

Physics 130 General Relativity Seminar

Assignment 13 April 22, 2013

General topic: **The Einstein Equation**

Part 1: Readings

Hartle: Chap 24 Relativistic Stars

Hartle: Chap 27 The Universe Observed

Hartle: Chap 18 Sections 1-2 - Cosmological Models

Hartle: Chap 24 Supplement - Energy Levels of Particle in a Box

Part 2: Problems Hartle Problems

1. Hartle 24.04 Equations of structure
2. Hartle 17.01 Red shift distances
3. Hartle 17.03 Planck radiation law and temperature
4. Hartle 17.06 Copier machine expanding galaxies
5. Hartle 17.07 Apparent magnitude
6. Hartle 17.08 Main sequence
7. Hartle 17.09 Cepheid variables
8. Hartle 18.01 Raisins in dough
9. Hartle 18.02 Expanding universe
10. Hartle 18.07 Present proper distance
11. Hartle 18.08 Cosmological red shift and time-translation symmetry