

Gravitational Constant Between Two Equal Masses

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See Unified Absolute Relativity Theory at:

www.wbabin.net/saraiva/saraiva105.pdf
www.wbabin.net/saraiva/saraiva223.pdf
www.wbabin.net/saraiva/saraiva282.pdf

Abstract -- A theory can be wrong and work perfectly.
Our idea of the macro-dipole is wrong. The proton is the quantum of the macro-mass.

Gravitational constant:

$$G = \frac{q^2}{4\pi \epsilon_0 m^2} = \frac{q^2 (c^2 - Sf^2)^2}{4\pi \epsilon_0 h^2 f^2}$$

q – Electric charge; ϵ_0 - Vacuum permittivity; m – Mass; c – Light speed;
S – Saraiva's constant; f – Compton frequency; h – Planck's constant.

For the electron: $G_e = 2.78 \times 10^{32} m^{-3}$

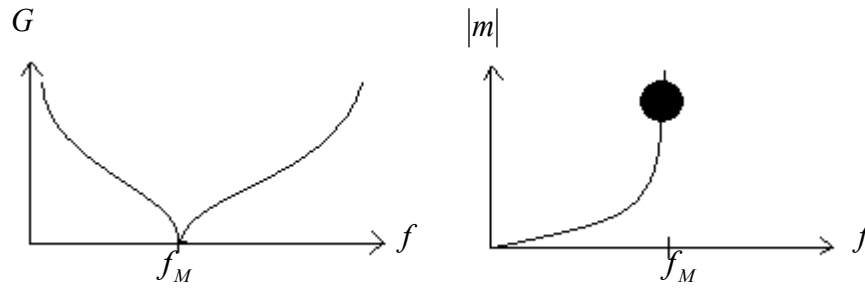
For macro-masses:

$$f = f_M = \frac{c}{\sqrt{S}} = 2.1672 \times 10^{25} Hz; \quad S = 1.9 \times 10^{-34} m^2$$

f_M - Compton frequency of the macro-matter

$$G_0 = 6.67 \times 10^{-11} = \frac{q^2 S}{4\pi \epsilon_0 h^2 c^2} w^4 \Leftrightarrow w = 2.78 m/s \quad (\text{wave speed})$$

$$m_0 = \frac{hf_M}{w^2} = 1.86 \times 10^{-9} kg; \quad \text{Planck mass} = 2.18 \times 10^{-8} kg$$



Macro-masses like stars and planets are also particles.

Permittivity of the gravitational constant:

$$G_0 = 6.67 \times 10^{-11} = \frac{1}{\frac{4}{3}\pi \epsilon_G^3} \Leftrightarrow \epsilon_G = 1.53 \times 10^3 m$$

Wave speed: $w = \frac{1}{\sqrt{\epsilon_G \mu_0}} = 22.8 m/s$

Earth gravitation:

$$M = 6 \times 10^{24} kg; \quad D = 6.4 \times 10^6 m$$

$$N_0 = \frac{M}{m_p} = 3.6 \times 10^{51}; \quad m_p - \text{Proton mass}$$

Number of dipoles per kilogram: $n_0 = 6 \times 10^{26} kg^{-1}$

Total charge: $Q = N_0 q = 5.75 \times 10^{32} C$

$$M = \frac{Qk}{d} \Leftrightarrow d = x_p = 1.32 \times 10^{-15} m$$

k – Boltzmann constant; x_p - Proton Compton wavelength.

$$k.q.n_0 = x_p$$

Electric field of the earth dipoles at surface:

$$E = \frac{Q}{4\pi \epsilon_0 D^2} = 1.3 \times 10^{29} V/m$$

Dipole field:

$$E_{DP} = E \frac{d}{D} = 2.6 \times 10^7 V/m$$

The gravitational potential is an electric field:

Gravitational potential:

$$E_{DP} = \frac{GM}{D} = 6.25 \times 10^7 \text{ V/m}$$

