Phys 402
Fall 2022
Homework 10
Due Wednesday, November 30, 2022 @ 10 AM

1. Griffiths, 3rd Edition, Problem 10.1 parts (b) and (c) only [Differential scattering cross section for Coulomb scattering]

2. Griffiths, 3rd Edition, Problem 10.2 [Analogs of scattering wavefunction in 1D and 2D]

3. Griffiths, 3rd Edition, Problem 10.5 [Scattering phase shift from a finite square well in 1D]

4. Griffiths, 3rd Edition, Problem 10.6 [Partial wave phase shifts for hard-sphere scattering] {***Hint: Start with Eq. (10.46), separate into real and imaginary parts, and find*** $\tan \delta_\ell$}

5. Griffiths, 3rd Edition, Problem 10.8 [Check that the Greens function satisfies the Helmholtz equation]

6. Griffiths, 3rd Edition, Problem 10.10 [Scattering amplitude for the soft sphere]

7. Griffiths, 3rd Edition, Problem 10.18 [1D scattering from a delta function potential well and a finite square well]

Extra Credit 10

Griffiths, 3rd Edition, Problem 10.16