

# COMPTON EFFECT

When an incident photon strikes a free electron, the photon transfers some of its energy to the electron and is scattered at an angle  $\theta$  with a longer wavelength (lower energy). The energy lost by the photon is equal to the energy gained by the electron.

Let

$\lambda_0$  =

$\lambda$  =

$\theta$  =

$f$  =

$f'$  =

$E$  =

$E'$  =

$m_0$  =

$m$  =

$v$  =

$v'$  =

$\Delta\lambda$  =

$\Delta f$  =

$\Delta E$  =

$\Delta p$  =

$\Delta p'$  =

$\Delta p_e$  =

$\Delta p_e'$  =

$\Delta p_e''$  =

$\Delta p_e'''$  =



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