CHAPTER 24

Reading: Chapter 24, *Fundamental Concepts of General Relativity.*

Problems

Work four of the following eight problems. Pick problems that are appropriate for *you*—not too easy; not too hard.

> Exercise 24.4 Constant of geodesic motion in a spacetime with symmetry
> Exercise 24.5 Action principle for geodesic motion
> Exercise 24.7 Orders of magnitude of the radius of curvature
> Exercise 24.8 Components of Riemann in an arbitrary basis
> Exercise 24.9 Curvature of the surface of a sphere
> Exercise 24.10 Geodesic deviation on a sphere
> Exercise 24.12 Newtonian limit of general relativity
> Exercise 24.13 Gauge transformations in linearized theory