Phys 410

Fall 2013

Homework #8

Due Thursday 7 November, 2013

All problems are from Taylor, *Classical Mechanics*.

1) Problem 8.16 Elliptical orbit derivation
2) Problem 14.4 Scattering from a copper foil
3) Problem 14.8   Solid angle
4) Problem 14.11   Differential scattering cross section
5) Problem 14.14   Scattering in two dimensions
6) Problem 14.19 Symmetry of orbit in Rutherford scattering
7) Problem 13.3 Hamiltonian of Atwood with rotational inertia
8) Problem 13.21 Ignorable coordinates and conservation laws
9) Problem 13.23 New and improved Atwood machine
10) Problem 13.26 Phase-Space Orbit

Extra Credit

1) Problem 14.12   Quantum scattering theory