Physics 217
Problem Set 1
Due: Friday, September 7th, 2018

1. (5 points) Chemical processes typically occur at an energy scale on the order of 1 eV. Calculate the corresponding wavelength of electromagnetic radiation that is emitted in such processes. Nuclear processes involve energies on the order of 1 MeV. Locate the wavelength of the corresponding radiation in the electromagnetic spectrum.

2. (5 points) Sunlight has a typical wavelength of 500 nm. What is the energy (in eV) of a typical photon in sunlight? Can sunlight produce photoelectrons from metals, given that most metals have work functions in the range 2 to 5 eV?

3. Harris: (15 points) Chapter 3, problem 25.

4. Harris: (15 points) Chapter 3, problem 39.