

Chapter 27 Practice Problems

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0.1 Problem 1

What is the momentum of a 0.055 nm photon? How fast must an electron travel to have this momentum?

0.2 Problem 2

A 3.1 MeV photon collides with a stationary electron and is scattered backwards. How much energy does the photon impart to the electron?

0.3 Problem 3

A 75 kg person is running at 2 m/s. What is the de Broglie wavelength of this person? What can we say about the wave nature of macroscopic objects?