Revised formulae from
The 3D Universe Theory
www.3d-universe-theory.com
Patrick Tonin

Proton-to-Electron mass ratio:

$$mp/me = \left((8\pi - 1) + \frac{1}{(8\pi - 1)} + \frac{1}{(8\pi - 1)^2} + \frac{1}{(8\pi - 1)^3} + ... \right)^2 \times \pi = 1836.19 \text{ (official value 1836.15)}$$

The above equation can be rewritten as follows:

$$mp/me = \left((8\pi - 1) + \frac{1}{(8\pi - 2)} \right)^2 \times \pi = 1836.19 \text{ (official value 1836.15)}$$

Electron's charge:

$$e = \sqrt{\frac{h \times \left(1 - \frac{1}{8\pi}\right)}{\varphi^2 \times 8\pi \times \mu_0 \times c}} = 1.60209 \times 10^{-19} \text{ C (official value} = 1.60217 \times 10^{-19} \text{ C)}$$

Fine structure constant :

$$\alpha = \left(\frac{e}{q_P}\right)^2 = \frac{h \times \left(1 - \frac{1}{8\pi}\right) \times \mu_0 \times c}{\varphi^2 \times 8\pi \times \mu_0 \times c \times 2h} = \frac{\left(1 - \frac{1}{8\pi}\right)}{\varphi^2 \times 16\pi} = 7.2966 \times 10^{-3} \text{ (official value } 7.2973 \times 10^{-3})$$

Electron's mass: (φ has a dimension of Time in sec)

$$m_e = \frac{2h}{\varphi \times 10^{-20} \times c^2} = 9.112 \times 10^{-31} \text{ Kg (official value} = 9.109 \times 10^{-31} \text{ Kg)}$$

Electron's Compton wavelength: (φ has a dimension of Time in sec)

$$\lambda_e = \frac{\varphi \times 10^{-20} \times c}{2} = 2.4253 \times 10^{-12} \text{ m (official value} = 2.4263 \times 10^{-12} \text{ m)}$$

Electron's Compton frequency: (φ has a dimension of Time in sec)

$$v_e = \frac{c}{\lambda_e} = \frac{2}{\varphi \times 10^{-20}} = 1.2360 \times 10^{20} \text{ Hertz (official value} = 1.2356 \times 10^{20} \text{ Hertz)}$$

Electron's energy: (φ has a dimension of Time in sec)

$$E_e = m_e c^2 = h\nu_e = \frac{2h}{\varphi \times 10^{-20}} = \frac{2 \times 6.626 \times 10^{-34}}{1.618 \times 10^{-20}} = 8.190 \text{ x } 10^{-14} \text{ Joules } \text{(official value = 8.186 x } 10^{-14}$$

Joules)

Proton's mass in relation to the Planck Mass:

$$M_{pr} = m_P \times 10^{-20} \times \left(8 - \frac{1}{\pi}\right) = 1.6719 \text{ x } 10^{-27} \text{ Kg (official value 1.6726 x } 10^{-27} \text{ Kg)}$$

Proton's diameter in relation to the Planck Length:

$$D_{pr} = \frac{l_p \times 10^{20}}{1 - \frac{1}{8\pi}} = 1.6832 \text{ x } 10^{-15} \text{ m (official value 1.6836 x } 10^{-15} \text{ m)}$$

Proton's mass and proton's diameter in relation to the Planck Constant and the speed of light:

$$D_{pr} \times M_{pr} = 8 \text{ x } l_p \text{ x } m_p = 8 \times \sqrt{\frac{hG}{2\pi c^3}} \times \sqrt{\frac{hc}{2\pi G}} = \frac{4h}{\pi \times c}$$

$$D_{pr} = \frac{4h}{\pi \times c \times M_{pr}} = \frac{4 \times \lambda_{pr} \times M_{pr} \times c}{\pi \times c \times M_{pr}} = \frac{4\lambda_{pr}}{\pi} = 1.6824 \text{ x } 10^{-15} \text{ m (official value = 1.6836 x } 10^{-15} \text{ m)}$$

Proton's radius (measured with muon):

$$R_{pm} = \frac{l_P \times 10^{20}}{2 \times \left(1 - \frac{1}{8\pi}\right)} = 0.8416 \text{ x } 10^{-15} \text{ m (official value 0.8418 x } 10^{-15} \text{ m)}$$

Proton's radius (measured with electron):

$$R_{pe} = \frac{R_{pm}}{1 - \frac{1}{8\pi}} = \frac{0.8416 \times 10^{-15}}{0.9602} = 0.8765 \text{ x } 10^{-15} \text{ m (official value 0.8768 x } 10^{-15} \text{ m)}$$

Proton's mass:

$$M_{pr} = \frac{4h \times \left(1 - \frac{1}{8\pi}\right)}{t_P \times 10^{20} \times \pi \times c^2} = 1.6719 \text{ x } 10^{-27} \text{ Kg (official value 1.6726 x } 10^{-27} \text{ Kg)}$$

Proton's Compton wavelength:

$$\lambda_{\text{pr}} = \frac{t_P \times 10^{20} \times \pi \times c}{4 \times \left(1 - \dfrac{1}{8\pi}\right)} = 1.3219 \text{ x } 10^{-15} \text{ m (official value} = 1.3214 \text{ x } 10^{-15} \text{ m)}$$

Proton's Compton frequency:

$$\nu_{\text{pr}} = \frac{c}{\lambda_{pr}} = \frac{4 \times \left(1 - \dfrac{1}{8\pi}\right)}{t_P \times 10^{20} \times \pi} = 2.2678 \text{ x } 10^{23} \text{ Hertz (official value} = 2.2687 \text{ x } 10^{23} \text{ Hertz)}$$

Proton's Energy:

$$E_{\text{pr}} = m_{\text{pr}} c^2 = h\nu_{\text{pr}} = \frac{4 \times h \times \left(1 - \dfrac{1}{8\pi}\right)}{t_P \times 10^{20} \times \pi} = 1.5026 \text{ x } 10^{-10} \text{ Joules (official value} = 1.5032 \text{ x } 10^{-10} \text{ Joules)}$$

Gravitational coupling constant :

$$\alpha_{\text{G}} = \left(\frac{m_e}{m_P}\right)^2 = \left(\frac{4\pi \times t_p}{\varphi \times 10^{-20}}\right)^2 = \left(\frac{4\pi \times 5.391 \times 10^{-44}}{1.618 \times 10^{-20}}\right)^2 = 1.7530 \text{ x } 10^{-45} \text{ (official value} = 1.7518 \text{ x } 10^{-45})$$