.51)$	1974 ± 11
w_0	-1.024 ± 0.031	$\langle d^2 \rangle^{1/2}$	2.437 ± 0.022	$H(0.61)$	95.22 ± 0.25
$\ln(10^{10}A_{\mathrm{s}})$	3.041 ± 0.014	z_{re}	7.65 ± 0.72	$D_{\mathrm{M}}(0.61)$	2299 ± 11
n_{s}	0.9663 ± 0.0039	$10^9 A_{\mathrm{s}}$	2.094 ± 0.030	$H(2.33)$	235.75 ± 0.59
y_{cal}	1.0006 ± 0.0025	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.878 ± 0.011	$D_{\mathrm{M}}(2.33)$	5762.0 ± 8.8
A_{100}^{PS}	240 ± 24	D_{40}	1226 ± 11	$f\sigma_8(0.15)$	0.4575 ± 0.0068
A_{143}^{PS}	39 ± 8	D_{220}	5724 ± 39	$\sigma_8(0.15)$	0.754 ± 0.010
A_{217}^{PS}	102 ± 10	D_{810}	2536 ± 14	$f\sigma_8(0.38)$	0.4782 ± 0.0081
A_{217}^{CIB}	40_{-8}^{+7}	D_{1420}	816.0 ± 4.9	$\sigma_8(0.38)$	0.6683 ± 0.0093
A_{143}^{tSZ}	$3.9_{-2.5}^{+2.0}$	D_{2000}	230.4 ± 1.6	$f\sigma_8(0.51)$	0.4774 ± 0.0084
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$n_{\mathrm{s},0.002}$	0.9663 ± 0.0039	$\sigma_8(0.51)$	0.6254 ± 0.0086
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56_{-0.15}^{+0.42}$	Y_{P}	$0.245374_{-0.000055}^{+0.000060}$	$f\sigma_8(0.61)$	0.4728 ± 0.0084
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246700_{-0.000055}^{+0.000061}$	$\sigma_8(0.61)$	0.5951 ± 0.0081
A^{kSZ}	$4.6_{-4.3}^{+1.9}$	$10^5 \mathrm{D}/\mathrm{H}$	2.595 ± 0.027	$f\sigma_8(2.33)$	0.3001 ± 0.0041
A_{100}^{dust}	1.01 ± 0.20	$\mathrm{Age}/\mathrm{Gyr}$	13.786 ± 0.023	$\sigma_8(2.33)$	0.3089 ± 0.0036
A_{143}^{dust}	0.96 ± 0.18	z_*	1089.93 ± 0.24	f_{2000}^{143}	29.6 ± 2.9
A_{217}^{dust}	0.97 ± 0.10	r_*	144.63 ± 0.25	f_{2000}^{217}	106.8 ± 1.9
$A_{143 \times 217}^{\mathrm{dust}}$	1.02 ± 0.16	$100\theta_*$	1.04110 ± 0.00030	$f_{2000}^{143 \times 217}$	32.0 ± 2.0
c_{100}	0.9976 ± 0.0011	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.892 ± 0.024	$\chi_{\mathrm{lensing}}^2$	9.24 ± 0.74
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.77 ± 0.31	χ_{simall}^2	396.9 ± 1.6
c_{TE}	0.9966 ± 0.0049	r_{drag}	147.32 ± 0.26	χ_{lowl}^2	23.07 ± 0.80
c_{EE}	0.9921 ± 0.0050	k_{D}	0.14059 ± 0.00032	$\chi_{\mathrm{CamSpec}}^2$	11514.1 ± 5.5
H_0	68.25 ± 0.82	$100\theta_{\mathrm{D}}$	0.16085 ± 0.00019	χ_{JLA}^2	1035.35 ± 0.89
Ω_{Λ}	0.6943 ± 0.0076	z_{eq}	3386 ± 24	$\chi_{6\mathrm{DF}}^2$	0.047 ± 0.064
Ω_{m}	0.3057 ± 0.0076	k_{eq}	0.010334 ± 0.000074	χ_{MGS}^2	1.67 ± 0.60
$\Omega_{\mathrm{m}}h^2$	0.1423 ± 0.0010	$100\theta_{\mathrm{eq}}$	0.8161 ± 0.0045	$\chi_{\mathrm{DR12BAO}}^2$	4.60 ± 0.99
$\Omega_{\mathrm{m}}h^3$	0.0971 ± 0.0014	$100\theta_{\mathrm{s,eq}}$	0.4509 ± 0.0023	χ_{prior}^2	7.8 ± 3.5
σ_8	0.815 ± 0.011	$H(0.15)$	73.26 ± 0.52	χ_{CMB}^2	11943.3 ± 5.7
S_8	0.823 ± 0.011	$D_{\mathrm{M}}(0.15)$	636.8 ± 6.0	χ_{BAO}^2	6.32 ± 0.90

$$\bar{\chi}_{\mathrm{eff}}^2 = 12992.76; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.37; R - 1 = 0.01319$$

14.21 base_w_CamSpecHM_TTTEEE_lowl_lowE_BAO_Pantheon18_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02233 ± 0.00015	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4498 ± 0.0073	$H(0.38)$	83.09 ± 0.28
$\Omega_{\mathrm{c}}h^2$	0.1192 ± 0.0012	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6049 ± 0.0091	$D_{\mathrm{M}}(0.38)$	1523 ± 10
$100\theta_{\mathrm{MC}}$	1.04093 ± 0.00031	$\sigma_8/h^{0.5}$	0.985 ± 0.013	$H(0.51)$	89.71 ± 0.26
τ	$0.0546^{+0.0048}_{-0.0079}$	$r_{\mathrm{drag}}h$	100.5 ± 1.2	$D_{\mathrm{M}}(0.51)$	1974 ± 11
w_0	-1.020 ± 0.033	$\langle d^2 \rangle^{1/2}$	2.433 ± 0.028	$H(0.61)$	95.26 ± 0.27
$\ln(10^{10}A_{\mathrm{s}})$	$3.041^{+0.012}_{-0.016}$	z_{re}	$7.69^{+0.54}_{-0.78}$	$D_{\mathrm{M}}(0.61)$	2299 ± 11
n_{s}	0.9669 ± 0.0041	$10^9 A_{\mathrm{s}}$	$2.093^{+0.024}_{-0.033}$	$H(2.33)$	235.71 ± 0.62
y_{cal}	1.0005 ± 0.0025	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.877 ± 0.011	$D_{\mathrm{M}}(2.33)$	5761.5 ± 9.0
A_{100}^{PS}	239 ± 24	D_{40}	1224 ± 12	$f\sigma_8(0.15)$	0.4564 ± 0.0085
A_{143}^{PS}	39 ± 8	D_{220}	5721 ± 39	$\sigma_8(0.15)$	0.752 ± 0.012
A_{217}^{PS}	102 ± 10	D_{810}	2535 ± 14	$f\sigma_8(0.38)$	0.4768 ± 0.0099
A_{217}^{CIB}	40 ± 7	D_{1420}	815.9 ± 4.9	$\sigma_8(0.38)$	0.667 ± 0.011
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	D_{2000}	230.4 ± 1.6	$f\sigma_8(0.51)$	0.476 ± 0.010
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$n_{\mathrm{s},0.002}$	0.9669 ± 0.0041	$\sigma_8(0.51)$	0.624 ± 0.010
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56^{+0.41}_{-0.16}$	Y_{P}	$0.245376^{+0.000062}_{-0.000055}$	$f\sigma_8(0.61)$	0.471 ± 0.010
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246703^{+0.000062}_{-0.000055}$	$\sigma_8(0.61)$	0.5940 ± 0.0094
A^{kSZ}	$4.6^{+2.0}_{-4.2}$	$10^5 \mathrm{D}/\mathrm{H}$	2.594 ± 0.028	$f\sigma_8(2.33)$	0.2996 ± 0.0047
A_{100}^{dust}	1.01 ± 0.19	$\mathrm{Age}/\mathrm{Gyr}$	13.787 ± 0.023	$\sigma_8(2.33)$	0.3085 ± 0.0040
A_{143}^{dust}	0.96 ± 0.18	z_*	1089.90 ± 0.25	f_{2000}^{143}	29.6 ± 2.8
A_{217}^{dust}	0.97 ± 0.10	r_*	144.67 ± 0.28	f_{2000}^{217}	106.8 ± 1.9
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04112 ± 0.00031	$f_{2000}^{143 \times 217}$	32.0 ± 2.0
c_{100}	0.9975 ± 0.0011	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.896 ± 0.027	χ_{simall}^2	396.8 ± 1.6
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.78 ± 0.32	χ_{lowl}^2	22.96 ± 0.85
c_{TE}	0.9965 ± 0.0049	r_{drag}	147.36 ± 0.29	$\chi_{\mathrm{CamSpec}}^2$	11514.4 ± 5.6
c_{EE}	0.9921 ± 0.0049	k_{D}	0.14056 ± 0.00034	χ_{JLA}^2	1035.39 ± 0.93
H_0	68.19 ± 0.83	$100\theta_{\mathrm{D}}$	0.16085 ± 0.00019	$\chi_{6\mathrm{DF}}^2$	0.048 ± 0.065
Ω_{Λ}	0.6941 ± 0.0076	z_{eq}	3382 ± 28	χ_{MGS}^2	1.67 ± 0.60
Ω_{m}	0.3059 ± 0.0076	k_{eq}	0.010322 ± 0.000084	$\chi_{\mathrm{DR12BAO}}^2$	4.5 ± 1.0
$\Omega_{\mathrm{m}}h^2$	0.1422 ± 0.0012	$100\theta_{\mathrm{eq}}$	0.8169 ± 0.0052	χ_{prior}^2	7.8 ± 3.4
$\Omega_{\mathrm{m}}h^3$	0.0969 ± 0.0015	$100\theta_{\mathrm{s,eq}}$	0.4513 ± 0.0027	χ_{BAO}^2	6.25 ± 0.97
σ_8	0.814 ± 0.013	$H(0.15)$	73.24 ± 0.53	χ_{CMB}^2	11934.1 ± 5.6
S_8	0.821 ± 0.013	$D_{\mathrm{M}}(0.15)$	637.1 ± 6.0		

$$\bar{\chi}_{\mathrm{eff}}^2 = 12983.61; R - 1 = 0.00895$$

14.22 **base_w_CamSpecHM_TTTEEE_lowl_lowE_BAO_Pantheon18_post_lensing_zre6p5**

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02232 ± 0.00014	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4508 ± 0.0059	$H(0.38)$	83.08 ± 0.27
$\Omega_{\mathrm{c}}h^2$	0.1193 ± 0.0010	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6063 ± 0.0071	$D_{\mathrm{M}}(0.38)$	1522 ± 10
$100\theta_{\mathrm{MC}}$	1.04091 ± 0.00031	$\sigma_8/h^{0.5}$	0.987 ± 0.010	$H(0.51)$	89.68 ± 0.24
τ	$0.0550^{+0.0053}_{-0.0074}$	$r_{\mathrm{drag}}h$	100.5 ± 1.2	$D_{\mathrm{M}}(0.51)$	1974 ± 11
w_0	-1.023 ± 0.031	$\langle d^2 \rangle^{1/2}$	2.438 ± 0.022	$H(0.61)$	95.23 ± 0.25
$\ln(10^{10}A_{\mathrm{s}})$	$3.043^{+0.011}_{-0.014}$	z_{re}	$7.74^{+0.57}_{-0.73}$	$D_{\mathrm{M}}(0.61)$	2299 ± 11
n_{s}	0.9664 ± 0.0039	$10^9 A_{\mathrm{s}}$	$2.097^{+0.023}_{-0.030}$	$H(2.33)$	235.74 ± 0.59
y_{cal}	1.0006 ± 0.0025	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.878 ± 0.011	$D_{\mathrm{M}}(2.33)$	5761.8 ± 8.8
A_{100}^{PS}	240 ± 24	D_{40}	1226 ± 11	$f\sigma_8(0.15)$	0.4576 ± 0.0068
A_{143}^{PS}	39 ± 8	D_{220}	5724 ± 39	$\sigma_8(0.15)$	0.754 ± 0.010
A_{217}^{PS}	102 ± 10	D_{810}	2536 ± 13	$f\sigma_8(0.38)$	0.4783 ± 0.0081
A_{217}^{CIB}	40^{+7}_{-7}	D_{1420}	816.0 ± 4.9	$\sigma_8(0.38)$	0.6686 ± 0.0092
A_{143}^{tSZ}	$3.9^{+2.0}_{-2.5}$	D_{2000}	230.4 ± 1.6	$f\sigma_8(0.51)$	0.4776 ± 0.0084
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$n_{\mathrm{s},0.002}$	0.9664 ± 0.0039	$\sigma_8(0.51)$	0.6257 ± 0.0085
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56^{+0.42}_{-0.15}$	Y_{P}	0.245375 ± 0.000058	$f\sigma_8(0.61)$	0.4729 ± 0.0084
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246701 ± 0.000058	$\sigma_8(0.61)$	0.5954 ± 0.0080
A^{kSZ}	$4.6^{+1.9}_{-4.3}$	$10^5 \mathrm{D}/\mathrm{H}$	2.595 ± 0.027	$f\sigma_8(2.33)$	0.3002 ± 0.0040
A_{100}^{dust}	1.01 ± 0.20	$\mathrm{Age}/\mathrm{Gyr}$	13.786 ± 0.023	$\sigma_8(2.33)$	0.3090 ± 0.0035
A_{143}^{dust}	0.96 ± 0.18	z_*	1089.92 ± 0.23	f_{2000}^{143}	29.6 ± 2.9
A_{217}^{dust}	0.97 ± 0.10	r_*	144.64 ± 0.25	f_{2000}^{217}	106.8 ± 1.9
$A_{143 \times 217}^{\mathrm{dust}}$	1.02 ± 0.16	$100\theta_*$	1.04110 ± 0.00031	$f_{2000}^{143 \times 217}$	32.0 ± 2.0
c_{100}	0.9976 ± 0.0011	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.893 ± 0.024	$\chi_{\mathrm{lensing}}^2$	9.20 ± 0.69
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.78 ± 0.31	χ_{small}^2	396.9 ± 1.6
c_{TE}	0.9965 ± 0.0049	r_{drag}	147.32 ± 0.26	χ_{lowl}^2	23.07 ± 0.80
c_{EE}	0.9921 ± 0.0050	k_{D}	0.14059 ± 0.00032	$\chi_{\mathrm{CamSpec}}^2$	11514.0 ± 5.5
H_0	68.24 ± 0.82	$100\theta_{\mathrm{D}}$	0.16084 ± 0.00019	χ_{JLA}^2	1035.35 ± 0.88
Ω_{Λ}	0.6943 ± 0.0076	z_{eq}	3385 ± 24	$\chi_{6\mathrm{DF}}^2$	0.047 ± 0.064
Ω_{m}	0.3057 ± 0.0076	k_{eq}	0.010331 ± 0.000073	χ_{MGS}^2	1.68 ± 0.60
$\Omega_{\mathrm{m}}h^2$	0.1423 ± 0.0010	$100\theta_{\mathrm{eq}}$	0.8163 ± 0.0045	$\chi_{\mathrm{DR12BAO}}^2$	4.58 ± 0.97
$\Omega_{\mathrm{m}}h^3$	0.0971 ± 0.0014	$100\theta_{\mathrm{s,eq}}$	0.4510 ± 0.0023	χ_{prior}^2	7.8 ± 3.5
σ_8	0.816 ± 0.011	$H(0.15)$	73.26 ± 0.52	χ_{CMB}^2	11943.1 ± 5.6
S_8	0.823 ± 0.011	$D_{\mathrm{M}}(0.15)$	636.8 ± 6.0	χ_{BAO}^2	6.30 ± 0.89

$$\bar{\chi}_{\mathrm{eff}}^2 = 12992.59; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.34; R - 1 = 0.01370$$

14.23 base_w_CamSpecHM_TT_lowl_lowE_BAO_Riess18_Pantheon18

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022203	0.02222 ± 0.00020	$\sigma_8/h^{0.5}$	1.0025	0.993 ± 0.016	$H(0.51)$	89.519	89.62 ± 0.35
$\Omega_c h^2$	0.12017	0.1196 ± 0.0015	$r_{\text{drag}} h$	101.84	102.1 ± 1.1	$D_M(0.51)$	1965.5	1963 ± 10
$100\theta_{\text{MC}}$	1.040991	1.04101 ± 0.00043	$\langle d^2 \rangle^{1/2}$	2.4667	2.444 ± 0.034	$H(0.61)$	94.969	95.05 ± 0.36
τ	0.0574	0.0535 ± 0.0081	z_{re}	8.03	7.60 ± 0.82	$D_M(0.61)$	2290.7	2288 ± 11
w_0	-1.0671	-1.062 ± 0.035	$10^9 A_s$	2.1120	$2.090^{+0.032}_{-0.036}$	$H(2.33)$	235.56	235.28 ± 0.75
$\ln(10^{10} A_s)$	3.0502	3.040 ± 0.017	$10^9 A_s e^{-2\tau}$	1.8828	1.878 ± 0.012	$D_M(2.33)$	5763.6	5762 ± 12
n_s	0.96447	0.9660 ± 0.0048	D_{40}	1230.8	1225 ± 14	$f\sigma_8(0.15)$	0.4665	0.461 ± 0.011
y_{cal}	1.00099	1.0005 ± 0.0025	D_{220}	5716.8	5711 ± 40	$\sigma_8(0.15)$	0.7713	0.765 ± 0.014
A_{100}^{PS}	238.7	241 ± 25	D_{810}	2536.9	2534 ± 14	$f\sigma_8(0.38)$	0.4908	0.485 ± 0.012
A_{143}^{PS}	42.8	40 ± 8	D_{1420}	815.4	815.0 ± 5.1	$\sigma_8(0.38)$	0.6839	0.678 ± 0.012
A_{217}^{PS}	97.1	101 ± 10	D_{2000}	230.16	230.0 ± 1.8	$f\sigma_8(0.51)$	0.4909	0.485 ± 0.012
A_{217}^{CIB}	46.2	41^{+7}_{-8}	$n_{s,0.002}$	0.96447	0.9660 ± 0.0048	$\sigma_8(0.51)$	0.6398	0.635 ± 0.011
A_{143}^{tSZ}	5.70	$3.9^{+1.8}_{-2.6}$	Y_P	0.245327	$0.245333^{+0.000089}_{-0.000076}$	$f\sigma_8(0.61)$	0.4864	0.481 ± 0.012
$r_{143 \times 217}^{\text{PS}}$	0.566	0.65 ± 0.13	Y_P^{BBN}	0.246653	$0.246659^{+0.000089}_{-0.000077}$	$\sigma_8(0.61)$	0.6086	0.604 ± 0.010
$r_{143 \times 217}^{\text{CIB}}$	0.913	$0.58^{+0.41}_{-0.13}$	$10^5 D/H$	2.6173	2.614 ± 0.038	$f\sigma_8(2.33)$	0.30684	0.3046 ± 0.0049
$\xi^{\text{tSZ} \times \text{CIB}}$	0.29	—	Age/Gyr	13.7731	13.771 ± 0.027	$\sigma_8(2.33)$	0.31468	0.3126 ± 0.0043
A^{kSZ}	1.7	—	z_*	1090.145	1090.07 ± 0.33	f_{2000}^{143}	31.09	30.4 ± 3.0
A_{100}^{dust}	1.012	1.01 ± 0.19	r_*	144.514	144.65 ± 0.37	f_{2000}^{217}	107.40	107.3 ± 2.0
A_{143}^{dust}	1.003	0.98 ± 0.18	$100\theta_*$	1.041189	1.04121 ± 0.00042	$f_{2000}^{143 \times 217}$	32.58	32.6 ± 2.1
A_{217}^{dust}	0.954	0.97 ± 0.10	$D_M(z_*)/\text{Gpc}$	13.8797	13.893 ± 0.035	χ_{simall}^2	396.83	397.0 ± 1.9
$A_{143 \times 217}^{\text{dust}}$	0.931	1.03 ± 0.16	z_{drag}	1059.551	1059.57 ± 0.44	χ_{lowl}^2	23.38	23.02 ± 0.96
c_{100}	0.99751	0.9975 ± 0.0011	r_{drag}	147.233	147.37 ± 0.38	χ_{CamSpec}^2	7049.3	7063.1 ± 5.4
c_{217}	1.00152	1.0012 ± 0.0016	k_D	0.140590	0.14046 ± 0.00046	χ_{H073p45}^2	6.64	6.6 ± 2.3
H_0	69.17	69.26 ± 0.75	$100\theta_D$	0.160996	0.16099 ± 0.00025	χ_{JLA}^2	1035.92	1036.5 ± 1.9
Ω_Λ	0.7011	0.7030 ± 0.0069	z_{eq}	3402.3	3388 ± 35	$\chi_{6\text{DF}}^2$	0.036	0.099 ± 0.11
Ω_m	0.2989	0.2970 ± 0.0069	k_{eq}	0.010384	0.01034 ± 0.00011	χ_{MGS}^2	2.19	2.43 ± 0.64
$\Omega_m h^2$	0.14302	0.1424 ± 0.0015	$100\theta_{\text{eq}}$	0.8129	0.8155 ± 0.0065	χ_{DR12BAO}^2	4.41	4.71 ± 0.91
$\Omega_m h^3$	0.09893	0.0987 ± 0.0015	$100\theta_{s,\text{eq}}$	0.44928	0.4506 ± 0.0034	χ_{prior}^2	2.64	7.6 ± 3.5
σ_8	0.8338	0.826 ± 0.015	$H(0.15)$	73.738	73.84 ± 0.49	χ_{BAO}^2	6.64	7.2 ± 1.2
S_8	0.8322	0.822 ± 0.016	$D_M(0.15)$	630.5	629.7 ± 5.4	χ_{CMB}^2	7469.5	7483.1 ± 5.4
$\sigma_8 \Omega_m^{0.5}$	0.4558	0.4503 ± 0.0090	$H(0.38)$	83.090	83.20 ± 0.34			
$\sigma_8 \Omega_m^{0.25}$	0.6165	0.610 ± 0.011	$D_M(0.38)$	1513.4	1511.4 ± 9.3			

Best-fit $\chi_{\text{eff}}^2 = 8521.38$; $\bar{\chi}_{\text{eff}}^2 = 8541.10$; $R - 1 = 0.00624$
 χ_{eff}^2 : BAO - 6DF: 0.04 MGS: 2.19 DR12BAO: 4.41 CMB - simall_100x143_offlike5_EE_Aplanck_B: 396.83 commander_dx12_v3.2.29: 23.38 CamSpec like_10.7HM: 7049.34
Hubble - H073p45: 6.64 SN - JLA Pantheon18: 1035.92

14.24 base_w_CamSpecHM_TT_lowl_lowE_BAO_Riess18_Pantheon18_post_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02223 ± 0.00020	$\sigma_8/h^{0.5}$	0.994 ± 0.011	$H(0.51)$	89.61 ± 0.31
$\Omega_{\mathrm{c}}h^2$	0.1196 ± 0.0013	$r_{\mathrm{drag}}h$	102.1 ± 1.1	$D_{\mathrm{M}}(0.51)$	1963 ± 10
$100\theta_{\mathrm{MC}}$	1.04100 ± 0.00043	$\langle d^2 \rangle^{1/2}$	2.447 ± 0.024	$H(0.61)$	95.04 ± 0.32
τ	$0.0540^{+0.0071}_{-0.0079}$	z_{re}	7.65 ± 0.77	$D_{\mathrm{M}}(0.61)$	2288 ± 11
w_0	-1.063 ± 0.032	$10^9 A_{\mathrm{s}}$	$2.093^{+0.028}_{-0.032}$	$H(2.33)$	235.28 ± 0.67
$\ln(10^{10} A_{\mathrm{s}})$	$3.041^{+0.014}_{-0.015}$	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.879 ± 0.011	$D_{\mathrm{M}}(2.33)$	5762 ± 12
n_{s}	0.9657 ± 0.0044	D_{40}	1226 ± 12	$f\sigma_8(0.15)$	0.4612 ± 0.0078
y_{cal}	1.0006 ± 0.0025	D_{220}	5713 ± 40	$\sigma_8(0.15)$	0.766 ± 0.011
A_{100}^{PS}	242 ± 25	D_{810}	2534 ± 14	$f\sigma_8(0.38)$	0.4857 ± 0.0090
A_{143}^{PS}	40 ± 8	D_{1420}	815.0 ± 5.1	$\sigma_8(0.38)$	0.6791 ± 0.0092
A_{217}^{PS}	101 ± 10	D_{2000}	230.0 ± 1.8	$f\sigma_8(0.51)$	0.4861 ± 0.0091
A_{217}^{CIB}	41^{+7}_{-8}	$n_{\mathrm{s},0.002}$	0.9657 ± 0.0044	$\sigma_8(0.51)$	0.6355 ± 0.0085
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.7}$	Y_{P}	0.245334 ± 0.000083	$f\sigma_8(0.61)$	0.4818 ± 0.0090
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246660 ± 0.000083	$\sigma_8(0.61)$	0.6046 ± 0.0079
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.58^{+0.39}_{-0.16}$	$10^5 \mathrm{D}/\mathrm{H}$	2.613 ± 0.037	$f\sigma_8(2.33)$	0.3049 ± 0.0039
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Age/Gyr	13.770 ± 0.027	$\sigma_8(2.33)$	0.3130 ± 0.0034
A^{kSZ}	—	z_*	1090.07 ± 0.31	f_{2000}^{143}	30.4 ± 2.9
A_{100}^{dust}	1.01 ± 0.19	r_*	144.64 ± 0.31	f_{2000}^{217}	107.3 ± 2.0
A_{143}^{dust}	0.98 ± 0.18	$100\theta_*$	1.04120 ± 0.00042	$f_{2000}^{143 \times 217}$	32.7 ± 2.1
A_{217}^{dust}	0.97 ± 0.10	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.892 ± 0.030	$\chi_{\mathrm{lensing}}^2$	9.25 ± 0.76
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	z_{drag}	1059.57 ± 0.44	χ_{small}^2	397.0 ± 1.8
c_{100}	0.9975 ± 0.0011	r_{drag}	147.35 ± 0.33	χ_{lowl}^2	23.08 ± 0.86
c_{217}	1.0012 ± 0.0016	k_{D}	0.14048 ± 0.00043	$\chi_{\mathrm{CamSpec}}^2$	7062.7 ± 5.2
H_0	69.29 ± 0.75	$100\theta_{\mathrm{D}}$	0.16098 ± 0.00025	$\chi_{\mathrm{H073p45}}^2$	6.5 ± 2.3
Ω_{Λ}	0.7031 ± 0.0068	z_{eq}	3390 ± 29	χ_{JLA}^2	1036.6 ± 1.8
Ω_{m}	0.2969 ± 0.0068	k_{eq}	0.010345 ± 0.000088	$\chi_{6\mathrm{DF}}^2$	0.10 ± 0.11
$\Omega_{\mathrm{m}}h^2$	0.1425 ± 0.0012	$100\theta_{\mathrm{eq}}$	0.8153 ± 0.0053	χ_{MGS}^2	2.45 ± 0.63
$\Omega_{\mathrm{m}}h^3$	0.0987 ± 0.0014	$100\theta_{\mathrm{s,eq}}$	0.4505 ± 0.0028	$\chi_{\mathrm{DR12BAO}}^2$	4.64 ± 0.76
σ_8	0.827 ± 0.011	$H(0.15)$	73.86 ± 0.48	χ_{prior}^2	7.6 ± 3.4
S_8	0.823 ± 0.012	$D_{\mathrm{M}}(0.15)$	629.4 ± 5.3	χ_{CMB}^2	7492.0 ± 5.4
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4507 ± 0.0066	$H(0.38)$	83.20 ± 0.31	χ_{BAO}^2	7.2 ± 1.1
$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6106 ± 0.0079	$D_{\mathrm{M}}(0.38)$	1511.1 ± 9.2		

$\bar{\chi}_{\mathrm{eff}}^2 = 8549.81$; $\Delta\bar{\chi}_{\mathrm{eff}}^2 = -2.99$; $R - 1 = 0.01112$

14.25 **base_w_CamSpecHM_TT_lowl_lowE_BAO_Riess18_Pantheon18_post_zre6p5**

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02223 ± 0.00020	$\sigma_8/h^{0.5}$	0.994 ± 0.016	$H(0.51)$	89.62 ± 0.35
$\Omega_{\mathrm{c}}h^2$	0.1195 ± 0.0015	$r_{\mathrm{drag}}h$	102.1 ± 1.1	$D_{\mathrm{M}}(0.51)$	1963 ± 10
$100\theta_{\mathrm{MC}}$	1.04102 ± 0.00043	$\langle d^2 \rangle^{1/2}$	2.446 ± 0.033	$H(0.61)$	95.06 ± 0.36
τ	$0.0549^{+0.0050}_{-0.0085}$	z_{re}	$7.74^{+0.56}_{-0.84}$	$D_{\mathrm{M}}(0.61)$	2288 ± 11
w_0	-1.061 ± 0.035	$10^9 A_{\mathrm{s}}$	$2.096^{+0.024}_{-0.036}$	$H(2.33)$	235.27 ± 0.75
$\ln(10^{10} A_{\mathrm{s}})$	$3.042^{+0.012}_{-0.017}$	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.878 ± 0.012	$D_{\mathrm{M}}(2.33)$	5761 ± 12
n_{s}	0.9661 ± 0.0048	D_{40}	1225 ± 13	$f\sigma_8(0.15)$	0.461 ± 0.011
y_{cal}	1.0005 ± 0.0025	D_{220}	5711 ± 40	$\sigma_8(0.15)$	0.765 ± 0.013
A_{100}^{PS}	241 ± 25	D_{810}	2534 ± 14	$f\sigma_8(0.38)$	0.485 ± 0.012
A_{143}^{PS}	40 ± 8	D_{1420}	815.0 ± 5.2	$\sigma_8(0.38)$	0.679 ± 0.012
A_{217}^{PS}	101 ± 10	D_{2000}	230.0 ± 1.8	$f\sigma_8(0.51)$	0.486 ± 0.012
A_{217}^{CIB}	40^{+7}_{-8}	$n_{\mathrm{s},0.002}$	0.9661 ± 0.0048	$\sigma_8(0.51)$	0.635 ± 0.011
A_{143}^{tSZ}	$3.9^{+1.8}_{-2.6}$	Y_{P}	$0.245335^{+0.000088}_{-0.000076}$	$f\sigma_8(0.61)$	0.482 ± 0.012
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246661^{+0.000089}_{-0.000077}$	$\sigma_8(0.61)$	0.6045 ± 0.0098
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.58^{+0.41}_{-0.13}$	$10^5 \mathrm{D}/\mathrm{H}$	2.613 ± 0.038	$f\sigma_8(2.33)$	0.3049 ± 0.0048
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Age/Gyr	13.771 ± 0.026	$\sigma_8(2.33)$	0.3130 ± 0.0041
A^{kSZ}	—	z_*	1090.06 ± 0.33	f_{2000}^{143}	30.3 ± 3.0
A_{100}^{dust}	1.01 ± 0.19	r_*	144.66 ± 0.37	f_{2000}^{217}	107.2 ± 2.0
A_{143}^{dust}	0.98 ± 0.18	$100\theta_*$	1.04122 ± 0.00042	$f_{2000}^{143 \times 217}$	32.6 ± 2.1
A_{217}^{dust}	0.97 ± 0.10	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.893 ± 0.035	χ_{simall}^2	397.0 ± 1.9
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	z_{drag}	1059.57 ± 0.44	χ_{lowl}^2	23.03 ± 0.96
c_{100}	0.9975 ± 0.0011	r_{drag}	147.37 ± 0.38	$\chi_{\mathrm{CamSpec}}^2$	7062.9 ± 5.4
c_{217}	1.0012 ± 0.0016	k_{D}	0.14046 ± 0.00046	$\chi_{\mathrm{H073p45}}^2$	6.6 ± 2.3
H_0	69.26 ± 0.76	$100\theta_{\mathrm{D}}$	0.16099 ± 0.00025	χ_{JLA}^2	1036.5 ± 1.9
Ω_{Λ}	0.7030 ± 0.0070	z_{eq}	3388 ± 35	$\chi_{6\mathrm{DF}}^2$	0.10 ± 0.11
Ω_{m}	0.2970 ± 0.0070	k_{eq}	0.01034 ± 0.00011	χ_{MGS}^2	2.44 ± 0.64
$\Omega_{\mathrm{m}}h^2$	0.1424 ± 0.0015	$100\theta_{\mathrm{eq}}$	0.8156 ± 0.0065	$\chi_{\mathrm{DR12BAO}}^2$	4.70 ± 0.90
$\Omega_{\mathrm{m}}h^3$	0.0986 ± 0.0015	$100\theta_{\mathrm{s,eq}}$	0.4507 ± 0.0034	χ_{prior}^2	7.6 ± 3.4
σ_8	0.827 ± 0.015	$H(0.15)$	73.85 ± 0.49	χ_{BAO}^2	7.2 ± 1.2
S_8	0.823 ± 0.016	$D_{\mathrm{M}}(0.15)$	629.7 ± 5.4	χ_{CMB}^2	7482.9 ± 5.4
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4507 ± 0.0089	$H(0.38)$	83.20 ± 0.34		
$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.611 ± 0.011	$D_{\mathrm{M}}(0.38)$	1511.3 ± 9.3		

$$\bar{\chi}_{\mathrm{eff}}^2 = 8540.87; R - 1 = 0.00534$$

14.26 **base_w_CamSpecHM_TT_lowl_lowE_BAO_Riess18_Pantheon18_post_lensing_zre6p5**

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02223 ± 0.00020	$\sigma_8/h^{0.5}$	0.994 ± 0.011	$H(0.51)$	89.62 ± 0.30
$\Omega_{\mathrm{c}}h^2$	0.1195 ± 0.0012	$r_{\mathrm{drag}}h$	102.1 ± 1.1	$D_{\mathrm{M}}(0.51)$	1963 ± 10
$100\theta_{\mathrm{MC}}$	1.04100 ± 0.00043	$\langle d^2 \rangle^{1/2}$	2.448 ± 0.024	$H(0.61)$	95.06 ± 0.32
τ	$0.0550^{+0.0052}_{-0.0082}$	z_{re}	$7.76^{+0.57}_{-0.80}$	$D_{\mathrm{M}}(0.61)$	2287 ± 11
w_0	-1.062 ± 0.031	$10^9 A_{\mathrm{s}}$	$2.097^{+0.023}_{-0.032}$	$H(2.33)$	235.26 ± 0.67
$\ln(10^{10} A_{\mathrm{s}})$	$3.043^{+0.011}_{-0.015}$	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.878 ± 0.011	$D_{\mathrm{M}}(2.33)$	5761 ± 12
n_{s}	0.9659 ± 0.0044	D_{40}	1226 ± 12	$f\sigma_8(0.15)$	0.4612 ± 0.0078
y_{cal}	1.0005 ± 0.0025	D_{220}	5713 ± 40	$\sigma_8(0.15)$	0.766 ± 0.011
A_{100}^{PS}	241 ± 25	D_{810}	2534 ± 14	$f\sigma_8(0.38)$	0.4857 ± 0.0089
A_{143}^{PS}	40 ± 8	D_{1420}	815.0 ± 5.1	$\sigma_8(0.38)$	0.6794 ± 0.0092
A_{217}^{PS}	101 ± 10	D_{2000}	230.0 ± 1.8	$f\sigma_8(0.51)$	0.4861 ± 0.0091
A_{217}^{CIB}	40^{+7}_{-8}	$n_{\mathrm{s},0.002}$	0.9659 ± 0.0044	$\sigma_8(0.51)$	0.6358 ± 0.0084
A_{143}^{tSZ}	$3.9^{+1.8}_{-2.7}$	Y_{P}	0.245336 ± 0.000082	$f\sigma_8(0.61)$	0.4818 ± 0.0090
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246662 ± 0.000082	$\sigma_8(0.61)$	0.6049 ± 0.0079
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.58^{+0.38}_{-0.16}$	$10^5 \mathrm{D}/\mathrm{H}$	2.612 ± 0.037	$f\sigma_8(2.33)$	0.3051 ± 0.0039
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Age/Gyr	13.770 ± 0.027	$\sigma_8(2.33)$	0.3131 ± 0.0034
A^{kSZ}	—	z_*	1090.06 ± 0.30	f_{2000}^{143}	30.3 ± 2.9
A_{100}^{dust}	1.01 ± 0.19	r_*	144.65 ± 0.31	f_{2000}^{217}	107.3 ± 2.0
A_{143}^{dust}	0.98 ± 0.17	$100\theta_*$	1.04120 ± 0.00042	$f_{2000}^{143 \times 217}$	32.6 ± 2.1
A_{217}^{dust}	0.97 ± 0.10	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.893 ± 0.030	$\chi_{\mathrm{lensing}}^2$	9.22 ± 0.74
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	z_{drag}	1059.58 ± 0.43	χ_{simall}^2	397.0 ± 1.8
c_{100}	0.9975 ± 0.0011	r_{drag}	147.37 ± 0.33	χ_{lowl}^2	23.06 ± 0.86
c_{217}	1.0012 ± 0.0016	k_{D}	0.14047 ± 0.00042	$\chi_{\mathrm{CamSpec}}^2$	7062.6 ± 5.2
H_0	69.29 ± 0.75	$100\theta_{\mathrm{D}}$	0.16098 ± 0.00025	$\chi_{\mathrm{H073p45}}^2$	6.5 ± 2.3
Ω_{Λ}	0.7032 ± 0.0068	z_{eq}	3388 ± 28	χ_{JLA}^2	1036.5 ± 1.8
Ω_{m}	0.2968 ± 0.0068	k_{eq}	0.010341 ± 0.000086	$\chi_{6\mathrm{DF}}^2$	0.10 ± 0.11
$\Omega_{\mathrm{m}}h^2$	0.1424 ± 0.0012	$100\theta_{\mathrm{eq}}$	0.8155 ± 0.0053	χ_{MGS}^2	2.46 ± 0.63
$\Omega_{\mathrm{m}}h^3$	0.0987 ± 0.0014	$100\theta_{\mathrm{s,eq}}$	0.4507 ± 0.0027	$\chi_{\mathrm{DR12BAO}}^2$	4.61 ± 0.74
σ_8	0.828 ± 0.011	$H(0.15)$	73.87 ± 0.49	χ_{prior}^2	7.6 ± 3.4
S_8	0.823 ± 0.012	$D_{\mathrm{M}}(0.15)$	629.4 ± 5.4	χ_{CMB}^2	7491.8 ± 5.4
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4508 ± 0.0066	$H(0.38)$	83.21 ± 0.31	χ_{BAO}^2	7.2 ± 1.1
$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6108 ± 0.0079	$D_{\mathrm{M}}(0.38)$	1511.0 ± 9.2		

$\bar{\chi}_{\mathrm{eff}}^2 = 8549.61$; $\Delta\bar{\chi}_{\mathrm{eff}}^2 = -3.12$; $R - 1 = 0.01012$

14.27 base_w_CamSpecHM_TTTEEE_lowl_lowE_BAO_Riess18_Pantheon18

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_{\mathrm{b}} h^2$	0.022344	0.02233 ± 0.00015	$\sigma_8 \Omega_{\mathrm{m}}^{0.5}$	0.4481	0.4480 ± 0.0071	$H(0.38)$	83.302	83.30 ± 0.28
$\Omega_{\mathrm{c}} h^2$	0.11925	0.1193 ± 0.0012	$\sigma_8 \Omega_{\mathrm{m}}^{0.25}$	0.6069	0.6071 ± 0.0088	$D_{\mathrm{M}}(0.38)$	1510.6	1510.0 ± 9.3
$100\theta_{\mathrm{MC}}$	1.040954	1.04094 ± 0.00030	$\sigma_8/h^{0.5}$	0.9883	0.989 ± 0.013	$H(0.51)$	89.741	89.72 ± 0.26
τ	0.0531	0.0529 ± 0.0078	$r_{\mathrm{drag}} h$	101.96	102.1 ± 1.1	$D_{\mathrm{M}}(0.51)$	1961.6	1961 ± 10
w_0	-1.0528	-1.056 ± 0.031	$\langle d^2 \rangle^{1/2}$	2.4352	2.436 ± 0.028	$H(0.61)$	95.189	95.16 ± 0.27
$\ln(10^{10} A_{\mathrm{s}})$	3.0387	3.038 ± 0.016	z_{re}	7.55	7.51 ± 0.80	$D_{\mathrm{M}}(0.61)$	2286.0	2286 ± 10
n_{s}	0.96715	0.9667 ± 0.0042	$10^9 A_{\mathrm{s}}$	2.0877	2.087 ± 0.033	$H(2.33)$	235.27	235.24 ± 0.60
y_{cal}	1.00045	1.0005 ± 0.0025	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.8772	1.877 ± 0.011	$D_{\mathrm{M}}(2.33)$	5757.0	5757.5 ± 9.0
A_{100}^{PS}	233.8	240 ± 25	D_{40}	1222.9	1224 ± 12	$f\sigma_8(0.15)$	0.4577	0.4579 ± 0.0083
A_{143}^{PS}	39.3	39 ± 8	D_{220}	5720.1	5721 ± 39	$\sigma_8(0.15)$	0.7609	0.762 ± 0.012
A_{217}^{PS}	102.2	102 ± 10	D_{810}	2535.2	2535 ± 14	$f\sigma_8(0.38)$	0.4816	0.4821 ± 0.0095
A_{217}^{CIB}	44.2	40 ± 7	D_{1420}	816.32	816.0 ± 4.8	$\sigma_8(0.38)$	0.6751	0.676 ± 0.010
A_{143}^{tSZ}	6.58	$3.9^{+1.9}_{-2.5}$	D_{2000}	230.55	230.4 ± 1.6	$f\sigma_8(0.51)$	0.4820	0.4826 ± 0.0097
$r_{143 \times 217}^{\mathrm{PS}}$	0.600	0.66 ± 0.13	$n_{\mathrm{s},0.002}$	0.96715	0.9667 ± 0.0042	$\sigma_8(0.51)$	0.6319	0.6324 ± 0.0095
$r_{143 \times 217}^{\mathrm{CIB}}$	0.779	$0.56^{+0.38}_{-0.19}$	Y_{P}	0.245385	$0.245379^{+0.000062}_{-0.000056}$	$f\sigma_8(0.61)$	0.4778	0.4784 ± 0.0096
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	0.11	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246712	$0.246705^{+0.000062}_{-0.000056}$	$\sigma_8(0.61)$	0.6012	0.6017 ± 0.0089
A^{kSZ}	0.00	$4.7^{+2.2}_{-4.0}$	$10^5 \mathrm{D}/\mathrm{H}$	2.5904	2.593 ± 0.028	$f\sigma_8(2.33)$	0.30334	0.3036 ± 0.0044
A_{100}^{dust}	1.010	1.01 ± 0.20	$\mathrm{Age}/\mathrm{Gyr}$	13.7637	13.764 ± 0.022	$\sigma_8(2.33)$	0.31160	0.3118 ± 0.0039
A_{143}^{dust}	0.977	0.96 ± 0.18	z_*	1089.886	1089.90 ± 0.25	f_{2000}^{143}	29.74	29.6 ± 2.8
A_{217}^{dust}	0.971	0.97 ± 0.10	r_*	144.646	144.65 ± 0.27	f_{2000}^{217}	106.67	106.7 ± 1.9
$A_{143 \times 217}^{\mathrm{dust}}$	1.002	1.03 ± 0.16	$100\theta_*$	1.041144	1.04113 ± 0.00030	$f_{2000}^{143 \times 217}$	31.95	32.0 ± 2.0
c_{100}	0.99765	0.9975 ± 0.0011	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.8930	13.894 ± 0.026	χ_{simall}^2	395.86	396.9 ± 1.6
c_{217}	1.00129	1.0011 ± 0.0016	z_{drag}	1059.818	1059.80 ± 0.32	χ_{lowl}^2	22.75	22.88 ± 0.84
c_{TE}	0.99636	0.9965 ± 0.0049	r_{drag}	147.320	147.33 ± 0.28	$\chi_{\mathrm{CamSpec}}^2$	11499.6	11514.4 ± 5.6
c_{EE}	0.99169	0.9919 ± 0.0050	k_{D}	0.140605	0.14059 ± 0.00033	$\chi_{\mathrm{H073p45}}^2$	6.53	6.5 ± 2.3
H_0	69.21	69.28 ± 0.77	$100\theta_{\mathrm{D}}$	0.160825	0.16084 ± 0.00019	χ_{JLA}^2	1035.62	1036.4 ± 1.8
Ω_{Λ}	0.7030	0.7035 ± 0.0069	z_{eq}	3383.6	3384 ± 26	$\chi_{6\mathrm{DF}}^2$	0.054	0.10 ± 0.12
Ω_{m}	0.2970	0.2965 ± 0.0069	k_{eq}	0.010327	0.010328 ± 0.000080	χ_{MGS}^2	2.35	2.47 ± 0.64
$\Omega_{\mathrm{m}} h^2$	0.14224	0.1422 ± 0.0011	$100\theta_{\mathrm{eq}}$	0.81659	0.8165 ± 0.0049	$\chi_{\mathrm{DR12BAO}}^2$	4.05	4.51 ± 0.71
$\Omega_{\mathrm{m}} h^3$	0.09844	0.0986 ± 0.0014	$100\theta_{\mathrm{s,eq}}$	0.45112	0.4511 ± 0.0025	χ_{prior}^2	2.19	7.8 ± 3.4
σ_8	0.8222	0.823 ± 0.013	$H(0.15)$	73.874	73.91 ± 0.49	χ_{BAO}^2	6.46	7.1 ± 1.2
S_8	0.8180	0.818 ± 0.013	$D_{\mathrm{M}}(0.15)$	629.7	629.3 ± 5.5	χ_{CMB}^2	11918.2	11934.1 ± 5.7

Best-fit $\chi_{\mathrm{eff}}^2 = 12969.03$; $\bar{\chi}_{\mathrm{eff}}^2 = 12991.92$; $R - 1 = 0.00648$
 χ_{eff}^2 : BAO - 6DF: 0.05 MGS: 2.35 DR12BAO: 4.05 CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.86 commander_dx12_v3_2_29: 22.75 CamSpec like_10.7HM_1400_unified: 11499.61 Hubble - H073p45: 6.54 SN - JLA Pantheon18: 1035.62

14.28 **base_w_CamSpecHM_TTTEEE_lowl_lowE_BAO_Riess18_Pantheon18_post_lensing**

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}} h^2$	0.02233 ± 0.00015	$\sigma_8 \Omega_{\mathrm{m}}^{0.25}$	0.6083 ± 0.0070	$H(0.51)$	89.71 ± 0.24
$\Omega_{\mathrm{c}} h^2$	0.1193 ± 0.0010	$\sigma_8 / h^{0.5}$	0.990 ± 0.010	$D_{\mathrm{M}}(0.51)$	1961 ± 10
$100\theta_{\mathrm{MC}}$	1.04093 ± 0.00030	$r_{\mathrm{drag}} h$	102.1 ± 1.1	$H(0.61)$	95.14 ± 0.26
τ	0.0538 ± 0.0074	$\langle d^2 \rangle^{1/2}$	2.441 ± 0.022	$D_{\mathrm{M}}(0.61)$	2285 ± 10
w_0	-1.059 ± 0.030	z_{re}	7.60 ± 0.74	$H(2.33)$	235.26 ± 0.57
$\ln(10^{10} A_{\mathrm{s}})$	3.041 ± 0.014	$10^9 A_{\mathrm{s}}$	2.092 ± 0.030	$D_{\mathrm{M}}(2.33)$	5757.7 ± 8.8
n_{s}	0.9664 ± 0.0040	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.878 ± 0.011	$f\sigma_8(0.15)$	0.4590 ± 0.0067
y_{cal}	1.0006 ± 0.0025	D_{40}	1225 ± 12	$\sigma_8(0.15)$	0.7632 ± 0.0099
A_{100}^{PS}	239 ± 25	D_{220}	5724 ± 38	$f\sigma_8(0.38)$	0.4834 ± 0.0079
A_{143}^{PS}	39 ± 8	D_{810}	2535 ± 13	$\sigma_8(0.38)$	0.6771 ± 0.0088
A_{217}^{PS}	102 ± 10	D_{1420}	816.1 ± 4.8	$f\sigma_8(0.51)$	0.4838 ± 0.0081
A_{217}^{CIB}	40 ± 7	D_{2000}	230.4 ± 1.6	$\sigma_8(0.51)$	0.6337 ± 0.0081
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.6}$	$n_{\mathrm{s},0.002}$	0.9664 ± 0.0040	$f\sigma_8(0.61)$	0.4796 ± 0.0081
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	Y_{P}	$0.245379^{+0.000062}_{-0.000056}$	$\sigma_8(0.61)$	0.6030 ± 0.0076
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56^{+0.39}_{-0.18}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246705^{+0.000062}_{-0.000056}$	$f\sigma_8(2.33)$	0.3042 ± 0.0038
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$10^5 \mathrm{D}/\mathrm{H}$	2.593 ± 0.028	$\sigma_8(2.33)$	0.3123 ± 0.0034
A^{kSZ}	$4.7^{+2.1}_{-4.1}$	$\mathrm{Age}/\mathrm{Gyr}$	13.763 ± 0.022	f_{2000}^{143}	29.6 ± 2.8
A_{100}^{dust}	1.01 ± 0.20	z_*	1089.91 ± 0.24	f_{2000}^{217}	106.7 ± 1.9
A_{143}^{dust}	0.96 ± 0.18	r_*	144.63 ± 0.25	$f_{2000}^{143 \times 217}$	32.0 ± 2.0
A_{217}^{dust}	0.98 ± 0.10	$100\theta_*$	1.04111 ± 0.00029	$\chi_{\mathrm{lensing}}^2$	9.13 ± 0.67
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.892 ± 0.023	χ_{simall}^2	396.9 ± 1.6
c_{100}	0.9976 ± 0.0011	z_{drag}	1059.80 ± 0.32	χ_{lowl}^2	22.98 ± 0.79
c_{217}	1.0011 ± 0.0016	r_{drag}	147.31 ± 0.26	$\chi_{\mathrm{CamSpec}}^2$	11513.9 ± 5.6
c_{TE}	0.9964 ± 0.0049	k_{D}	0.14061 ± 0.00032	$\chi_{\mathrm{H073p45}}^2$	6.4 ± 2.3
c_{EE}	0.9919 ± 0.0050	$100\theta_{\mathrm{D}}$	0.16083 ± 0.00019	χ_{JLA}^2	1036.5 ± 1.9
H_0	69.32 ± 0.77	z_{eq}	3386 ± 24	$\chi_{6\mathrm{DF}}^2$	0.11 ± 0.12
Ω_{Λ}	0.7037 ± 0.0068	k_{eq}	0.010334 ± 0.000072	χ_{MGS}^2	2.48 ± 0.64
Ω_{m}	0.2963 ± 0.0068	$100\theta_{\mathrm{eq}}$	0.8162 ± 0.0044	$\chi_{\mathrm{DR12BAO}}^2$	4.51 ± 0.66
$\Omega_{\mathrm{m}} h^2$	0.14233 ± 0.00099	$100\theta_{\mathrm{s,eq}}$	0.4509 ± 0.0023	χ_{prior}^2	7.8 ± 3.4
$\Omega_{\mathrm{m}} h^3$	0.0987 ± 0.0013	$H(0.15)$	73.92 ± 0.49	χ_{CMB}^2	11942.9 ± 5.8
σ_8	0.825 ± 0.011	$D_{\mathrm{M}}(0.15)$	629.0 ± 5.5	χ_{BAO}^2	7.1 ± 1.2
S_8	0.819 ± 0.011	$H(0.38)$	83.29 ± 0.27		
$\sigma_8 \Omega_{\mathrm{m}}^{0.5}$	0.4488 ± 0.0058	$D_{\mathrm{M}}(0.38)$	1509.8 ± 9.2		

$\bar{\chi}_{\mathrm{eff}}^2 = 13000.66$; $\Delta\bar{\chi}_{\mathrm{eff}}^2 = -2.98$; $R - 1 = 0.00726$

14.29 base_w_CamSpecHM_TTTEEE_lowl_lowE_BAO_Riess18_Pantheon18_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02234 ± 0.00015	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4485 ± 0.0070	$H(0.38)$	83.30 ± 0.28
$\Omega_{\mathrm{c}}h^2$	0.1192 ± 0.0012	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6078 ± 0.0086	$D_{\mathrm{M}}(0.38)$	1510.0 ± 9.3
$100\theta_{\mathrm{MC}}$	1.04094 ± 0.00030	$\sigma_8/h^{0.5}$	0.990 ± 0.012	$H(0.51)$	89.73 ± 0.26
τ	$0.0545^{+0.0048}_{-0.0080}$	$r_{\mathrm{drag}}h$	102.1 ± 1.1	$D_{\mathrm{M}}(0.51)$	1961 ± 10
w_0	-1.056 ± 0.031	$\langle d^2 \rangle^{1/2}$	2.439 ± 0.027	$H(0.61)$	95.17 ± 0.27
$\ln(10^{10}A_{\mathrm{s}})$	$3.041^{+0.012}_{-0.016}$	z_{re}	$7.67^{+0.54}_{-0.79}$	$D_{\mathrm{M}}(0.61)$	2286 ± 10
n_{s}	0.9669 ± 0.0042	$10^9 A_{\mathrm{s}}$	$2.093^{+0.024}_{-0.033}$	$H(2.33)$	235.23 ± 0.61
y_{cal}	1.0005 ± 0.0025	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.877 ± 0.011	$D_{\mathrm{M}}(2.33)$	5757.3 ± 9.1
A_{100}^{PS}	239 ± 25	D_{40}	1224 ± 12	$f\sigma_8(0.15)$	0.4584 ± 0.0082
A_{143}^{PS}	39 ± 8	D_{220}	5720 ± 39	$\sigma_8(0.15)$	0.762 ± 0.011
A_{217}^{PS}	102 ± 10	D_{810}	2535 ± 14	$f\sigma_8(0.38)$	0.4826 ± 0.0094
A_{217}^{CIB}	40 ± 7	D_{1420}	815.9 ± 4.8	$\sigma_8(0.38)$	0.677 ± 0.010
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	D_{2000}	230.4 ± 1.6	$f\sigma_8(0.51)$	0.4830 ± 0.0096
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$n_{\mathrm{s},0.002}$	0.9669 ± 0.0042	$\sigma_8(0.51)$	0.6332 ± 0.0092
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.55^{+0.38}_{-0.19}$	Y_{P}	$0.245380^{+0.000062}_{-0.000056}$	$f\sigma_8(0.61)$	0.4789 ± 0.0095
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246707^{+0.000063}_{-0.000057}$	$\sigma_8(0.61)$	0.6025 ± 0.0086
A^{kSZ}	$4.7^{+2.1}_{-4.1}$	$10^5 \mathrm{D}/\mathrm{H}$	2.592 ± 0.028	$f\sigma_8(2.33)$	0.3039 ± 0.0043
A_{100}^{dust}	1.01 ± 0.20	$\mathrm{Age}/\mathrm{Gyr}$	13.764 ± 0.022	$\sigma_8(2.33)$	0.3122 ± 0.0037
A_{143}^{dust}	0.96 ± 0.18	z_*	1089.90 ± 0.25	f_{2000}^{143}	29.5 ± 2.8
A_{217}^{dust}	0.98 ± 0.10	r_*	144.66 ± 0.27	f_{2000}^{217}	106.7 ± 1.9
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04113 ± 0.00030	$f_{2000}^{143 \times 217}$	31.9 ± 2.0
c_{100}	0.9975 ± 0.0011	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.894 ± 0.026	χ_{simall}^2	396.8 ± 1.6
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.80 ± 0.32	χ_{lowl}^2	22.89 ± 0.85
c_{TE}	0.9964 ± 0.0049	r_{drag}	147.33 ± 0.28	$\chi_{\mathrm{CamSpec}}^2$	11514.2 ± 5.6
c_{EE}	0.9919 ± 0.0050	k_{D}	0.14059 ± 0.00033	$\chi_{\mathrm{H073p45}}^2$	6.5 ± 2.3
H_0	69.28 ± 0.77	$100\theta_{\mathrm{D}}$	0.16083 ± 0.00019	χ_{JLA}^2	1036.4 ± 1.8
Ω_{Λ}	0.7036 ± 0.0069	z_{eq}	3383 ± 26	$\chi_{6\mathrm{DF}}^2$	0.10 ± 0.12
Ω_{m}	0.2964 ± 0.0069	k_{eq}	0.010326 ± 0.000081	χ_{MGS}^2	2.47 ± 0.64
$\Omega_{\mathrm{m}}h^2$	0.1422 ± 0.0011	$100\theta_{\mathrm{eq}}$	0.8167 ± 0.0050	$\chi_{\mathrm{DR12BAO}}^2$	4.50 ± 0.71
$\Omega_{\mathrm{m}}h^3$	0.0985 ± 0.0014	$100\theta_{\mathrm{s,eq}}$	0.4512 ± 0.0026	χ_{prior}^2	7.8 ± 3.4
σ_8	0.824 ± 0.012	$H(0.15)$	73.91 ± 0.49	χ_{BAO}^2	7.1 ± 1.2
S_8	0.819 ± 0.013	$D_{\mathrm{M}}(0.15)$	629.3 ± 5.5	χ_{CMB}^2	11933.9 ± 5.6

$$\bar{\chi}_{\mathrm{eff}}^2 = 12991.69; R - 1 = 0.00727$$

14.30 base_w_CamSpecHM_TTTEEE_lowl_lowE_BAO_Riess18_Pantheon18_post_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02234 ± 0.00015	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6086 ± 0.0069	$H(0.51)$	89.72 ± 0.24
$\Omega_{\mathrm{c}}h^2$	0.1193 ± 0.0010	$\sigma_8/h^{0.5}$	0.991 ± 0.010	$D_{\mathrm{M}}(0.51)$	1961 ± 10
$100\theta_{\mathrm{MC}}$	1.04093 ± 0.00030	$r_{\mathrm{drag}}h$	102.1 ± 1.1	$H(0.61)$	95.16 ± 0.25
τ	$0.0549^{+0.0051}_{-0.0076}$	$\langle d^2 \rangle^{1/2}$	2.442 ± 0.022	$D_{\mathrm{M}}(0.61)$	2285 ± 10
w_0	-1.058 ± 0.030	z_{re}	$7.72^{+0.56}_{-0.74}$	$H(2.33)$	235.24 ± 0.57
$\ln(10^{10}A_{\mathrm{s}})$	$3.042^{+0.011}_{-0.014}$	$10^9 A_{\mathrm{s}}$	$2.096^{+0.023}_{-0.030}$	$D_{\mathrm{M}}(2.33)$	5757.5 ± 8.8
n_{s}	0.9666 ± 0.0040	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.878 ± 0.010	$f\sigma_8(0.15)$	0.4591 ± 0.0067
y_{cal}	1.0006 ± 0.0025	D_{40}	1225 ± 12	$\sigma_8(0.15)$	0.7635 ± 0.0099
A_{100}^{PS}	239 ± 25	D_{220}	5723 ± 38	$f\sigma_8(0.38)$	0.4834 ± 0.0079
A_{143}^{PS}	39 ± 8	D_{810}	2535 ± 13	$\sigma_8(0.38)$	0.6775 ± 0.0087
A_{217}^{PS}	102 ± 10	D_{1420}	816.0 ± 4.8	$f\sigma_8(0.51)$	0.4839 ± 0.0081
A_{217}^{CIB}	40 ± 7	D_{2000}	230.5 ± 1.6	$\sigma_8(0.51)$	0.6341 ± 0.0080
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.6}$	$n_{\mathrm{s},0.002}$	0.9666 ± 0.0040	$f\sigma_8(0.61)$	0.4797 ± 0.0081
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	Y_{P}	$0.245380^{+0.000062}_{-0.000055}$	$\sigma_8(0.61)$	0.6033 ± 0.0075
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56^{+0.39}_{-0.18}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246707^{+0.000062}_{-0.000055}$	$f\sigma_8(2.33)$	0.3044 ± 0.0038
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$10^5 \mathrm{D}/\mathrm{H}$	2.592 ± 0.028	$\sigma_8(2.33)$	0.3126 ± 0.0033
A^{kSZ}	$4.7^{+1.9}_{-4.3}$	$\mathrm{Age}/\mathrm{Gyr}$	13.763 ± 0.022	f_{2000}^{143}	29.5 ± 2.8
A_{100}^{dust}	1.01 ± 0.20	z_*	1089.90 ± 0.24	f_{2000}^{217}	106.7 ± 1.9
A_{143}^{dust}	0.96 ± 0.18	r_*	144.64 ± 0.24	$f_{2000}^{143 \times 217}$	32.0 ± 2.0
A_{217}^{dust}	0.98 ± 0.10	$100\theta_*$	1.04112 ± 0.00029	$\chi_{\mathrm{lensing}}^2$	9.09 ± 0.62
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.893 ± 0.023	χ_{simall}^2	396.8 ± 1.6
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.81 ± 0.32	χ_{lowl}^2	22.97 ± 0.79
c_{217}	1.0011 ± 0.0016	r_{drag}	147.32 ± 0.26	$\chi_{\mathrm{CamSpec}}^2$	11513.9 ± 5.6
c_{TE}	0.9964 ± 0.0049	k_{D}	0.14060 ± 0.00032	$\chi_{\mathrm{H073p45}}^2$	6.4 ± 2.3
c_{EE}	0.9919 ± 0.0050	$100\theta_{\mathrm{D}}$	0.16083 ± 0.00019	χ_{JLA}^2	1036.4 ± 1.8
H_0	69.31 ± 0.77	z_{eq}	3385 ± 23	$\chi_{6\mathrm{DF}}^2$	0.11 ± 0.12
Ω_{Λ}	0.7037 ± 0.0069	k_{eq}	0.010330 ± 0.000071	χ_{MGS}^2	2.48 ± 0.64
Ω_{m}	0.2963 ± 0.0069	$100\theta_{\mathrm{eq}}$	0.8164 ± 0.0044	$\chi_{\mathrm{DR12BAO}}^2$	4.50 ± 0.66
$\Omega_{\mathrm{m}}h^2$	0.14228 ± 0.00098	$100\theta_{\mathrm{s,eq}}$	0.4510 ± 0.0023	χ_{prior}^2	7.8 ± 3.4
$\Omega_{\mathrm{m}}h^3$	0.0986 ± 0.0013	$H(0.15)$	73.93 ± 0.49	χ_{CMB}^2	11942.8 ± 5.7
σ_8	0.825 ± 0.010	$D_{\mathrm{M}}(0.15)$	629.1 ± 5.5	χ_{BAO}^2	7.1 ± 1.2
S_8	0.820 ± 0.011	$H(0.38)$	83.30 ± 0.27		
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4490 ± 0.0058	$D_{\mathrm{M}}(0.38)$	1509.7 ± 9.2		

$$\bar{\chi}_{\mathrm{eff}}^2 = 13000.46; \Delta\bar{\chi}_{\mathrm{eff}}^2 = -3.08; R - 1 = 0.00765$$

15 w+wa

15.1 base_w_wa_CamSpecHM_TT_lowl_lowE_BAO_Pantheon18

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022192	0.02214 ± 0.00021	$\sigma_8 \Omega_m^{0.25}$	0.6134	0.614 ± 0.013	$D_M(0.38)$	1518.3	1516 ± 14
$\Omega_c h^2$	0.11995	0.1204 ± 0.0018	$\sigma_8/h^{0.5}$	0.9979	0.998 ± 0.019	$H(0.51)$	89.84	89.90 ± 0.51
$100\theta_{MC}$	1.040945	1.04085 ± 0.00046	$r_{drag}h$	100.48	100.4 ± 1.2	$D_M(0.51)$	1968.9	1966 ± 16
τ	0.0590	0.0520 ± 0.0080	$\langle d^2 \rangle^{1/2}$	2.4623	$2.460^{+0.044}_{-0.039}$	$H(0.61)$	95.317	95.30 ± 0.44
w_0	-0.985	$-0.956^{+0.079}_{-0.089}$	z_{re}	8.18	7.47 ± 0.83	$D_M(0.61)$	2292.9	2290 ± 17
w_a	-0.180	$-0.34^{+0.41}_{-0.31}$	$10^9 A_s$	2.1095	2.088 ± 0.034	$H(2.33)$	235.28	235.11 ± 0.98
$\ln(10^{10} A_s)$	3.0490	3.039 ± 0.016	$10^9 A_s e^{-2\tau}$	1.8748	1.881 ± 0.013	$D_M(2.33)$	5762.3	5765 ± 13
n_s	0.9649	0.9639 ± 0.0052	D_{40}	1225.7	1228 ± 14	$f\sigma_8(0.15)$	0.4619	0.461 ± 0.011
y_{cal}	0.99919	1.0004 ± 0.0025	D_{220}	5695.2	5704 ± 40	$\sigma_8(0.15)$	0.7620	0.762 ± 0.016
A_{100}^{PS}	236.7	242 ± 25	D_{810}	2527.2	2534 ± 14	$f\sigma_8(0.38)$	0.4830	0.483 ± 0.013
A_{143}^{PS}	44.0	41 ± 8	D_{1420}	812.3	814.0 ± 5.0	$\sigma_8(0.38)$	0.6758	0.676 ± 0.014
A_{217}^{PS}	97.5	101 ± 10	D_{2000}	229.24	229.6 ± 1.8	$f\sigma_8(0.51)$	0.4829	0.483 ± 0.013
A_{217}^{CIB}	46.0	41 ± 7	$n_{s,0.002}$	0.9649	0.9639 ± 0.0052	$\sigma_8(0.51)$	0.6324	0.632 ± 0.013
A_{143}^{tSZ}	5.97	$3.7^{+1.8}_{-2.6}$	Y_P	0.245322	$0.245294^{+0.000097}_{-0.000080}$	$f\sigma_8(0.61)$	0.4786	0.479 ± 0.014
$r_{143 \times 217}^{PS}$	0.614	0.65 ± 0.13	Y_P^{BBN}	0.246649	$0.246620^{+0.000097}_{-0.000080}$	$\sigma_8(0.61)$	0.6017	0.601 ± 0.012
$r_{143 \times 217}^{CIB}$	0.868	$0.58^{+0.41}_{-0.13}$	$10^5 D/H$	2.6195	2.631 ± 0.039	$f\sigma_8(2.33)$	0.3039	$0.3037^{+0.0067}_{-0.0058}$
$\xi^{tSZ \times CIB}$	0.35	—	Age/Gyr	13.7793	13.777 ± 0.035	$\sigma_8(2.33)$	0.31148	0.3106 ± 0.0048
A^{kSZ}	1.2	—	z_*	1090.140	1090.26 ± 0.36	f_{2000}^{143}	31.00	30.8 ± 3.0
A_{100}^{dust}	1.010	1.01 ± 0.20	r_*	144.581	144.51 ± 0.43	f_{2000}^{217}	107.08	107.5 ± 2.0
A_{143}^{dust}	0.996	0.98 ± 0.18	$100\theta_*$	1.041148	1.04106 ± 0.00045	$f_{2000}^{143 \times 217}$	32.79	33.0 ± 2.1
A_{217}^{dust}	0.954	0.97 ± 0.10	$D_M(z_*)/\text{Gpc}$	13.8867	13.881 ± 0.040	χ_{small}^2	397.31	396.9 ± 1.6
$A_{143 \times 217}^{dust}$	0.973	1.03 ± 0.16	z_{drag}	1059.513	1059.42 ± 0.44	χ_{lowl}^2	23.37	23.4 ± 1.1
c_{100}	0.99756	0.9974 ± 0.0011	r_{drag}	147.305	147.25 ± 0.44	χ_{CamSpec}^2	7049.3	7062.7 ± 5.4
c_{217}	1.00160	1.0012 ± 0.0016	k_D	0.140504	0.14052 ± 0.00050	χ_{JLA}^2	1034.74	1035.9 ± 1.5
H_0	68.21	68.19 ± 0.84	$100\theta_D$	0.161013	0.16107 ± 0.00026	χ_{6DF}^2	0.0002	0.056 ± 0.081
Ω_Λ	0.6931	0.6920 ± 0.0082	z_{eq}	3396.7	3406 ± 42	χ_{MGS}^2	1.75	1.92 ± 0.71
Ω_m	0.3069	0.3080 ± 0.0082	k_{eq}	0.010367	0.01040 ± 0.00013	χ_{DR12BAO}^2	3.97	4.9 ± 1.3
$\Omega_m h^2$	0.14278	0.1432 ± 0.0017	$100\theta_{eq}$	0.8138	0.8120 ± 0.0078	χ_{prior}^2	2.49	7.6 ± 3.4
$\Omega_m h^3$	0.09739	0.0976 ± 0.0018	$100\theta_{s,eq}$	0.44979	0.4489 ± 0.0040	χ_{BAO}^2	5.72	6.9 ± 1.6
σ_8	0.8241	0.824 ± 0.018	$H(0.15)$	73.49	73.66 ± 0.75	χ_{CMB}^2	7470.0	7483.0 ± 5.4
S_8	0.8335	0.835 ± 0.020	$D_M(0.15)$	635.6	634.9 ± 6.7			
$\sigma_8 \Omega_m^{0.5}$	0.4565	0.457 ± 0.011	$H(0.38)$	83.32	83.46 ± 0.63			

Best-fit $\chi_{\text{eff}}^2 = 8512.97$; $\bar{\chi}_{\text{eff}}^2 = 8533.43$; $R - 1 = 0.00675$
 χ_{eff}^2 : BAO - 6DF: 0.00 MGS: 1.75 DR12BAO: 3.97 CMB - simall_100x143_offlike5.EE_Aplanck_B: 397.31 commander_dx12_v3.2.29: 23.37 CamSpec like_10.7HM: 7049.34
SN - JLA Pantheon18: 1034.74

15.2 base_w_wa_CamSpecHM_TT_lowl_lowE_BAO_Pantheon18_post_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02215 ± 0.00020	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6116 ± 0.0086	$D_{\mathrm{M}}(0.38)$	1516 ± 13
$\Omega_{\mathrm{c}}h^2$	0.1201 ± 0.0014	$\sigma_8/h^{0.5}$	0.995 ± 0.012	$H(0.51)$	89.93 ± 0.51
$100\theta_{\mathrm{MC}}$	1.04086 ± 0.00045	$r_{\mathrm{drag}}h$	100.5 ± 1.2	$D_{\mathrm{M}}(0.51)$	1966 ± 16
τ	0.0520 ± 0.0079	$\langle d^2 \rangle^{1/2}$	2.454 ± 0.027	$H(0.61)$	95.34 ± 0.43
w_0	-0.960 ± 0.081	z_{re}	7.46 ± 0.81	$D_{\mathrm{M}}(0.61)$	2289 ± 17
w_a	$-0.30^{+0.34}_{-0.27}$	$10^9 A_{\mathrm{s}}$	2.086 ± 0.032	$H(2.33)$	235.02 ± 0.98
$\ln(10^{10}A_{\mathrm{s}})$	3.038 ± 0.015	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.880 ± 0.011	$D_{\mathrm{M}}(2.33)$	5764 ± 13
n_{s}	0.9643 ± 0.0045	D_{40}	1227 ± 12	$f\sigma_8(0.15)$	0.4597 ± 0.0077
y_{cal}	1.0004 ± 0.0025	D_{220}	5706 ± 40	$\sigma_8(0.15)$	0.760 ± 0.012
A_{100}^{PS}	243 ± 25	D_{810}	2533 ± 13	$f\sigma_8(0.38)$	0.4810 ± 0.0091
A_{143}^{PS}	41 ± 8	D_{1420}	813.9 ± 5.1	$\sigma_8(0.38)$	0.674 ± 0.010
A_{217}^{PS}	101 ± 10	D_{2000}	229.5 ± 1.8	$f\sigma_8(0.51)$	0.4814 ± 0.0095
A_{217}^{CIB}	41 ± 7	$n_{\mathrm{s},0.002}$	0.9643 ± 0.0045	$\sigma_8(0.51)$	0.6306 ± 0.0095
A_{143}^{tSZ}	$3.7^{+1.8}_{-2.6}$	Y_{P}	$0.245302^{+0.000092}_{-0.000077}$	$f\sigma_8(0.61)$	0.4775 ± 0.0096
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246629^{+0.000092}_{-0.000078}$	$\sigma_8(0.61)$	0.6000 ± 0.0090
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.58^{+0.41}_{-0.13}$	$10^5 \mathrm{D}/\mathrm{H}$	2.627 ± 0.038	$f\sigma_8(2.33)$	0.3030 ± 0.0047
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Age/Gyr	13.777 ± 0.034	$\sigma_8(2.33)$	0.3101 ± 0.0037
A^{kSZ}	—	z_*	1090.21 ± 0.32	f_{2000}^{143}	30.8 ± 3.0
A_{100}^{dust}	1.01 ± 0.20	r_*	144.57 ± 0.33	f_{2000}^{217}	107.6 ± 2.0
A_{143}^{dust}	0.98 ± 0.18	$100\theta_*$	1.04107 ± 0.00044	$f_{2000}^{143 \times 217}$	33.0 ± 2.1
A_{217}^{dust}	0.97 ± 0.10	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.887 ± 0.032	$\chi_{\mathrm{lensing}}^2$	9.40 ± 0.93
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	z_{drag}	1059.44 ± 0.44	χ_{simall}^2	396.8 ± 1.5
c_{100}	0.9975 ± 0.0011	r_{drag}	147.30 ± 0.35	χ_{lowl}^2	23.29 ± 0.89
c_{217}	1.0012 ± 0.0016	k_{D}	0.14047 ± 0.00044	$\chi_{\mathrm{CamSpec}}^2$	7062.3 ± 5.2
H_0	68.21 ± 0.84	$100\theta_{\mathrm{D}}$	0.16105 ± 0.00026	χ_{JLA}^2	1035.9 ± 1.5
Ω_{Λ}	0.6927 ± 0.0080	z_{eq}	3400 ± 31	$\chi_{6\mathrm{DF}}^2$	0.056 ± 0.082
Ω_{m}	0.3073 ± 0.0080	k_{eq}	0.010376 ± 0.000095	χ_{MGS}^2	1.94 ± 0.71
$\Omega_{\mathrm{m}}h^2$	0.1429 ± 0.0013	$100\theta_{\mathrm{eq}}$	0.8131 ± 0.0058	$\chi_{\mathrm{DR12BAO}}^2$	4.8 ± 1.3
$\Omega_{\mathrm{m}}h^3$	0.0975 ± 0.0015	$100\theta_{\mathrm{s,eq}}$	0.4495 ± 0.0030	χ_{prior}^2	7.6 ± 3.4
σ_8	0.821 ± 0.012	$H(0.15)$	73.65 ± 0.72	χ_{CMB}^2	7491.9 ± 5.5
S_8	0.831 ± 0.013	$D_{\mathrm{M}}(0.15)$	634.9 ± 6.6	χ_{BAO}^2	6.8 ± 1.5
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4553 ± 0.0072	$H(0.38)$	83.47 ± 0.62		

$$\bar{\chi}_{\mathrm{eff}}^2 = 8542.20; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.70; R - 1 = 0.00753$$

15.3 base_w_wa_CamSpecHM_TT_lowl_lowE_BAO_Pantheon18_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02214 ± 0.00020	$\sigma_8 \Omega_m^{0.25}$	0.614 ± 0.013	$D_M(0.38)$	1516 ± 14
$\Omega_c h^2$	0.1203 ± 0.0018	$\sigma_8/h^{0.5}$	0.998 ± 0.019	$H(0.51)$	89.90 ± 0.51
$100\theta_{MC}$	1.04087 ± 0.00046	$r_{drag}h$	100.4 ± 1.2	$D_M(0.51)$	1966 ± 16
τ	$0.0538^{+0.0045}_{-0.0084}$	$\langle d^2 \rangle^{1/2}$	$2.462^{+0.043}_{-0.039}$	$H(0.61)$	95.31 ± 0.44
w_0	$-0.958^{+0.079}_{-0.088}$	z_{re}	$7.66^{+0.52}_{-0.84}$	$D_M(0.61)$	2290 ± 17
w_a	$-0.33^{+0.40}_{-0.31}$	$10^9 A_s$	$2.095^{+0.025}_{-0.034}$	$H(2.33)$	235.11 ± 0.99
$\ln(10^{10} A_s)$	$3.042^{+0.012}_{-0.016}$	$10^9 A_s e^{-2\tau}$	1.881 ± 0.013	$D_M(2.33)$	5764 ± 13
n_s	0.9642 ± 0.0051	D_{40}	1228 ± 14	$f\sigma_8(0.15)$	0.462 ± 0.011
y_{cal}	1.0004 ± 0.0025	D_{220}	5704 ± 40	$\sigma_8(0.15)$	0.762 ± 0.016
A_{100}^{PS}	242 ± 25	D_{810}	2533 ± 13	$f\sigma_8(0.38)$	0.483 ± 0.013
A_{143}^{PS}	41 ± 8	D_{1420}	814.0 ± 5.0	$\sigma_8(0.38)$	0.676 ± 0.014
A_{217}^{PS}	101 ± 10	D_{2000}	229.6 ± 1.8	$f\sigma_8(0.51)$	0.484 ± 0.013
A_{217}^{CIB}	41 ± 7	$n_{s,0.002}$	0.9642 ± 0.0051	$\sigma_8(0.51)$	0.633 ± 0.013
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	Y_P	$0.245298^{+0.000096}_{-0.000080}$	$f\sigma_8(0.61)$	0.480 ± 0.014
$r_{143 \times 217}^{PS}$	0.65 ± 0.13	Y_P^{BBN}	$0.246624^{+0.000096}_{-0.000080}$	$\sigma_8(0.61)$	0.602 ± 0.012
$r_{143 \times 217}^{CIB}$	$0.58^{+0.41}_{-0.13}$	$10^5 D/H$	2.629 ± 0.039	$f\sigma_8(2.33)$	$0.3040^{+0.0066}_{-0.0058}$
$\xi^{tSZ \times CIB}$	—	Age/Gyr	13.777 ± 0.035	$\sigma_8(2.33)$	0.3109 ± 0.0047
A^{kSZ}	—	z_*	1090.24 ± 0.36	f_{2000}^{143}	30.7 ± 3.0
A_{100}^{dust}	1.01 ± 0.20	r_*	144.52 ± 0.43	f_{2000}^{217}	107.5 ± 2.0
A_{143}^{dust}	0.98 ± 0.18	$100\theta_*$	1.04107 ± 0.00045	$f_{2000}^{143 \times 217}$	32.9 ± 2.1
A_{217}^{dust}	0.97 ± 0.10	$D_M(z_*)/\text{Gpc}$	13.882 ± 0.040	χ_{simall}^2	396.8 ± 1.6
$A_{143 \times 217}^{dust}$	1.03 ± 0.16	z_{drag}	1059.43 ± 0.44	χ_{lowl}^2	23.4 ± 1.1
c_{100}	0.9975 ± 0.0011	r_{drag}	147.26 ± 0.44	$\chi_{CamSpec}^2$	7062.5 ± 5.4
c_{217}	1.0012 ± 0.0016	k_D	0.14051 ± 0.00050	χ_{JLA}^2	1035.9 ± 1.5
H_0	68.19 ± 0.84	$100\theta_D$	0.16106 ± 0.00026	χ_{6DF}^2	0.055 ± 0.080
Ω_Λ	0.6921 ± 0.0082	z_{eq}	3404 ± 42	χ_{MGS}^2	1.91 ± 0.71
Ω_m	0.3079 ± 0.0082	k_{eq}	0.01039 ± 0.00013	$\chi_{DR12BAO}^2$	4.9 ± 1.3
$\Omega_m h^2$	0.1431 ± 0.0017	$100\theta_{eq}$	0.8123 ± 0.0077	χ_{prior}^2	7.6 ± 3.4
$\Omega_m h^3$	0.0976 ± 0.0017	$100\theta_{s,eq}$	0.4490 ± 0.0040	χ_{BAO}^2	6.9 ± 1.6
σ_8	0.824 ± 0.017	$H(0.15)$	73.64 ± 0.75	χ_{CMB}^2	7482.7 ± 5.3
S_8	0.835 ± 0.020	$D_M(0.15)$	634.9 ± 6.7		
$\sigma_8 \Omega_m^{0.5}$	0.457 ± 0.011	$H(0.38)$	83.46 ± 0.63		

$$\bar{\chi}_{\text{eff}}^2 = 8533.12; R - 1 = 0.00716$$

15.4 base_w_wa_CamSpecHM_TT_lowl_lowE_BAO_Pantheon18_post_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02216 ± 0.00020	$\sigma_8 \Omega_m^{0.25}$	0.6116 ± 0.0085	$D_M(0.38)$	1516 ± 13
$\Omega_c h^2$	0.1200 ± 0.0013	$\sigma_8/h^{0.5}$	0.995 ± 0.012	$H(0.51)$	89.94 ± 0.51
$100\theta_{MC}$	1.04089 ± 0.00044	$r_{drag}h$	100.5 ± 1.2	$D_M(0.51)$	1966 ± 16
τ	$0.0537^{+0.0046}_{-0.0083}$	$\langle d^2 \rangle^{1/2}$	2.455 ± 0.027	$H(0.61)$	95.36 ± 0.43
w_0	-0.962 ± 0.080	z_{re}	$7.64^{+0.51}_{-0.84}$	$D_M(0.61)$	2290 ± 17
w_a	$-0.29^{+0.34}_{-0.27}$	$10^9 A_s$	$2.092^{+0.023}_{-0.032}$	$H(2.33)$	235.02 ± 0.99
$\ln(10^{10} A_s)$	$3.041^{+0.011}_{-0.015}$	$10^9 A_s e^{-2\tau}$	1.879 ± 0.011	$D_M(2.33)$	5763 ± 13
n_s	0.9647 ± 0.0044	D_{40}	1227 ± 12	$f\sigma_8(0.15)$	0.4596 ± 0.0077
y_{cal}	1.0004 ± 0.0025	D_{220}	5706 ± 40	$\sigma_8(0.15)$	0.760 ± 0.011
A_{100}^{PS}	242 ± 25	D_{810}	2533 ± 13	$f\sigma_8(0.38)$	0.4809 ± 0.0091
A_{143}^{PS}	41 ± 8	D_{1420}	814.0 ± 5.0	$\sigma_8(0.38)$	0.674 ± 0.010
A_{217}^{PS}	101 ± 10	D_{2000}	229.6 ± 1.8	$f\sigma_8(0.51)$	0.4812 ± 0.0094
A_{217}^{CIB}	41 ± 7	$n_{s,0.002}$	0.9647 ± 0.0044	$\sigma_8(0.51)$	0.6308 ± 0.0095
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.5}$	Y_P	$0.245307^{+0.000090}_{-0.000077}$	$f\sigma_8(0.61)$	0.4773 ± 0.0096
$r_{143 \times 217}^{PS}$	0.65 ± 0.13	Y_P^{BBN}	$0.246633^{+0.000090}_{-0.000077}$	$\sigma_8(0.61)$	0.6002 ± 0.0089
$r_{143 \times 217}^{CIB}$	$0.58^{+0.41}_{-0.13}$	$10^5 D/H$	2.625 ± 0.037	$f\sigma_8(2.33)$	0.3032 ± 0.0047
$\xi^{tSZ \times CIB}$	—	Age/Gyr	13.777 ± 0.034	$\sigma_8(2.33)$	0.3104 ± 0.0036
A^{kSZ}	—	z_*	1090.18 ± 0.31	f_{2000}^{143}	30.7 ± 3.0
A_{100}^{dust}	1.01 ± 0.20	r_*	144.60 ± 0.32	f_{2000}^{217}	107.5 ± 2.0
A_{143}^{dust}	0.98 ± 0.18	$100\theta_*$	1.04109 ± 0.00043	$f_{2000}^{143 \times 217}$	32.9 ± 2.1
A_{217}^{dust}	0.97 ± 0.10	$D_M(z_*)/\text{Gpc}$	13.889 ± 0.031	$\chi_{lensing}^2$	9.39 ± 0.93
$A_{143 \times 217}^{dust}$	1.03 ± 0.16	z_{drag}	1059.45 ± 0.44	χ_{small}^2	396.7 ± 1.5
c_{100}	0.9975 ± 0.0011	r_{drag}	147.33 ± 0.35	χ_{lowl}^2	23.26 ± 0.88
c_{217}	1.0012 ± 0.0016	k_D	0.14046 ± 0.00044	$\chi_{CamSpec}^2$	7062.2 ± 5.2
H_0	68.20 ± 0.84	$100\theta_D$	0.16104 ± 0.00025	χ_{JLA}^2	1035.9 ± 1.5
Ω_Λ	0.6929 ± 0.0079	z_{eq}	3397 ± 30	χ_{6DF}^2	0.055 ± 0.081
Ω_m	0.3071 ± 0.0079	k_{eq}	0.010367 ± 0.000092	χ_{MGS}^2	1.94 ± 0.71
$\Omega_m h^2$	0.1428 ± 0.0013	$100\theta_{eq}$	0.8137 ± 0.0056	$\chi_{DR12BAO}^2$	4.8 ± 1.3
$\Omega_m h^3$	0.0974 ± 0.0015	$100\theta_{s,eq}$	0.4498 ± 0.0029	χ_{prior}^2	7.7 ± 3.4
σ_8	0.822 ± 0.012	$H(0.15)$	73.63 ± 0.72	χ_{CMB}^2	7491.6 ± 5.4
S_8	0.831 ± 0.013	$D_M(0.15)$	635.0 ± 6.5	χ_{BAO}^2	6.8 ± 1.5
$\sigma_8 \Omega_m^{0.5}$	0.4553 ± 0.0072	$H(0.38)$	83.47 ± 0.62		

$\bar{\chi}_{eff}^2 = 8541.86$; $\Delta\bar{\chi}_{eff}^2 = 0.51$; $R - 1 = 0.00901$

15.5 base_w_wa_CamSpecHM_TTTEEE_lowl_lowE_BAO_Pantheon18

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022301	0.02229 ± 0.00015	S_8	0.8238	0.825 ± 0.015	$D_M(0.15)$	635.1	635.1 ± 6.6
$\Omega_c h^2$	0.11951	0.1196 ± 0.0013	$\sigma_8 \Omega_m^{0.5}$	0.4512	0.4519 ± 0.0081	$H(0.38)$	83.49	83.50 ± 0.64
$100\theta_{MC}$	1.040906	1.04088 ± 0.00031	$\sigma_8 \Omega_m^{0.25}$	0.6066	0.6074 ± 0.0099	$D_M(0.38)$	1516.1	1516 ± 14
τ	0.0520	0.0523 ± 0.0079	$\sigma_8/h^{0.5}$	0.9874	0.989 ± 0.014	$H(0.51)$	90.02	90.00 ± 0.52
w_0	-0.972	-0.966 ± 0.081	$r_{\text{drag}} h$	100.48	100.5 ± 1.2	$D_M(0.51)$	1965.8	1966 ± 16
w_a	-0.202	$-0.24_{-0.28}^{+0.33}$	$\langle d^2 \rangle^{1/2}$	2.4390	2.442 ± 0.033	$H(0.61)$	95.485	95.45 ± 0.43
$\ln(10^{10} A_s)$	3.0366	3.038 ± 0.016	z_{re}	7.44	$7.45_{-0.73}^{+0.83}$	$D_M(0.61)$	2289.2	2289 ± 17
n_s	0.96617	0.9659 ± 0.0043	$10^9 A_s$	2.0833	2.086 ± 0.034	$H(2.33)$	235.13	235.15 ± 0.98
y_{cal}	1.00032	1.0005 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.8777	1.878 ± 0.012	$D_M(2.33)$	5757.1	5759 ± 11
A_{100}^{PS}	234.8	240 ± 25	D_{40}	1224.2	1225 ± 12	$f\sigma_8(0.15)$	0.4557	0.4563 ± 0.0084
A_{143}^{PS}	38.1	40 ± 8	D_{220}	5716.5	5718 ± 39	$\sigma_8(0.15)$	0.7541	0.755 ± 0.013
A_{217}^{PS}	101.6	102 ± 10	D_{810}	2534.1	2535 ± 14	$f\sigma_8(0.38)$	0.4765	0.4772 ± 0.0099
A_{217}^{CIB}	44.8	40 ± 7	D_{1420}	815.51	815.5 ± 4.9	$\sigma_8(0.38)$	0.6691	0.670 ± 0.012
A_{143}^{tSZ}	6.65	$3.8_{-2.5}^{+1.8}$	D_{2000}	230.22	230.2 ± 1.6	$f\sigma_8(0.51)$	0.4766	0.477 ± 0.010
$r_{143 \times 217}^{\text{PS}}$	0.573	0.66 ± 0.13	$n_{s,0.002}$	0.96617	0.9659 ± 0.0043	$\sigma_8(0.51)$	0.6263	0.627 ± 0.011
$r_{143 \times 217}^{\text{CIB}}$	0.771	$0.56_{-0.18}^{+0.39}$	Y_P	0.245367	0.245363 ± 0.000062	$f\sigma_8(0.61)$	0.4725	0.473 ± 0.011
$\xi^{\text{tSZ} \times \text{CIB}}$	0.01	—	Y_P^{BBN}	0.246694	0.246689 ± 0.000062	$\sigma_8(0.61)$	0.5960	0.597 ± 0.010
A^{kSZ}	0.01	$4.7_{-3.8}^{+2.4}$	$10^5 D/H$	2.5986	2.600 ± 0.029	$f\sigma_8(2.33)$	0.3011	0.3013 ± 0.0054
A_{100}^{dust}	1.006	1.01 ± 0.19	Age/Gyr	13.7700	13.771 ± 0.032	$\sigma_8(2.33)$	0.30885	0.3090 ± 0.0043
A_{143}^{dust}	0.978	0.96 ± 0.18	z_*	1089.966	1089.98 ± 0.27	f_{2000}^{143}	30.05	29.8 ± 2.8
A_{217}^{dust}	0.968	0.97 ± 0.10	r_*	144.609	144.59 ± 0.30	f_{2000}^{217}	106.86	106.9 ± 1.9
$A_{143 \times 217}^{\text{dust}}$	1.003	1.03 ± 0.16	$100\theta_*$	1.041102	1.04107 ± 0.00030	$f_{2000}^{143 \times 217}$	32.13	32.2 ± 2.0
c_{100}	0.99760	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.8900	13.889 ± 0.028	χ_{small}^2	395.76	396.9 ± 1.6
c_{217}	1.00127	1.0011 ± 0.0016	z_{drag}	1059.742	1059.73 ± 0.32	χ_{lowl}^2	22.92	23.05 ± 0.87
c_{TE}	0.99642	0.9965 ± 0.0049	r_{drag}	147.297	147.28 ± 0.30	χ_{CamSpec}^2	11499.4	11514.3 ± 5.7
c_{EE}	0.99206	0.9921 ± 0.0050	k_D	0.140597	0.14060 ± 0.00034	χ_{JLA}^2	1034.83	1035.9 ± 1.5
H_0	68.22	68.21 ± 0.84	$100\theta_D$	0.160868	0.16087 ± 0.00019	$\chi_{6\text{DF}}^2$	0.0010	0.055 ± 0.078
Ω_Λ	0.6939	0.6935 ± 0.0078	z_{eq}	3388.9	3391 ± 29	χ_{MGS}^2	1.82	1.91 ± 0.71
Ω_m	0.3061	0.3065 ± 0.0078	k_{eq}	0.010343	0.010349 ± 0.000089	χ_{DR12BAO}^2	3.77	4.7 ± 1.2
$\Omega_m h^2$	0.14246	0.1425 ± 0.0012	$100\theta_{\text{eq}}$	0.8155	0.8151 ± 0.0055	χ_{prior}^2	2.23	7.8 ± 3.4
$\Omega_m h^3$	0.09718	0.0972 ± 0.0015	$100\theta_{s,\text{eq}}$	0.45057	0.4504 ± 0.0028	χ_{BAO}^2	5.59	6.6 ± 1.5
σ_8	0.8155	0.816 ± 0.014	$H(0.15)$	73.60	73.62 ± 0.73	χ_{CMB}^2	11918.0	11934.2 ± 5.8

Best-fit $\chi_{\text{eff}}^2 = 12960.67$; $\bar{\chi}_{\text{eff}}^2 = 12984.58$; $R - 1 = 0.00938$
 χ_{eff}^2 : BAO - 6DF: 0.00 MGS: 1.82 DR12BAO: 3.77 CMB - small_100x143_offlike5_EE_Aplanck_B: 395.76 commander_dx12_v3.2.29: 22.92 CamSpec like_10.7HM_1400_unified: 11499.35 SN - JLA Pantheon18: 1034.83

15.6 base_w_wa_CamSpecHM_TTTEE_lowl_lowE_BAO_Pantheon18_post_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02229 ± 0.00015	$\sigma_8 \Omega_m^{0.5}$	0.4523 ± 0.0061	$D_M(0.38)$	1515 ± 13
$\Omega_c h^2$	0.1196 ± 0.0011	$\sigma_8 \Omega_m^{0.25}$	0.6080 ± 0.0074	$H(0.51)$	90.03 ± 0.51
$100\theta_{MC}$	1.04087 ± 0.00030	$\sigma_8/h^{0.5}$	0.989 ± 0.011	$D_M(0.51)$	1965 ± 16
τ	0.0527 ± 0.0075	$r_{\text{drag}} h$	100.5 ± 1.2	$H(0.61)$	95.47 ± 0.43
w_0	-0.964 ± 0.080	$\langle d^2 \rangle^{1/2}$	2.444 ± 0.024	$D_M(0.61)$	2288 ± 17
w_a	$-0.25^{+0.32}_{-0.27}$	z_{re}	7.50 ± 0.77	$H(2.33)$	235.09 ± 0.97
$\ln(10^{10} A_s)$	3.039 ± 0.015	$10^9 A_s$	2.088 ± 0.031	$D_M(2.33)$	5758 ± 11
n_s	0.9657 ± 0.0040	$10^9 A_s e^{-2\tau}$	1.879 ± 0.011	$f\sigma_8(0.15)$	0.4566 ± 0.0068
y_{cal}	1.0005 ± 0.0025	D_{40}	1226 ± 11	$\sigma_8(0.15)$	0.756 ± 0.011
A_{100}^{PS}	240 ± 24	D_{220}	5720 ± 39	$f\sigma_8(0.38)$	0.4776 ± 0.0082
A_{143}^{PS}	40 ± 8	D_{810}	2535 ± 14	$\sigma_8(0.38)$	0.6706 ± 0.0097
A_{217}^{PS}	102 ± 10	D_{1420}	815.5 ± 4.9	$f\sigma_8(0.51)$	0.4778 ± 0.0085
A_{217}^{CIB}	40^{+7}_{-8}	D_{2000}	230.2 ± 1.6	$\sigma_8(0.51)$	0.6277 ± 0.0090
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.5}$	$n_{s,0.002}$	0.9657 ± 0.0040	$f\sigma_8(0.61)$	0.4739 ± 0.0086
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	Y_P	0.245363 ± 0.000061	$\sigma_8(0.61)$	0.5973 ± 0.0085
$r_{143 \times 217}^{\text{CIB}}$	$0.56^{+0.40}_{-0.17}$	Y_P^{BBN}	0.246690 ± 0.000061	$f\sigma_8(2.33)$	0.3017 ± 0.0045
$\xi^{\text{tSZ} \times \text{CIB}}$	—	10^5D/H	2.600 ± 0.028	$\sigma_8(2.33)$	0.3093 ± 0.0036
A^{kSZ}	$4.7^{+2.2}_{-4.0}$	Age/Gyr	13.770 ± 0.031	f_{2000}^{143}	29.8 ± 2.8
A_{100}^{dust}	1.01 ± 0.19	z_*	1089.98 ± 0.25	f_{2000}^{217}	106.9 ± 1.9
A_{143}^{dust}	0.96 ± 0.18	r_*	144.59 ± 0.26	$f_{2000}^{143 \times 217}$	32.2 ± 2.0
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04106 ± 0.00030	χ_{lensing}^2	9.19 ± 0.71
$A_{143 \times 217}^{\text{dust}}$	1.02 ± 0.16	$D_M(z_*)/\text{Gpc}$	13.888 ± 0.024	χ_{simall}^2	396.8 ± 1.5
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.73 ± 0.32	χ_{lowl}^2	23.10 ± 0.80
c_{217}	1.0011 ± 0.0016	r_{drag}	147.28 ± 0.27	χ_{CamSpec}^2	11513.9 ± 5.5
c_{TE}	0.9965 ± 0.0049	k_D	0.14061 ± 0.00032	χ_{JLA}^2	1035.9 ± 1.5
c_{EE}	0.9922 ± 0.0050	$100\theta_D$	0.16087 ± 0.00019	$\chi_{6\text{DF}}^2$	0.055 ± 0.079
H_0	68.23 ± 0.83	z_{eq}	3391 ± 25	χ_{MGS}^2	1.93 ± 0.71
Ω_Λ	0.6936 ± 0.0078	k_{eq}	0.010351 ± 0.000076	χ_{DR12BAO}^2	4.6 ± 1.2
Ω_m	0.3064 ± 0.0078	$100\theta_{\text{eq}}$	0.8150 ± 0.0047	χ_{prior}^2	7.8 ± 3.4
$\Omega_m h^2$	0.1426 ± 0.0010	$100\theta_{s,\text{eq}}$	0.4503 ± 0.0024	χ_{CMB}^2	11942.9 ± 5.7
$\Omega_m h^3$	0.0973 ± 0.0014	$H(0.15)$	73.65 ± 0.71	χ_{BAO}^2	6.6 ± 1.5
σ_8	0.817 ± 0.011	$D_M(0.15)$	634.8 ± 6.5		
S_8	0.826 ± 0.011	$H(0.38)$	83.53 ± 0.63		

$$\bar{\chi}_{\text{eff}}^2 = 12993.26; \Delta\bar{\chi}_{\text{eff}}^2 = 0.87; R - 1 = 0.00901$$

15.7 base_w_wa_CamSpecHM_TTTEE_lowl_lowE_BAO_Pantheon18_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02230 ± 0.00015	S_8	0.826 ± 0.015	$D_M(0.15)$	635.1 ± 6.6
$\Omega_c h^2$	0.1195 ± 0.0013	$\sigma_8 \Omega_m^{0.5}$	0.4524 ± 0.0080	$H(0.38)$	83.49 ± 0.64
$100\theta_{MC}$	1.04089 ± 0.00031	$\sigma_8 \Omega_m^{0.25}$	0.6081 ± 0.0098	$D_M(0.38)$	1516 ± 14
τ	$0.0541^{+0.0045}_{-0.0081}$	$\sigma_8/h^{0.5}$	0.990 ± 0.014	$H(0.51)$	90.00 ± 0.52
w_0	-0.968 ± 0.081	$r_{\text{drag}} h$	100.5 ± 1.2	$D_M(0.51)$	1966 ± 16
w_a	$-0.23^{+0.33}_{-0.28}$	$\langle d^2 \rangle^{1/2}$	2.445 ± 0.032	$H(0.61)$	95.45 ± 0.43
$\ln(10^{10} A_s)$	$3.041^{+0.011}_{-0.016}$	z_{re}	$7.64^{+0.52}_{-0.80}$	$D_M(0.61)$	2289 ± 17
n_s	0.9661 ± 0.0043	$10^9 A_s$	$2.093^{+0.023}_{-0.033}$	$H(2.33)$	235.15 ± 0.98
y_{cal}	1.0005 ± 0.0025	$10^9 A_s e^{-2\tau}$	1.878 ± 0.012	$D_M(2.33)$	5759 ± 11
A_{100}^{PS}	240 ± 25	D_{40}	1225 ± 12	$f\sigma_8(0.15)$	0.4568 ± 0.0083
A_{143}^{PS}	39 ± 8	D_{220}	5718 ± 39	$\sigma_8(0.15)$	0.756 ± 0.013
A_{217}^{PS}	102 ± 10	D_{810}	2535 ± 14	$f\sigma_8(0.38)$	0.4777 ± 0.0098
A_{217}^{CIB}	40 ± 7	D_{1420}	815.6 ± 4.9	$\sigma_8(0.38)$	0.671 ± 0.012
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.5}$	D_{2000}	230.3 ± 1.6	$f\sigma_8(0.51)$	0.478 ± 0.010
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	$n_{s,0.002}$	0.9661 ± 0.0043	$\sigma_8(0.51)$	0.628 ± 0.011
$r_{143 \times 217}^{\text{CIB}}$	$0.56^{+0.39}_{-0.18}$	Y_P	0.245365 ± 0.000062	$f\sigma_8(0.61)$	0.474 ± 0.010
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P^{BBN}	0.246691 ± 0.000062	$\sigma_8(0.61)$	0.597 ± 0.010
A^{kSZ}	$4.7^{+2.3}_{-3.9}$	$10^5 D/H$	2.599 ± 0.029	$f\sigma_8(2.33)$	0.3017 ± 0.0054
A_{100}^{dust}	1.01 ± 0.19	Age/Gyr	13.772 ± 0.032	$\sigma_8(2.33)$	0.3094 ± 0.0041
A_{143}^{dust}	0.96 ± 0.18	z_*	1089.97 ± 0.26	f_{2000}^{143}	29.7 ± 2.8
A_{217}^{dust}	0.97 ± 0.10	r_*	144.60 ± 0.30	f_{2000}^{217}	106.8 ± 1.9
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04108 ± 0.00030	$f_{2000}^{143 \times 217}$	32.1 ± 2.0
c_{100}	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.890 ± 0.028	χ_{small}^2	396.7 ± 1.5
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.74 ± 0.32	χ_{lowl}^2	23.06 ± 0.87
c_{TE}	0.9965 ± 0.0049	r_{drag}	147.29 ± 0.30	χ_{CamSpec}^2	11514.2 ± 5.6
c_{EE}	0.9921 ± 0.0050	k_D	0.14060 ± 0.00034	χ_{JLA}^2	1035.9 ± 1.5
H_0	68.20 ± 0.84	$100\theta_D$	0.16087 ± 0.00019	$\chi_{6\text{DF}}^2$	0.055 ± 0.077
Ω_Λ	0.6935 ± 0.0078	z_{eq}	3390 ± 29	χ_{MGS}^2	1.90 ± 0.70
Ω_m	0.3065 ± 0.0078	k_{eq}	0.010345 ± 0.000089	χ_{DR12BAO}^2	4.7 ± 1.2
$\Omega_m h^2$	0.1425 ± 0.0012	$100\theta_{\text{eq}}$	0.8154 ± 0.0055	χ_{prior}^2	7.8 ± 3.4
$\Omega_m h^3$	0.0972 ± 0.0015	$100\theta_{s,\text{eq}}$	0.4505 ± 0.0028	χ_{BAO}^2	6.6 ± 1.5
σ_8	0.817 ± 0.014	$H(0.15)$	73.61 ± 0.73	χ_{CMB}^2	11933.9 ± 5.7

$$\bar{\chi}_{\text{eff}}^2 = 12984.26; R - 1 = 0.00880$$

15.8 base_w_wa_CamSpecHM_TTTEE_lowl_lowE_BAO_Pantheon18_post_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02230 ± 0.00015	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4524 ± 0.0061	$D_{\mathrm{M}}(0.38)$	1516 ± 13
$\Omega_{\mathrm{c}}h^2$	0.1195 ± 0.0011	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6082 ± 0.0074	$H(0.51)$	90.03 ± 0.51
$100\theta_{\mathrm{MC}}$	1.04088 ± 0.00030	$\sigma_8/h^{0.5}$	0.990 ± 0.011	$D_{\mathrm{M}}(0.51)$	1965 ± 16
τ	$0.0542^{+0.0046}_{-0.0080}$	$r_{\mathrm{drag}}h$	100.5 ± 1.2	$H(0.61)$	95.48 ± 0.43
w_0	-0.965 ± 0.080	$\langle d^2 \rangle^{1/2}$	2.446 ± 0.024	$D_{\mathrm{M}}(0.61)$	2289 ± 17
w_{a}	$-0.24^{+0.31}_{-0.27}$	z_{re}	$7.65^{+0.53}_{-0.78}$	$H(2.33)$	235.10 ± 0.97
$\ln(10^{10}A_{\mathrm{s}})$	$3.041^{+0.011}_{-0.015}$	$10^9 A_{\mathrm{s}}$	$2.093^{+0.022}_{-0.031}$	$D_{\mathrm{M}}(2.33)$	5758 ± 11
n_{s}	0.9660 ± 0.0039	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.878 ± 0.011	$f\sigma_8(0.15)$	0.4567 ± 0.0068
y_{cal}	1.0005 ± 0.0025	D_{40}	1226 ± 11	$\sigma_8(0.15)$	0.756 ± 0.011
A_{100}^{PS}	240 ± 24	D_{220}	5719 ± 39	$f\sigma_8(0.38)$	0.4777 ± 0.0082
A_{143}^{PS}	40 ± 8	D_{810}	2535 ± 14	$\sigma_8(0.38)$	0.6709 ± 0.0096
A_{217}^{PS}	102 ± 10	D_{1420}	815.5 ± 4.9	$f\sigma_8(0.51)$	0.4779 ± 0.0085
A_{217}^{CIB}	40^{+7}_{-8}	D_{2000}	230.3 ± 1.6	$\sigma_8(0.51)$	0.6280 ± 0.0090
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.5}$	$n_{\mathrm{s},0.002}$	0.9660 ± 0.0039	$f\sigma_8(0.61)$	0.4740 ± 0.0086
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	Y_{P}	0.245366 ± 0.000060	$\sigma_8(0.61)$	0.5976 ± 0.0085
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56^{+0.40}_{-0.17}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246692 ± 0.000060	$f\sigma_8(2.33)$	0.3019 ± 0.0045
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$10^5 \mathrm{D}/\mathrm{H}$	2.599 ± 0.028	$\sigma_8(2.33)$	0.3096 ± 0.0035
A^{kSZ}	$4.7^{+2.1}_{-4.1}$	$\mathrm{Age}/\mathrm{Gyr}$	13.770 ± 0.031	f_{2000}^{143}	29.7 ± 2.8
A_{100}^{dust}	1.01 ± 0.19	z_*	1089.97 ± 0.24	f_{2000}^{217}	106.9 ± 1.9
A_{143}^{dust}	0.96 ± 0.18	r_*	144.60 ± 0.25	$f_{2000}^{143 \times 217}$	32.1 ± 2.0
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04107 ± 0.00030	$\chi_{\mathrm{lensing}}^2$	9.16 ± 0.69
$A_{143 \times 217}^{\mathrm{dust}}$	1.02 ± 0.16	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.890 ± 0.024	χ_{simall}^2	396.7 ± 1.5
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.74 ± 0.32	χ_{lowl}^2	23.09 ± 0.79
c_{217}	1.0011 ± 0.0016	r_{drag}	147.29 ± 0.26	$\chi_{\mathrm{CamSpec}}^2$	11513.8 ± 5.5
c_{TE}	0.9964 ± 0.0049	k_{D}	0.14060 ± 0.00032	χ_{JLA}^2	1035.9 ± 1.5
c_{EE}	0.9921 ± 0.0050	$100\theta_{\mathrm{D}}$	0.16086 ± 0.00019	$\chi_{6\mathrm{DF}}^2$	0.055 ± 0.078
H_0	68.22 ± 0.84	z_{eq}	3390 ± 24	χ_{MGS}^2	1.93 ± 0.70
Ω_{Λ}	0.6937 ± 0.0077	k_{eq}	0.010346 ± 0.000074	$\chi_{\mathrm{DR12BAO}}^2$	4.6 ± 1.2
Ω_{m}	0.3063 ± 0.0077	$100\theta_{\mathrm{eq}}$	0.8153 ± 0.0046	χ_{prior}^2	7.8 ± 3.4
$\Omega_{\mathrm{m}}h^2$	0.1425 ± 0.0010	$100\theta_{\mathrm{s,eq}}$	0.4505 ± 0.0023	χ_{CMB}^2	11942.7 ± 5.7
$\Omega_{\mathrm{m}}h^3$	0.0972 ± 0.0014	$H(0.15)$	73.64 ± 0.71	χ_{BAO}^2	6.6 ± 1.5
σ_8	0.818 ± 0.011	$D_{\mathrm{M}}(0.15)$	634.9 ± 6.5		
S_8	0.826 ± 0.011	$H(0.38)$	83.52 ± 0.63		

$$\bar{\chi}_{\mathrm{eff}}^2 = 12993.01; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.76; R - 1 = 0.00841$$

15.9 base_w_wa_CamSpecHM_TT_lowl_lowE_BAO_Riess18_Pantheon18

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022142	0.02217 ± 0.00020	$\sigma_8 \Omega_m^{0.25}$	0.6189	0.617 ± 0.013	$D_M(0.38)$	1508.8	1503 ± 13
$\Omega_c h^2$	0.12049	0.1205 ± 0.0018	$\sigma_8/h^{0.5}$	1.0059	1.003 ± 0.019	$H(0.51)$	89.623	89.89 ± 0.50
$100\theta_{MC}$	1.040925	1.04089 ± 0.00045	$r_{\text{drag}} h$	102.03	101.9 ± 1.1	$D_M(0.51)$	1960.1	1953 ± 15
τ	0.0560	0.0522 ± 0.0080	$\langle d^2 \rangle^{1/2}$	2.4756	2.467 ± 0.042	$H(0.61)$	95.002	95.18 ± 0.43
w_0	-1.045	-0.993 ± 0.083	z_{re}	7.89	7.47 ± 0.82	$D_M(0.61)$	2285.1	2277 ± 16
w_a	-0.128	$-0.34^{+0.41}_{-0.32}$	$10^9 A_s$	2.1072	2.089 ± 0.034	$H(2.33)$	235.19	234.79 ± 0.95
$\ln(10^{10} A_s)$	3.0480	3.039 ± 0.016	$10^9 A_s e^{-2\tau}$	1.8841	1.882 ± 0.013	$D_M(2.33)$	5763.7	5761 ± 13
n_s	0.9629	0.9638 ± 0.0052	D_{40}	1233.5	1229 ± 14	$f\sigma_8(0.15)$	0.4675	0.464 ± 0.011
y_{cal}	1.00109	1.0004 ± 0.0025	D_{220}	5716.2	5706 ± 41	$\sigma_8(0.15)$	0.7748	0.772 ± 0.016
A_{100}^{PS}	249.2	242 ± 25	D_{810}	2536.4	2534 ± 14	$f\sigma_8(0.38)$	0.4927	0.489 ± 0.013
A_{143}^{PS}	40.3	41 ± 8	D_{1420}	814.5	814.3 ± 5.1	$\sigma_8(0.38)$	0.6872	0.685 ± 0.014
A_{217}^{PS}	96.7	101 ± 10	D_{2000}	229.74	229.7 ± 1.8	$f\sigma_8(0.51)$	0.4934	0.491 ± 0.013
A_{217}^{CIB}	42.7	41 ± 7	$n_{s,0.002}$	0.9629	0.9638 ± 0.0052	$\sigma_8(0.51)$	0.6429	0.641 ± 0.013
A_{143}^{tSZ}	2.99	$3.8^{+1.8}_{-2.5}$	Y_P	0.245302	$0.245308^{+0.000094}_{-0.000080}$	$f\sigma_8(0.61)$	0.4893	0.487 ± 0.014
$r_{143 \times 217}^{\text{PS}}$	0.577	0.65 ± 0.13	Y_P^{BBN}	0.246628	$0.246634^{+0.000095}_{-0.000080}$	$\sigma_8(0.61)$	0.6115	0.610 ± 0.012
$r_{143 \times 217}^{\text{CIB}}$	0.661	$0.58^{+0.41}_{-0.13}$	$10^5 D/H$	2.6290	2.625 ± 0.039	$f\sigma_8(2.33)$	0.3086	0.3080 ± 0.0061
$\xi^{\text{tSZ} \times \text{CIB}}$	0.34	—	Age/Gyr	13.7665	13.754 ± 0.034	$\sigma_8(2.33)$	0.31556	0.3143 ± 0.0046
A^{kSZ}	5.8	—	z_*	1090.252	1090.23 ± 0.36	f_{2000}^{143}	31.40	30.6 ± 3.0
A_{100}^{dust}	1.004	1.01 ± 0.20	r_*	144.477	144.46 ± 0.42	f_{2000}^{217}	107.86	107.4 ± 2.0
A_{143}^{dust}	0.980	0.98 ± 0.18	$100\theta_*$	1.041128	1.04109 ± 0.00044	$f_{2000}^{143 \times 217}$	33.10	32.8 ± 2.1
A_{217}^{dust}	0.958	0.97 ± 0.10	$D_M(z_*)/\text{Gpc}$	13.8770	13.875 ± 0.039	χ_{small}^2	396.52	396.9 ± 1.7
$A_{143 \times 217}^{\text{dust}}$	0.983	1.03 ± 0.16	z_{drag}	1059.437	1059.50 ± 0.44	χ_{lowl}^2	23.60	23.4 ± 1.1
c_{100}	0.99737	0.9975 ± 0.0011	r_{drag}	147.215	147.18 ± 0.43	χ_{CamSpec}^2	7049.0	7062.4 ± 5.3
c_{217}	1.00146	1.0012 ± 0.0016	k_D	0.140560	0.14061 ± 0.00049	χ_{H073p45}^2	6.22	6.6 ± 2.3
H_0	69.31	69.26 ± 0.77	$100\theta_D$	0.161061	0.16103 ± 0.00026	χ_{JLA}^2	1035.91	1036.3 ± 1.7
Ω_Λ	0.7017	0.7011 ± 0.0073	z_{eq}	3408.6	3410 ± 41	$\chi_{6\text{DF}}^2$	0.065	0.14 ± 0.15
Ω_m	0.2983	0.2989 ± 0.0073	k_{eq}	0.010403	0.01041 ± 0.00013	χ_{MGS}^2	2.43	2.71 ± 0.74
$\Omega_m h^2$	0.14328	0.1433 ± 0.0017	$100\theta_{\text{eq}}$	0.8115	0.8115 ± 0.0076	χ_{DR12BAO}^2	4.45	5.4 ± 1.4
$\Omega_m h^3$	0.09931	0.0993 ± 0.0017	$100\theta_{s,\text{eq}}$	0.44863	0.4486 ± 0.0039	χ_{prior}^2	2.65	7.6 ± 3.4
σ_8	0.8374	0.834 ± 0.017	$H(0.15)$	74.00	74.31 ± 0.73	χ_{BAO}^2	6.94	8.3 ± 2.1
S_8	0.8350	0.833 ± 0.020	$D_M(0.15)$	628.6	627.2 ± 6.1	χ_{CMB}^2	7469.2	7482.7 ± 5.4
$\sigma_8 \Omega_m^{0.5}$	0.4574	0.456 ± 0.011	$H(0.38)$	83.28	83.64 ± 0.62			

Best-fit $\chi_{\text{eff}}^2 = 8520.89$; $\bar{\chi}_{\text{eff}}^2 = 8541.50$; $R - 1 = 0.00869$
 χ_{eff}^2 : BAO - 6DF: 0.07 MGS: 2.43 DR12BAO: 4.45 CMB - simall_100x143_offlike5_EE_Aplanck_B: 396.52 commander_dx12_v3.2.29: 23.60 CamSpec like_10.7HM: 7049.04
Hubble - H073p45: 6.22 SN - JLA Pantheon18: 1035.91

15.10 base_w_wa_CamSpecHM_TT_lowl_lowE_BAO_Riess18_Pantheon18_post_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02219 ± 0.00020	$\sigma_8 \Omega_m^{0.25}$	0.6136 ± 0.0086	$D_M(0.38)$	1504 ± 13
$\Omega_c h^2$	0.1201 ± 0.0013	$\sigma_8/h^{0.5}$	0.998 ± 0.012	$H(0.51)$	89.93 ± 0.51
$100\theta_{MC}$	1.04091 ± 0.00044	$r_{drag}h$	102.0 ± 1.1	$D_M(0.51)$	1953 ± 15
τ	0.0520 ± 0.0078	$\langle d^2 \rangle^{1/2}$	2.457 ± 0.027	$H(0.61)$	95.24 ± 0.43
w_0	-0.999 ± 0.080	z_{re}	7.44 ± 0.80	$D_M(0.61)$	2277 ± 16
w_a	$-0.29^{+0.35}_{-0.29}$	$10^9 A_s$	2.086 ± 0.031	$H(2.33)$	234.69 ± 0.97
$\ln(10^{10} A_s)$	3.038 ± 0.015	$10^9 A_s e^{-2\tau}$	1.880 ± 0.011	$D_M(2.33)$	5759 ± 13
n_s	0.9645 ± 0.0045	D_{40}	1227 ± 12	$f\sigma_8(0.15)$	0.4612 ± 0.0078
y_{cal}	1.0004 ± 0.0025	D_{220}	5708 ± 40	$\sigma_8(0.15)$	0.769 ± 0.011
A_{100}^{PS}	242 ± 25	D_{810}	2533 ± 13	$f\sigma_8(0.38)$	0.4862 ± 0.0091
A_{143}^{PS}	41 ± 8	D_{1420}	814.3 ± 5.1	$\sigma_8(0.38)$	0.682 ± 0.010
A_{217}^{PS}	101^{+10}_{-10}	D_{2000}	229.7 ± 1.8	$f\sigma_8(0.51)$	0.4876 ± 0.0094
A_{217}^{CIB}	41 ± 7	$n_{s,0.002}$	0.9645 ± 0.0045	$\sigma_8(0.51)$	0.6384 ± 0.0092
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	Y_P	$0.245318^{+0.000091}_{-0.000076}$	$f\sigma_8(0.61)$	0.4841 ± 0.0095
$r_{143 \times 217}^{PS}$	0.65 ± 0.13	Y_P^{BBN}	$0.246644^{+0.000091}_{-0.000076}$	$\sigma_8(0.61)$	0.6074 ± 0.0087
$r_{143 \times 217}^{CIB}$	> 0.458	$10^5 D/H$	2.620 ± 0.038	$f\sigma_8(2.33)$	0.3068 ± 0.0045
$\xi^{tSZ \times CIB}$	—	Age/Gyr	13.755 ± 0.033	$\sigma_8(2.33)$	0.3134 ± 0.0035
A^{kSZ}	—	z_*	1090.16 ± 0.32	f_{2000}^{143}	30.6 ± 3.0
A_{100}^{dust}	1.01 ± 0.19	r_*	144.55 ± 0.33	f_{2000}^{217}	107.4 ± 2.0
A_{143}^{dust}	0.98 ± 0.18	$100\theta_*$	1.04112 ± 0.00043	$f_{2000}^{143 \times 217}$	32.8 ± 2.1
A_{217}^{dust}	0.97 ± 0.10	$D_M(z_*)/\text{Gpc}$	13.884 ± 0.031	$\chi_{lensing}^2$	9.36 ± 0.94
$A_{143 \times 217}^{dust}$	1.03 ± 0.16	z_{drag}	1059.52 ± 0.44	χ_{small}^2	396.8 ± 1.5
c_{100}	0.9975 ± 0.0011	r_{drag}	147.27 ± 0.35	χ_{lowl}^2	23.21 ± 0.88
c_{217}	1.0012 ± 0.0016	k_D	0.14054 ± 0.00044	$\chi_{CamSpec}^2$	7062.3 ± 5.1
H_0	69.26 ± 0.76	$100\theta_D$	0.16101 ± 0.00025	$\chi_{H073p45}^2$	6.6 ± 2.4
Ω_Λ	0.7019 ± 0.0071	z_{eq}	3400 ± 31	χ_{JLA}^2	1036.2 ± 1.7
Ω_m	0.2981 ± 0.0071	k_{eq}	0.010377 ± 0.000094	χ_{6DF}^2	0.14 ± 0.15
$\Omega_m h^2$	0.1429 ± 0.0013	$100\theta_{eq}$	0.8132 ± 0.0057	χ_{MGS}^2	2.72 ± 0.74
$\Omega_m h^3$	0.0990 ± 0.0014	$100\theta_{s,eq}$	0.4495 ± 0.0030	$\chi_{DR12BAO}^2$	5.3 ± 1.4
σ_8	0.830 ± 0.012	$H(0.15)$	74.27 ± 0.70	χ_{prior}^2	7.6 ± 3.4
S_8	0.828 ± 0.013	$D_M(0.15)$	627.5 ± 6.0	χ_{CMB}^2	7491.6 ± 5.4
$\sigma_8 \Omega_m^{0.5}$	0.4533 ± 0.0072	$H(0.38)$	83.65 ± 0.62	χ_{BAO}^2	8.2 ± 2.1

$\bar{\chi}_{eff}^2 = 8550.26$; $\Delta\bar{\chi}_{eff}^2 = -2.54$; $R - 1 = 0.01140$

15.11 base_w_wa_CamSpecHM_TT_lowl_lowE_BAO_Riess18_Pantheon18_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02217 ± 0.00021	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.617 ± 0.013	$D_{\mathrm{M}}(0.38)$	1503 ± 13
$\Omega_{\mathrm{c}}h^2$	0.1205 ± 0.0018	$\sigma_8/h^{0.5}$	1.004 ± 0.019	$H(0.51)$	89.89 ± 0.50
$100\theta_{\mathrm{MC}}$	1.04089 ± 0.00045	$r_{\mathrm{drag}}h$	102.0 ± 1.1	$D_{\mathrm{M}}(0.51)$	1953 ± 15
τ	$0.0539^{+0.0045}_{-0.0083}$	$\langle d^2 \rangle^{1/2}$	2.469 ± 0.041	$H(0.61)$	95.18 ± 0.43
w_0	-0.994 ± 0.083	z_{re}	$7.66^{+0.51}_{-0.82}$	$D_{\mathrm{M}}(0.61)$	2277 ± 16
w_a	$-0.33^{+0.41}_{-0.31}$	$10^9 A_{\mathrm{s}}$	$2.096^{+0.023}_{-0.034}$	$H(2.33)$	234.79 ± 0.96
$\ln(10^{10}A_{\mathrm{s}})$	$3.042^{+0.011}_{-0.016}$	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.882 ± 0.013	$D_{\mathrm{M}}(2.33)$	5760 ± 13
n_{s}	0.9640 ± 0.0051	D_{40}	1229 ± 14	$f\sigma_8(0.15)$	0.464 ± 0.011
y_{cal}	1.0004 ± 0.0025	D_{220}	5706 ± 41	$\sigma_8(0.15)$	0.773 ± 0.016
A_{100}^{PS}	241 ± 25	D_{810}	2534 ± 14	$f\sigma_8(0.38)$	0.490 ± 0.013
A_{143}^{PS}	40 ± 8	D_{1420}	814.3 ± 5.2	$\sigma_8(0.38)$	0.686 ± 0.014
A_{217}^{PS}	101 ± 10	D_{2000}	229.8 ± 1.8	$f\sigma_8(0.51)$	0.491 ± 0.013
A_{217}^{CIB}	41 ± 7	$n_{\mathrm{s},0.002}$	0.9640 ± 0.0051	$\sigma_8(0.51)$	0.642 ± 0.013
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.5}$	Y_{P}	$0.245310^{+0.000095}_{-0.000079}$	$f\sigma_8(0.61)$	0.488 ± 0.014
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246636^{+0.000095}_{-0.000079}$	$\sigma_8(0.61)$	0.611 ± 0.012
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.57^{+0.41}_{-0.14}$	$10^5 \mathrm{D}/\mathrm{H}$	2.624 ± 0.039	$f\sigma_8(2.33)$	$0.3083^{+0.0063}_{-0.0057}$
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Age/Gyr	13.754 ± 0.034	$\sigma_8(2.33)$	0.3147 ± 0.0045
A^{kSZ}	—	z_*	1090.21 ± 0.36	f_{2000}^{143}	30.5 ± 3.0
A_{100}^{dust}	1.01 ± 0.20	r_*	144.47 ± 0.42	f_{2000}^{217}	107.3 ± 2.0
A_{143}^{dust}	0.97 ± 0.18	$100\theta_*$	1.04110 ± 0.00044	$f_{2000}^{143 \times 217}$	32.7 ± 2.1
A_{217}^{dust}	0.97 ± 0.10	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.876 ± 0.040	χ_{small}^2	396.8 ± 1.6
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	z_{drag}	1059.51 ± 0.44	χ_{lowl}^2	23.4 ± 1.1
c_{100}	0.9975 ± 0.0010	r_{drag}	147.19 ± 0.43	$\chi_{\mathrm{CamSpec}}^2$	7062.3 ± 5.3
c_{217}	1.0012 ± 0.0016	k_{D}	0.14060 ± 0.00049	$\chi_{\mathrm{H073p45}}^2$	6.6 ± 2.3
H_0	69.26 ± 0.76	$100\theta_{\mathrm{D}}$	0.16102 ± 0.00026	χ_{JLA}^2	1036.3 ± 1.7
Ω_{Λ}	0.7012 ± 0.0073	z_{eq}	3408 ± 41	$\chi_{6\mathrm{DF}}^2$	0.14 ± 0.15
Ω_{m}	0.2988 ± 0.0073	k_{eq}	0.01040 ± 0.00013	χ_{MGS}^2	2.70 ± 0.74
$\Omega_{\mathrm{m}}h^2$	0.1433 ± 0.0017	$100\theta_{\mathrm{eq}}$	0.8117 ± 0.0076	$\chi_{\mathrm{DR12BAO}}^2$	5.4 ± 1.4
$\Omega_{\mathrm{m}}h^3$	0.0992 ± 0.0017	$100\theta_{\mathrm{s,eq}}$	0.4487 ± 0.0039	χ_{prior}^2	7.6 ± 3.4
σ_8	0.835 ± 0.017	$H(0.15)$	74.30 ± 0.73	χ_{BAO}^2	8.2 ± 2.1
S_8	0.833 ± 0.020	$D_{\mathrm{M}}(0.15)$	627.3 ± 6.1	χ_{CMB}^2	7482.5 ± 5.3
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.456 ± 0.011	$H(0.38)$	83.64 ± 0.62		

$$\bar{\chi}_{\mathrm{eff}}^2 = 8541.22; R - 1 = 0.00801$$

15.12 base_w_wa_CamSpecHM_TT_lowl_lowE_BAO_Riess18_Pantheon18_post_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02220 ± 0.00020	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6137 ± 0.0086	$D_{\mathrm{M}}(0.38)$	1504 ± 13
$\Omega_{\mathrm{c}}h^2$	0.1200 ± 0.0013	$\sigma_8/h^{0.5}$	0.998 ± 0.012	$H(0.51)$	89.93 ± 0.51
$100\theta_{\mathrm{MC}}$	1.04093 ± 0.00044	$r_{\mathrm{drag}}h$	102.0 ± 1.1	$D_{\mathrm{M}}(0.51)$	1954 ± 15
τ	$0.0537^{+0.0044}_{-0.0081}$	$\langle d^2 \rangle^{1/2}$	2.458 ± 0.027	$H(0.61)$	95.25 ± 0.43
w_0	-1.001 ± 0.079	z_{re}	$7.63^{+0.50}_{-0.80}$	$D_{\mathrm{M}}(0.61)$	2278 ± 16
w_a	$-0.27^{+0.34}_{-0.28}$	$10^9 A_{\mathrm{s}}$	$2.092^{+0.021}_{-0.031}$	$H(2.33)$	234.69 ± 0.97
$\ln(10^{10}A_{\mathrm{s}})$	$3.041^{+0.010}_{-0.015}$	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.879 ± 0.011	$D_{\mathrm{M}}(2.33)$	5759 ± 13
n_{s}	0.9649 ± 0.0044	D_{40}	1227 ± 12	$f\sigma_8(0.15)$	0.4612 ± 0.0078
y_{cal}	1.0004 ± 0.0025	D_{220}	5708 ± 41	$\sigma_8(0.15)$	0.769 ± 0.011
A_{100}^{PS}	242 ± 25	D_{810}	2533 ± 13	$f\sigma_8(0.38)$	0.4861 ± 0.0091
A_{143}^{PS}	40 ± 8	D_{1420}	814.3 ± 5.1	$\sigma_8(0.38)$	0.682 ± 0.010
A_{217}^{PS}	101^{+10}_{-10}	D_{2000}	229.8 ± 1.8	$f\sigma_8(0.51)$	0.4875 ± 0.0094
A_{217}^{CIB}	41 ± 7	$n_{\mathrm{s},0.002}$	0.9649 ± 0.0044	$\sigma_8(0.51)$	0.6387 ± 0.0092
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	Y_{P}	$0.245321^{+0.000091}_{-0.000075}$	$f\sigma_8(0.61)$	0.4840 ± 0.0095
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.246648^{+0.000092}_{-0.000075}$	$\sigma_8(0.61)$	0.6077 ± 0.0087
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.456	$10^5 \mathrm{D}/\mathrm{H}$	2.619 ± 0.038	$f\sigma_8(2.33)$	0.3069 ± 0.0045
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Age/Gyr	13.756 ± 0.033	$\sigma_8(2.33)$	0.3137 ± 0.0035
A^{kSZ}	—	z_*	1090.14 ± 0.31	f_{2000}^{143}	30.5 ± 3.0
A_{100}^{dust}	1.01 ± 0.19	r_*	144.57 ± 0.32	f_{2000}^{217}	107.3 ± 2.0
A_{143}^{dust}	0.98 ± 0.18	$100\theta_*$	1.04113 ± 0.00043	$f_{2000}^{143 \times 217}$	32.8 ± 2.1
A_{217}^{dust}	0.97 ± 0.10	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.886 ± 0.031	$\chi_{\mathrm{lensing}}^2$	9.36 ± 0.95
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	z_{drag}	1059.53 ± 0.44	χ_{simall}^2	396.7 ± 1.5
c_{100}	0.9975 ± 0.0011	r_{drag}	147.30 ± 0.34	χ_{lowl}^2	23.19 ± 0.88
c_{217}	1.0012 ± 0.0016	k_{D}	0.14052 ± 0.00044	$\chi_{\mathrm{CamSpec}}^2$	7062.2 ± 5.1
H_0	69.25 ± 0.76	$100\theta_{\mathrm{D}}$	0.16101 ± 0.00026	$\chi_{\mathrm{H073p45}}^2$	6.6 ± 2.3
Ω_{Λ}	0.7021 ± 0.0070	z_{eq}	3397 ± 30	χ_{JLA}^2	1036.2 ± 1.7
Ω_{m}	0.2979 ± 0.0070	k_{eq}	0.010368 ± 0.000091	$\chi_{6\mathrm{DF}}^2$	0.14 ± 0.15
$\Omega_{\mathrm{m}}h^2$	0.1428 ± 0.0013	$100\theta_{\mathrm{eq}}$	0.8138 ± 0.0056	χ_{MGS}^2	2.71 ± 0.74
$\Omega_{\mathrm{m}}h^3$	0.0989 ± 0.0014	$100\theta_{\mathrm{s,eq}}$	0.4498 ± 0.0029	$\chi_{\mathrm{DR12BAO}}^2$	5.3 ± 1.4
σ_8	0.831 ± 0.012	$H(0.15)$	74.25 ± 0.70	χ_{prior}^2	7.6 ± 3.4
S_8	0.828 ± 0.013	$D_{\mathrm{M}}(0.15)$	627.6 ± 6.0	χ_{CMB}^2	7491.4 ± 5.3
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4533 ± 0.0072	$H(0.38)$	83.64 ± 0.63	χ_{BAO}^2	8.1 ± 2.1

$\bar{\chi}_{\mathrm{eff}}^2 = 8549.95$; $\Delta\bar{\chi}_{\mathrm{eff}}^2 = -2.78$; $R - 1 = 0.01139$

15.13 base_w_wa_CamSpecHM_TTTEEE_lowl_lowE_BAO_Riess18_Pantheon18

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022321	0.02231 ± 0.00015	$\sigma_8 \Omega_m^{0.5}$	0.4501	0.4507 ± 0.0081	$D_M(0.38)$	1503.4	1504 ± 13
$\Omega_c h^2$	0.11954	0.1197 ± 0.0013	$\sigma_8 \Omega_m^{0.25}$	0.6100	0.6103 ± 0.0099	$H(0.51)$	90.018	90.01 ± 0.49
$100\theta_{MC}$	1.040909	1.04089 ± 0.00031	$\sigma_8/h^{0.5}$	0.9928	0.993 ± 0.014	$D_M(0.51)$	1952.7	1953 ± 15
τ	0.0528	0.0524 ± 0.0078	$r_{\text{drag}} h$	102.09	102.0 ± 1.1	$H(0.61)$	95.368	95.34 ± 0.40
w_0	-1.010	-1.002 ± 0.079	$\langle d^2 \rangle^{1/2}$	2.4457	2.448 ± 0.033	$D_M(0.61)$	2276.3	2277 ± 16
w_a	-0.199	$-0.24_{-0.28}^{+0.35}$	z_{re}	7.51	$7.46_{-0.73}^{+0.82}$	$H(2.33)$	234.70	234.76 ± 0.93
$\ln(10^{10} A_s)$	3.0385	3.038 ± 0.016	$10^9 A_s$	2.0874	2.087 ± 0.034	$D_M(2.33)$	5753.5	5755 ± 10
n_s	0.96659	0.9658 ± 0.0043	$10^9 A_s e^{-2\tau}$	1.8782	1.879 ± 0.011	$f\sigma_8(0.15)$	0.4582	0.4584 ± 0.0084
y_{cal}	1.00031	1.0004 ± 0.0025	D_{40}	1223.5	1225 ± 13	$\sigma_8(0.15)$	0.7652	0.765 ± 0.013
A_{100}^{PS}	232.2	239 ± 25	D_{220}	5717.0	5719 ± 39	$f\sigma_8(0.38)$	0.4829	0.4831 ± 0.0097
A_{143}^{PS}	42.0	39 ± 8	D_{810}	2535.0	2535 ± 13	$\sigma_8(0.38)$	0.6793	0.679 ± 0.011
A_{217}^{PS}	103.0	103 ± 10	D_{1420}	816.02	815.6 ± 4.8	$f\sigma_8(0.51)$	0.4842	0.484 ± 0.010
A_{217}^{CIB}	43.7	40 ± 7	D_{2000}	230.48	230.3 ± 1.6	$\sigma_8(0.51)$	0.6359	0.636 ± 0.011
A_{143}^{tSZ}	6.62	$3.9_{-2.5}^{+1.9}$	$n_{s,0.002}$	0.96659	0.9658 ± 0.0043	$f\sigma_8(0.61)$	0.4806	0.481 ± 0.010
$r_{143 \times 217}^{\text{PS}}$	0.642	0.66 ± 0.13	Y_{P}	0.245376	0.245371 ± 0.000061	$\sigma_8(0.61)$	0.6051	0.6049 ± 0.0099
$r_{143 \times 217}^{\text{CIB}}$	0.791	$0.56_{-0.19}^{+0.39}$	$Y_{\text{P}}^{\text{BBN}}$	0.246702	0.246697 ± 0.000062	$f\sigma_8(2.33)$	0.3057	0.3055 ± 0.0052
$\xi^{\text{tSZ} \times \text{CIB}}$	0.28	—	10^5D/H	2.5948	2.597 ± 0.029	$\sigma_8(2.33)$	0.31289	0.3126 ± 0.0041
A^{kSZ}	0.03	$4.7_{-4.0}^{+2.2}$	Age/Gyr	13.7478	13.749 ± 0.030	f_{2000}^{143}	29.69	29.6 ± 2.8
A_{100}^{dust}	1.006	1.01 ± 0.20	z_*	1089.942	1089.96 ± 0.26	f_{2000}^{217}	106.53	106.8 ± 1.9
A_{143}^{dust}	0.972	0.96 ± 0.18	r_*	144.587	144.56 ± 0.30	$f_{2000}^{143 \times 217}$	31.92	32.0 ± 2.0
A_{217}^{dust}	0.972	0.98 ± 0.10	$100\theta_*$	1.041092	1.04108 ± 0.00030	χ_{small}^2	395.84	396.8 ± 1.6
$A_{143 \times 217}^{\text{dust}}$	1.011	1.03 ± 0.16	$D_M(z_*)/\text{Gpc}$	13.8880	13.886 ± 0.028	χ_{lowl}^2	22.83	23.03 ± 0.88
c_{100}	0.99770	0.9975 ± 0.0011	z_{drag}	1059.780	1059.78 ± 0.32	χ_{CamSpec}^2	11499.2	11514.1 ± 5.6
c_{217}	1.00127	1.0011 ± 0.0016	r_{drag}	147.268	147.24 ± 0.30	χ_{H073p45}^2	6.18	6.6 ± 2.3
c_{TE}	0.99616	0.9963 ± 0.0049	k_{D}	0.140644	0.14066 ± 0.00034	χ_{JLA}^2	1035.34	1036.1 ± 1.6
c_{EE}	0.99159	0.9917 ± 0.0049	$100\theta_{\text{D}}$	0.160838	0.16085 ± 0.00019	$\chi_{6\text{DF}}^2$	0.098	0.14 ± 0.15
H_0	69.32	69.26 ± 0.76	z_{eq}	3390.1	3393 ± 29	χ_{MGS}^2	2.67	2.70 ± 0.73
Ω_{Λ}	0.7035	0.7026 ± 0.0069	k_{eq}	0.010347	0.010355 ± 0.000089	χ_{DR12BAO}^2	4.36	5.2 ± 1.4
Ω_{m}	0.2965	0.2974 ± 0.0069	$100\theta_{\text{eq}}$	0.8153	0.8148 ± 0.0055	χ_{prior}^2	2.14	7.8 ± 3.4
$\Omega_{\text{m}} h^2$	0.14251	0.1426 ± 0.0012	$100\theta_{\text{s,eq}}$	0.45047	0.4502 ± 0.0028	χ_{BAO}^2	7.13	8.0 ± 2.1
$\Omega_{\text{m}} h^3$	0.09879	0.0988 ± 0.0014	$H(0.15)$	74.27	74.27 ± 0.70	χ_{CMB}^2	11917.9	11933.9 ± 5.7
σ_8	0.8266	0.827 ± 0.014	$D_M(0.15)$	627.2	627.5 ± 6.0			
S_8	0.8218	0.823 ± 0.015	$H(0.38)$	83.69	83.69 ± 0.62			

Best-fit $\chi_{\text{eff}}^2 = 12968.70$; $\bar{\chi}_{\text{eff}}^2 = 12992.43$; $R - 1 = 0.01047$

χ_{eff}^2 : BAO - 6DF: 0.10 MGS: 2.67 DR12BAO: 4.36 CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.84 commander_dx12_v3_2_29: 22.83 CamSpec like_10.7HM_1400_unified: 11499.24 Hubble - H073p45: 6.18 SN - JLA Pantheon18: 1035.34

15.14 base_w_wa_CamSpecHM_TTTEE_lowl_lowE_BAO_Riess18_Pantheon18_post_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02232 ± 0.00015	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4505 ± 0.0061	$D_{\mathrm{M}}(0.38)$	1503 ± 13
$\Omega_{\mathrm{c}}h^2$	0.1196 ± 0.0011	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6103 ± 0.0074	$H(0.51)$	90.03 ± 0.49
$100\theta_{\mathrm{MC}}$	1.04089 ± 0.00030	$\sigma_8/h^{0.5}$	0.993 ± 0.011	$D_{\mathrm{M}}(0.51)$	1952 ± 15
τ	0.0526 ± 0.0074	$r_{\mathrm{drag}}h$	102.0 ± 1.1	$H(0.61)$	95.37 ± 0.40
w_0	-1.001 ± 0.077	$\langle d^2 \rangle^{1/2}$	2.448 ± 0.024	$D_{\mathrm{M}}(0.61)$	2276 ± 16
w_{a}	$-0.24_{-0.26}^{+0.32}$	z_{re}	7.48 ± 0.75	$H(2.33)$	234.70 ± 0.93
$\ln(10^{10}A_{\mathrm{s}})$	3.038 ± 0.014	$10^9 A_{\mathrm{s}}$	2.087 ± 0.030	$D_{\mathrm{M}}(2.33)$	5754 ± 10
n_{s}	0.9657 ± 0.0041	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.879 ± 0.010	$f\sigma_8(0.15)$	0.4582 ± 0.0068
y_{cal}	1.0004 ± 0.0025	D_{40}	1226 ± 12	$\sigma_8(0.15)$	0.765 ± 0.010
A_{100}^{PS}	240 ± 25	D_{220}	5721 ± 38	$f\sigma_8(0.38)$	0.4829 ± 0.0080
A_{143}^{PS}	39 ± 8	D_{810}	2535 ± 13	$\sigma_8(0.38)$	0.6793 ± 0.0093
A_{217}^{PS}	103 ± 10	D_{1420}	815.6 ± 4.8	$f\sigma_8(0.51)$	0.4843 ± 0.0083
A_{217}^{CIB}	40 ± 7	D_{2000}	230.3 ± 1.6	$\sigma_8(0.51)$	0.6359 ± 0.0086
A_{143}^{tSZ}	$3.9_{-2.4}^{+1.9}$	$n_{\mathrm{s},0.002}$	0.9657 ± 0.0041	$f\sigma_8(0.61)$	0.4808 ± 0.0084
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	Y_{P}	0.245372 ± 0.000060	$\sigma_8(0.61)$	0.6051 ± 0.0082
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56_{-0.18}^{+0.39}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246699 ± 0.000060	$f\sigma_8(2.33)$	0.3057 ± 0.0043
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$10^5 \mathrm{D}/\mathrm{H}$	2.596 ± 0.028	$\sigma_8(2.33)$	0.3127 ± 0.0034
A^{kSZ}	$4.7_{-3.9}^{+2.2}$	$\mathrm{Age}/\mathrm{Gyr}$	13.748 ± 0.030	f_{2000}^{143}	29.6 ± 2.8
A_{100}^{dust}	1.01 ± 0.20	z_*	1089.96 ± 0.24	f_{2000}^{217}	106.8 ± 1.9
A_{143}^{dust}	0.96 ± 0.17	r_*	144.57 ± 0.26	$f_{2000}^{143 \times 217}$	32.1 ± 2.0
A_{217}^{dust}	0.98 ± 0.10	$100\theta_*$	1.04108 ± 0.00030	$\chi_{\mathrm{lensing}}^2$	9.13 ± 0.71
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.886 ± 0.024	χ_{simall}^2	396.7 ± 1.4
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.79 ± 0.32	χ_{lowl}^2	23.05 ± 0.81
c_{217}	1.0011 ± 0.0016	r_{drag}	147.25 ± 0.26	$\chi_{\mathrm{CamSpec}}^2$	11513.7 ± 5.5
c_{TE}	0.9962 ± 0.0049	k_{D}	0.14066 ± 0.00032	$\chi_{\mathrm{H073p45}}^2$	6.5 ± 2.3
c_{EE}	0.9918 ± 0.0049	$100\theta_{\mathrm{D}}$	0.16084 ± 0.00019	χ_{JLA}^2	1036.1 ± 1.6
H_0	69.29 ± 0.76	z_{eq}	3392 ± 25	$\chi_{6\mathrm{DF}}^2$	0.14 ± 0.15
Ω_{Λ}	0.7029 ± 0.0068	k_{eq}	0.010353 ± 0.000076	χ_{MGS}^2	2.73 ± 0.73
Ω_{m}	0.2971 ± 0.0068	$100\theta_{\mathrm{eq}}$	0.8150 ± 0.0046	$\chi_{\mathrm{DR12BAO}}^2$	5.2 ± 1.4
$\Omega_{\mathrm{m}}h^2$	0.1426 ± 0.0010	$100\theta_{\mathrm{s,eq}}$	0.4503 ± 0.0024	χ_{prior}^2	7.8 ± 3.4
$\Omega_{\mathrm{m}}h^3$	0.0988 ± 0.0013	$H(0.15)$	74.30 ± 0.69	χ_{CMB}^2	11942.6 ± 5.7
σ_8	0.827 ± 0.011	$D_{\mathrm{M}}(0.15)$	627.3 ± 5.9	χ_{BAO}^2	8.1 ± 2.1
S_8	0.823 ± 0.011	$H(0.38)$	83.72 ± 0.61		

$$\bar{\chi}_{\mathrm{eff}}^2 = 13001.06; \Delta\bar{\chi}_{\mathrm{eff}}^2 = -2.57; R - 1 = 0.01205$$

15.15 base_w_wa_CamSpecHM_TTTEEE_lowl_lowE_BAO_Riess18_Pantheon18_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02232 ± 0.00015	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4512 ± 0.0080	$D_{\mathrm{M}}(0.38)$	1504 ± 13
$\Omega_{\mathrm{c}}h^2$	0.1196 ± 0.0013	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6110 ± 0.0097	$H(0.51)$	90.01 ± 0.49
$100\theta_{\mathrm{MC}}$	1.04090 ± 0.00031	$\sigma_8/h^{0.5}$	0.994 ± 0.014	$D_{\mathrm{M}}(0.51)$	1953 ± 15
τ	$0.0541^{+0.0045}_{-0.0081}$	$r_{\mathrm{drag}}h$	102.0 ± 1.1	$H(0.61)$	95.35 ± 0.40
w_0	-1.003 ± 0.079	$\langle d^2 \rangle^{1/2}$	2.451 ± 0.032	$D_{\mathrm{M}}(0.61)$	2277 ± 16
w_{a}	$-0.23^{+0.34}_{-0.27}$	z_{re}	$7.64^{+0.52}_{-0.79}$	$H(2.33)$	234.76 ± 0.93
$\ln(10^{10}A_{\mathrm{s}})$	$3.041^{+0.011}_{-0.016}$	$10^9 A_{\mathrm{s}}$	$2.093^{+0.023}_{-0.033}$	$D_{\mathrm{M}}(2.33)$	5755 ± 10
n_{s}	0.9660 ± 0.0043	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.879 ± 0.011	$f\sigma_8(0.15)$	0.4589 ± 0.0082
y_{cal}	1.0004 ± 0.0025	D_{40}	1226 ± 13	$\sigma_8(0.15)$	0.766 ± 0.013
A_{100}^{PS}	239 ± 25	D_{220}	5719 ± 39	$f\sigma_8(0.38)$	0.4836 ± 0.0096
A_{143}^{PS}	39 ± 8	D_{810}	2535 ± 13	$\sigma_8(0.38)$	0.680 ± 0.011
A_{217}^{PS}	103 ± 10	D_{1420}	815.6 ± 4.8	$f\sigma_8(0.51)$	0.485 ± 0.010
A_{217}^{CIB}	39 ± 7	D_{2000}	230.4 ± 1.6	$\sigma_8(0.51)$	0.637 ± 0.010
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	$n_{\mathrm{s},0.002}$	0.9660 ± 0.0043	$f\sigma_8(0.61)$	0.481 ± 0.010
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	Y_{P}	0.245373 ± 0.000061	$\sigma_8(0.61)$	0.6057 ± 0.0098
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.55^{+0.39}_{-0.19}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246699 ± 0.000061	$f\sigma_8(2.33)$	0.3059 ± 0.0051
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$10^5 \mathrm{D}/\mathrm{H}$	2.596 ± 0.029	$\sigma_8(2.33)$	0.3131 ± 0.0039
A^{kSZ}	$4.6^{+2.0}_{-4.1}$	$\mathrm{Age}/\mathrm{Gyr}$	13.749 ± 0.030	f_{2000}^{143}	29.5 ± 2.8
A_{100}^{dust}	1.01 ± 0.20	z_*	1089.95 ± 0.26	f_{2000}^{217}	106.7 ± 1.9
A_{143}^{dust}	0.96 ± 0.18	r_*	144.57 ± 0.30	$f_{2000}^{143 \times 217}$	32.0 ± 2.0
A_{217}^{dust}	0.98 ± 0.10	$100\theta_*$	1.04109 ± 0.00030	χ_{small}^2	396.7 ± 1.5
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.886 ± 0.028	χ_{lowl}^2	23.04 ± 0.88
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.79 ± 0.32	$\chi_{\mathrm{CamSpec}}^2$	11513.9 ± 5.6
c_{217}	1.0011 ± 0.0016	r_{drag}	147.25 ± 0.30	$\chi_{\mathrm{H073p45}}^2$	6.6 ± 2.3
c_{TE}	0.9961 ± 0.0049	k_{D}	0.14066 ± 0.00034	χ_{JLA}^2	1036.1 ± 1.6
c_{EE}	0.9916 ± 0.0049	$100\theta_{\mathrm{D}}$	0.16084 ± 0.00019	$\chi_{6\mathrm{DF}}^2$	0.14 ± 0.15
H_0	69.26 ± 0.76	z_{eq}	3392 ± 29	χ_{MGS}^2	2.70 ± 0.73
Ω_{Λ}	0.7027 ± 0.0069	k_{eq}	0.010353 ± 0.000089	$\chi_{\mathrm{DR12BAO}}^2$	5.1 ± 1.4
Ω_{m}	0.2973 ± 0.0069	$100\theta_{\mathrm{eq}}$	0.8150 ± 0.0054	χ_{prior}^2	7.8 ± 3.4
$\Omega_{\mathrm{m}}h^2$	0.1426 ± 0.0012	$100\theta_{\mathrm{s,eq}}$	0.4503 ± 0.0028	χ_{BAO}^2	8.0 ± 2.1
$\Omega_{\mathrm{m}}h^3$	0.0988 ± 0.0014	$H(0.15)$	74.26 ± 0.70	χ_{CMB}^2	11933.7 ± 5.6
σ_8	0.828 ± 0.013	$D_{\mathrm{M}}(0.15)$	627.5 ± 6.0		
S_8	0.824 ± 0.015	$H(0.38)$	83.69 ± 0.62		

$$\bar{\chi}_{\mathrm{eff}}^2 = 12992.15; R - 1 = 0.01047$$

15.16 base_w_wa_CamSpecHM_TTTEE_lowl_lowE_BAO_Riess18_Pantheon18_post_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02232 ± 0.00015	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4507 ± 0.0061	$D_{\mathrm{M}}(0.38)$	1503 ± 13
$\Omega_{\mathrm{c}}h^2$	0.1196 ± 0.0011	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6105 ± 0.0074	$H(0.51)$	90.03 ± 0.49
$100\theta_{\mathrm{MC}}$	1.04090 ± 0.00030	$\sigma_8/h^{0.5}$	0.994 ± 0.011	$D_{\mathrm{M}}(0.51)$	1952 ± 15
τ	$0.0540^{+0.0047}_{-0.0077}$	$r_{\mathrm{drag}}h$	102.0 ± 1.1	$H(0.61)$	95.37 ± 0.40
w_0	-1.002 ± 0.077	$\langle d^2 \rangle^{1/2}$	2.450 ± 0.024	$D_{\mathrm{M}}(0.61)$	2276 ± 16
w_{a}	$-0.23^{+0.32}_{-0.26}$	z_{re}	$7.62^{+0.53}_{-0.75}$	$H(2.33)$	234.70 ± 0.93
$\ln(10^{10}A_{\mathrm{s}})$	$3.041^{+0.011}_{-0.014}$	$10^9 A_{\mathrm{s}}$	$2.093^{+0.022}_{-0.030}$	$D_{\mathrm{M}}(2.33)$	5754 ± 10
n_{s}	0.9660 ± 0.0040	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.878 ± 0.010	$f\sigma_8(0.15)$	0.4584 ± 0.0068
y_{cal}	1.0004 ± 0.0025	D_{40}	1226 ± 12	$\sigma_8(0.15)$	0.766 ± 0.010
A_{100}^{PS}	239 ± 25	D_{220}	5721 ± 39	$f\sigma_8(0.38)$	0.4831 ± 0.0080
A_{143}^{PS}	39 ± 8	D_{810}	2535 ± 13	$\sigma_8(0.38)$	0.6797 ± 0.0092
A_{217}^{PS}	102 ± 10	D_{1420}	815.6 ± 4.8	$f\sigma_8(0.51)$	0.4844 ± 0.0083
A_{217}^{CIB}	40 ± 7	D_{2000}	230.3 ± 1.6	$\sigma_8(0.51)$	0.6363 ± 0.0086
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.4}$	$n_{\mathrm{s},0.002}$	0.9660 ± 0.0040	$f\sigma_8(0.61)$	0.4810 ± 0.0084
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	Y_{P}	0.245375 ± 0.000059	$\sigma_8(0.61)$	0.6054 ± 0.0081
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56^{+0.39}_{-0.18}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246701 ± 0.000059	$f\sigma_8(2.33)$	0.3059 ± 0.0043
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$10^5 \mathrm{D}/\mathrm{H}$	2.595 ± 0.028	$\sigma_8(2.33)$	0.3130 ± 0.0034
A^{kSZ}	$4.6^{+2.1}_{-4.0}$	$\mathrm{Age}/\mathrm{Gyr}$	13.748 ± 0.030	f_{2000}^{143}	29.6 ± 2.8
A_{100}^{dust}	1.01 ± 0.20	z_*	1089.94 ± 0.24	f_{2000}^{217}	106.7 ± 1.9
A_{143}^{dust}	0.96 ± 0.17	r_*	144.58 ± 0.25	$f_{2000}^{143 \times 217}$	32.0 ± 2.0
A_{217}^{dust}	0.98 ± 0.10	$100\theta_*$	1.04109 ± 0.00030	$\chi_{\mathrm{lensing}}^2$	9.10 ± 0.69
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.888 ± 0.024	χ_{simall}^2	396.6 ± 1.4
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.79 ± 0.32	χ_{lowl}^2	23.04 ± 0.81
c_{217}	1.0011 ± 0.0016	r_{drag}	147.26 ± 0.26	$\chi_{\mathrm{CamSpec}}^2$	11513.6 ± 5.5
c_{TE}	0.9961 ± 0.0049	k_{D}	0.14065 ± 0.00032	$\chi_{\mathrm{H073p45}}^2$	6.5 ± 2.3
c_{EE}	0.9917 ± 0.0049	$100\theta_{\mathrm{D}}$	0.16084 ± 0.00019	χ_{JLA}^2	1036.1 ± 1.6
H_0	69.29 ± 0.76	z_{eq}	3390 ± 24	$\chi_{6\mathrm{DF}}^2$	0.14 ± 0.15
Ω_{Λ}	0.7030 ± 0.0068	k_{eq}	0.010348 ± 0.000074	χ_{MGS}^2	2.73 ± 0.73
Ω_{m}	0.2970 ± 0.0068	$100\theta_{\mathrm{eq}}$	0.8153 ± 0.0046	$\chi_{\mathrm{DR12BAO}}^2$	5.2 ± 1.4
$\Omega_{\mathrm{m}}h^2$	0.1425 ± 0.0010	$100\theta_{\mathrm{s,eq}}$	0.4505 ± 0.0023	χ_{prior}^2	7.8 ± 3.4
$\Omega_{\mathrm{m}}h^3$	0.0987 ± 0.0013	$H(0.15)$	74.29 ± 0.68	χ_{CMB}^2	11942.3 ± 5.6
σ_8	0.827 ± 0.011	$D_{\mathrm{M}}(0.15)$	627.3 ± 5.9	χ_{BAO}^2	8.0 ± 2.1
S_8	0.823 ± 0.011	$H(0.38)$	83.71 ± 0.61		

$$\bar{\chi}_{\mathrm{eff}}^2 = 13000.80; \Delta\bar{\chi}_{\mathrm{eff}}^2 = -2.74; R - 1 = 0.01150$$

16 yhe

16.1 base_yhe_CamSpecHM_TT_lowl_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022134	0.02211 ± 0.00030	S_8	0.8367	0.838 ± 0.025	$100\theta_{s,eq}$	0.44880	0.4486 ± 0.0049
$\Omega_c h^2$	0.12043	0.1205 ± 0.0022	$\sigma_8 \Omega_m^{0.5}$	0.4583	0.459 ± 0.014	$H(0.15)$	72.37	72.27 ± 0.99
$100\theta_{MC}$	1.04094	1.04075 ± 0.00089	$\sigma_8 \Omega_m^{0.25}$	0.6099	0.610 ± 0.012	$D_M(0.15)$	646.4	647.5 ± 9.9
τ	0.0525	0.0522 ± 0.0082	$\sigma_8/h^{0.5}$	0.9914	0.991 ± 0.016	$H(0.38)$	82.61	82.53 ± 0.74
Y_P	0.2478	0.242 ± 0.021	$r_{drag}h$	98.67	98.5 ± 1.9	$D_M(0.38)$	1539.8	1542 ± 20
$\ln(10^{10} A_s)$	3.0397	3.038 ± 0.018	$\langle d^2 \rangle^{1/2}$	2.4470	2.451 ± 0.044	$H(0.51)$	89.39	89.33 ± 0.61
n_s	0.9644	0.963 ± 0.011	z_{re}	7.57	7.50 ± 0.85	$D_M(0.51)$	1993.5	1996 ± 24
y_{cal}	1.00033	1.0004 ± 0.0025	$10^9 A_s$	2.0899	2.088 ± 0.037	$H(0.61)$	95.07	95.01 ± 0.52
A_{100}^{PS}	246.8	242 ± 26	$10^9 A_s e^{-2\tau}$	1.8815	1.880 ± 0.015	$D_M(0.61)$	2318.8	2322 ± 26
A_{143}^{PS}	38.4	40 ± 10	D_{40}	1228.0	1232 ± 22	$H(2.33)$	236.61	236.6 ± 1.3
A_{217}^{PS}	99.1	101 ± 10	D_{220}	5701.1	5703 ± 42	$D_M(2.33)$	5774.6	5778 ± 26
A_{217}^{CIB}	43.2	41_{-8}^{+7}	D_{810}	2532.9	2534 ± 14	$f\sigma_8(0.15)$	0.4623	0.463 ± 0.013
A_{143}^{tSZ}	3.96	$3.7_{-2.6}^{+1.8}$	D_{1420}	813.2	814.4 ± 5.4	$\sigma_8(0.15)$	0.7492	0.7482 ± 0.0086
$r_{143 \times 217}^{PS}$	0.554	0.65 ± 0.13	D_{2000}	229.03	229.8 ± 2.5	$f\sigma_8(0.38)$	0.4790	0.4790 ± 0.0099
$r_{143 \times 217}^{CIB}$	0.631	$0.57_{-0.13}^{+0.42}$	$n_{s,0.002}$	0.9644	0.963 ± 0.011	$\sigma_8(0.38)$	0.6633	0.6623 ± 0.0074
$\xi^{tSZ \times CIB}$	0.00	—	Y_P	0.2478	0.242 ± 0.021	$f\sigma_8(0.51)$	0.4767	0.4765 ± 0.0084
A^{kSZ}	4.3	—	Y_P^{BBN}	0.2491	0.244 ± 0.021	$\sigma_8(0.51)$	0.6204	0.6194 ± 0.0070
A_{100}^{dust}	1.008	1.01 ± 0.20	Age/Gyr	13.823	13.831 ± 0.058	$f\sigma_8(0.61)$	0.4711	0.4708 ± 0.0075
A_{143}^{dust}	0.979	0.97 ± 0.17	z_*	1090.36	1090.20 ± 0.68	$\sigma_8(0.61)$	0.5901	0.5892 ± 0.0067
A_{217}^{dust}	0.962	0.97 ± 0.10	r_*	144.492	144.50 ± 0.49	$f\sigma_8(2.33)$	0.29726	0.2967 ± 0.0035
$A_{143 \times 217}^{dust}$	1.011	1.03 ± 0.16	$100\theta_*$	1.041077	1.04103 ± 0.00050	$\sigma_8(2.33)$	0.30615	0.3056 ± 0.0038
c_{100}	0.99736	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.8791	13.881 ± 0.046	f_{2000}^{143}	31.72	30 ± 4
c_{217}	1.00131	1.0012 ± 0.0016	z_{drag}	1059.51	1059.3 ± 1.2	f_{2000}^{217}	108.13	107.3 ± 2.8
H_0	67.01	66.9 ± 1.1	r_{drag}	147.233	147.25 ± 0.50	$f_{2000}^{143 \times 217}$	33.48	32.7 ± 3.1
Ω_Λ	0.6811	$0.679_{-0.014}^{+0.016}$	k_D	0.14043	0.14060 ± 0.00078	χ_{small}^2	395.89	397.0 ± 1.7
Ω_m	0.3189	0.321 ± 0.015	$100\theta_D$	0.16118	0.16097 ± 0.00080	χ_{lowl}^2	23.34	23.9 ± 2.1
$\Omega_m h^2$	0.14321	0.1433 ± 0.0021	z_{eq}	3406.8	3409 ± 50	$\chi_{CamSpec}^2$	7050.2	7063.9 ± 5.6
$\Omega_m h^3$	0.09597	0.09585 ± 0.00076	k_{eq}	0.010398	0.01040 ± 0.00015	χ_{prior}^2	2.38	7.6 ± 3.4
σ_8	0.8116	0.8107 ± 0.0098	$100\theta_{eq}$	0.8118	0.8114 ± 0.0096	χ_{CMB}^2	7469.4	7484.8 ± 5.7

Best-fit $\chi_{eff}^2 = 7471.80$; $\Delta\chi_{eff}^2 = 0.06$; $\bar{\chi}_{eff}^2 = 7492.39$; $\Delta\bar{\chi}_{eff}^2 = 0.85$; $R - 1 = 0.00648$

χ_{eff}^2 : CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.89 (Δ 0.05) commander_dx12_v3.2.29: 23.34 (Δ -0.06) CamSpec like_10.7HM: 7050.19 (Δ -0.15)

16.2 base_yhe_CamSpecHM_TT_lowl_lowE_post_BAO

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02226 ± 0.00024	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6025 ± 0.0085	$D_{\mathrm{M}}(0.38)$	1527 ± 11
$\Omega_{\mathrm{c}}h^2$	0.1189 ± 0.0012	$\sigma_8/h^{0.5}$	0.982 ± 0.012	$H(0.51)$	89.75 ± 0.38
$100\theta_{\mathrm{MC}}$	1.04119 ± 0.00074	$r_{\mathrm{drag}}h$	99.91 ± 0.98	$D_{\mathrm{M}}(0.51)$	1979 ± 13
τ	0.0541 ± 0.0079	$\langle d^2 \rangle^{1/2}$	2.422 ± 0.029	$H(0.61)$	95.35 ± 0.35
Y_{P}	0.250 ± 0.019	z_{re}	7.67 ± 0.81	$D_{\mathrm{M}}(0.61)$	2303 ± 14
$\ln(10^{10}A_{\mathrm{s}})$	3.041 ± 0.018	$10^9 A_{\mathrm{s}}$	2.092 ± 0.037	$H(2.33)$	235.76 ± 0.82
n_{s}	0.9691 ± 0.0083	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.877 ± 0.015	$D_{\mathrm{M}}(2.33)$	5762 ± 18
y_{cal}	1.0005 ± 0.0025	D_{40}	1219 ± 17	$f\sigma_8(0.15)$	0.4540 ± 0.0078
A_{100}^{PS}	244 ± 26	D_{220}	5709 ± 41	$\sigma_8(0.15)$	0.7469 ± 0.0084
A_{143}^{PS}	41 ± 9	D_{810}	2534 ± 14	$f\sigma_8(0.38)$	0.4728 ± 0.0068
A_{217}^{PS}	101 ± 10	D_{1420}	814.6 ± 5.3	$\sigma_8(0.38)$	0.6623 ± 0.0074
A_{217}^{CIB}	41_{-8}^{+7}	D_{2000}	229.5 ± 2.5	$f\sigma_8(0.51)$	0.4717 ± 0.0063
A_{143}^{tSZ}	$3.7_{-2.7}^{+1.7}$	$n_{\mathrm{s},0.002}$	0.9691 ± 0.0083	$\sigma_8(0.51)$	0.6199 ± 0.0069
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	Y_{P}	0.250 ± 0.019	$f\sigma_8(0.61)$	0.4669 ± 0.0059
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.463	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.251 ± 0.019	$\sigma_8(0.61)$	0.5899 ± 0.0066
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Age/Gyr	13.796 ± 0.043	$f\sigma_8(2.33)$	0.2976 ± 0.0034
A^{kSZ}	—	z_*	1090.16 ± 0.68	$\sigma_8(2.33)$	0.3069 ± 0.0035
A_{100}^{dust}	1.01 ± 0.20	r_*	144.78 ± 0.37	f_{2000}^{143}	31 ± 4
A_{143}^{dust}	0.98 ± 0.17	$100\theta_*$	1.04127 ± 0.00042	f_{2000}^{217}	107.8 ± 2.7
A_{217}^{dust}	0.97 ± 0.10	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.904 ± 0.037	$f_{2000}^{143 \times 217}$	33.2 ± 3.0
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	z_{drag}	1059.8 ± 1.1	χ_{small}^2	397.1 ± 1.8
c_{100}	$0.9975_{-0.00099}^{+0.0011}$	r_{drag}	147.49 ± 0.42	χ_{lowl}^2	22.7 ± 1.3
c_{217}	1.0012 ± 0.0016	k_{D}	0.14018 ± 0.00061	$\chi_{\mathrm{CamSpec}}^2$	7064.8 ± 5.6
H_0	67.74 ± 0.62	$100\theta_{\mathrm{D}}$	0.16119 ± 0.00076	$\chi_{6\mathrm{DF}}^2$	0.054 ± 0.074
Ω_{Λ}	0.6908 ± 0.0076	z_{eq}	3374 ± 29	χ_{MGS}^2	1.43 ± 0.56
Ω_{m}	0.3092 ± 0.0076	k_{eq}	0.010297 ± 0.000089	$\chi_{\mathrm{DR12BAO}}^2$	4.6 ± 1.6
$\Omega_{\mathrm{m}}h^2$	0.1418 ± 0.0012	$100\theta_{\mathrm{eq}}$	0.8184 ± 0.0053	χ_{prior}^2	7.7 ± 3.5
$\Omega_{\mathrm{m}}h^3$	0.09606 ± 0.00072	$100\theta_{\mathrm{s,eq}}$	0.4521 ± 0.0027	χ_{BAO}^2	6.1 ± 1.3
σ_8	0.8080 ± 0.0092	$H(0.15)$	72.99 ± 0.55	χ_{CMB}^2	7484.5 ± 5.5
S_8	0.820 ± 0.015	$D_{\mathrm{M}}(0.15)$	640.2 ± 5.3		
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4493 ± 0.0083	$H(0.38)$	83.06 ± 0.44		

$\bar{\chi}_{\mathrm{eff}}^2 = 7498.32$; $\Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.77$; $R - 1 = 0.01513$

16.3 base_yhe_CamSpecHM_TT_lowl_lowE_post_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}} h^2$	0.02211 ± 0.00028	$\sigma_8 \Omega_{\mathrm{m}}^{0.5}$	0.4574 ± 0.0091	$D_{\mathrm{M}}(0.15)$	646.9 ± 7.8
$\Omega_{\mathrm{c}} h^2$	0.1203 ± 0.0016	$\sigma_8 \Omega_{\mathrm{m}}^{0.25}$	0.6086 ± 0.0078	$H(0.38)$	82.56 ± 0.61
$100\theta_{\mathrm{MC}}$	1.04071 ± 0.00085	$\sigma_8/h^{0.5}$	0.990 ± 0.011	$D_{\mathrm{M}}(0.38)$	1541 ± 16
τ	0.0526 ± 0.0081	$r_{\mathrm{drag}} h$	98.7 ± 1.4	$H(0.51)$	89.35 ± 0.52
Y_{P}	0.241 ± 0.021	$\langle d^2 \rangle^{1/2}$	2.449 ± 0.029	$D_{\mathrm{M}}(0.51)$	1995 ± 19
$\ln(10^{10} A_{\mathrm{s}})$	3.038 ± 0.017	z_{re}	7.52 ± 0.83	$H(0.61)$	95.02 ± 0.45
n_{s}	0.962 ± 0.010	$10^9 A_{\mathrm{s}}$	2.087 ± 0.036	$D_{\mathrm{M}}(0.61)$	2320 ± 21
y_{cal}	1.0005 ± 0.0025	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.879 ± 0.014	$H(2.33)$	236.48 ± 0.97
A_{100}^{PS}	241 ± 26	D_{40}	1232 ± 19	$D_{\mathrm{M}}(2.33)$	5778 ± 23
A_{143}^{PS}	40 ± 9	D_{220}	5707 ± 41	$f\sigma_8(0.15)$	0.4613 ± 0.0083
A_{217}^{PS}	101 ± 10	D_{810}	2533 ± 14	$\sigma_8(0.15)$	0.7475 ± 0.0073
A_{217}^{CIB}	40_{-8}^{+7}	D_{1420}	814.7 ± 5.3	$f\sigma_8(0.38)$	0.4779 ± 0.0064
A_{143}^{tSZ}	$3.8_{-2.6}^{+1.8}$	D_{2000}	230.0 ± 2.5	$\sigma_8(0.38)$	0.6618 ± 0.0068
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	$n_{\mathrm{s},0.002}$	0.962 ± 0.010	$f\sigma_8(0.51)$	0.4756 ± 0.0055
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.57_{-0.14}^{+0.42}$	Y_{P}	0.241 ± 0.021	$\sigma_8(0.51)$	0.6190 ± 0.0066
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.242 ± 0.021	$f\sigma_8(0.61)$	0.4701 ± 0.0050
A^{kSZ}	—	Age/Gyr	13.831 ± 0.053	$\sigma_8(0.61)$	0.5888 ± 0.0064
A_{100}^{dust}	1.01 ± 0.20	z_*	1090.10 ± 0.67	$f\sigma_8(2.33)$	0.2966 ± 0.0035
A_{143}^{dust}	0.97 ± 0.17	r_*	144.57 ± 0.39	$\sigma_8(2.33)$	0.3055 ± 0.0039
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04103 ± 0.00047	f_{2000}^{143}	30 ± 4
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.887 ± 0.037	f_{2000}^{217}	107.1 ± 2.8
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.2 ± 1.2	$f_{2000}^{143 \times 217}$	32.5 ± 3.1
c_{217}	1.0011 ± 0.0016	r_{drag}	147.31 ± 0.41	$\chi_{\mathrm{lensing}}^2$	9.50 ± 0.91
H_0	66.97 ± 0.90	k_{D}	0.14061 ± 0.00069	χ_{simall}^2	396.9 ± 1.7
Ω_{Λ}	0.681 ± 0.011	$100\theta_{\mathrm{D}}$	0.16089 ± 0.00079	χ_{lowl}^2	23.9 ± 1.8
Ω_{m}	0.319 ± 0.011	z_{eq}	3403 ± 36	$\chi_{\mathrm{CamSpec}}^2$	7063.4 ± 5.4
$\Omega_{\mathrm{m}} h^2$	0.1431 ± 0.0015	k_{eq}	0.01039 ± 0.00011	χ_{prior}^2	7.5 ± 3.4
$\Omega_{\mathrm{m}} h^3$	0.09580 ± 0.00076	$100\theta_{\mathrm{eq}}$	0.8123 ± 0.0070	χ_{CMB}^2	7493.8 ± 5.6
σ_8	0.8098 ± 0.0078	$100\theta_{\mathrm{s,eq}}$	0.4491 ± 0.0036		
S_8	0.835 ± 0.017	$H(0.15)$	72.33 ± 0.79		

$$\bar{\chi}_{\mathrm{eff}}^2 = 7501.32; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 1.07; R - 1 = 0.00730$$

16.4 base_yhe_CamSpecHM_TT_lowl_lowE_post_BAO_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02225 ± 0.00024	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6046 ± 0.0067	$D_{\mathrm{M}}(0.38)$	1529 ± 10
$\Omega_{\mathrm{c}}h^2$	0.1191 ± 0.0011	$\sigma_8/h^{0.5}$	0.9849 ± 0.0096	$H(0.51)$	89.70 ± 0.37
$100\theta_{\mathrm{MC}}$	1.04112 ± 0.00073	$r_{\mathrm{drag}}h$	99.73 ± 0.89	$D_{\mathrm{M}}(0.51)$	1981 ± 13
τ	0.0558 ± 0.0074	$\langle d^2 \rangle^{1/2}$	2.432 ± 0.024	$H(0.61)$	95.31 ± 0.34
Y_{P}	0.248 ± 0.019	z_{re}	7.84 ± 0.74	$D_{\mathrm{M}}(0.61)$	2305 ± 14
$\ln(10^{10}A_{\mathrm{s}})$	3.045 ± 0.016	$10^9 A_{\mathrm{s}}$	2.101 ± 0.033	$H(2.33)$	235.88 ± 0.73
n_{s}	0.9678 ± 0.0082	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.878 ± 0.014	$D_{\mathrm{M}}(2.33)$	5764 ± 18
y_{cal}	1.0007 ± 0.0024	D_{40}	1223 ± 17	$f\sigma_8(0.15)$	0.4560 ± 0.0062
A_{100}^{PS}	243 ± 26	D_{220}	5715 ± 40	$\sigma_8(0.15)$	0.7485 ± 0.0072
A_{143}^{PS}	41 ± 9	D_{810}	2535 ± 14	$f\sigma_8(0.38)$	0.4745 ± 0.0054
A_{217}^{PS}	101 ± 10	D_{1420}	815.1 ± 5.2	$\sigma_8(0.38)$	0.6636 ± 0.0066
A_{217}^{CIB}	41_{-8}^{+7}	D_{2000}	229.8 ± 2.5	$f\sigma_8(0.51)$	0.4732 ± 0.0050
A_{143}^{tSZ}	$3.7_{-2.7}^{+1.7}$	$n_{\mathrm{s},0.002}$	0.9678 ± 0.0082	$\sigma_8(0.51)$	0.6211 ± 0.0062
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	Y_{P}	0.248 ± 0.019	$f\sigma_8(0.61)$	0.4683 ± 0.0047
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.461	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.249 ± 0.019	$\sigma_8(0.61)$	0.5910 ± 0.0060
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Age/Gyr	13.800 ± 0.042	$f\sigma_8(2.33)$	0.2980 ± 0.0031
A^{kSZ}	—	z_{*}	1090.12 ± 0.66	$\sigma_8(2.33)$	0.3073 ± 0.0033
A_{100}^{dust}	1.01 ± 0.20	r_{*}	144.74 ± 0.34	f_{2000}^{143}	31 ± 4
A_{143}^{dust}	0.97 ± 0.17	$100\theta_{*}$	1.04124 ± 0.00042	f_{2000}^{217}	107.6 ± 2.7
A_{217}^{dust}	0.97 ± 0.10	$D_{\mathrm{M}}(z_{*})/\mathrm{Gpc}$	13.901 ± 0.034	$f_{2000}^{143 \times 217}$	33.0 ± 3.0
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	z_{drag}	1059.7 ± 1.1	$\chi_{\mathrm{lensing}}^2$	9.42 ± 0.83
c_{100}	$0.9975_{-0.00098}^{+0.0011}$	r_{drag}	147.45 ± 0.39	χ_{small}^2	397.2 ± 1.9
c_{217}	1.0012 ± 0.0016	k_{D}	0.14028 ± 0.00059	χ_{lowl}^2	23.0 ± 1.3
H_0	67.64 ± 0.58	$100\theta_{\mathrm{D}}$	0.16111 ± 0.00075	$\chi_{\mathrm{CamSpec}}^2$	7064.1 ± 5.4
Ω_{Λ}	0.6895 ± 0.0070	z_{eq}	3378 ± 26	$\chi_{6\mathrm{DF}}^2$	0.057 ± 0.074
Ω_{m}	0.3105 ± 0.0070	k_{eq}	0.010311 ± 0.000078	χ_{MGS}^2	1.33 ± 0.49
$\Omega_{\mathrm{m}}h^2$	0.1420 ± 0.0011	$100\theta_{\mathrm{eq}}$	0.8175 ± 0.0047	$\chi_{\mathrm{DR12BAO}}^2$	4.8 ± 1.6
$\Omega_{\mathrm{m}}h^3$	0.09605 ± 0.00071	$100\theta_{\mathrm{s,eq}}$	0.4516 ± 0.0024	χ_{prior}^2	7.6 ± 3.5
σ_8	0.8100 ± 0.0078	$H(0.15)$	72.90 ± 0.52	χ_{CMB}^2	7493.7 ± 5.6
S_8	0.824 ± 0.012	$D_{\mathrm{M}}(0.15)$	641.1 ± 5.1	χ_{BAO}^2	6.2 ± 1.3
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4513 ± 0.0066	$H(0.38)$	83.00 ± 0.42		

$\bar{\chi}_{\mathrm{eff}}^2 = 7507.45$; $\Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.97$; $R - 1 = 0.01905$

16.5 base_yhe_CamSpecHM_TT_lowl_lowE_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}} h^2$	0.02213 ± 0.00029	S_8	0.838 ± 0.025	$100\theta_{\mathrm{s,eq}}$	0.4488 ± 0.0049
$\Omega_{\mathrm{c}} h^2$	0.1204 ± 0.0022	$\sigma_8 \Omega_{\mathrm{m}}^{0.5}$	0.459 ± 0.014	$H(0.15)$	72.33 ± 0.98
$100\theta_{\mathrm{MC}}$	1.04079 ± 0.00088	$\sigma_8 \Omega_{\mathrm{m}}^{0.25}$	0.610 ± 0.012	$D_{\mathrm{M}}(0.15)$	646.9 ± 9.8
τ	$0.0540^{+0.0047}_{-0.0084}$	$\sigma_8/h^{0.5}$	0.992 ± 0.016	$H(0.38)$	82.57 ± 0.74
Y_{P}	0.243 ± 0.021	$r_{\mathrm{drag}} h$	98.6 ± 1.8	$D_{\mathrm{M}}(0.38)$	1541 ± 20
$\ln(10^{10} A_{\mathrm{s}})$	$3.042^{+0.013}_{-0.017}$	$\langle d^2 \rangle^{1/2}$	2.453 ± 0.044	$H(0.51)$	89.36 ± 0.61
n_{s}	0.963 ± 0.011	z_{re}	$7.69^{+0.52}_{-0.86}$	$D_{\mathrm{M}}(0.51)$	1995 ± 23
y_{cal}	1.0004 ± 0.0025	$10^9 A_{\mathrm{s}}$	$2.095^{+0.027}_{-0.036}$	$H(0.61)$	95.04 ± 0.51
A_{100}^{PS}	242 ± 26	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.880 ± 0.015	$D_{\mathrm{M}}(0.61)$	2320 ± 25
A_{143}^{PS}	40 ± 10	D_{40}	1231 ± 22	$H(2.33)$	236.6 ± 1.3
A_{217}^{PS}	101 ± 10	D_{220}	5704 ± 42	$D_{\mathrm{M}}(2.33)$	5777 ± 25
A_{217}^{CIB}	41 ± 8	D_{810}	2534 ± 14	$f\sigma_8(0.15)$	0.463 ± 0.013
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	D_{1420}	814.3 ± 5.4	$\sigma_8(0.15)$	0.7494 ± 0.0080
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	D_{2000}	229.8 ± 2.5	$f\sigma_8(0.38)$	0.4793 ± 0.0099
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.450	$n_{\mathrm{s},0.002}$	0.963 ± 0.011	$\sigma_8(0.38)$	$0.6635^{+0.0062}_{-0.0072}$
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Y_{P}	0.243 ± 0.021	$f\sigma_8(0.51)$	0.4770 ± 0.0084
A^{kSZ}	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.244 ± 0.021	$\sigma_8(0.51)$	$0.6205^{+0.0057}_{-0.0068}$
A_{100}^{dust}	1.01 ± 0.20	Age/Gyr	13.828 ± 0.058	$f\sigma_8(0.61)$	0.4714 ± 0.0074
A_{143}^{dust}	0.97 ± 0.17	z_*	1090.20 ± 0.68	$\sigma_8(0.61)$	$0.5902^{+0.0055}_{-0.0065}$
A_{217}^{dust}	0.97 ± 0.10	r_*	144.52 ± 0.49	$f\sigma_8(2.33)$	$0.2973^{+0.0028}_{-0.0034}$
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04104 ± 0.00050	$\sigma_8(2.33)$	$0.3062^{+0.0032}_{-0.0037}$
c_{100}	0.9975 ± 0.0010	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.882 ± 0.046	f_{2000}^{143}	30 ± 4
c_{217}	1.0012 ± 0.0016	z_{drag}	1059.3 ± 1.2	f_{2000}^{217}	107.4 ± 2.8
H_0	67.0 ± 1.1	r_{drag}	147.26 ± 0.50	$f_{2000}^{143 \times 217}$	32.7 ± 3.1
Ω_{Λ}	$0.680^{+0.015}_{-0.014}$	k_{D}	0.14057 ± 0.00077	χ_{simall}^2	396.9 ± 1.7
Ω_{m}	0.320 ± 0.015	$100\theta_{\mathrm{D}}$	0.16100 ± 0.00079	χ_{lowl}^2	23.8 ± 2.1
$\Omega_{\mathrm{m}} h^2$	0.1432 ± 0.0021	z_{eq}	3407 ± 50	$\chi_{\mathrm{CamSpec}}^2$	7063.8 ± 5.6
$\Omega_{\mathrm{m}} h^3$	0.09588 ± 0.00076	k_{eq}	0.01040 ± 0.00015	χ_{prior}^2	7.6 ± 3.4
σ_8	0.8119 ± 0.0093	$100\theta_{\mathrm{eq}}$	0.8119 ± 0.0095	χ_{CMB}^2	7484.5 ± 5.6

$\bar{\chi}_{\mathrm{eff}}^2 = 7492.12$; $\Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.86$; $R - 1 = 0.00634$

16.6 base_yhe_CamSpecHM_TT_lowl_lowE_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02227 ± 0.00024	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6031 ± 0.0082	$D_{\mathrm{M}}(0.38)$	1527 ± 11
$\Omega_{\mathrm{c}}h^2$	0.1189 ± 0.0012	$\sigma_8/h^{0.5}$	0.983 ± 0.012	$H(0.51)$	89.76 ± 0.38
$100\theta_{\mathrm{MC}}$	1.04121 ± 0.00073	$r_{\mathrm{drag}}h$	99.93 ± 0.98	$D_{\mathrm{M}}(0.51)$	1979 ± 13
τ	$0.0553^{+0.0055}_{-0.0080}$	$\langle d^2 \rangle^{1/2}$	2.425 ± 0.028	$H(0.61)$	95.36 ± 0.35
Y_{P}	0.250 ± 0.019	z_{re}	$7.80^{+0.60}_{-0.82}$	$D_{\mathrm{M}}(0.61)$	2303 ± 14
$\ln(10^{10}A_{\mathrm{s}})$	$3.043^{+0.014}_{-0.017}$	$10^9 A_{\mathrm{s}}$	$2.097^{+0.029}_{-0.037}$	$H(2.33)$	235.76 ± 0.82
n_{s}	0.9692 ± 0.0082	$10^9 A_{\mathrm{s}}e^{-2\tau}$	$1.877^{+0.014}_{-0.016}$	$D_{\mathrm{M}}(2.33)$	5762 ± 18
y_{cal}	1.0005 ± 0.0025	D_{40}	1219 ± 17	$f\sigma_8(0.15)$	0.4545 ± 0.0077
A_{100}^{PS}	244 ± 26	D_{220}	5710 ± 41	$\sigma_8(0.15)$	$0.7478^{+0.0074}_{-0.0083}$
A_{143}^{PS}	41 ± 9	D_{810}	2534 ± 14	$f\sigma_8(0.38)$	0.4733 ± 0.0066
A_{217}^{PS}	101 ± 10	D_{1420}	814.6 ± 5.3	$\sigma_8(0.38)$	$0.6631^{+0.0065}_{-0.0072}$
A_{217}^{CIB}	41^{+7}_{-8}	D_{2000}	229.5 ± 2.5	$f\sigma_8(0.51)$	0.4722 ± 0.0061
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.7}$	$n_{\mathrm{s},0.002}$	0.9692 ± 0.0082	$\sigma_8(0.51)$	$0.6207^{+0.0061}_{-0.0068}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	Y_{P}	0.250 ± 0.019	$f\sigma_8(0.61)$	0.4674 ± 0.0057
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.464	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.251 ± 0.019	$\sigma_8(0.61)$	$0.5907^{+0.0058}_{-0.0064}$
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Age/Gyr	13.795 ± 0.042	$f\sigma_8(2.33)$	0.2979 ± 0.0031
A^{kSZ}	—	z_*	1090.16 ± 0.67	$\sigma_8(2.33)$	0.3073 ± 0.0033
A_{100}^{dust}	1.01 ± 0.20	r_*	144.78 ± 0.37	f_{2000}^{143}	31 ± 4
A_{143}^{dust}	0.98 ± 0.17	$100\theta_*$	1.04127 ± 0.00042	f_{2000}^{217}	107.8 ± 2.7
A_{217}^{dust}	0.97 ± 0.10	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.904 ± 0.037	$f_{2000}^{143 \times 217}$	33.2 ± 3.0
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	z_{drag}	1059.8 ± 1.1	χ_{small}^2	397.0 ± 1.8
c_{100}	$0.9975^{+0.0011}_{-0.00099}$	r_{drag}	147.49 ± 0.42	χ_{lowl}^2	22.7 ± 1.3
c_{217}	1.0012 ± 0.0016	k_{D}	0.14018 ± 0.00060	$\chi_{\mathrm{CamSpec}}^2$	7064.7 ± 5.6
H_0	67.76 ± 0.62	$100\theta_{\mathrm{D}}$	0.16119 ± 0.00075	$\chi_{6\mathrm{DF}}^2$	0.053 ± 0.072
Ω_{Λ}	0.6910 ± 0.0076	z_{eq}	3373 ± 29	χ_{MGS}^2	1.45 ± 0.56
Ω_{m}	0.3090 ± 0.0076	k_{eq}	0.010296 ± 0.000089	$\chi_{\mathrm{DR12BAO}}^2$	4.6 ± 1.5
$\Omega_{\mathrm{m}}h^2$	0.1418 ± 0.0012	$100\theta_{\mathrm{eq}}$	0.8184 ± 0.0053	χ_{prior}^2	7.7 ± 3.5
$\Omega_{\mathrm{m}}h^3$	0.09608 ± 0.00072	$100\theta_{\mathrm{s,eq}}$	0.4522 ± 0.0027	χ_{BAO}^2	6.1 ± 1.3
σ_8	0.8090 ± 0.0087	$H(0.15)$	73.01 ± 0.55	χ_{CMB}^2	7484.4 ± 5.5
S_8	0.821 ± 0.015	$D_{\mathrm{M}}(0.15)$	640.1 ± 5.3		
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4497 ± 0.0082	$H(0.38)$	83.07 ± 0.44		

$\bar{\chi}_{\mathrm{eff}}^2 = 7498.14$; $\Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.82$; $R - 1 = 0.01531$

16.7 base_yhe_CamSpecHM_TT_lowl_lowE_post_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02213 ± 0.00028	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4571 ± 0.0091	$D_{\mathrm{M}}(0.15)$	646.1 ± 7.5
$\Omega_{\mathrm{c}}h^2$	0.1201 ± 0.0016	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6087 ± 0.0078	$H(0.38)$	82.62 ± 0.59
$100\theta_{\mathrm{MC}}$	1.04076 ± 0.00084	$\sigma_8/h^{0.5}$	0.990 ± 0.011	$D_{\mathrm{M}}(0.38)$	1539 ± 15
τ	$0.0542^{+0.0048}_{-0.0084}$	$r_{\mathrm{drag}}h$	98.8 ± 1.4	$H(0.51)$	89.39 ± 0.50
Y_{P}	0.242 ± 0.021	$\langle d^2 \rangle^{1/2}$	2.449 ± 0.029	$D_{\mathrm{M}}(0.51)$	1993 ± 18
$\ln(10^{10}A_{\mathrm{s}})$	$3.041^{+0.013}_{-0.017}$	z_{re}	$7.69^{+0.53}_{-0.86}$	$H(0.61)$	95.06 ± 0.44
n_{s}	0.9632 ± 0.0097	$10^9 A_{\mathrm{s}}$	$2.094^{+0.026}_{-0.035}$	$D_{\mathrm{M}}(0.61)$	2318 ± 20
y_{cal}	1.0005 ± 0.0025	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.879 ± 0.014	$H(2.33)$	236.40 ± 0.94
A_{100}^{PS}	241 ± 26	D_{40}	1231 ± 19	$D_{\mathrm{M}}(2.33)$	5776 ± 23
A_{143}^{PS}	40 ± 9	D_{220}	5707 ± 41	$f\sigma_8(0.15)$	0.4611 ± 0.0083
A_{217}^{PS}	101 ± 10	D_{810}	2533 ± 14	$\sigma_8(0.15)$	0.7485 ± 0.0069
A_{217}^{CIB}	41^{+7}_{-8}	D_{1420}	814.7 ± 5.3	$f\sigma_8(0.38)$	0.4780 ± 0.0064
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	D_{2000}	230.0 ± 2.5	$\sigma_8(0.38)$	$0.6628^{+0.0058}_{-0.0066}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	$n_{\mathrm{s},0.002}$	0.9632 ± 0.0097	$f\sigma_8(0.51)$	0.4758 ± 0.0055
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.444	Y_{P}	0.242 ± 0.021	$\sigma_8(0.51)$	$0.6200^{+0.0056}_{-0.0064}$
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.243 ± 0.021	$f\sigma_8(0.61)$	0.4704 ± 0.0050
A^{kSZ}	—	Age/Gyr	13.827 ± 0.052	$\sigma_8(0.61)$	$0.5898^{+0.0054}_{-0.0062}$
A_{100}^{dust}	1.01 ± 0.20	z_*	1090.10 ± 0.67	$f\sigma_8(2.33)$	$0.2971^{+0.0029}_{-0.0034}$
A_{143}^{dust}	0.97 ± 0.17	r_*	144.59 ± 0.38	$\sigma_8(2.33)$	$0.3061^{+0.0032}_{-0.0037}$
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04106 ± 0.00047	f_{2000}^{143}	30 ± 4
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.889 ± 0.037	f_{2000}^{217}	107.2 ± 2.8
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.3 ± 1.2	$f_{2000}^{143 \times 217}$	32.5 ± 3.1
c_{217}	1.0012 ± 0.0016	r_{drag}	147.33 ± 0.41	$\chi_{\mathrm{lensing}}^2$	9.48 ± 0.91
H_0	67.06 ± 0.86	k_{D}	0.14057 ± 0.00068	χ_{simall}^2	396.9 ± 1.7
Ω_{Λ}	0.682 ± 0.011	$100\theta_{\mathrm{D}}$	0.16092 ± 0.00079	χ_{lowl}^2	23.8 ± 1.7
Ω_{m}	0.318 ± 0.011	z_{eq}	3400 ± 35	$\chi_{\mathrm{CamSpec}}^2$	7063.4 ± 5.4
$\Omega_{\mathrm{m}}h^2$	0.1429 ± 0.0015	k_{eq}	0.01038 ± 0.00011	χ_{prior}^2	7.5 ± 3.4
$\Omega_{\mathrm{m}}h^3$	0.09584 ± 0.00076	$100\theta_{\mathrm{eq}}$	0.8130 ± 0.0068	χ_{CMB}^2	7493.5 ± 5.6
σ_8	0.8107 ± 0.0074	$100\theta_{\mathrm{s,eq}}$	0.4494 ± 0.0035		
S_8	0.835 ± 0.017	$H(0.15)$	72.41 ± 0.76		

$\bar{\chi}_{\mathrm{eff}}^2 = 7501.05$; $\Delta\bar{\chi}_{\mathrm{eff}}^2 = 1.04$; $R - 1 = 0.00841$

16.8 base_yhe_CamSpecHM_TT_lowl_lowE_post_BAO_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02226 ± 0.00024	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6048 ± 0.0066	$D_{\mathrm{M}}(0.38)$	1529 ± 10
$\Omega_{\mathrm{c}}h^2$	0.1191 ± 0.0011	$\sigma_8/h^{0.5}$	0.9852 ± 0.0095	$H(0.51)$	89.71 ± 0.37
$100\theta_{\mathrm{MC}}$	1.04113 ± 0.00073	$r_{\mathrm{drag}}h$	99.76 ± 0.88	$D_{\mathrm{M}}(0.51)$	1981 ± 12
τ	$0.0564^{+0.0059}_{-0.0077}$	$\langle d^2 \rangle^{1/2}$	2.433 ± 0.023	$H(0.61)$	95.32 ± 0.34
Y_{P}	0.248 ± 0.019	z_{re}	$7.91^{+0.63}_{-0.75}$	$D_{\mathrm{M}}(0.61)$	2305 ± 14
$\ln(10^{10}A_{\mathrm{s}})$	$3.046^{+0.014}_{-0.016}$	$10^9 A_{\mathrm{s}}$	$2.103^{+0.028}_{-0.033}$	$H(2.33)$	235.87 ± 0.73
n_{s}	0.9680 ± 0.0082	$10^9 A_{\mathrm{s}}e^{-2\tau}$	$1.878^{+0.013}_{-0.015}$	$D_{\mathrm{M}}(2.33)$	5764 ± 18
y_{cal}	1.0007 ± 0.0024	D_{40}	1223 ± 17	$f\sigma_8(0.15)$	0.4561 ± 0.0062
A_{100}^{PS}	244 ± 26	D_{220}	5715 ± 40	$\sigma_8(0.15)$	0.7489 ± 0.0070
A_{143}^{PS}	41 ± 9	D_{810}	2535 ± 14	$f\sigma_8(0.38)$	0.4747 ± 0.0053
A_{217}^{PS}	101 ± 10	D_{1420}	815.1 ± 5.2	$\sigma_8(0.38)$	0.6640 ± 0.0063
A_{217}^{CIB}	41^{+7}_{-8}	D_{2000}	229.8 ± 2.4	$f\sigma_8(0.51)$	0.4734 ± 0.0049
A_{143}^{tSZ}	$3.8^{+1.7}_{-2.7}$	$n_{\mathrm{s},0.002}$	0.9680 ± 0.0082	$\sigma_8(0.51)$	0.6215 ± 0.0060
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	Y_{P}	0.248 ± 0.019	$f\sigma_8(0.61)$	0.4685 ± 0.0046
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.462	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.249 ± 0.019	$\sigma_8(0.61)$	0.5914 ± 0.0057
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Age/Gyr	13.799 ± 0.042	$f\sigma_8(2.33)$	0.2982 ± 0.0030
A^{kSZ}	—	z_*	1090.12 ± 0.66	$\sigma_8(2.33)$	0.3075 ± 0.0032
A_{100}^{dust}	1.01 ± 0.20	r_*	144.74 ± 0.34	f_{2000}^{143}	31 ± 4
A_{143}^{dust}	0.97 ± 0.17	$100\theta_*$	1.04125 ± 0.00042	f_{2000}^{217}	107.6 ± 2.7
A_{217}^{dust}	0.97 ± 0.10	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.901 ± 0.034	$f_{2000}^{143 \times 217}$	33.0 ± 3.0
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	z_{drag}	1059.7 ± 1.1	$\chi_{\mathrm{lensing}}^2$	9.38 ± 0.78
c_{100}	$0.9975^{+0.0011}_{-0.00098}$	r_{drag}	147.45 ± 0.39	χ_{simall}^2	397.2 ± 1.9
c_{217}	1.0012 ± 0.0016	k_{D}	0.14027 ± 0.00059	χ_{lowl}^2	22.9 ± 1.3
H_0	67.65 ± 0.58	$100\theta_{\mathrm{D}}$	0.16111 ± 0.00075	$\chi_{\mathrm{CamSpec}}^2$	7064.1 ± 5.4
Ω_{Λ}	0.6897 ± 0.0069	z_{eq}	3378 ± 26	$\chi_{6\mathrm{DF}}^2$	0.055 ± 0.071
Ω_{m}	0.3103 ± 0.0069	k_{eq}	0.010309 ± 0.000078	χ_{MGS}^2	1.34 ± 0.49
$\Omega_{\mathrm{m}}h^2$	0.1420 ± 0.0011	$100\theta_{\mathrm{eq}}$	0.8176 ± 0.0046	$\chi_{\mathrm{DR12BAO}}^2$	4.7 ± 1.5
$\Omega_{\mathrm{m}}h^3$	0.09606 ± 0.00071	$100\theta_{\mathrm{s,eq}}$	0.4517 ± 0.0024	χ_{prior}^2	7.6 ± 3.5
σ_8	0.8104 ± 0.0075	$H(0.15)$	72.92 ± 0.52	χ_{CMB}^2	7493.6 ± 5.5
S_8	0.824 ± 0.012	$D_{\mathrm{M}}(0.15)$	640.9 ± 5.0	χ_{BAO}^2	6.1 ± 1.2
$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4514 ± 0.0066	$H(0.38)$	83.01 ± 0.42		

$\bar{\chi}_{\mathrm{eff}}^2 = 7507.34$; $\Delta\bar{\chi}_{\mathrm{eff}}^2 = 1.01$; $R - 1 = 0.01969$

16.9 base_yhe_CamSpecHM_TTTEEE_lowl_lowE

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_b h^2$	0.022312	0.02230 ± 0.00021	σ_8	0.8081	0.8081 ± 0.0084	$100\theta_{s,eq}$	0.45072	0.4504 ± 0.0031
$\Omega_c h^2$	0.11944	0.1196 ± 0.0014	S_8	0.8248	0.826 ± 0.017	$H(0.15)$	72.79	72.74 ± 0.67
$100\theta_{MC}$	1.04093	1.04090 ± 0.00071	$\sigma_8 \Omega_m^{0.5}$	0.4517	0.4524 ± 0.0091	$D_M(0.15)$	642.2	642.7 ± 6.6
τ	0.0532	0.0527 ± 0.0080	$\sigma_8 \Omega_m^{0.25}$	0.6042	0.6046 ± 0.0085	$H(0.38)$	82.92	82.89 ± 0.52
Y_P	0.2463	0.246 ± 0.018	$\sigma_8/h^{0.5}$	0.9835	0.984 ± 0.012	$D_M(0.38)$	1531.3	1532 ± 13
$\ln(10^{10} A_s)$	3.0389	3.039 ± 0.017	$r_{drag} h$	99.43	99.3 ± 1.2	$H(0.51)$	89.651	89.62 ± 0.44
n_s	0.9671	0.9662 ± 0.0085	$\langle d^2 \rangle^{1/2}$	2.4297	2.433 ± 0.032	$D_M(0.51)$	1983.5	1985 ± 16
y_{cal}	1.00025	1.0004 ± 0.0025	z_{re}	7.57	7.51 ± 0.82	$H(0.61)$	95.277	95.26 ± 0.38
A_{100}^{PS}	232.1	240 ± 26	$10^9 A_s$	2.0883	2.088 ± 0.036	$D_M(0.61)$	2307.9	2309 ± 17
A_{143}^{PS}	41.4	40 ± 9	$10^9 A_s e^{-2\tau}$	1.8777	1.879 ± 0.013	$H(2.33)$	236.14	236.21 ± 0.84
A_{217}^{PS}	102.7	102 ± 10	D_{40}	1223.0	1226 ± 17	$D_M(2.33)$	5764.8	5766 ± 19
A_{217}^{CIB}	44.1	40 ± 7	D_{220}	5714.1	5718 ± 39	$f\sigma_8(0.15)$	0.4562	0.4568 ± 0.0085
A_{143}^{tSZ}	6.67	$3.8_{-2.5}^{+1.8}$	D_{810}	2534.5	2535 ± 14	$\sigma_8(0.15)$	0.7466	0.7465 ± 0.0077
$r_{143 \times 217}^{PS}$	0.625	0.66 ± 0.13	D_{1420}	815.7	815.5 ± 5.1	$f\sigma_8(0.38)$	0.4743	0.4747 ± 0.0069
$r_{143 \times 217}^{CIB}$	0.797	$0.57_{-0.16}^{+0.41}$	D_{2000}	230.22	230.1 ± 2.3	$\sigma_8(0.38)$	0.6617	0.6615 ± 0.0068
$\xi^{tSZ \times CIB}$	0.21	—	$n_{s,0.002}$	0.9671	0.9662 ± 0.0085	$f\sigma_8(0.51)$	0.4728	0.4730 ± 0.0062
A^{kSZ}	0.02	$4.8_{-3.9}^{+2.3}$	Y_P	0.2463	0.246 ± 0.018	$\sigma_8(0.51)$	0.6192	0.6190 ± 0.0064
A_{100}^{dust}	1.008	1.01 ± 0.20	Y_P^{BBN}	0.2477	0.247 ± 0.018	$f\sigma_8(0.61)$	0.4677	0.4679 ± 0.0057
A_{143}^{dust}	0.979	0.96 ± 0.17	Age/Gyr	13.8009	13.803 ± 0.043	$\sigma_8(0.61)$	0.5891	0.5889 ± 0.0061
A_{217}^{dust}	0.973	0.97 ± 0.10	z_*	1089.98	1090.01 ± 0.58	$f\sigma_8(2.33)$	0.29701	0.2969 ± 0.0032
$A_{143 \times 217}^{dust}$	1.008	1.03 ± 0.16	r_*	144.616	144.59 ± 0.33	$\sigma_8(2.33)$	0.30616	0.3060 ± 0.0034
c_{100}	0.99764	0.9975 ± 0.0011	$100\theta_*$	1.041090	1.04107 ± 0.00035	f_{2000}^{143}	30.02	30 ± 4
c_{217}	1.00130	1.0012 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.8908	13.889 ± 0.031	f_{2000}^{217}	106.81	107.0 ± 2.6
c_{TE}	0.9968	0.9969 ± 0.0054	z_{drag}	1059.78	1059.77 ± 0.96	$f_{2000}^{143 \times 217}$	32.21	32.3 ± 2.8
c_{EE}	0.9923	0.9925 ± 0.0066	r_{drag}	147.302	147.28 ± 0.34	χ_{small}^2	395.88	396.9 ± 1.7
H_0	67.50	67.44 ± 0.77	k_D	0.14056	0.14058 ± 0.00058	χ_{lowl}^2	22.85	23.2 ± 1.4
Ω_Λ	0.6875	0.6865 ± 0.0097	$100\theta_D$	0.16090	0.16090 ± 0.00069	$\chi_{CamSpec}^2$	11499.8	11515.4 ± 5.8
Ω_m	0.3125	0.3135 ± 0.0097	z_{eq}	3387.5	3391 ± 32	χ_{prior}^2	2.19	7.9 ± 3.5
$\Omega_m h^2$	0.14240	0.1425 ± 0.0013	k_{eq}	0.010339	0.010348 ± 0.000097	χ_{CMB}^2	11918.5	11935.5 ± 5.9
$\Omega_m h^3$	0.09612	0.09612 ± 0.00060	$100\theta_{eq}$	0.8158	0.8152 ± 0.0062			

Best-fit $\chi_{eff}^2 = 11920.73$; $\Delta\chi_{eff}^2 = -0.03$; $\bar{\chi}_{eff}^2 = 11943.34$; $\Delta\bar{\chi}_{eff}^2 = 0.88$; $R - 1 = 0.01242$

χ_{eff}^2 : CMB - simall_100x143_offlike5_EE_Aplanck_B: 395.88 (Δ -0.02) commander_dx12_v3.2.29: 22.85 (Δ -0.15) CamSpec like_10.7HM_1400_unified: 11499.82 (Δ 0.17)

16.10 base_yhe_CamSpecHM_TTTEEE_lowl_lowE_post_BAO

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02237 ± 0.00019	S_8	0.819 ± 0.013	$D_{\mathrm{M}}(0.15)$	639.7 ± 4.7
$\Omega_{\mathrm{c}}h^2$	0.1189 ± 0.0010	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4487 ± 0.0071	$H(0.38)$	83.12 ± 0.38
$100\theta_{\mathrm{MC}}$	1.04112 ± 0.00064	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6018 ± 0.0075	$D_{\mathrm{M}}(0.38)$	1526.2 ± 9.6
τ	0.0536 ± 0.0081	$\sigma_8/h^{0.5}$	0.980 ± 0.011	$H(0.51)$	89.81 ± 0.33
Y_{P}	0.250 ± 0.017	$r_{\mathrm{drag}}h$	99.91 ± 0.85	$D_{\mathrm{M}}(0.51)$	1977 ± 11
$\ln(10^{10}A_{\mathrm{s}})$	3.040 ± 0.018	$\langle d^2 \rangle^{1/2}$	2.421 ± 0.027	$H(0.61)$	95.41 ± 0.30
n_{s}	0.9691 ± 0.0073	z_{re}	7.59 ± 0.83	$D_{\mathrm{M}}(0.61)$	2301 ± 12
y_{cal}	1.0005 ± 0.0025	$10^9 A_{\mathrm{s}}$	2.091 ± 0.037	$H(2.33)$	235.87 ± 0.66
A_{100}^{PS}	242 ± 25	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.878 ± 0.013	$D_{\mathrm{M}}(2.33)$	5759 ± 15
A_{143}^{PS}	40 ± 9	D_{40}	1220 ± 16	$f\sigma_8(0.15)$	0.4534 ± 0.0068
A_{217}^{PS}	102 ± 10	D_{220}	5721 ± 39	$\sigma_8(0.15)$	0.7462 ± 0.0078
A_{217}^{CIB}	40 ± 7	D_{810}	2535 ± 14	$f\sigma_8(0.38)$	0.4723 ± 0.0060
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.6}$	D_{1420}	815.5 ± 5.1	$\sigma_8(0.38)$	0.6618 ± 0.0069
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.13	D_{2000}	229.9 ± 2.3	$f\sigma_8(0.51)$	0.4712 ± 0.0056
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.440	$n_{\mathrm{s},0.002}$	0.9691 ± 0.0073	$\sigma_8(0.51)$	0.6194 ± 0.0065
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Y_{P}	0.250 ± 0.017	$f\sigma_8(0.61)$	0.4664 ± 0.0053
A^{kSZ}	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.251 ± 0.017	$\sigma_8(0.61)$	0.5895 ± 0.0062
A_{100}^{dust}	1.01 ± 0.20	Age/Gyr	13.787 ± 0.036	$f\sigma_8(2.33)$	0.2973 ± 0.0032
A_{143}^{dust}	0.97 ± 0.17	z_*	1090.02 ± 0.58	$\sigma_8(2.33)$	0.3067 ± 0.0033
A_{217}^{dust}	0.97 ± 0.10	r_*	144.69 ± 0.29	f_{2000}^{143}	30 ± 4
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04118 ± 0.00032	f_{2000}^{217}	107.3 ± 2.6
c_{100}	0.9975 ± 0.0011	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.897 ± 0.028	$f_{2000}^{143 \times 217}$	32.6 ± 2.8
c_{217}	1.0012 ± 0.0016	z_{drag}	1060.01 ± 0.88	χ_{small}^2	397.0 ± 1.8
c_{TE}	0.9975 ± 0.0053	r_{drag}	147.36 ± 0.32	χ_{lowl}^2	22.7 ± 1.1
c_{EE}	0.9936 ± 0.0063	k_{D}	0.14039 ± 0.00051	$\chi_{\mathrm{CamSpec}}^2$	11515.5 ± 5.7
H_0	67.80 ± 0.54	$100\theta_{\mathrm{D}}$	0.16103 ± 0.00067	$\chi_{6\mathrm{DF}}^2$	0.044 ± 0.057
Ω_{Λ}	0.6911 ± 0.0066	z_{eq}	3377 ± 24	χ_{MGS}^2	1.42 ± 0.49
Ω_{m}	0.3089 ± 0.0066	k_{eq}	0.010306 ± 0.000072	$\chi_{\mathrm{DR12BAO}}^2$	4.5 ± 1.3
$\Omega_{\mathrm{m}}h^2$	0.14194 ± 0.00099	$100\theta_{\mathrm{eq}}$	0.8181 ± 0.0044	χ_{prior}^2	7.9 ± 3.5
$\Omega_{\mathrm{m}}h^3$	0.09623 ± 0.00058	$100\theta_{\mathrm{s,eq}}$	0.4519 ± 0.0023	χ_{BAO}^2	6.0 ± 1.0
σ_8	0.8073 ± 0.0085	$H(0.15)$	73.05 ± 0.48	χ_{CMB}^2	11935.2 ± 5.7

$\bar{\chi}_{\mathrm{eff}}^2 = 11949.00$; $\Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.71$; $R - 1 = 0.01838$

16.11 base_yhe_CamSpecHM_TTTEEE_lowl_lowE_post_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02228 ± 0.00021	σ_8	0.8089 ± 0.0072	$100\theta_{\mathrm{s,eq}}$	0.4501 ± 0.0027
$\Omega_{\mathrm{c}}h^2$	0.1197 ± 0.0012	S_8	0.828 ± 0.013	$H(0.15)$	72.67 ± 0.60
$100\theta_{\mathrm{MC}}$	1.04082 ± 0.00070	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4536 ± 0.0072	$D_{\mathrm{M}}(0.15)$	643.5 ± 5.9
τ	0.0536 ± 0.0075	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6058 ± 0.0066	$H(0.38)$	82.83 ± 0.47
Y_{P}	0.244 ± 0.017	$\sigma_8/h^{0.5}$	0.9857 ± 0.0093	$D_{\mathrm{M}}(0.38)$	1534 ± 12
$\ln(10^{10}A_{\mathrm{s}})$	3.041 ± 0.016	$r_{\mathrm{drag}}h$	99.2 ± 1.1	$H(0.51)$	89.57 ± 0.40
n_{s}	0.9651 ± 0.0081	$\langle d^2 \rangle^{1/2}$	2.439 ± 0.025	$D_{\mathrm{M}}(0.51)$	1987 ± 14
y_{cal}	1.0006 ± 0.0025	z_{re}	7.60 ± 0.77	$H(0.61)$	95.21 ± 0.35
A_{100}^{PS}	240 ± 26	$10^9 A_{\mathrm{s}}$	2.092 ± 0.033	$D_{\mathrm{M}}(0.61)$	2311 ± 16
A_{143}^{PS}	39 ± 9	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.879 ± 0.013	$H(2.33)$	236.27 ± 0.73
A_{217}^{PS}	102 ± 10	D_{40}	1229 ± 16	$D_{\mathrm{M}}(2.33)$	5768 ± 18
A_{217}^{CIB}	40 ± 7	D_{220}	5721 ± 39	$f\sigma_8(0.15)$	0.4579 ± 0.0066
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	D_{810}	2535 ± 13	$\sigma_8(0.15)$	0.7472 ± 0.0067
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	D_{1420}	815.9 ± 5.0	$f\sigma_8(0.38)$	0.4756 ± 0.0053
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56^{+0.42}_{-0.15}$	D_{2000}	230.4 ± 2.2	$\sigma_8(0.38)$	0.6620 ± 0.0062
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$n_{\mathrm{s},0.002}$	0.9651 ± 0.0081	$f\sigma_8(0.51)$	0.4738 ± 0.0048
A^{kSZ}	$4.7^{+1.9}_{-4.3}$	Y_{P}	0.244 ± 0.017	$\sigma_8(0.51)$	0.6194 ± 0.0059
A_{100}^{dust}	1.01 ± 0.19	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.245 ± 0.018	$f\sigma_8(0.61)$	0.4686 ± 0.0044
A_{143}^{dust}	0.96 ± 0.17	Age/Gyr	13.808 ± 0.041	$\sigma_8(0.61)$	0.5893 ± 0.0057
A_{217}^{dust}	0.98 ± 0.10	z_*	1089.96 ± 0.57	$f\sigma_8(2.33)$	0.2970 ± 0.0030
$A_{143 \times 217}^{\mathrm{dust}}$	1.02 ± 0.16	r_*	144.58 ± 0.30	$\sigma_8(2.33)$	0.3061 ± 0.0033
c_{100}	0.9975 ± 0.0011	$100\theta_*$	1.04104 ± 0.00034	f_{2000}^{143}	30 ± 4
c_{217}	1.0011 ± 0.0016	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.888 ± 0.029	f_{2000}^{217}	106.8 ± 2.6
c_{TE}	0.9965 ± 0.0054	z_{drag}	1059.68 ± 0.94	$f_{2000}^{143 \times 217}$	32.0 ± 2.8
c_{EE}	0.9919 ± 0.0065	r_{drag}	147.27 ± 0.31	$\chi_{\mathrm{lensing}}^2$	9.29 ± 0.74
H_0	67.36 ± 0.69	k_{D}	0.14066 ± 0.00056	χ_{simall}^2	396.9 ± 1.7
Ω_{Λ}	0.6855 ± 0.0086	$100\theta_{\mathrm{D}}$	0.16082 ± 0.00068	χ_{lowl}^2	23.4 ± 1.4
Ω_{m}	0.3145 ± 0.0086	z_{eq}	3393 ± 28	$\chi_{\mathrm{CamSpec}}^2$	11514.7 ± 5.6
$\Omega_{\mathrm{m}}h^2$	0.1426 ± 0.0012	k_{eq}	0.010356 ± 0.000084	χ_{prior}^2	7.8 ± 3.4
$\Omega_{\mathrm{m}}h^3$	0.09607 ± 0.00060	$100\theta_{\mathrm{eq}}$	0.8147 ± 0.0054	χ_{CMB}^2	11944.3 ± 5.8
$\bar{\chi}_{\mathrm{eff}}^2 = 11952.12; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.68; R - 1 = 0.01489$					

16.12 base_yhe_CamSpecHM_TTTEEE_lowl_lowE_post_BAO_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02236 ± 0.00018	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4505 ± 0.0059	$D_{\mathrm{M}}(0.38)$	1527.7 ± 9.2
$\Omega_{\mathrm{c}}h^2$	0.11908 ± 0.00095	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6037 ± 0.0060	$H(0.51)$	89.76 ± 0.32
$100\theta_{\mathrm{MC}}$	1.04105 ± 0.00064	$\sigma_8/h^{0.5}$	0.9834 ± 0.0089	$D_{\mathrm{M}}(0.51)$	1979 ± 11
τ	0.0554 ± 0.0074	$r_{\mathrm{drag}}h$	99.76 ± 0.79	$H(0.61)$	95.37 ± 0.29
Y_{P}	0.248 ± 0.016	$\langle d^2 \rangle^{1/2}$	2.430 ± 0.022	$D_{\mathrm{M}}(0.61)$	2303 ± 12
$\ln(10^{10}A_{\mathrm{s}})$	3.044 ± 0.015	z_{re}	7.78 ± 0.74	$H(2.33)$	235.95 ± 0.61
n_{s}	0.9681 ± 0.0072	$10^9 A_{\mathrm{s}}$	2.099 ± 0.032	$D_{\mathrm{M}}(2.33)$	5760 ± 15
y_{cal}	1.0007 ± 0.0025	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.879 ± 0.013	$f\sigma_8(0.15)$	0.4552 ± 0.0055
A_{100}^{PS}	241 ± 26	D_{40}	1224 ± 15	$\sigma_8(0.15)$	0.7479 ± 0.0067
A_{143}^{PS}	40 ± 9	D_{220}	5725 ± 39	$f\sigma_8(0.38)$	0.4738 ± 0.0048
A_{217}^{PS}	102 ± 10	D_{810}	2536 ± 13	$\sigma_8(0.38)$	0.6631 ± 0.0061
A_{217}^{CIB}	40 ± 7	D_{1420}	816.0 ± 5.0	$f\sigma_8(0.51)$	0.4726 ± 0.0045
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.5}$	D_{2000}	230.2 ± 2.2	$\sigma_8(0.51)$	0.6206 ± 0.0058
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$n_{\mathrm{s},0.002}$	0.9681 ± 0.0072	$f\sigma_8(0.61)$	0.4678 ± 0.0043
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.433	Y_{P}	0.248 ± 0.016	$\sigma_8(0.61)$	0.5906 ± 0.0056
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.250 ± 0.016	$f\sigma_8(2.33)$	0.2978 ± 0.0029
A^{kSZ}	$4.8^{+2.3}_{-3.9}$	Age/Gyr	13.791 ± 0.035	$\sigma_8(2.33)$	0.3071 ± 0.0031
A_{100}^{dust}	1.01 ± 0.20	z_*	1089.99 ± 0.57	f_{2000}^{143}	30 ± 4
A_{143}^{dust}	0.96 ± 0.17	r_*	144.67 ± 0.27	f_{2000}^{217}	107.1 ± 2.5
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04115 ± 0.00032	$f_{2000}^{143 \times 217}$	32.4 ± 2.8
$A_{143 \times 217}^{\mathrm{dust}}$	1.02 ± 0.16	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.895 ± 0.027	$\chi_{\mathrm{lensing}}^2$	9.33 ± 0.78
c_{100}	0.9976 ± 0.0011	z_{drag}	1059.94 ± 0.87	χ_{simall}^2	397.1 ± 1.8
c_{217}	1.0012 ± 0.0016	r_{drag}	147.34 ± 0.30	χ_{lowl}^2	22.9 ± 1.2
c_{TE}	0.9970 ± 0.0053	k_{D}	0.14047 ± 0.00050	$\chi_{\mathrm{CamSpec}}^2$	11514.8 ± 5.6
c_{EE}	0.9932 ± 0.0063	$100\theta_{\mathrm{D}}$	0.16096 ± 0.00066	$\chi_{6\mathrm{DF}}^2$	0.048 ± 0.059
H_0	67.71 ± 0.52	z_{eq}	3380 ± 22	χ_{MGS}^2	1.34 ± 0.44
Ω_{Λ}	0.6900 ± 0.0062	k_{eq}	0.010316 ± 0.000067	$\chi_{\mathrm{DR12BAO}}^2$	4.7 ± 1.3
Ω_{m}	0.3100 ± 0.0062	$100\theta_{\mathrm{eq}}$	0.8174 ± 0.0041	χ_{prior}^2	7.8 ± 3.5
$\Omega_{\mathrm{m}}h^2$	0.14209 ± 0.00091	$100\theta_{\mathrm{s,eq}}$	0.4515 ± 0.0021	χ_{CMB}^2	11944.2 ± 5.8
$\Omega_{\mathrm{m}}h^3$	0.09620 ± 0.00057	$H(0.15)$	72.98 ± 0.46	χ_{BAO}^2	6.0 ± 1.0
σ_8	0.8091 ± 0.0072	$D_{\mathrm{M}}(0.15)$	640.4 ± 4.4		
S_8	0.822 ± 0.011	$H(0.38)$	83.06 ± 0.37		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11958.04; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.63; R - 1 = 0.02077$$

16.13 base_yhe_CamSpecHM_TTTEEE_lowl_lowE_post_Riess18

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02255 ± 0.00021	σ_8	0.8068 ± 0.0087	$100\theta_{\mathrm{s,eq}}$	0.4545 ± 0.0030
$\Omega_{\mathrm{c}}h^2$	0.1178 ± 0.0013	S_8	0.807 ± 0.016	$H(0.15)$	73.71 ± 0.63
$100\theta_{\mathrm{MC}}$	1.04164 ± 0.00067	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4420 ± 0.0086	$D_{\mathrm{M}}(0.15)$	633.3 ± 6.0
τ	0.0555 ± 0.0084	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.5972 ± 0.0084	$H(0.38)$	83.63 ± 0.49
Y_{P}	$0.261^{+0.018}_{-0.016}$	$\sigma_8/h^{0.5}$	0.975 ± 0.012	$D_{\mathrm{M}}(0.38)$	1513 ± 12
$\ln(10^{10}A_{\mathrm{s}})$	3.044 ± 0.018	$r_{\mathrm{drag}}h$	101.1 ± 1.1	$H(0.51)$	90.24 ± 0.42
n_{s}	0.9762 ± 0.0082	$\langle d^2 \rangle^{1/2}$	2.398 ± 0.030	$D_{\mathrm{M}}(0.51)$	1962 ± 15
y_{cal}	1.0006 ± 0.0024	z_{re}	7.78 ± 0.85	$H(0.61)$	95.78 ± 0.36
A_{100}^{PS}	244 ± 25	$10^9 A_{\mathrm{s}}$	2.099 ± 0.037	$D_{\mathrm{M}}(0.61)$	2285 ± 16
A_{143}^{PS}	42 ± 9	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.879 ± 0.013	$H(2.33)$	235.33 ± 0.79
A_{217}^{PS}	101 ± 10	D_{40}	1208 ± 17	$D_{\mathrm{M}}(2.33)$	5741 ± 18
A_{217}^{CIB}	41 ± 7	D_{220}	5727 ± 37	$f\sigma_8(0.15)$	0.4474 ± 0.0081
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.6}$	D_{810}	2537 ± 13	$\sigma_8(0.15)$	0.7467 ± 0.0079
$r_{143 \times 217}^{\mathrm{PS}}$	0.65 ± 0.12	D_{1420}	815.5 ± 5.1	$f\sigma_8(0.38)$	0.4682 ± 0.0069
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.442	D_{2000}	229.3 ± 2.2	$\sigma_8(0.38)$	0.6632 ± 0.0070
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$n_{\mathrm{s},0.002}$	0.9762 ± 0.0082	$f\sigma_8(0.51)$	0.4682 ± 0.0062
A^{kSZ}	$5.2^{+3.7}_{-2.4}$	Y_{P}	$0.261^{+0.018}_{-0.016}$	$\sigma_8(0.51)$	0.6211 ± 0.0066
A_{100}^{dust}	1.01 ± 0.20	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	$0.262^{+0.018}_{-0.016}$	$f\sigma_8(0.61)$	0.4641 ± 0.0058
A_{143}^{dust}	0.97 ± 0.17	Age/Gyr	13.748 ± 0.041	$\sigma_8(0.61)$	0.5913 ± 0.0063
A_{217}^{dust}	0.97 ± 0.10	z_*	1090.14 ± 0.57	$f\sigma_8(2.33)$	0.2986 ± 0.0032
$A_{143 \times 217}^{\mathrm{dust}}$	1.04 ± 0.16	r_*	144.82 ± 0.32	$\sigma_8(2.33)$	0.3084 ± 0.0035
c_{100}	0.9975 ± 0.0011	$100\theta_*$	1.04140 ± 0.00033	f_{2000}^{143}	31 ± 4
c_{217}	1.0013 ± 0.0016	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.907 ± 0.031	f_{2000}^{217}	108.1 ± 2.6
c_{TE}	0.9990 ± 0.0053	z_{drag}	1060.71 ± 0.93	$f_{2000}^{143 \times 217}$	33.5 ± 2.7
c_{EE}	0.9964 ± 0.0064	r_{drag}	147.44 ± 0.34	χ_{small}^2	397.2 ± 2.0
H_0	68.54 ± 0.71	k_{D}	$0.14000^{+0.00051}_{-0.00060}$	χ_{lowl}^2	21.8 ± 1.1
Ω_{Λ}	$0.6999^{+0.0091}_{-0.0082}$	$100\theta_{\mathrm{D}}$	$0.16137^{+0.00071}_{-0.00063}$	$\chi_{\mathrm{CamSpec}}^2$	11518.2 ± 6.4
Ω_{m}	$0.3001^{+0.0082}_{-0.0091}$	z_{eq}	3353 ± 30	$\chi_{\mathrm{H073p45}}^2$	8.9 ± 2.6
$\Omega_{\mathrm{m}}h^2$	0.1409 ± 0.0012	k_{eq}	0.010233 ± 0.000091	χ_{prior}^2	7.9 ± 3.5
$\Omega_{\mathrm{m}}h^3$	0.09660 ± 0.00059	$100\theta_{\mathrm{eq}}$	0.8233 ± 0.0058	χ_{CMB}^2	11937.2 ± 6.2
$\bar{\chi}_{\mathrm{eff}}^2 = 11954.03; \Delta\bar{\chi}_{\mathrm{eff}}^2 = -0.24; R - 1 = 0.04865$					

16.14 base_yhe_CamSpecHM_TTTEEE_lowl_lowE_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02231 ± 0.00021	σ_8	$0.8093^{+0.0072}_{-0.0081}$	$100\theta_{\mathrm{s,eq}}$	0.4505 ± 0.0031
$\Omega_{\mathrm{c}}h^2$	0.1195 ± 0.0014	S_8	0.827 ± 0.016	$H(0.15)$	72.77 ± 0.67
$100\theta_{\mathrm{MC}}$	1.04092 ± 0.00071	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4529 ± 0.0090	$D_{\mathrm{M}}(0.15)$	642.5 ± 6.6
τ	$0.0543^{+0.0047}_{-0.0082}$	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6054 ± 0.0082	$H(0.38)$	82.91 ± 0.52
Y_{P}	0.246 ± 0.018	$\sigma_8/h^{0.5}$	0.985 ± 0.012	$D_{\mathrm{M}}(0.38)$	1532 ± 13
$\ln(10^{10}A_{\mathrm{s}})$	$3.042^{+0.013}_{-0.017}$	$r_{\mathrm{drag}}h$	99.4 ± 1.2	$H(0.51)$	89.64 ± 0.43
n_{s}	0.9666 ± 0.0084	$\langle d^2 \rangle^{1/2}$	2.435 ± 0.031	$D_{\mathrm{M}}(0.51)$	1984 ± 16
y_{cal}	1.0004 ± 0.0025	z_{re}	$7.68^{+0.53}_{-0.82}$	$H(0.61)$	95.27 ± 0.38
A_{100}^{PS}	240 ± 26	$10^9 A_{\mathrm{s}}$	$2.094^{+0.026}_{-0.035}$	$D_{\mathrm{M}}(0.61)$	2309 ± 17
A_{143}^{PS}	40 ± 9	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.879 ± 0.013	$H(2.33)$	236.20 ± 0.83
A_{217}^{PS}	102 ± 10	D_{40}	1225 ± 17	$D_{\mathrm{M}}(2.33)$	5765 ± 19
A_{217}^{CIB}	40 ± 7	D_{220}	5717 ± 39	$f\sigma_8(0.15)$	0.4573 ± 0.0083
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.5}$	D_{810}	2535 ± 14	$\sigma_8(0.15)$	$0.7477^{+0.0064}_{-0.0073}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	D_{1420}	815.5 ± 5.1	$f\sigma_8(0.38)$	0.4752 ± 0.0067
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56^{+0.41}_{-0.16}$	D_{2000}	230.1 ± 2.3	$\sigma_8(0.38)$	$0.6626^{+0.0056}_{-0.0065}$
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$n_{\mathrm{s},0.002}$	0.9666 ± 0.0084	$f\sigma_8(0.51)$	0.4736 ± 0.0059
A^{kSZ}	$4.8^{+2.4}_{-3.9}$	Y_{P}	0.246 ± 0.018	$\sigma_8(0.51)$	$0.6200^{+0.0052}_{-0.0061}$
A_{100}^{dust}	1.01 ± 0.20	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.248 ± 0.018	$f\sigma_8(0.61)$	0.4685 ± 0.0054
A_{143}^{dust}	0.96 ± 0.17	Age/Gyr	13.801 ± 0.043	$\sigma_8(0.61)$	$0.5899^{+0.0050}_{-0.0059}$
A_{217}^{dust}	0.97 ± 0.10	z_*	1090.01 ± 0.57	$f\sigma_8(2.33)$	$0.2974^{+0.0026}_{-0.0031}$
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	r_*	144.59 ± 0.32	$\sigma_8(2.33)$	$0.3065^{+0.0028}_{-0.0033}$
c_{100}	0.9975 ± 0.0011	$100\theta_*$	1.04108 ± 0.00035	f_{2000}^{143}	30 ± 4
c_{217}	1.0012 ± 0.0016	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.889 ± 0.031	f_{2000}^{217}	107.0 ± 2.6
c_{TE}	0.9968 ± 0.0054	z_{drag}	1059.80 ± 0.95	$f_{2000}^{143 \times 217}$	32.3 ± 2.8
c_{EE}	0.9925 ± 0.0066	r_{drag}	147.28 ± 0.34	χ_{small}^2	396.8 ± 1.7
H_0	67.47 ± 0.76	k_{D}	0.14057 ± 0.00058	χ_{lowl}^2	23.2 ± 1.4
Ω_{Λ}	0.6868 ± 0.0096	$100\theta_{\mathrm{D}}$	0.16091 ± 0.00068	$\chi_{\mathrm{CamSpec}}^2$	11515.2 ± 5.8
Ω_{m}	0.3132 ± 0.0096	z_{eq}	3390 ± 32	χ_{prior}^2	7.9 ± 3.5
$\Omega_{\mathrm{m}}h^2$	0.1425 ± 0.0013	k_{eq}	0.010346 ± 0.000096	χ_{CMB}^2	11935.1 ± 5.8
$\Omega_{\mathrm{m}}h^3$	0.09613 ± 0.00060	$100\theta_{\mathrm{eq}}$	0.8154 ± 0.0061		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11943.03; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.84; R - 1 = 0.01121$$

16.15 base_yhe_CamSpecHM_TTTEEE_lowl_lowE_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02237 ± 0.00019	S_8	0.820 ± 0.013	$D_M(0.15)$	639.6 ± 4.6
$\Omega_c h^2$	0.1189 ± 0.0010	$\sigma_8 \Omega_m^{0.5}$	0.4492 ± 0.0069	$H(0.38)$	83.13 ± 0.38
$100\theta_{MC}$	1.04113 ± 0.00064	$\sigma_8 \Omega_m^{0.25}$	0.6026 ± 0.0070	$D_M(0.38)$	1526.0 ± 9.5
τ	$0.0550^{+0.0052}_{-0.0080}$	$\sigma_8/h^{0.5}$	0.982 ± 0.010	$H(0.51)$	89.82 ± 0.33
Y_P	0.250 ± 0.016	$r_{\text{drag}} h$	99.93 ± 0.85	$D_M(0.51)$	1977 ± 11
$\ln(10^{10} A_s)$	$3.043^{+0.013}_{-0.017}$	$\langle d^2 \rangle^{1/2}$	2.424 ± 0.025	$H(0.61)$	95.42 ± 0.30
n_s	0.9693 ± 0.0073	z_{re}	$7.75^{+0.57}_{-0.81}$	$D_M(0.61)$	2301 ± 12
y_{cal}	1.0005 ± 0.0025	$10^9 A_s$	$2.097^{+0.027}_{-0.036}$	$H(2.33)$	235.87 ± 0.66
A_{100}^{PS}	242 ± 25	$10^9 A_s e^{-2\tau}$	1.878 ± 0.013	$D_M(2.33)$	5758 ± 15
A_{143}^{PS}	40 ± 9	D_{40}	1220 ± 16	$f\sigma_8(0.15)$	0.4540 ± 0.0066
A_{217}^{PS}	102 ± 10	D_{220}	5720 ± 39	$\sigma_8(0.15)$	$0.7473^{+0.0064}_{-0.0076}$
A_{217}^{CIB}	40 ± 7	D_{810}	2535 ± 14	$f\sigma_8(0.38)$	0.4729 ± 0.0057
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.5}$	D_{1420}	815.5 ± 5.1	$\sigma_8(0.38)$	$0.6628^{+0.0056}_{-0.0068}$
$r_{143 \times 217}^{\text{PS}}$	0.66 ± 0.13	D_{2000}	229.9 ± 2.3	$f\sigma_8(0.51)$	0.4718 ± 0.0052
$r_{143 \times 217}^{\text{CIB}}$	> 0.436	$n_{s,0.002}$	0.9693 ± 0.0073	$\sigma_8(0.51)$	$0.6204^{+0.0053}_{-0.0063}$
$\xi^{\text{tSZ} \times \text{CIB}}$	—	Y_P	0.250 ± 0.016	$f\sigma_8(0.61)$	0.4671 ± 0.0049
A^{kSZ}	$4.9^{+2.8}_{-3.5}$	Y_P^{BBN}	0.251 ± 0.017	$\sigma_8(0.61)$	$0.5904^{+0.0050}_{-0.0061}$
A_{100}^{dust}	1.01 ± 0.20	Age/Gyr	13.786 ± 0.036	$f\sigma_8(2.33)$	$0.2978^{+0.0026}_{-0.0031}$
A_{143}^{dust}	0.97 ± 0.17	z_*	1090.02 ± 0.57	$\sigma_8(2.33)$	$0.3071^{+0.0027}_{-0.0033}$
A_{217}^{dust}	0.97 ± 0.10	r_*	144.69 ± 0.29	f_{2000}^{143}	30 ± 4
$A_{143 \times 217}^{\text{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04118 ± 0.00032	f_{2000}^{217}	107.3 ± 2.5
c_{100}	0.9975 ± 0.0011	$D_M(z_*)/\text{Gpc}$	13.897 ± 0.028	$f_{2000}^{143 \times 217}$	32.6 ± 2.8
c_{217}	1.0012 ± 0.0016	z_{drag}	1060.03 ± 0.87	χ_{simall}^2	396.9 ± 1.8
c_{TE}	0.9974 ± 0.0053	r_{drag}	147.36 ± 0.31	χ_{lowl}^2	22.7 ± 1.1
c_{EE}	0.9936 ± 0.0063	k_D	0.14039 ± 0.00051	χ_{CamSpec}^2	11515.3 ± 5.7
H_0	67.81 ± 0.54	$100\theta_D$	0.16103 ± 0.00066	$\chi_{6\text{DF}}^2$	0.043 ± 0.056
Ω_Λ	0.6912 ± 0.0066	z_{eq}	3376 ± 24	χ_{MGS}^2	1.43 ± 0.49
Ω_m	0.3088 ± 0.0066	k_{eq}	0.010305 ± 0.000072	χ_{DR12BAO}^2	4.5 ± 1.3
$\Omega_m h^2$	0.14193 ± 0.00099	$100\theta_{\text{eq}}$	0.8181 ± 0.0044	χ_{prior}^2	7.9 ± 3.4
$\Omega_m h^3$	0.09624 ± 0.00058	$100\theta_{s,\text{eq}}$	0.4519 ± 0.0023	χ_{BAO}^2	5.95 ± 0.98
σ_8	$0.8084^{+0.0071}_{-0.0083}$	$H(0.15)$	73.06 ± 0.48	χ_{CMB}^2	11934.9 ± 5.7
$\bar{\chi}_{\text{eff}}^2 = 11948.72; \Delta\bar{\chi}_{\text{eff}}^2 = 0.73; R - 1 = 0.01724$					

16.16 base_yhe_CamSpecHM_TTTEEE_lowl_lowE_post_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02229 ± 0.00020	σ_8	0.8097 ± 0.0067	$100\theta_{\mathrm{s,eq}}$	0.4503 ± 0.0027
$\Omega_{\mathrm{c}}h^2$	0.1196 ± 0.0012	S_8	0.828 ± 0.013	$H(0.15)$	72.70 ± 0.59
$100\theta_{\mathrm{MC}}$	1.04084 ± 0.00069	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4537 ± 0.0071	$D_{\mathrm{M}}(0.15)$	643.1 ± 5.8
τ	$0.0547^{+0.0050}_{-0.0078}$	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6061 ± 0.0065	$H(0.38)$	82.86 ± 0.46
Y_{P}	0.244 ± 0.017	$\sigma_8/h^{0.5}$	0.9863 ± 0.0091	$D_{\mathrm{M}}(0.38)$	1533 ± 12
$\ln(10^{10}A_{\mathrm{s}})$	$3.043^{+0.012}_{-0.016}$	$r_{\mathrm{drag}}h$	99.3 ± 1.1	$H(0.51)$	89.60 ± 0.40
n_{s}	$0.9655^{+0.0075}_{-0.0083}$	$\langle d^2 \rangle^{1/2}$	2.440 ± 0.024	$D_{\mathrm{M}}(0.51)$	1986 ± 14
y_{cal}	1.0005 ± 0.0025	z_{re}	$7.72^{+0.55}_{-0.79}$	$H(0.61)$	95.23 ± 0.35
A_{100}^{PS}	240 ± 26	$10^9 A_{\mathrm{s}}$	$2.096^{+0.025}_{-0.033}$	$D_{\mathrm{M}}(0.61)$	2310 ± 15
A_{143}^{PS}	39 ± 9	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.879 ± 0.013	$H(2.33)$	236.23 ± 0.72
A_{217}^{PS}	102 ± 10	D_{40}	1228 ± 16	$D_{\mathrm{M}}(2.33)$	5767 ± 18
A_{217}^{CIB}	40 ± 7	D_{220}	5721 ± 39	$f\sigma_8(0.15)$	0.4580 ± 0.0066
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.5}$	D_{810}	2535 ± 13	$\sigma_8(0.15)$	$0.7479^{+0.0059}_{-0.0066}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	D_{1420}	815.8 ± 5.0	$f\sigma_8(0.38)$	0.4758 ± 0.0053
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56^{+0.43}_{-0.14}$	D_{2000}	230.4 ± 2.2	$\sigma_8(0.38)$	$0.6627^{+0.0053}_{-0.0061}$
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$n_{\mathrm{s},0.002}$	$0.9655^{+0.0075}_{-0.0083}$	$f\sigma_8(0.51)$	0.4741 ± 0.0047
A^{kSZ}	$4.7^{+1.9}_{-4.3}$	Y_{P}	0.244 ± 0.017	$\sigma_8(0.51)$	$0.6201^{+0.0051}_{-0.0059}$
A_{100}^{dust}	1.01 ± 0.20	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.246 ± 0.017	$f\sigma_8(0.61)$	0.4689 ± 0.0043
A_{143}^{dust}	0.96 ± 0.17	Age/Gyr	13.806 ± 0.041	$\sigma_8(0.61)$	$0.5900^{+0.0049}_{-0.0057}$
A_{217}^{dust}	0.98 ± 0.10	z_*	1089.96 ± 0.57	$f\sigma_8(2.33)$	$0.2974^{+0.0026}_{-0.0030}$
$A_{143 \times 217}^{\mathrm{dust}}$	1.02 ± 0.16	r_*	144.59 ± 0.29	$\sigma_8(2.33)$	$0.3065^{+0.0028}_{-0.0033}$
c_{100}	0.9975 ± 0.0011	$100\theta_*$	1.04105 ± 0.00034	f_{2000}^{143}	30 ± 4
c_{217}	1.0011 ± 0.0016	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.889 ± 0.028	f_{2000}^{217}	106.8 ± 2.6
c_{TE}	0.9964 ± 0.0054	z_{drag}	1059.71 ± 0.93	$f_{2000}^{143 \times 217}$	32.1 ± 2.8
c_{EE}	0.9920 ± 0.0065	r_{drag}	147.28 ± 0.31	$\chi_{\mathrm{lensing}}^2$	9.26 ± 0.69
H_0	67.40 ± 0.67	k_{D}	0.14064 ± 0.00055	χ_{simall}^2	396.9 ± 1.7
Ω_{Λ}	0.6860 ± 0.0084	$100\theta_{\mathrm{D}}$	0.16084 ± 0.00068	χ_{lowl}^2	23.4 ± 1.4
Ω_{m}	0.3140 ± 0.0084	z_{eq}	3392 ± 27	$\chi_{\mathrm{CamSpec}}^2$	11514.6 ± 5.6
$\Omega_{\mathrm{m}}h^2$	0.1426 ± 0.0011	k_{eq}	0.010351 ± 0.000083	χ_{prior}^2	7.8 ± 3.4
$\Omega_{\mathrm{m}}h^3$	0.09608 ± 0.00059	$100\theta_{\mathrm{eq}}$	0.8150 ± 0.0053	χ_{CMB}^2	11944.1 ± 5.8

$$\bar{\chi}_{\mathrm{eff}}^2 = 11951.89; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.64; R - 1 = 0.01571$$

16.17 base_yhe_CamSpecHM_TTTEEE_lowl_lowE_post_BAO_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02236 ± 0.00018	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4506 ± 0.0058	$D_{\mathrm{M}}(0.38)$	1527.5 ± 9.1
$\Omega_{\mathrm{c}}h^2$	0.11906 ± 0.00094	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6040 ± 0.0059	$H(0.51)$	89.77 ± 0.32
$100\theta_{\mathrm{MC}}$	1.04105 ± 0.00064	$\sigma_8/h^{0.5}$	0.9838 ± 0.0086	$D_{\mathrm{M}}(0.51)$	1979 ± 11
τ	$0.0561^{+0.0056}_{-0.0076}$	$r_{\mathrm{drag}}h$	$99.79^{+0.74}_{-0.83}$	$H(0.61)$	95.38 ± 0.29
Y_{P}	0.248 ± 0.016	$\langle d^2 \rangle^{1/2}$	2.431 ± 0.022	$D_{\mathrm{M}}(0.61)$	2303 ± 12
$\ln(10^{10}A_{\mathrm{s}})$	$3.045^{+0.013}_{-0.016}$	z_{re}	$7.85^{+0.61}_{-0.74}$	$H(2.33)$	235.94 ± 0.61
n_{s}	0.9682 ± 0.0072	$10^9 A_{\mathrm{s}}$	$2.102^{+0.027}_{-0.033}$	$D_{\mathrm{M}}(2.33)$	5760 ± 15
y_{cal}	1.0007 ± 0.0025	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.879 ± 0.013	$f\sigma_8(0.15)$	0.4553 ± 0.0055
A_{100}^{PS}	241 ± 26	D_{40}	1224 ± 15	$\sigma_8(0.15)$	0.7483 ± 0.0064
A_{143}^{PS}	40 ± 9	D_{220}	5725 ± 38	$f\sigma_8(0.38)$	0.4740 ± 0.0048
A_{217}^{PS}	102 ± 10	D_{810}	2536 ± 13	$\sigma_8(0.38)$	$0.6635^{+0.0054}_{-0.0062}$
A_{217}^{CIB}	40 ± 7	D_{1420}	815.9 ± 5.0	$f\sigma_8(0.51)$	0.4728 ± 0.0044
A_{143}^{tSZ}	$3.8^{+1.8}_{-2.5}$	D_{2000}	230.2 ± 2.2	$\sigma_8(0.51)$	$0.6210^{+0.0051}_{-0.0059}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$n_{\mathrm{s},0.002}$	0.9682 ± 0.0072	$f\sigma_8(0.61)$	0.4680 ± 0.0042
$r_{143 \times 217}^{\mathrm{CIB}}$	> 0.433	Y_{P}	0.248 ± 0.016	$\sigma_8(0.61)$	$0.5909^{+0.0049}_{-0.0056}$
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.250 ± 0.016	$f\sigma_8(2.33)$	$0.2980^{+0.0026}_{-0.0029}$
A^{kSZ}	$4.8^{+2.3}_{-3.9}$	Age/Gyr	13.790 ± 0.035	$\sigma_8(2.33)$	$0.3073^{+0.0027}_{-0.0031}$
A_{100}^{dust}	1.01 ± 0.20	z_*	1089.98 ± 0.57	f_{2000}^{143}	30 ± 4
A_{143}^{dust}	0.96 ± 0.17	r_*	144.67 ± 0.27	f_{2000}^{217}	107.1 ± 2.5
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04116 ± 0.00031	$f_{2000}^{143 \times 217}$	32.4 ± 2.8
$A_{143 \times 217}^{\mathrm{dust}}$	1.02 ± 0.16	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.895 ± 0.027	$\chi_{\mathrm{lensing}}^2$	9.28 ± 0.71
c_{100}	0.9976 ± 0.0011	z_{drag}	1059.95 ± 0.86	χ_{simall}^2	397.1 ± 1.9
c_{217}	1.0012 ± 0.0016	r_{drag}	147.34 ± 0.30	χ_{lowl}^2	22.9 ± 1.2
c_{TE}	0.9970 ± 0.0053	k_{D}	0.14046 ± 0.00050	$\chi_{\mathrm{CamSpec}}^2$	11514.8 ± 5.6
c_{EE}	0.9932 ± 0.0063	$100\theta_{\mathrm{D}}$	0.16096 ± 0.00066	$\chi_{6\mathrm{DF}}^2$	0.046 ± 0.057
H_0	$67.72^{+0.48}_{-0.53}$	z_{eq}	3379 ± 22	χ_{MGS}^2	1.35 ± 0.44
Ω_{Λ}	0.6902 ± 0.0061	k_{eq}	0.010314 ± 0.000066	$\chi_{\mathrm{DR12BAO}}^2$	4.6 ± 1.3
Ω_{m}	0.3098 ± 0.0061	$100\theta_{\mathrm{eq}}$	0.8175 ± 0.0040	χ_{prior}^2	7.8 ± 3.5
$\Omega_{\mathrm{m}}h^2$	0.14206 ± 0.00091	$100\theta_{\mathrm{s,eq}}$	0.4516 ± 0.0021	χ_{CMB}^2	11944.0 ± 5.7
$\Omega_{\mathrm{m}}h^3$	0.09621 ± 0.00057	$H(0.15)$	$72.99^{+0.43}_{-0.47}$	χ_{BAO}^2	6.00 ± 0.98
σ_8	0.8096 ± 0.0069	$D_{\mathrm{M}}(0.15)$	640.3 ± 4.4		
S_8	0.823 ± 0.011	$H(0.38)$	83.07 ± 0.37		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11957.86; \Delta\bar{\chi}_{\mathrm{eff}}^2 = 0.60; R - 1 = 0.02091$$

16.18 base_yhe_CamSpecHM_TTTEEE_lowl_lowE_post_Riess18_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02256 ± 0.00021	σ_8	$0.8077^{+0.0077}_{-0.0086}$	$100\theta_{s,eq}$	0.4546 ± 0.0030
$\Omega_c h^2$	0.1177 ± 0.0013	S_8	0.808 ± 0.016	$H(0.15)$	73.73 ± 0.62
$100\theta_{MC}$	1.04165 ± 0.00067	$\sigma_8 \Omega_m^{0.5}$	0.4423 ± 0.0085	$D_M(0.15)$	633.2 ± 6.0
τ	$0.0567^{+0.0060}_{-0.0084}$	$\sigma_8 \Omega_m^{0.25}$	0.5977 ± 0.0081	$H(0.38)$	83.65 ± 0.49
Y_P	$0.261^{+0.018}_{-0.016}$	$\sigma_8/h^{0.5}$	0.975 ± 0.012	$D_M(0.38)$	1513 ± 12
$\ln(10^{10} A_s)$	$3.046^{+0.014}_{-0.017}$	$r_{drag} h$	101.1 ± 1.1	$H(0.51)$	90.25 ± 0.41
n_s	0.9764 ± 0.0082	$\langle d^2 \rangle^{1/2}$	2.400 ± 0.030	$D_M(0.51)$	1962 ± 15
y_{cal}	1.0006 ± 0.0024	z_{re}	$7.90^{+0.64}_{-0.84}$	$H(0.61)$	95.79 ± 0.36
A_{100}^{PS}	244 ± 25	$10^9 A_s$	$2.104^{+0.030}_{-0.037}$	$D_M(0.61)$	2284 ± 16
A_{143}^{PS}	42 ± 9	$10^9 A_s e^{-2\tau}$	1.878 ± 0.013	$H(2.33)$	235.32 ± 0.79
A_{217}^{PS}	101 ± 10	D_{40}	1208 ± 16	$D_M(2.33)$	5741 ± 18
A_{217}^{CIB}	41 ± 7	D_{220}	5727 ± 37	$f\sigma_8(0.15)$	0.4478 ± 0.0080
A_{143}^{tSZ}	$3.7^{+1.7}_{-2.6}$	D_{810}	2537 ± 13	$\sigma_8(0.15)$	$0.7475^{+0.0069}_{-0.0079}$
$r_{143 \times 217}^{PS}$	0.65 ± 0.12	D_{1420}	815.4 ± 5.1	$f\sigma_8(0.38)$	0.4686 ± 0.0067
$r_{143 \times 217}^{CIB}$	> 0.442	D_{2000}	229.3 ± 2.2	$\sigma_8(0.38)$	$0.6639^{+0.0060}_{-0.0070}$
$\xi^{tSZ \times CIB}$	—	$n_{s,0.002}$	0.9764 ± 0.0082	$f\sigma_8(0.51)$	0.4686 ± 0.0060
A^{kSZ}	$5.3^{+3.8}_{-2.4}$	Y_P	$0.261^{+0.018}_{-0.016}$	$\sigma_8(0.51)$	$0.6218^{+0.0056}_{-0.0066}$
A_{100}^{dust}	1.01 ± 0.19	Y_P^{BBN}	$0.262^{+0.018}_{-0.016}$	$f\sigma_8(0.61)$	0.4646 ± 0.0055
A_{143}^{dust}	0.97 ± 0.17	Age/Gyr	13.747 ± 0.041	$\sigma_8(0.61)$	$0.5920^{+0.0054}_{-0.0063}$
A_{217}^{dust}	0.97 ± 0.10	z_*	1090.14 ± 0.57	$f\sigma_8(2.33)$	$0.2990^{+0.0028}_{-0.0033}$
$A_{143 \times 217}^{dust}$	1.04 ± 0.16	r_*	144.82 ± 0.32	$\sigma_8(2.33)$	$0.3088^{+0.0030}_{-0.0035}$
c_{100}	0.9975 ± 0.0011	$100\theta_*$	1.04140 ± 0.00033	f_{2000}^{143}	31 ± 4
c_{217}	1.0013 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.907 ± 0.031	f_{2000}^{217}	108.1 ± 2.6
c_{TE}	0.9990 ± 0.0053	z_{drag}	1060.73 ± 0.93	$f_{2000}^{143 \times 217}$	33.5 ± 2.7
c_{EE}	0.9964 ± 0.0064	r_{drag}	147.44 ± 0.34	χ_{simall}^2	397.1 ± 2.0
H_0	68.56 ± 0.71	k_D	$0.13999^{+0.00051}_{-0.00060}$	χ_{lowl}^2	21.8 ± 1.1
Ω_Λ	$0.7001^{+0.0091}_{-0.0081}$	$100\theta_D$	$0.16138^{+0.00071}_{-0.00063}$	$\chi_{CamSpec}^2$	11518.1 ± 6.4
Ω_m	$0.2999^{+0.0081}_{-0.0091}$	z_{eq}	3352 ± 30	$\chi_{H073p45}^2$	8.9 ± 2.5
$\Omega_m h^2$	0.1409 ± 0.0012	k_{eq}	0.010232 ± 0.000090	χ_{prior}^2	7.9 ± 3.5
$\Omega_m h^3$	0.09662 ± 0.00059	$100\theta_{eq}$	0.8235 ± 0.0058	χ_{CMB}^2	11937.0 ± 6.1
$\bar{\chi}_{eff}^2 = 11953.75; \Delta\bar{\chi}_{eff}^2 = -0.26; R - 1 = 0.05858$					

16.19 base_yhe_CamSpecHM_TTTEEE_lowl_lowE_Aver15

Parameter	Best fit	68% limits	Parameter	Best fit	68% limits	Parameter	Best fit	68% limits
$\Omega_{\mathrm{b}} h^2$	0.022378	0.02228 ± 0.00016	σ_8	0.8229	0.8075 ± 0.0076	$100\theta_{\mathrm{s,eq}}$	0.45159	0.4503 ± 0.0031
$\Omega_{\mathrm{c}} h^2$	0.11902	0.1196 ± 0.0014	S_8	0.8360	0.826 ± 0.016	$H(0.15)$	72.99	72.68 ± 0.54
$100\theta_{\mathrm{MC}}$	1.040990	1.04081 ± 0.00035	$\sigma_8 \Omega_{\mathrm{m}}^{0.5}$	0.4579	0.4526 ± 0.0090	$D_{\mathrm{M}}(0.15)$	640.2	643.3 ± 5.4
τ	0.0706	0.0526 ± 0.0079	$\sigma_8 \Omega_{\mathrm{m}}^{0.25}$	0.6138	0.6045 ± 0.0084	$H(0.38)$	83.071	82.84 ± 0.39
Y_{P}	0.24470	0.2438 ± 0.0038	$\sigma_8/h^{0.5}$	0.9999	0.984 ± 0.012	$D_{\mathrm{M}}(0.38)$	1527.4	1534 ± 11
$\ln(10^{10} A_{\mathrm{s}})$	3.0785	3.038 ± 0.016	$r_{\mathrm{drag}} h$	99.79	99.2 ± 1.1	$H(0.51)$	89.771	89.58 ± 0.31
n_{s}	0.96812	0.9651 ± 0.0048	$\langle d^2 \rangle^{1/2}$	2.4714	2.434 ± 0.029	$D_{\mathrm{M}}(0.51)$	1978.9	1986 ± 13
y_{cal}	1.00295	1.0004 ± 0.0025	z_{re}	9.24	7.49 ± 0.82	$H(0.61)$	95.377	95.21 ± 0.25
A_{100}^{PS}	234.5	240 ± 25	$10^9 A_{\mathrm{s}}$	2.1726	2.086 ± 0.034	$D_{\mathrm{M}}(0.61)$	2302.9	2311 ± 14
A_{143}^{PS}	42.8	39 ± 8	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.8866	1.877 ± 0.012	$H(2.33)$	235.93	236.21 ± 0.85
A_{217}^{PS}	105.0	102 ± 10	D_{40}	1234.2	1227 ± 13	$D_{\mathrm{M}}(2.33)$	5760.1	5768 ± 12
A_{217}^{CIB}	40.7	40 ± 7	D_{220}	5752.7	5717 ± 39	$f\sigma_8(0.15)$	0.4627	0.4569 ± 0.0084
A_{143}^{tSZ}	5.24	$3.9_{-2.6}^{+1.8}$	D_{810}	2548.6	2534 ± 13	$\sigma_8(0.15)$	0.7605	0.7459 ± 0.0067
$r_{143 \times 217}^{\mathrm{PS}}$	0.674	0.66 ± 0.13	D_{1420}	821.00	815.5 ± 4.8	$f\sigma_8(0.38)$	0.4818	0.4746 ± 0.0069
$r_{143 \times 217}^{\mathrm{CIB}}$	0.730	$0.56_{-0.17}^{+0.40}$	D_{2000}	232.37	230.3 ± 1.6	$\sigma_8(0.38)$	0.6744	0.6609 ± 0.0057
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	0.54	—	$n_{\mathrm{s},0.002}$	0.96812	0.9651 ± 0.0048	$f\sigma_8(0.51)$	0.4806	0.4729 ± 0.0061
A^{kSZ}	1.73	$4.7_{-3.9}^{+2.4}$	Y_{P}	0.24470	0.2438 ± 0.0038	$\sigma_8(0.51)$	0.6312	0.6184 ± 0.0053
A_{100}^{dust}	1.009	1.01 ± 0.20	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.24602	0.2451 ± 0.0039	$f\sigma_8(0.61)$	0.4756	0.4677 ± 0.0055
A_{143}^{dust}	0.953	0.96 ± 0.18	Age/Gyr	13.7905	13.808 ± 0.026	$\sigma_8(0.61)$	0.60063	0.5884 ± 0.0050
A_{217}^{dust}	0.981	0.97 ± 0.10	z_*	1089.795	1089.94 ± 0.31	$f\sigma_8(2.33)$	0.30292	0.2966 ± 0.0025
$A_{143 \times 217}^{\mathrm{dust}}$	0.997	1.03 ± 0.16	r_*	144.681	144.61 ± 0.32	$\sigma_8(2.33)$	0.31238	0.3056 ± 0.0026
c_{100}	0.99773	0.9975 ± 0.0011	$100\theta_*$	1.041190	1.04105 ± 0.00031	f_{2000}^{143}	28.79	29.6 ± 2.9
c_{217}	1.00116	1.0011 ± 0.0016	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.8957	13.890 ± 0.030	f_{2000}^{217}	106.37	106.8 ± 1.9
c_{TE}	0.99506	0.9965 ± 0.0049	z_{drag}	1059.856	1059.64 ± 0.39	$f_{2000}^{143 \times 217}$	31.21	32.1 ± 2.1
c_{EE}	0.99156	0.9918 ± 0.0050	r_{drag}	147.344	147.30 ± 0.32	χ_{small}^2	402.51	396.9 ± 1.7
H_0	67.73	67.38 ± 0.63	k_{D}	0.140635	0.14064 ± 0.00037	χ_{lowl}^2	23.31	23.3 ± 1.0
Ω_{Λ}	0.6903	0.6859 ± 0.0087	$100\theta_{\mathrm{D}}$	0.160759	0.16082 ± 0.00024	$\chi_{\mathrm{CamSpec}}^2$	11498.1	11514.6 ± 5.6
Ω_{m}	0.3097	0.3141 ± 0.0087	z_{eq}	3379.0	3391 ± 32	χ_{Aver15}^2	0.079	0.9 ± 1.3
$\Omega_{\mathrm{m}} h^2$	0.14204	0.1425 ± 0.0013	k_{eq}	0.010313	0.010350 ± 0.000097	χ_{prior}^2	3.37	7.8 ± 3.4
$\Omega_{\mathrm{m}} h^3$	0.096203	0.09604 ± 0.00034	$100\theta_{\mathrm{eq}}$	0.8175	0.8150 ± 0.0060	χ_{CMB}^2	11923.9	11934.8 ± 5.7

Best-fit $\chi_{\mathrm{eff}}^2 = 11927.35$; $\bar{\chi}_{\mathrm{eff}}^2 = 11943.52$; $R - 1 = 0.01118$

χ_{eff}^2 : Abund - Yp_Aver2015: 0.08 CMB - simall_100x143_offlike5_EE_Aplanck_B: 402.51 commander_dx12_v3.2_29: 23.31 CamSpec like_10.7HM_1400_unified: 11498.08

16.20 base_yhe_CamSpecHM_TTTEEE_lowl_lowE_Aver15_post_BAO

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02232 ± 0.00015	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4484 ± 0.0070	$D_{\mathrm{M}}(0.38)$	1528.2 ± 7.9
$\Omega_{\mathrm{c}}h^2$	0.1189 ± 0.0010	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6011 ± 0.0070	$H(0.51)$	89.73 ± 0.24
$100\theta_{\mathrm{MC}}$	1.04091 ± 0.00033	$\sigma_8/h^{0.5}$	0.979 ± 0.010	$D_{\mathrm{M}}(0.51)$	1979.9 ± 9.3
τ	0.0535 ± 0.0079	$r_{\mathrm{drag}}h$	99.81 ± 0.79	$H(0.61)$	95.33 ± 0.20
Y_{P}	0.2439 ± 0.0038	$\langle d^2 \rangle^{1/2}$	2.424 ± 0.025	$D_{\mathrm{M}}(0.61)$	2304 ± 10
$\ln(10^{10}A_{\mathrm{s}})$	3.038 ± 0.016	z_{re}	7.56 ± 0.80	$H(2.33)$	235.80 ± 0.64
n_{s}	0.9668 ± 0.0042	$10^9 A_{\mathrm{s}}$	2.087 ± 0.034	$D_{\mathrm{M}}(2.33)$	5763.2 ± 9.8
y_{cal}	1.0004 ± 0.0025	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.875 ± 0.011	$f\sigma_8(0.15)$	0.4531 ± 0.0066
A_{100}^{PS}	239 ± 25	D_{40}	1224 ± 12	$\sigma_8(0.15)$	0.7447 ± 0.0065
A_{143}^{PS}	39 ± 8	D_{220}	5721 ± 39	$f\sigma_8(0.38)$	0.4717 ± 0.0057
A_{217}^{PS}	102 ± 10	D_{810}	2534 ± 13	$\sigma_8(0.38)$	0.6604 ± 0.0057
A_{217}^{CIB}	40 ± 7	D_{1420}	816.0 ± 4.7	$f\sigma_8(0.51)$	0.4705 ± 0.0052
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.6}$	D_{2000}	230.4 ± 1.6	$\sigma_8(0.51)$	0.6181 ± 0.0053
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$n_{\mathrm{s},0.002}$	0.9668 ± 0.0042	$f\sigma_8(0.61)$	0.4657 ± 0.0048
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.55^{+0.38}_{-0.19}$	Y_{P}	0.2439 ± 0.0038	$\sigma_8(0.61)$	0.5882 ± 0.0050
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.2453 ± 0.0038	$f\sigma_8(2.33)$	0.2966 ± 0.0025
A^{kSZ}	$4.7^{+2.1}_{-4.1}$	Age/Gyr	13.798 ± 0.022	$\sigma_8(2.33)$	0.3059 ± 0.0026
A_{100}^{dust}	1.00 ± 0.20	z_*	1089.83 ± 0.26	f_{2000}^{143}	29.5 ± 2.9
A_{143}^{dust}	0.97 ± 0.18	r_*	144.75 ± 0.25	f_{2000}^{217}	106.6 ± 2.0
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04113 ± 0.00029	$f_{2000}^{143 \times 217}$	31.9 ± 2.0
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.903 ± 0.024	χ_{small}^2	397.0 ± 1.7
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.70 ± 0.38	χ_{lowl}^2	22.93 ± 0.86
c_{217}	1.0011 ± 0.0016	r_{drag}	147.44 ± 0.27	$\chi_{\mathrm{CamSpec}}^2$	11514.7 ± 5.6
c_{TE}	0.9966 ± 0.0049	k_{D}	0.14053 ± 0.00034	χ_{Aver15}^2	0.9 ± 1.3
c_{EE}	0.9922 ± 0.0050	$100\theta_{\mathrm{D}}$	0.16080 ± 0.00024	$\chi_{6\mathrm{DF}}^2$	0.046 ± 0.058
H_0	67.69 ± 0.46	z_{eq}	3375 ± 24	χ_{MGS}^2	1.36 ± 0.45
Ω_{Λ}	0.6903 ± 0.0062	k_{eq}	0.010301 ± 0.000072	$\chi_{\mathrm{DR12BAO}}^2$	4.6 ± 1.3
Ω_{m}	0.3097 ± 0.0062	$100\theta_{\mathrm{eq}}$	0.8180 ± 0.0044	χ_{prior}^2	7.8 ± 3.4
$\Omega_{\mathrm{m}}h^2$	0.14188 ± 0.00098	$100\theta_{\mathrm{s,eq}}$	0.4519 ± 0.0023	χ_{BAO}^2	6.0 ± 1.0
$\Omega_{\mathrm{m}}h^3$	0.09604 ± 0.00034	$H(0.15)$	72.95 ± 0.40	χ_{CMB}^2	11934.6 ± 5.6
σ_8	0.8057 ± 0.0073	$D_{\mathrm{M}}(0.15)$	640.6 ± 3.9		
S_8	0.819 ± 0.013	$H(0.38)$	83.03 ± 0.30		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11949.33; R - 1 = 0.01547$$

16.21 base_yhe_CamSpecHM_TTTEEE_lowl_lowE_Aver15_post_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02228 ± 0.00016	S_8	0.828 ± 0.013	$D_{\mathrm{M}}(0.15)$	643.6 ± 4.8
$\Omega_{\mathrm{c}}h^2$	0.1197 ± 0.0012	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4536 ± 0.0071	$H(0.38)$	82.81 ± 0.36
$100\theta_{\mathrm{MC}}$	1.04080 ± 0.00034	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6057 ± 0.0065	$D_{\mathrm{M}}(0.38)$	1534.3 ± 9.7
τ	0.0535 ± 0.0076	$\sigma_8/h^{0.5}$	0.9855 ± 0.0092	$H(0.51)$	89.56 ± 0.29
Y_{P}	0.2437 ± 0.0038	$r_{\mathrm{drag}}h$	99.17 ± 0.96	$D_{\mathrm{M}}(0.51)$	1987 ± 11
$\ln(10^{10}A_{\mathrm{s}})$	3.040 ± 0.015	$\langle d^2 \rangle^{1/2}$	2.439 ± 0.022	$H(0.61)$	95.20 ± 0.23
n_{s}	0.9646 ± 0.0046	z_{re}	7.59 ± 0.77	$D_{\mathrm{M}}(0.61)$	2312 ± 12
y_{cal}	1.0005 ± 0.0025	$10^9 A_{\mathrm{s}}$	2.091 ± 0.031	$H(2.33)$	236.27 ± 0.74
A_{100}^{PS}	240 ± 25	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.878 ± 0.011	$D_{\mathrm{M}}(2.33)$	5769 ± 11
A_{143}^{PS}	39 ± 8	D_{40}	1229 ± 12	$f\sigma_8(0.15)$	0.4579 ± 0.0066
A_{217}^{PS}	102 ± 10	D_{220}	5720 ± 40	$\sigma_8(0.15)$	0.7470 ± 0.0055
A_{217}^{CIB}	40_{-7}^{+7}	D_{810}	2535 ± 13	$f\sigma_8(0.38)$	0.4755 ± 0.0053
A_{143}^{tSZ}	$3.9_{-2.6}^{+1.8}$	D_{1420}	815.6 ± 4.8	$\sigma_8(0.38)$	0.6618 ± 0.0049
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	D_{2000}	230.3 ± 1.6	$f\sigma_8(0.51)$	0.4737 ± 0.0047
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56_{-0.16}^{+0.42}$	$n_{\mathrm{s},0.002}$	0.9646 ± 0.0046	$\sigma_8(0.51)$	0.6192 ± 0.0046
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Y_{P}	0.2437 ± 0.0038	$f\sigma_8(0.61)$	0.4685 ± 0.0042
A^{kSZ}	$4.7_{-4.3}^{+1.9}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.2450 ± 0.0038	$\sigma_8(0.61)$	0.5891 ± 0.0044
A_{100}^{dust}	1.00 ± 0.20	Age/Gyr	13.809 ± 0.025	$f\sigma_8(2.33)$	0.2969 ± 0.0023
A_{143}^{dust}	0.96 ± 0.18	z_*	1089.95 ± 0.29	$\sigma_8(2.33)$	0.3059 ± 0.0025
A_{217}^{dust}	0.97 ± 0.10	r_*	144.58 ± 0.28	f_{2000}^{143}	29.6 ± 2.9
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04103 ± 0.00031	f_{2000}^{217}	106.8 ± 2.0
c_{100}	0.9975 ± 0.0011	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.888 ± 0.026	$f_{2000}^{143 \times 217}$	32.1 ± 2.1
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.64 ± 0.39	$\chi_{\mathrm{lensing}}^2$	9.28 ± 0.70
c_{TE}	0.9964 ± 0.0049	r_{drag}	147.27 ± 0.29	χ_{simall}^2	396.9 ± 1.6
c_{EE}	0.9918 ± 0.0050	k_{D}	0.14067 ± 0.00034	χ_{lowl}^2	23.40 ± 0.94
H_0	67.34 ± 0.56	$100\theta_{\mathrm{D}}$	0.16081 ± 0.00024	$\chi_{\mathrm{CamSpec}}^2$	11514.0 ± 5.4
Ω_{Λ}	0.6853 ± 0.0077	z_{eq}	3393 ± 28	χ_{Aver15}^2	0.9 ± 1.3
Ω_{m}	0.3147 ± 0.0077	k_{eq}	0.010357 ± 0.000085	χ_{prior}^2	7.9 ± 3.4
$\Omega_{\mathrm{m}}h^2$	0.1426 ± 0.0012	$100\theta_{\mathrm{eq}}$	0.8146 ± 0.0052	χ_{CMB}^2	11943.6 ± 5.7
$\Omega_{\mathrm{m}}h^3$	0.09605 ± 0.00034	$100\theta_{\mathrm{s,eq}}$	0.4501 ± 0.0027		
σ_8	0.8087 ± 0.0061	$H(0.15)$	72.65 ± 0.48		

$\bar{\chi}_{\mathrm{eff}}^2 = 11952.40$; $R - 1 = 0.01479$

16.22 base_yhe_CamSpecHM_TTTEEE_lowl_lowE_Aver15_post_BAO_lensing

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}} h^2$	0.02232 ± 0.00015	$\sigma_8 \Omega_{\mathrm{m}}^{0.5}$	0.4502 ± 0.0059	$D_{\mathrm{M}}(0.38)$	1529.1 ± 7.5
$\Omega_{\mathrm{c}} h^2$	0.11907 ± 0.00095	$\sigma_8 \Omega_{\mathrm{m}}^{0.25}$	0.6031 ± 0.0058	$H(0.51)$	89.70 ± 0.23
$100\theta_{\mathrm{MC}}$	1.04089 ± 0.00033	$\sigma_8/h^{0.5}$	0.9824 ± 0.0085	$D_{\mathrm{M}}(0.51)$	1981.0 ± 8.9
τ	0.0553 ± 0.0073	$r_{\mathrm{drag}} h$	99.69 ± 0.74	$H(0.61)$	95.31 ± 0.20
Y_{P}	0.2439 ± 0.0038	$\langle d^2 \rangle^{1/2}$	2.432 ± 0.021	$D_{\mathrm{M}}(0.61)$	2305.3 ± 9.6
$\ln(10^{10} A_{\mathrm{s}})$	3.042 ± 0.015	z_{re}	7.75 ± 0.73	$H(2.33)$	235.90 ± 0.59
n_{s}	0.9663 ± 0.0041	$10^9 A_{\mathrm{s}}$	2.096 ± 0.030	$D_{\mathrm{M}}(2.33)$	5763.8 ± 9.7
y_{cal}	1.0006 ± 0.0025	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.876 ± 0.011	$f\sigma_8(0.15)$	0.4548 ± 0.0055
A_{100}^{PS}	239_{-23}^{+26}	D_{40}	1226 ± 12	$\sigma_8(0.15)$	0.7466 ± 0.0055
A_{143}^{PS}	39 ± 8	D_{220}	5725 ± 39	$f\sigma_8(0.38)$	0.4733 ± 0.0047
A_{217}^{PS}	102 ± 10	D_{810}	2535 ± 13	$\sigma_8(0.38)$	0.6619 ± 0.0049
A_{217}^{CIB}	39 ± 7	D_{1420}	816.2 ± 4.7	$f\sigma_8(0.51)$	0.4720 ± 0.0043
A_{143}^{tSZ}	$3.9_{-2.6}^{+1.8}$	D_{2000}	230.5 ± 1.6	$\sigma_8(0.51)$	0.6195 ± 0.0046
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$n_{\mathrm{s},0.002}$	0.9663 ± 0.0041	$f\sigma_8(0.61)$	0.4672 ± 0.0040
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.55_{-0.19}^{+0.39}$	Y_{P}	0.2439 ± 0.0038	$\sigma_8(0.61)$	0.5895 ± 0.0044
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.2452 ± 0.0038	$f\sigma_8(2.33)$	0.2973 ± 0.0023
A^{kSZ}	< 6.13	Age/Gyr	13.799 ± 0.022	$\sigma_8(2.33)$	0.3065 ± 0.0024
A_{100}^{dust}	1.00 ± 0.20	z_*	1089.84 ± 0.25	f_{2000}^{143}	29.4 ± 2.8
A_{143}^{dust}	0.96 ± 0.18	r_*	144.71 ± 0.24	f_{2000}^{217}	106.6 ± 1.9
A_{217}^{dust}	0.98 ± 0.10	$100\theta_*$	1.04112 ± 0.00029	$f_{2000}^{143 \times 217}$	31.8 ± 2.0
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.900 ± 0.023	$\chi_{\mathrm{lensing}}^2$	9.29 ± 0.77
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.71 ± 0.38	χ_{simall}^2	397.1 ± 1.8
c_{217}	1.0011 ± 0.0016	r_{drag}	147.40 ± 0.25	χ_{lowl}^2	23.11 ± 0.83
c_{TE}	0.9965 ± 0.0048	k_{D}	0.14057 ± 0.00032	$\chi_{\mathrm{CamSpec}}^2$	11514.1 ± 5.5
c_{EE}	0.9921 ± 0.0050	$100\theta_{\mathrm{D}}$	0.16079 ± 0.00023	χ_{Aver15}^2	0.9 ± 1.3
H_0	67.63 ± 0.44	z_{eq}	3379 ± 22	$\chi_{6\mathrm{DF}}^2$	0.050 ± 0.059
Ω_{Λ}	0.6894 ± 0.0058	k_{eq}	0.010312 ± 0.000067	χ_{MGS}^2	1.29 ± 0.41
Ω_{m}	0.3106 ± 0.0058	$100\theta_{\mathrm{eq}}$	0.8174 ± 0.0041	$\chi_{\mathrm{DR12BAO}}^2$	4.7 ± 1.3
$\Omega_{\mathrm{m}} h^2$	0.14204 ± 0.00091	$100\theta_{\mathrm{s,eq}}$	0.4515 ± 0.0021	χ_{prior}^2	7.8 ± 3.4
$\Omega_{\mathrm{m}} h^3$	0.09606 ± 0.00034	$H(0.15)$	72.90 ± 0.38	χ_{CMB}^2	11943.5 ± 5.6
σ_8	0.8079 ± 0.0061	$D_{\mathrm{M}}(0.15)$	641.1 ± 3.7	χ_{BAO}^2	6.1 ± 1.0
S_8	0.822 ± 0.011	$H(0.38)$	83.00 ± 0.28		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11958.34; R - 1 = 0.01579$$

16.23 base_yhe_CamSpecHM_TTTEEE_lowl_lowE_Aver15_post_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_b h^2$	0.02228 ± 0.00016	σ_8	0.8086 ± 0.0070	$100\theta_{s,eq}$	0.4505 ± 0.0031
$\Omega_c h^2$	0.1196 ± 0.0014	S_8	0.827 ± 0.016	$H(0.15)$	72.71 ± 0.54
$100\theta_{MC}$	1.04082 ± 0.00035	$\sigma_8 \Omega_m^{0.5}$	0.4529 ± 0.0090	$D_M(0.15)$	643.1 ± 5.4
τ	$0.0542^{+0.0047}_{-0.0081}$	$\sigma_8 \Omega_m^{0.25}$	0.6052 ± 0.0083	$H(0.38)$	82.85 ± 0.39
Y_P	0.2438 ± 0.0038	$\sigma_8/h^{0.5}$	0.985 ± 0.012	$D_M(0.38)$	1533 ± 11
$\ln(10^{10} A_s)$	$3.041^{+0.012}_{-0.016}$	$r_{drag} h$	99.3 ± 1.1	$H(0.51)$	89.59 ± 0.31
n_s	0.9653 ± 0.0048	$\langle d^2 \rangle^{1/2}$	2.437 ± 0.028	$D_M(0.51)$	1986 ± 13
y_{cal}	1.0004 ± 0.0025	z_{re}	$7.66^{+0.52}_{-0.82}$	$H(0.61)$	95.23 ± 0.25
A_{100}^{PS}	240 ± 25	$10^9 A_s$	$2.092^{+0.024}_{-0.034}$	$D_M(0.61)$	2310 ± 14
A_{143}^{PS}	39 ± 8	$10^9 A_s e^{-2\tau}$	1.877 ± 0.012	$H(2.33)$	236.18 ± 0.84
A_{217}^{PS}	102 ± 10	D_{40}	1227 ± 13	$D_M(2.33)$	5768 ± 12
A_{217}^{CIB}	40 ± 7	D_{220}	5717 ± 40	$f\sigma_8(0.15)$	0.4573 ± 0.0084
A_{143}^{tSZ}	$3.9^{+1.8}_{-2.6}$	D_{810}	2534 ± 13	$\sigma_8(0.15)$	0.7470 ± 0.0061
$r_{143 \times 217}^{PS}$	0.66 ± 0.13	D_{1420}	815.5 ± 4.8	$f\sigma_8(0.38)$	0.4751 ± 0.0068
$r_{143 \times 217}^{CIB}$	$0.56^{+0.39}_{-0.18}$	D_{2000}	230.3 ± 1.6	$\sigma_8(0.38)$	$0.6619^{+0.0046}_{-0.0055}$
$\xi^{tSZ \times CIB}$	—	$n_{s,0.002}$	0.9653 ± 0.0048	$f\sigma_8(0.51)$	0.4734 ± 0.0059
A^{kSZ}	$4.7^{+2.3}_{-3.9}$	Y_P	0.2438 ± 0.0038	$\sigma_8(0.51)$	$0.6194^{+0.0041}_{-0.0051}$
A_{100}^{dust}	1.01 ± 0.19	Y_P^{BBN}	0.2451 ± 0.0038	$f\sigma_8(0.61)$	0.4683 ± 0.0053
A_{143}^{dust}	0.96 ± 0.18	Age/Gyr	13.807 ± 0.026	$\sigma_8(0.61)$	$0.5893^{+0.0038}_{-0.0048}$
A_{217}^{dust}	0.97 ± 0.10	z_*	1089.93 ± 0.30	$f\sigma_8(2.33)$	$0.2970^{+0.0018}_{-0.0024}$
$A_{143 \times 217}^{dust}$	1.03 ± 0.16	r_*	144.62 ± 0.32	$\sigma_8(2.33)$	$0.3061^{+0.0019}_{-0.0026}$
c_{100}	0.9975 ± 0.0011	$100\theta_*$	1.04105 ± 0.00031	f_{2000}^{143}	29.6 ± 2.9
c_{217}	1.0011 ± 0.0016	$D_M(z_*)/\text{Gpc}$	13.891 ± 0.030	f_{2000}^{217}	106.7 ± 1.9
c_{TE}	0.9964 ± 0.0049	z_{drag}	1059.65 ± 0.39	$f_{2000}^{143 \times 217}$	32.0 ± 2.0
c_{EE}	0.9918 ± 0.0050	r_{drag}	147.31 ± 0.32	χ_{small}^2	396.8 ± 1.7
H_0	67.40 ± 0.63	k_D	0.14063 ± 0.00037	χ_{lowl}^2	23.3 ± 1.0
Ω_Λ	0.6862 ± 0.0086	$100\theta_D$	0.16081 ± 0.00024	$\chi_{CamSpec}^2$	11514.4 ± 5.6
Ω_m	0.3138 ± 0.0086	z_{eq}	3390 ± 32	χ_{Aver15}^2	0.9 ± 1.3
$\Omega_m h^2$	0.1425 ± 0.0013	k_{eq}	0.010346 ± 0.000097	χ_{prior}^2	7.8 ± 3.4
$\Omega_m h^3$	0.09604 ± 0.00034	$100\theta_{eq}$	0.8153 ± 0.0060	χ_{CMB}^2	11934.5 ± 5.6

$$\bar{\chi}_{\text{eff}}^2 = 11943.23; R - 1 = 0.01041$$

16.24 base_yhe_CamSpecHM_TTTEEE_lowl_lowE_Aver15_post_BAO_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02233 ± 0.00015	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4488 ± 0.0069	$D_{\mathrm{M}}(0.38)$	1527.9 ± 7.9
$\Omega_{\mathrm{c}}h^2$	0.1189 ± 0.0010	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6017 ± 0.0068	$H(0.51)$	89.73 ± 0.24
$100\theta_{\mathrm{MC}}$	1.04091 ± 0.00033	$\sigma_8/h^{0.5}$	0.9804 ± 0.0099	$D_{\mathrm{M}}(0.51)$	1979.6 ± 9.3
τ	$0.0549^{+0.0050}_{-0.0082}$	$r_{\mathrm{drag}}h$	99.83 ± 0.79	$H(0.61)$	95.33 ± 0.20
Y_{P}	0.2440 ± 0.0038	$\langle d^2 \rangle^{1/2}$	2.427 ± 0.024	$D_{\mathrm{M}}(0.61)$	2304 ± 10
$\ln(10^{10}A_{\mathrm{s}})$	$3.041^{+0.012}_{-0.016}$	z_{re}	$7.71^{+0.55}_{-0.83}$	$H(2.33)$	235.78 ± 0.64
n_{s}	0.9670 ± 0.0042	$10^9 A_{\mathrm{s}}$	$2.092^{+0.024}_{-0.035}$	$D_{\mathrm{M}}(2.33)$	5763.0 ± 9.8
y_{cal}	1.0004 ± 0.0025	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.874 ± 0.011	$f\sigma_8(0.15)$	0.4535 ± 0.0065
A_{100}^{PS}	239 ± 25	D_{40}	1224 ± 12	$\sigma_8(0.15)$	$0.7457^{+0.0054}_{-0.0065}$
A_{143}^{PS}	39 ± 8	D_{220}	5721 ± 39	$f\sigma_8(0.38)$	0.4722 ± 0.0055
A_{217}^{PS}	102 ± 10	D_{810}	2534 ± 13	$\sigma_8(0.38)$	$0.6612^{+0.0045}_{-0.0056}$
A_{217}^{CIB}	40 ± 7	D_{1420}	815.9 ± 4.7	$f\sigma_8(0.51)$	0.4711 ± 0.0050
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.6}$	D_{2000}	230.4 ± 1.6	$\sigma_8(0.51)$	$0.6189^{+0.0041}_{-0.0052}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$n_{\mathrm{s},0.002}$	0.9670 ± 0.0042	$f\sigma_8(0.61)$	0.4663 ± 0.0046
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.55^{+0.39}_{-0.19}$	Y_{P}	0.2440 ± 0.0038	$\sigma_8(0.61)$	$0.5889^{+0.0039}_{-0.0050}$
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.2453 ± 0.0038	$f\sigma_8(2.33)$	$0.2970^{+0.0019}_{-0.0025}$
A^{kSZ}	$4.7^{+1.9}_{-4.2}$	Age/Gyr	13.797 ± 0.022	$\sigma_8(2.33)$	$0.3063^{+0.0020}_{-0.0026}$
A_{100}^{dust}	1.00 ± 0.19	z_*	1089.82 ± 0.26	f_{2000}^{143}	29.4 ± 2.9
A_{143}^{dust}	0.97 ± 0.18	r_*	144.76 ± 0.25	f_{2000}^{217}	106.6 ± 1.9
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04113 ± 0.00030	$f_{2000}^{143 \times 217}$	31.9 ± 2.0
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.904 ± 0.024	χ_{small}^2	396.9 ± 1.8
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.71 ± 0.38	χ_{lowl}^2	22.95 ± 0.86
c_{217}	1.0011 ± 0.0016	r_{drag}	147.44 ± 0.27	$\chi_{\mathrm{CamSpec}}^2$	11514.5 ± 5.6
c_{TE}	0.9965 ± 0.0049	k_{D}	0.14052 ± 0.00034	χ_{Aver15}^2	0.9 ± 1.3
c_{EE}	0.9922 ± 0.0050	$100\theta_{\mathrm{D}}$	0.16079 ± 0.00024	$\chi_{6\mathrm{DF}}^2$	0.044 ± 0.057
H_0	67.71 ± 0.46	z_{eq}	3375 ± 24	χ_{MGS}^2	1.37 ± 0.45
Ω_{Λ}	0.6905 ± 0.0062	k_{eq}	0.010300 ± 0.000072	$\chi_{\mathrm{DR12BAO}}^2$	4.6 ± 1.3
Ω_{m}	0.3095 ± 0.0062	$100\theta_{\mathrm{eq}}$	0.8182 ± 0.0044	χ_{prior}^2	7.8 ± 3.4
$\Omega_{\mathrm{m}}h^2$	0.14186 ± 0.00099	$100\theta_{\mathrm{s,eq}}$	0.4520 ± 0.0023	χ_{BAO}^2	5.97 ± 0.99
$\Omega_{\mathrm{m}}h^3$	0.09605 ± 0.00034	$H(0.15)$	72.97 ± 0.40	χ_{CMB}^2	11934.4 ± 5.6
σ_8	$0.8067^{+0.0061}_{-0.0072}$	$D_{\mathrm{M}}(0.15)$	640.5 ± 3.9		
S_8	0.819 ± 0.013	$H(0.38)$	83.04 ± 0.30		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11949.07; R - 1 = 0.01536$$

16.25 base_yhe_CamSpecHM_TTTEEE_lowl_lowE_Aver15_post_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}} h^2$	0.02228 ± 0.00016	S_8	0.828 ± 0.013	$D_{\mathrm{M}}(0.15)$	643.3 ± 4.7
$\Omega_{\mathrm{c}} h^2$	0.1196 ± 0.0012	$\sigma_8 \Omega_{\mathrm{m}}^{0.5}$	0.4537 ± 0.0071	$H(0.38)$	82.83 ± 0.35
$100\theta_{\mathrm{MC}}$	1.04081 ± 0.00034	$\sigma_8 \Omega_{\mathrm{m}}^{0.25}$	0.6059 ± 0.0064	$D_{\mathrm{M}}(0.38)$	1533.6 ± 9.4
τ	$0.0547^{+0.0051}_{-0.0078}$	$\sigma_8/h^{0.5}$	0.9861 ± 0.0090	$H(0.51)$	89.58 ± 0.28
Y_{P}	0.2437 ± 0.0038	$r_{\mathrm{drag}} h$	99.23 ± 0.94	$D_{\mathrm{M}}(0.51)$	1986 ± 11
$\ln(10^{10} A_{\mathrm{s}})$	$3.042^{+0.011}_{-0.015}$	$\langle d^2 \rangle^{1/2}$	2.441 ± 0.022	$H(0.61)$	$95.21^{+0.22}_{-0.24}$
n_{s}	0.9649 ± 0.0045	z_{re}	$7.71^{+0.55}_{-0.78}$	$D_{\mathrm{M}}(0.61)$	2311 ± 12
y_{cal}	1.0004 ± 0.0025	$10^9 A_{\mathrm{s}}$	$2.095^{+0.023}_{-0.031}$	$H(2.33)$	236.23 ± 0.73
A_{100}^{PS}	240 ± 25	$10^9 A_{\mathrm{s}} e^{-2\tau}$	1.878 ± 0.011	$D_{\mathrm{M}}(2.33)$	5768 ± 11
A_{143}^{PS}	39 ± 8	D_{40}	1229 ± 12	$f\sigma_8(0.15)$	0.4580 ± 0.0066
A_{217}^{PS}	102 ± 10	D_{220}	5720 ± 40	$\sigma_8(0.15)$	0.7476 ± 0.0051
A_{217}^{CIB}	40^{+7}_{-7}	D_{810}	2534 ± 13	$f\sigma_8(0.38)$	0.4757 ± 0.0053
A_{143}^{tSZ}	$3.9^{+1.8}_{-2.7}$	D_{1420}	815.6 ± 4.8	$\sigma_8(0.38)$	$0.6624^{+0.0041}_{-0.0047}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	D_{2000}	230.3 ± 1.6	$f\sigma_8(0.51)$	0.4740 ± 0.0046
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.56^{+0.41}_{-0.17}$	$n_{\mathrm{s},0.002}$	0.9649 ± 0.0045	$\sigma_8(0.51)$	$0.6198^{+0.0038}_{-0.0045}$
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	Y_{P}	0.2437 ± 0.0038	$f\sigma_8(0.61)$	0.4688 ± 0.0041
A^{kSZ}	$4.7^{+1.8}_{-4.4}$	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.2450 ± 0.0038	$\sigma_8(0.61)$	$0.5897^{+0.0036}_{-0.0043}$
A_{100}^{dust}	1.00 ± 0.20	Age/Gyr	13.808 ± 0.025	$f\sigma_8(2.33)$	$0.2972^{+0.0018}_{-0.0023}$
A_{143}^{dust}	0.96 ± 0.18	z_*	1089.93 ± 0.28	$\sigma_8(2.33)$	$0.3063^{+0.0019}_{-0.0024}$
A_{217}^{dust}	0.97 ± 0.10	r_*	144.60 ± 0.28	f_{2000}^{143}	29.6 ± 2.9
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$100\theta_*$	1.04104 ± 0.00031	f_{2000}^{217}	106.7 ± 1.9
c_{100}	0.9975 ± 0.0011	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.890 ± 0.026	$f_{2000}^{143 \times 217}$	32.0 ± 2.0
c_{217}	1.0011 ± 0.0016	z_{drag}	1059.65 ± 0.39	$\chi_{\mathrm{lensing}}^2$	9.23 ± 0.66
c_{TE}	0.9964 ± 0.0049	r_{drag}	147.29 ± 0.28	χ_{simall}^2	396.9 ± 1.6
c_{EE}	0.9918 ± 0.0049	k_{D}	0.14066 ± 0.00034	χ_{lowl}^2	23.38 ± 0.93
H_0	67.37 ± 0.55	$100\theta_{\mathrm{D}}$	0.16081 ± 0.00024	$\chi_{\mathrm{CamSpec}}^2$	11513.9 ± 5.4
Ω_{Λ}	0.6858 ± 0.0074	z_{eq}	3392 ± 27	χ_{Aver15}^2	0.9 ± 1.3
Ω_{m}	0.3142 ± 0.0074	k_{eq}	0.010352 ± 0.000083	χ_{prior}^2	7.9 ± 3.4
$\Omega_{\mathrm{m}} h^2$	0.1426 ± 0.0011	$100\theta_{\mathrm{eq}}$	0.8149 ± 0.0051	χ_{CMB}^2	11943.4 ± 5.6
$\Omega_{\mathrm{m}} h^3$	0.09605 ± 0.00034	$100\theta_{\mathrm{s,eq}}$	0.4503 ± 0.0026		
σ_8	0.8094 ± 0.0057	$H(0.15)$	72.68 ± 0.47		

$\bar{\chi}_{\mathrm{eff}}^2 = 11952.14$; $R - 1 = 0.01491$

16.26 base_yhe_CamSpecHM_TTTEEE_lowl_lowE_Aver15_post_BAO_lensing_zre6p5

Parameter	68% limits	Parameter	68% limits	Parameter	68% limits
$\Omega_{\mathrm{b}}h^2$	0.02233 ± 0.00015	$\sigma_8\Omega_{\mathrm{m}}^{0.5}$	0.4503 ± 0.0059	$D_{\mathrm{M}}(0.38)$	1528.9 ± 7.5
$\Omega_{\mathrm{c}}h^2$	0.11904 ± 0.00095	$\sigma_8\Omega_{\mathrm{m}}^{0.25}$	0.6033 ± 0.0057	$H(0.51)$	89.71 ± 0.23
$100\theta_{\mathrm{MC}}$	1.04089 ± 0.00033	$\sigma_8/h^{0.5}$	0.9828 ± 0.0082	$D_{\mathrm{M}}(0.51)$	1980.8 ± 8.8
τ	$0.0560^{+0.0055}_{-0.0077}$	$r_{\mathrm{drag}}h$	99.71 ± 0.74	$H(0.61)$	95.32 ± 0.20
Y_{P}	0.2439 ± 0.0038	$\langle d^2 \rangle^{1/2}$	2.433 ± 0.020	$D_{\mathrm{M}}(0.61)$	2305.0 ± 9.5
$\ln(10^{10}A_{\mathrm{s}})$	$3.044^{+0.012}_{-0.015}$	z_{re}	$7.82^{+0.59}_{-0.76}$	$H(2.33)$	235.88 ± 0.59
n_{s}	0.9664 ± 0.0040	$10^9 A_{\mathrm{s}}$	$2.099^{+0.025}_{-0.031}$	$D_{\mathrm{M}}(2.33)$	5763.6 ± 9.7
y_{cal}	1.0006 ± 0.0025	$10^9 A_{\mathrm{s}}e^{-2\tau}$	1.876 ± 0.011	$f\sigma_8(0.15)$	0.4550 ± 0.0055
A_{100}^{PS}	239 ± 25	D_{40}	1226 ± 12	$\sigma_8(0.15)$	0.7471 ± 0.0052
A_{143}^{PS}	39 ± 8	D_{220}	5725 ± 39	$f\sigma_8(0.38)$	0.4735 ± 0.0046
A_{217}^{PS}	102 ± 10	D_{810}	2535 ± 13	$\sigma_8(0.38)$	$0.6623^{+0.0043}_{-0.0049}$
A_{217}^{CIB}	39 ± 7	D_{1420}	816.2 ± 4.7	$f\sigma_8(0.51)$	0.4723 ± 0.0042
A_{143}^{tSZ}	$3.9^{+1.9}_{-2.6}$	D_{2000}	230.5 ± 1.6	$\sigma_8(0.51)$	$0.6199^{+0.0040}_{-0.0046}$
$r_{143 \times 217}^{\mathrm{PS}}$	0.66 ± 0.13	$n_{\mathrm{s},0.002}$	0.9664 ± 0.0040	$f\sigma_8(0.61)$	0.4674 ± 0.0039
$r_{143 \times 217}^{\mathrm{CIB}}$	$0.55^{+0.39}_{-0.19}$	Y_{P}	0.2439 ± 0.0038	$\sigma_8(0.61)$	$0.5899^{+0.0038}_{-0.0044}$
$\xi^{\mathrm{tSZ} \times \mathrm{CIB}}$	—	$Y_{\mathrm{P}}^{\mathrm{BBN}}$	0.2452 ± 0.0038	$f\sigma_8(2.33)$	$0.2975^{+0.0019}_{-0.0023}$
A^{kSZ}	< 6.11	Age/Gyr	13.799 ± 0.022	$\sigma_8(2.33)$	$0.3067^{+0.0020}_{-0.0024}$
A_{100}^{dust}	1.00 ± 0.20	z_*	1089.84 ± 0.25	f_{2000}^{143}	29.4 ± 2.8
A_{143}^{dust}	0.96 ± 0.18	r_*	144.72 ± 0.24	f_{2000}^{217}	106.6 ± 1.9
A_{217}^{dust}	0.97 ± 0.10	$100\theta_*$	1.04112 ± 0.00029	$f_{2000}^{143 \times 217}$	31.8 ± 2.0
$A_{143 \times 217}^{\mathrm{dust}}$	1.03 ± 0.16	$D_{\mathrm{M}}(z_*)/\mathrm{Gpc}$	13.900 ± 0.023	$\chi_{\mathrm{lensing}}^2$	9.23 ± 0.70
c_{100}	0.9975 ± 0.0011	z_{drag}	1059.71 ± 0.38	χ_{simall}^2	397.1 ± 1.8
c_{217}	1.0011 ± 0.0016	r_{drag}	147.40 ± 0.25	χ_{lowl}^2	23.11 ± 0.84
c_{TE}	0.9964 ± 0.0048	k_{D}	0.14056 ± 0.00032	$\chi_{\mathrm{CamSpec}}^2$	11514.0 ± 5.5
c_{EE}	0.9921 ± 0.0049	$100\theta_{\mathrm{D}}$	0.16079 ± 0.00023	χ_{Aver15}^2	0.9 ± 1.3
H_0	67.65 ± 0.43	z_{eq}	3378 ± 22	$\chi_{6\mathrm{DF}}^2$	0.048 ± 0.057
Ω_{Λ}	0.6896 ± 0.0058	k_{eq}	0.010311 ± 0.000066	χ_{MGS}^2	1.30 ± 0.41
Ω_{m}	0.3104 ± 0.0058	$100\theta_{\mathrm{eq}}$	0.8175 ± 0.0041	$\chi_{\mathrm{DR12BAO}}^2$	4.7 ± 1.3
$\Omega_{\mathrm{m}}h^2$	0.14201 ± 0.00091	$100\theta_{\mathrm{s,eq}}$	0.4516 ± 0.0021	χ_{prior}^2	7.8 ± 3.4
$\Omega_{\mathrm{m}}h^3$	0.09606 ± 0.00034	$H(0.15)$	72.91 ± 0.38	χ_{CMB}^2	11943.4 ± 5.6
σ_8	0.8083 ± 0.0058	$D_{\mathrm{M}}(0.15)$	641.0 ± 3.7	χ_{BAO}^2	6.02 ± 0.99
S_8	0.822 ± 0.011	$H(0.38)$	83.00 ± 0.28		

$$\bar{\chi}_{\mathrm{eff}}^2 = 11958.15; R - 1 = 0.01663$$