

## ERRATA for A *GENERAL RELATIVITY WORKBOOK* (3rd Printing)

- Page 35, caption to figure 3.2, next-to-last line: the reference to equation 3.18 should be to 3.19.
- Page 42, Problem P3.3: replace three references to 38.7° by 36.87°.
- Page 52, Problem P4.11, 2nd line, replace “where = four-” by “where  $\mathbf{a}$  = four-”.
- Page 202, section on **Locally Inertial Reference Frames**, third line, replace first “ $d$ ” with “ $\partial$ ”.
- Page 214, fourth line above equation 18.7, replace  $x^\sigma(\tau)$  with  $x^\beta(\tau)$  and  $\bar{x}^\sigma(\tau)$  with  $\bar{x}^\beta(\tau)$ .
- Page 214, 2nd line above equation 18.7, equation 18.7, and the two lines below equation 18.7: replace each occurrence of  $x^\alpha(\tau)$ ,  $\bar{x}^\alpha(\tau)$ , or  $n^\alpha(\tau)$  with  $x^\beta(\tau)$ ,  $\bar{x}^\beta(\tau)$ , or  $n^\beta(\tau)$ , respectively (that is, change the superscript from  $\alpha$  to  $\beta$  to avoid confusion with the  $\alpha$  index in other places in equation 18.7).
- Page 222, second line: replace “relative deviation of initially parallel nearby geodesics” with “relative acceleration of neighboring”.
- Page 227, the sentence following equation 19.17: Replace this sentence with: “At the origin of a LIF, first derivatives of the metric (and thus the Christoffel symbols) are zero, though at least some second derivatives of the metric (and thus some first derivatives of the Christoffel symbols) will not be zero.”
- Page 230, problem 19.5, change “only non-zero Riemann tensor component” to “only Riemann tensor component that might be nonzero”.
- Page 256, line below equation 22.9: delete the trailing quotation mark.
- Page 315, below equation 26.25: insert “where  $t_0$  is the present value of  $t$ .”
- Page 343, third paragraph, fourth line from the bottom: change  $[10 \cdot \frac{8}{3} \pi G \rho_r]^{-1/2} 10^{-36}$  s to  $[10 \cdot \frac{8}{3} \pi G \rho_r]^{-1/2} \sim 10^{-36}$  s (that is, insert missing “ $\sim$ ” symbol).
- Page 367, last line: replace “elisascience.org” with “lisa.nasa.gov”.
- Page 384, line at the end of the Crude Estimates section: change “, but has seen nothing to date.” to “and has seen several such mergers (but mostly involving black holes with more than a few solar masses).”
- Page 411, equation 35.21: change  $R$  in the denominator to  $r$  to be consistent with previous usage.
- Page 415, equation 35.27: put absolute-value bars around  $\sin \theta$ .
- Page 415, equation 35.28: put absolute-value bars around  $d\phi/d\tau$ .
- **Inside back cover**, line headed by “Raising, Lowering Indices:” add the following to the end of that line:  

$$\partial_\mu \equiv \frac{\partial}{\partial x^\mu}, \quad \partial^\mu \equiv g^{\mu\nu} \partial_\nu$$