

$$\alpha \equiv 7.297353080 \cdot 10^{-03}$$

$$r_e \equiv 3.861593223 \cdot 10^{-13} \cdot \text{m}$$

$$\mu_o := 1 \cdot 10^{-07} \cdot 4 \cdot \pi \cdot \text{henry} \cdot \text{m}^{-1}$$

$$\mu_o = 1.2566370614 \times 10^{-6} \cdot \text{henry} \cdot \text{m}^{-1}$$

$$c_{\text{vel}} := 2.997924580 \cdot 10^{08} \cdot \frac{\text{m}}{\text{sec}}$$

$$m_e \equiv 9.109389700 \cdot 10^{-31} \cdot \text{kg}$$

$$h \equiv 6.626075500 \cdot 10^{-34} \cdot \text{joule} \cdot \text{sec}$$

$$l_q := \alpha \cdot r_e$$

$$\text{turns} := m_e \cdot \alpha \cdot (c_{\text{vel}})^2 \cdot h^{-1} \cdot \text{sec}$$

$$\text{turns} = 9.0165348853 \times 10^{17}$$

Turns completed  
every second.

$$L_{\text{GQ}} := \frac{\mu_o \cdot (r_e)^2 \cdot (\text{turns})^2}{l_q \cdot \sqrt{\alpha}}$$

$$L_{\text{GQ}} = 6.328600517 \times 10^{20} \cdot \text{henry}$$

$$\frac{L_{\text{GQ}}}{\mu_o} = 5.0361402757 \times 10^{26} \text{ m}$$

(Size of universe radius)

Let:  $F_{\text{QK}} := 2.964371450 \cdot 10^{-17} \cdot \text{newton}$  which is the electrogravitational force constant.

$$\text{CFU} := \frac{1 \cdot \text{m}}{\alpha^2 \cdot L_{\text{GQ}}} \cdot \frac{1}{F_{\text{QK}}}$$

$$\text{CFU} = 1.0009882413 \cdot \left( \frac{1}{\text{newton}} \cdot \frac{\text{m}}{\text{henry}} \right)$$

$$f_{\text{LM}} := 1.003224805 \cdot 10^{01} \cdot \text{Hz}$$

$$R_{\text{n1}} \equiv r_e \cdot \alpha^{-1}$$

$$R_{\text{n1}} = 5.2917724833 \times 10^{-11} \text{ m}$$

$$F_{\text{EGQ}} := \frac{h \cdot f_{\text{LM}}}{R_{\text{n1}}} \cdot \mu_o \cdot \frac{h \cdot f_{\text{LM}}}{R_{\text{n1}}}$$

$$F_{\text{EGQ}} = 1.9829730879 \times 10^{-50} \cdot \text{newton} \cdot \frac{\text{henry}}{\text{m}} \cdot \text{newton}$$

The above equation is the electrogravitational equation without the correction constant CFU. When  $F_{\text{EGQ}}$  is multiplied by the correction constant CFU, we arrive at the force of one newton unit and the correct force for two electrons separated by the radius of the lowest energy level of atomic hydrogen at  $n=1$ .

$$F_{\text{EGQC}} := F_{\text{EGQ}} \cdot \text{CFU}$$

$$F_{\text{EGQC}} = 1.9849327437 \times 10^{-50} \cdot \text{newton}$$

Next, the standard gravitational force at the same  $R_{n1}$  parameter used above is derived.

Let:  $G_N \equiv 6.672590000 \cdot 10^{-11} \cdot \text{newton} \cdot \text{m}^2 \cdot \text{kg}^{-2}$  **SI units of gravitational constant.**

$$F_{GN} \equiv \frac{G_N \cdot m_e^2}{R_{n1}^2} \quad F_{GN} = 1.9772913939 \times 10^{-50} \text{ N} \quad \frac{F_{EGQC}}{F_{GN}} = 1.0038645542$$

The error between the new electrogravitational equation and the standard Newtonian derivation is shown above.

Below is the more correct electrogravitational constant that can be used to replace the SI standard gravitational constant.

$$G_{NE} := (\alpha \cdot \text{m}^2 \cdot \text{sec}^{-2})^2 \cdot \mu_0 \quad G_{NE} = 6.6917635029 \times 10^{-11} \cdot \frac{\text{m}^4}{\text{sec}^4} \cdot \frac{\text{henry}}{\text{m}}$$

Corrected  $G_{NE}$ : (Multiplying by CFU)

$$G_{NEC} := G_{NE} \cdot \text{CFU} \quad G_{NEC} = 6.6983765798 \times 10^{-11} \text{ newton} \cdot \frac{\text{m}^2}{\text{kg}}$$

$$F_{GNC} := \frac{G_{NEC} \cdot m_e^2}{R_{n1}^2} \quad F_{GNC} = 1.984932742 \times 10^{-50} \text{ newton}$$

$$\frac{F_{GNC}}{F_{EGQC}} = 0.9999999991$$

The agreement between the corrected Newtonian force equation and the electrogravitational force equation with the corrected units modifier constant is extremely small as shown above. This suggests that the gravitational constant not only needs different units but also a correction in magnitude in the plus direction as shown below.

$$\frac{G_{NEC}}{G_N} = 1.0038645533$$

END