PHYS 452 Quantum Mechanics II (Fall 2019)
Homework #6, due Tuesday November 19 in class

Scattering theory.

1. Problem 11.6 in Griffiths

2. Consider S-wave scattering $(l = 0)$ of a particle of mass m from a spherically symmetric attractive potential well:
$$V(r) = \begin{cases} -V_0, & r < R \\ 0, & r > R \end{cases}.$$
Find the phase shift δ_0 and the total cross section σ_{tot}.

3. Problem 11.20 in Griffiths