

Corrections to **Cheng / A college course on relativity and cosmology**

Page#	Line/Eq number	Incorrect content/Instruction on how to correct	So that the corrected version reads as
44	(3.54)	<u>Insert a minus sign</u> on the right-hand side of the 2 <sup>nd</sup> equation	$\frac{\Delta\omega}{\omega} = -\frac{\Delta v}{c}$
112	(6.42)	<u>Insert a minus sign and remove <math>4\pi</math></u>	$\square A_\mu = -\frac{1}{c}j_\mu$
143	3 <sup>rd</sup> and 6 <sup>th</sup> lines below (7.20)	<u>Change the superscripts</u> in the 3 <sup>rd</sup> line $l^2/r^3 \rightarrow \infty$ and in the 6 <sup>th</sup> line $-l^2/r^4 \rightarrow -\infty$	$l^2/r^2 \rightarrow \infty$ and $-l^2/r^3 \rightarrow -\infty$
163	(8.18)	<u>Change the value <math>\cong 0.005</math></u>	$\cong 0.0035$
196	3 <sup>rd</sup> line of 2 <sup>nd</sup> paragraph (Point 2)	<u>Change the value 300,000</u>	400,000
221	1 <sup>st</sup> line below (10.11)	<u>Insert <math>4\pi</math></u> in the denominator of $r_0$ and <u>add parentheses</u>	$r_0 = e^2/(4\pi m_e c^2)$
264	1 <sup>st</sup> line in #7.6	<u>Insert a slash</u> so that it reads as	$-Cl^2/r^3$
273	Ex6.3(d)	<u>Change the sign</u> in front of $\cos 2\varphi$ in the 1 <sup>st</sup> equation	$\frac{d^2 u_1}{d\varphi^2} + u_1 - \frac{1 + \cos 2\varphi}{2r_{min}^2} = 0$
273	Ex6.3(d)	<u>Insert a minus sign</u> in the inline equation at the end of the line below the above equation	$\beta = -1/(6r_{min}^2)$
273	Ex6.3(d) the last displayed equation	<u>Change <math>\sin\varphi</math> to <math>\cos\varphi</math></u> and <u>change the sign</u> in front of $\cos 2\varphi$	$\frac{1}{r} = \frac{\cos\varphi}{r_{min}} + \frac{r^*}{r_{min}^2} \frac{3 - \cos 2\varphi}{4}$