

Errata to the AST4220: Cosmology I lecture  
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Chapter	Page	Detailed placement	Corrections
1.10.5	35	Fifth equation	The matter scale factor dependence corrected from power $-2$ to $-3$
1.10.7	41	Just prior to first equation	"we now" corrected to "we know"
1.11	44	Equation 1.60 left hand side	$\mathcal{S}^1$ corrected to $\mathcal{S}^{-1}$
1.11.1	45	Top of page	$f(r)$ corrected to $\mathcal{S}^{-1}$
1.13	51	Unnumbered equation between 1.10 and 1.71	Entered a missing factor of $a_0$ multiplying the first expression for $dz$ , so that $dz = -a_0 \frac{da}{a^2}$
1.15	55	Exercise 1.5 b) last line	Erased an incorrect factor of $c^2$ multiplying the expression for the energy density parameter for the cosmological constant $\Omega_{\lambda 0}$

Tabell 1: Errors corrected in version from the 21st of February 2012

Chapter	Page	Detailed placement	Correction
1.5.2	12	Unnumbered equation just prior to 1.12	$f(r)$ should be $\mathcal{S}^{-1}(r)$
2.6	79	section before third unnumbered equation	$T$ is proportional to $\frac{1}{a}$ (not $a$ ), so that $T = \frac{1}{Ca}$ (not $T = Ca$ )
2.10	92	Exercise 2.3, second sentence in last section	The quark contents of the $\pi^0$ and $\pi^+$ quarks are given in the wrong order
2.10	92	Exercise 2.5, equation	There is a factor of $c^2$ missing in the summation over neutrino types
2.10	92	Exercise 2.6, first sentence	The references should be to expressions (2.11) and (2.12), not (1.11) and (1.12)
2.10	92	Exercise 2.7, first sentence	The references should be to figure 2.4 not 1.4

Tabell 2: Errors corrected in version from the 8th of March 2012

Chapter	Page	Detailed placement	Correction	Date
1.13	52	Two unnumbered equations just prior to 1.72	both contain a factor of $c$ too many	11/3-13
2.10	96	Equation in subproblem 2.9 c)	Equality sign missing in Friedmann equation	12/4-13
2.10	96	Second equation in subproblem 2.9 d)	Paranthesis missing, extra plus sign removed	12/4-13
2.10	95	Last equation in problem 2.8	Wrong sign in exponent	17/4-13

Tabell 3: Errors corrected in 2013. The last column denotes the date when this error was corrected in the web version on the format dd/m-y

Chapter	Page	Detailed placement	Correction	Date
1.10.7	41	Last equality in text between 2nd and 3rd unnumbered equations on the page	Adding missing factor of $\frac{1}{2}$ in formula for $a_s$	25/3-15
1.5.2	11-12	Last equation on page 11 to first on page 12	Changing $\mathcal{S}^{-1}$ to $\mathcal{S}_k^{-1}$ and clarifying that this is a functional	25/3-15
1.5.5	15	Just before equation (1.22)	Putting parathesis around functions, to emphasise the functional nature of $\mathcal{S}_k$	25/3-15
2.4	76	Unnumbered equation before (2.31)	Removing a superfluous factor 2 in middle expression	23/4-15
2.6	80	Second to last sentence first section	Changed the tense of start of operations at LHC from future to past	23/4-15
2.6	82	Unnumbered equation in the middle of the page	Adding missing $c^2$ to final expression	23/4-15
4.1	131	Text under equation under 4.25	Removed confusing extra sentence and changed reference to 4.24	23/4-15
4.6	137	Unnumbered equation between 4.52 and 4.53	Removed incorrect square on double derivative of $\Delta_k$	21/5-15

Tabell 4: Errors corrected in 2015. The last column denotes the date when this error was corrected in the web version on the format dd/m-y