

Compton scattering 2

Scattering data from Table I of Compton's 1923 paper ($\Delta\lambda$ in Angstroms).

Angle	$\Delta\lambda$ obs.	$\Delta\lambda$ calc.
45°	0.008	0.007
90°	0.021	0.025
135°	0.046	0.041

Let us calculate $\Delta\lambda$ from the Compton equation

$$\Delta\lambda = \lambda' - \lambda = \frac{h}{mc} (1 - \cos \theta)$$

where m is electron mass. The results are

0.007
0.024
0.041

Eigenmath script