THE MASS OF PHOTONS

If (c) is defined as the asymptotic limiting maximum Velocity

$$\mathrm{v}_{\max} = c = \lim_{m \to \infty} \lambda \nu = 2.99792458 \text{ x } 10^{8} \text{ m/s}$$

where $\mathrm{v} = \lambda \nu$ and since $h = m \lambda^2 \nu$

$$\text{then } \lim_{\lambda \nu \to c} h = \lim_{\lambda \nu \to c} m \lambda^2 \nu = m \lambda c = h_0 = 6.62606876 \text{ x } 10^{-34} \text{ J s}$$

and u can be defined as the Unicity $u = m \lambda$

$$\lim_{\lambda \nu \to c} u = \lim_{\lambda \nu \to c} m \lambda = \lim_{\lambda \nu \to c} \frac{m \lambda^2 \nu}{\lambda \nu} = \lim_{\lambda \nu \to c} \frac{h}{\mathrm{v}}$$

then (b) can be defined as the asymptotic limiting minimum Unicity

$$\mathrm{u}_{\min} \equiv b = \lim_{\lambda \nu \to c} u = \frac{h_0}{c} = 2.21021863 \text{ x} 10^{-42} \text{ kg m}$$

so that the mass of a photon is given by

$$m_{\text{photon}} \approx \frac{u}{\lambda} = \frac{h_0}{\lambda c} = \frac{b}{\lambda} \qquad \text{where} \qquad \lambda = 2\pi r$$

WLIU = 6.509913771 x10^{-43}kg	WHBE = 7.129203417 x10^{-43}kg
WNPR = 6.568893738 x10^{-43}kg	WBEA = 7.497828205 x10^{-43}kg
WLNG = 6.790068611 x10^{-43}kg	WBAZ = 7.556805172 x10^{-43}kg
WEHM = 6.849048577 x10^{-43}kg	WMOS = 7.719003079 x10^{-43}kg
WHFM = 7.025988476 x10^{-43}kg	WLIR = 7.895942977 x10^{-43}kg

THE ELECTRIC CHARGE OF EACH OF THE PARTICLES IN A NEUTRAL PAIR OF PHOTONS

$$\mu_0 = \lim_{\lambda \nu \to c} \frac{2m \lambda}{q^2} = 1.2566 \text{ x} 10^{-6} \text{ kg m/C}^2$$

$$b = \lim_{\lambda \nu \to c} u = \frac{h_0}{c} = 2.210218631 \text{ x} 10^{-42} \text{ kg m}$$

and the Photon Electric Charge

$$q_{\text{photon}} \approx \lim_{\lambda \nu \to c} \sqrt{\frac{2m \lambda}{\mu}} = \sqrt{\frac{2b}{\mu_0}} = \sqrt{\frac{2h_0}{\mu_0 c}} = 1.875545842 \text{ x} 10^{-18} \text{C}$$

which is greater than the Electric Charge on the Electron or Proton by

$$q_{\text{photon}} = (11.70623765) q_{\text{Electron/Proton}}$$

$$G = \frac{\lambda^3 \nu^2}{2\pi M} \qquad h = m \lambda^2 \nu \qquad \varepsilon = \frac{q^2}{2m \lambda^3 \nu^2} \qquad \mu = \frac{2m \lambda}{q^2}$$

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