

Physics 155 General Relativity

Homework 2

Assigned Wed Jan 15, 2020

Due Wed Jan 22, 2020 in the Phy 155 HW box (across from rm. 114 physics) by 3pm

Please hand in your homework on paper, with the pages numbered and your name clearly marked on each page.

2.1) *Carroll* Chapter 1, exercise 7

2.2) *Carroll* Chapter 1, exercise 8

2.3) Demonstrate that the inverse metric η^{uv} defined by Eqn. 1.67 in *Carroll*, has the same components as the metric (you can just check this by assuming so and checking explicitly that Eqn. 1.67 is obeyed).

2.4) *Carroll* Chapter 2, exercise 6