

PHYSICAL VARIABLES

Gravitational Variable $G = \frac{\lambda^3 v^2}{2\pi M}$	Angular Momentum $h = m \lambda^2 v$	Electrical Permittivity $\epsilon = \frac{q^2}{2m \lambda^3 v^2}$	Magnetic Permeability $\mu = \frac{2m \lambda}{q^2}$
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SUN / MILKY WAY GALAXY

$$M_{S/MW(enc)} = 1.832 \times 10^{40} \text{ kg}$$

$$m_S = 1.9891 \times 10^{30} \text{ kg}$$

$$\lambda_{S/MW} = 1.551 \times 10^{21} \text{ m}$$

$$v_{S/MW} = 1.416 \times 10^{-16} \text{ Hz}$$

$$G = 6.4916 \times 10^{-10} \text{ m}^3/\text{kg s}^2$$

$$h = 6.7755 \times 10^{56} \text{ J.s}$$

$$v = 2.1962 \times 10^5 \text{ m/s}$$

EARTH / SUN

$$M_S = 1.9891 \times 10^{30} \text{ kg}$$

$$m_E = 5.9742 \times 10^{24} \text{ kg}$$

$$\lambda_{E/S} = 9.3997 \times 10^{11} \text{ m}$$

$$v_{E/S} = 3.1688 \times 10^{-8} \text{ Hz}$$

$$G = 6.6729 \times 10^{-11} \text{ m}^3/\text{kg s}^2$$

$$h = 1.6726 \times 10^{24} \text{ J.s}$$

$$v = 2.9786 \times 10^4 \text{ m/s}$$

ELECTRON / PROTON

$$M_p = 1.67262158 \times 10^{-27} \text{ kg}$$

$$m_e = 9.10938188 \times 10^{-31} \text{ kg}$$

$$q = 1.60217646 \times 10^{-19} \text{ C}$$

$$v = 2.18769125 \times 10^6 \text{ m/s}$$

$$\lambda_{e/p} = 3.32491846 \times 10^{-10} \text{ m}$$

$$v_{e/p} = 6.57968392 \times 10^{15} \text{ Hz}$$

$$G = 1.514179 \times 10^{29} \text{ m}^3/\text{kg s}^2$$

$$h = 6.62606876 \times 10^{-34} \text{ J.s}$$

$$\epsilon = 8.85418782 \times 10^{-12} \text{ C}^2/\text{kg m}^3 \text{ s}^2$$

$$\mu = 2.35982180 \times 10^{-2} \text{ kg m/C}^2$$

PHOTON / PHOTON (WMOS-FM)

$$m_{ph+} = 7.719003079 \times 10^{-43} \text{ kg}$$

$$m_{ph-} = 7.719003079 \times 10^{-43} \text{ kg}$$

$$q = 1.87554584 \times 10^{-18} \text{ C}$$

$$v < c \sim 2.99792458 \times 10^8 \text{ m/s}$$

$$\lambda_{e/p} = 2.86334726 \text{ m}$$

$$v_{e/p} = 1.04700000 \times 10^8 \text{ Hz}$$

$$G = 5.30608674 \times 10^{58} \text{ m}^3/\text{kg s}^2$$

$$h = 6.62606876 \times 10^{-34} \text{ J.s}$$

$$\epsilon = 8.85418782 \times 10^{-12} \text{ C}^2/\text{kg m}^3 \text{ s}^2$$

$$\mu = 1.25663706 \times 10^{-6} \text{ kg m/C}^2$$

EQUATIONS IN TERMS OF MASS, CHARGE, WAVELENGTH, AND FREQUENCY

$$\text{Energy: } E = hv = m\lambda^2 v^2 = \frac{q^2}{2\epsilon\lambda} = \frac{\mu\lambda v^2 q^2}{2}$$

$$\text{Force: } F = 2\pi m \lambda v^2$$

$$\text{Momentum: } p = m\lambda v$$

$$\text{Electric Charge: } q = \sqrt{\frac{2m \lambda}{\mu}}$$

$$\text{Magnetic Moment: } \mu_M = \frac{q\lambda^2 v_R}{4\pi}$$

$$\text{Magnetic Flux Density: } B = \frac{2\pi m v}{q}$$

$$m_R = \frac{1}{\sum_{k=1}^n \frac{1}{m_k}} = \frac{m_1 m_2 m_3}{m_1 m_2 + m_2 m_3 + m_3 m_1}$$

$$\text{Centripetal Acceleration: } a_c = 2\pi\lambda_1 v_R^2$$

$$\text{Current: } i = qv_R$$

$$\text{Electric Field: } E_e = \frac{2\pi m \lambda v^2}{q}$$

$$\text{Magnetic Field Strength: } H = \frac{\pi q v}{\lambda}$$

$$v^2 = \frac{1}{\mu\epsilon} \quad E < mc^2$$

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