

Phys 586 Homework

Problem Set 3

Due Wednesday, March 3

1. Knoll 2.5
2. Knoll 2.8
3. Knoll 10.6
4. Knoll 10.9
5. A narrow beam of 5000 monoenergetic photons is reduced to 1000 by a copper absorber 2 cm thick. What is the linear attenuation coefficient, mass attenuation coefficient, and half-value layer for these photons?
6. Calculate the maximum energy transferred to the recoil electron in Compton scattering for 50, 500, and 5000 keV photons. What does this say about the fraction of energy transferred to the electron as the energy of the photon increases?