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Macroscopic Gravity Wavelength

António Saraiva – 2009-11-03
ajps2@hotmail.com

See Unified Absolute Relativity Theory at:

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

Gravity wavelength:

$$G = 6.67\times10^{-11} = \frac{1}{L^3} \quad \Leftrightarrow \quad L = 2.466\times10^{3}\,m$$

All forces are only one – the electromagnetic force. As the mu-metal can shield electric and magnetic forces, it's possible to shield the gravitational force with a peace of this metal.

Mass variation:

$$m = m_0 e^{-l/L} \;;\; l - \text{Mu-metal shielding length}$$

$$l = 0.01m \quad \Leftrightarrow \quad m = m_0\,0.999996$$

$$m = m_0(1-4\times10^{-6})$$

Gravitational shielding violates no laws and a gravitational perpetuum mobile it's not possible.

Temperature of the Cooper pair

Energy of the Cooper pair:

$$E = \frac{q^2}{4\pi\varepsilon_0 R} = 0.1eV \;\; ; \quad R = 1.45\times10^{-8}\,m$$

$$E = k_B T \quad \Leftrightarrow \quad T < 1.16\times10^{3}\,K = 887^{\circ}C$$

According quantum mechanics $T < 30K = -243^{\circ}C$ because the calculated binding energy is too small. Superconductivity is possible at 887ºC.

Neutrino mass II

The mass is the electric dipole moment:

$$m_\nu = q\sqrt{k} = 2.2\times10^{-36}\,kg$$

$$\frac{m_e}{m_\nu} = \frac{\alpha^{-3}}{2\pi}$$

m_e -- Electron mass; α -- Fine structure constant

Muon neutrino:

$$m_{\nu\mu} = 4.61\times10^{-34}$$

Tau neutrino:

$$m_{\nu\tau} = 7.75\times10^{-33}$$