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Gravitational Force Unification

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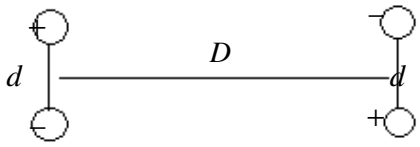
See Unified Absolute Relativity Theory at:

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

SI units.
All forces are electric forces.
The gravitational force is the electric force between electric dipoles.



Force between two dipoles:

$$F = \frac{q^2 d^2}{2\pi\varepsilon_0 D^4} \qquad \text{and} \qquad d^2 = n^2 \Delta D^2$$

$$\Delta F = \frac{q^2 n^2 \Delta D^2}{2\pi\varepsilon_0 D^4}$$

$$F = \frac{q^2 n^2}{2\pi\varepsilon_0} \iint \frac{\Delta D^2}{D^4} = \frac{q^2 n^2}{12\pi\varepsilon_0 D^2}$$

q – Electric charge; d – Distance between poles;
n – Number of dipoles in one direction; ε_0 -- Vacuum permittivity;
D – Distance between dipoles; k – Boltzmann constant

$$F = \frac{q^2 n^2}{12\pi\varepsilon_0 D^2} = G\frac{M^2}{D^2} \; ; \qquad M = n^3 m = n^3 \frac{qk}{d}$$

$$n = M\frac{\sqrt{12\pi\varepsilon_0 G}}{q} \; ; \text{ Total number of dipoles = N = } n^3$$

$$n_{MINIMUM} = 1 \; ; \qquad M_{MAXIMUM} = 1kg$$

$$F = G\frac{M^2}{D^2} = \frac{G}{D^2}\frac{n^6 q^2 k^2}{d^2} = \frac{q^2 n^2}{12\pi\varepsilon_0 D^2}$$

$$m = \frac{qk}{d} \text{ -- Mass of one dipole } \quad (m \approx qd)$$

The mass is the electric dipole moment.

$$d = M^2 k \frac{(12\pi\varepsilon_0 G)^{3/2}}{q^2}$$

Values for one dipole:

$$\text{N} = 1 \qquad \Leftrightarrow \qquad M = 1.07\times10^{-9} kg = M_P / 20$$

M_P -- Planck mass ; $\qquad M_P = \sqrt{\frac{hc}{2\pi G}}$

$$d = k\sqrt{12\pi\varepsilon_0 G} = 2.06\times10^{-33} = 40\pi L_P$$

L_P -- Planck length ; $\qquad L_P = \sqrt{\frac{hG}{2\pi.c^3}}$

Values for $M = 1kg$

$$N = n^3 = 8.1\times10^{26} \; ; \qquad d = 1.8\times10^{-15}$$

Loschmidt constant: $\quad n_0 = 2.7\times10^{25}$

$$N / n_0 = 30$$

The values are almost the number and the length of the proton.

The formulas don't work for masses greater than 1kg and we don't know why, maybe is necessary another scale of quantization.

$$M = M_P / 20 \qquad \Leftrightarrow \qquad 20.q \approx \sqrt{6hc\varepsilon_0}$$

$$d = 40.\pi.L_P \qquad \Leftrightarrow \qquad k\sqrt{24\varepsilon_0 c^3} \approx 40\sqrt{h}$$

$$\frac{k\sqrt{24\varepsilon_0 c^3}}{40\sqrt{h}} = \frac{\sqrt{6hc\varepsilon_0}}{20.q} = 1 + 2\alpha \; ; \qquad \alpha \text{ -- Fine structure constant}$$

$\Leftrightarrow \qquad qkc = h$

Casimir force II

The Casimir force is the electric force between neutral electric dipoles, so it is gravity:

$$F = \frac{\pi.h.cA}{480D^4}$$

Electric force between two dipoles:

$$F = \frac{q^2 d^2}{2\pi\varepsilon_0 D^4} \qquad ; \qquad d^2 = \pi A$$

d – Distance between the poles; A – Area

$$\frac{q^2}{2\pi\varepsilon_0} \approx \frac{h.c}{480}$$

True equation of the force:

$$F = \frac{h.c.\alpha.A}{D^4} \; ; \qquad \alpha \text{ -- Fine structure constant}$$