the general science journal

Unified Absolute Relativity Theory N5

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See all theory at:

www.wbabin.net/saraiva/saraiva305.pdf
www.wbabin.net/saraiva/saraiva306.pdf
www.wbabin.net/saraiva/saraiva307.pdf
www.wbabin.net/saraiva/saraiva328.pdf

Classical quantum corrections

Electric dipole moment or mass formula:

$$\frac{\frac{q_e k_B}{x_e}}{m_e} = 1 + \frac{\pi^3 \alpha^2}{2}$$

q_e - Electron charge; k_B - Boltzmann constant; x_e - Electron Compton wavelength; m_e - Electron mass; α - Fine structure constant.

$$\frac{c q_e k_B}{h} = 1 + \frac{\pi^3 \alpha^2}{2}$$

c – Light speed; h – Planck constant.

$$m_e = \frac{c^2 {k_B}^2}{6\pi} \qquad \text{and} \qquad k_B = \frac{6\pi . q_e}{c^2 x_e}$$

$$6 = 2 \text{ x } 2.9891$$

$$\frac{3}{2.9891} = 1 + \frac{\alpha}{2}$$

Magnetic field of the neutrino:

$$B = \frac{\pi . q_e}{S} \sqrt{\frac{\mu_0}{\varepsilon_0}} = c^2 \sqrt{\alpha^{-1}}$$

Charged pion mass:

$$m = 139.57MeV = 2\alpha^{-1}0.511MeV$$

Charged and neutral pions average mass:

$$m = 137MeV$$

True magnetic dipole moment of the electron:

$$MDM = \frac{hk_B}{2q_e x_e} = 1.1763 \times 10^{-26} WeberMeter$$

For the electron:

Mass resistance:

$$R_M = \frac{2x_e}{ck_B{}^2} = 8.5 \times 10^{25} (L^{-3}V^{-1})$$

Mass current:

$$I_M = m_e \frac{c}{x_e} = 1.126 \times 10^{-10} (L^3 V^3)$$

Mass voltage:

$$V_M = R_M I_M = \frac{2m_e}{k_B{}^2} = 9.571 \times 10^{15} = \frac{c^2}{3\pi} (V^2)$$

There is no gravitomagnetism.

Superconductor elements II

4.0 H																	.15 He
7.3 Li	9.0 Be											6.4 B	3.2 C	.66 N	.6 O	.54 F	.31 Ne
4.4 Na	4.3 Mg											6.8 Al	3.6 Si	1.9 P	1.6 S	.88 Cl	.61 Ar
3.5 K	3.9 Ca	6.2 Sc	8.2 Ti	9.8 V	10.2 Cr	9.5 Mn	9.0 Fe	9.2 Co	8.4 Ni	7.6 Cu	5.9 Zn	6.3 Ga	3.8 Ge	3.0 As	2.1 Se	1.1 Br	.78 Kr
3.7 Rb	4.1 Sr	5.9 Y	7.5 Zr	8.8 Nb	9.8 Mo	10.2 Tc	10.0 Ru	9.3 Rh	8.3 Pd	6.8 Ag	5.2 Cd	6.0 In	4.4 Sn	2.9 Sb	2.5 Te	1.6 I	.87 Xe
3.8 Cs	4.8 Ba	8.1 La	8.5 Hf	10.0 Ta	10.7 W	10.8 Re	10.9 Os	10.3 Ir	9.2 Pt	7.8 Au	5.3 Hg	6.3 Tl	4.5 Pb	3.1 Bi	2.6 Po		

Superconductors are in black.

$$\frac{\rho R^2}{Z} \times 10^{-18}\, Coulomb$$

ρ = Density; R = Atomic radius; Z = Number of electrons.

Orbital speed at a particle: $v = \frac{c}{\sqrt{137.036}}$

$$\frac{m}{R} = \frac{c^2}{G_e} \quad \Leftrightarrow \quad \rho R^2 = \frac{3c^2}{4\pi . G_e} \quad ; \quad G_e = 2.78 \times 10^{32}$$

m – Mass; c – Light speed; G_e - Gravitational constant of the electron.

When the pressure increase or temperature decreases the mass increase and the radius decrease, so the ratio mass-radius increases. When the orbital speed reaches the light speed the particle become a black hole and the attractive force at the particle surface is zero: the particles ignore the electrons.

How to make a high Tc superconductor

The mixture of two superconductors produces a new superconductor with higher Tc. We must get a higher electric charge.

Charge of an element:

$$Q_1 = \rho R^2$$

Charge of a diatomic molecule:

$$Q_2 = 2\frac{\rho_1 {R_1}^3 + \rho_2 {R_2}^3}{R_1 + R_2} \; ; \qquad Q_2 > Q_1$$

ρ - Density; R – Atomic radius; Q – Electric charge.

Electric charge of osmium:

$$10.9 \times 10^{-18} = \frac{137}{2} q_e$$

Electric charge of Sn:

$$4.4 \times 10^{-18} = \frac{137}{5} q_e \; ; \qquad q_e \text{ - Electron charge.}$$

$$\begin{cases} \rho_2 R_2^{\,2} > \rho_1 R_1^{\,2} \\ 2\dfrac{\rho_1 R_1^{\,3} + \rho_2 R_2^{\,3}}{R_1 + R_2} > \rho_2 R_2^{\,2} \end{cases} \quad \Leftrightarrow$$

$$\Leftrightarrow \qquad 2\rho_1 R_1^{\,3} - \rho_2 R_2^{\,2} R_1 + \rho_2 R_2^{\,3} > 0$$

$$\frac{dQ}{dR_1} = 0 \qquad \Leftrightarrow \qquad 2\rho_1 R_1^{\,3} + 3\rho_1 R_1^{\,2} R_2 - \rho_2 R_2^{\,3} = 0$$

$$\Leftrightarrow \qquad R_1 = R_2 \frac{-\rho_2 + \sqrt{\rho_2^{\,2} + 24\rho_1\rho_2}}{6\rho_1}$$

Element Re:

$$\rho_1 = 21000 \ ; \qquad R_1 = 1.97 \times 10^{-10}$$

Element Os:

$$\rho_2 = 22600 \ ; \qquad R_2 = 1.92 \times 10^{-10}$$

$$\rho_1 R_1^{\,2} = 8.15 \times 10^{-16} \ ; \qquad \rho_2 R_2^{\,2} = 8.33 \times 10^{-16}$$

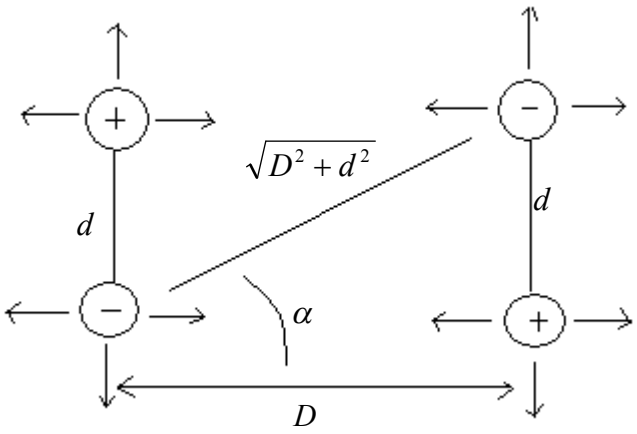
$$2\frac{\rho_1 R_1^{\,3} + \rho_2 R_2^{\,3}}{R_1 + R_2} = 1.65 \times 10^{-15}$$

$$1.65 \times 10^{-15} / 8.33 \times 10^{-16} = 1.98$$

Higher Q $\Leftrightarrow$ Higher Tc

Mass and gravitation

The gravitational force is the electric force between electric dipoles. The mass is the electric dipole moment.



$$\cos\alpha = \frac{D}{\sqrt{D^2+d^2}} \; ; \qquad \sin\alpha = \frac{d}{\sqrt{D^2+d^2}}$$

Attractive force between two dipoles:

$$F_A = \frac{2q^2}{4\pi\varepsilon_0 D^2} - \frac{2q^2 D}{4\pi\varepsilon_0 (D^2+d^2)^{3/2}} = G\frac{m^2}{D^2}$$

$$m = \frac{qkc}{dw} \; ; \qquad w \approx c$$

q - Electron charge; D – Distance; d – Distance of the poles; k – Boltzmann constant; c – Light speed.

Repulsive force in the dipole. This force is responsible for the decrease of the sum of the masses.

$$F_R = \frac{q^2 d}{2\pi\varepsilon_0 (D^2+d^2)^{3/2}}$$

Attractive force:

$$F_A = \frac{2q^2}{4\pi\varepsilon_0}\left(\frac{1}{D^2} - \frac{D}{(D^2+d^2)^{3/2}}\right) = G\frac{q^2k^2}{d^2D^2} \; ; \quad \text{D>>d}$$

$$\Leftrightarrow \qquad G = \frac{d^2}{2\pi\varepsilon_0 k^2}\left(1-\sqrt{\frac{D^6}{D^6+3D^4d^2}}\right)$$

$$G = \frac{3d^4}{4\pi\varepsilon_0 k^2 D^2} = 6.67\times10^{-11} \qquad \text{and} \qquad \text{D} = 1\text{m}$$

$$d = 2.62\times10^{-17}\,m$$

G is quantized:

$$d^4 = \frac{4\pi G\varepsilon_0 k^2 D^2}{3} \qquad \Leftrightarrow \qquad d^2 = 6.86\times10^{-34} D$$

Only three constants in UART theory:

$$x_e = 2.426\times10^{-12}\,m \;; \qquad c = 3\times10^8\,m/s \;; \qquad \varepsilon = \frac{1}{\sqrt[3]{G}} = 2.466\times10^3\,m$$

Wave speed and energy:

$$w^2 = \frac{1}{\varepsilon\mu} \qquad \text{and} \qquad E = \frac{\varepsilon^2}{\mu^2} \qquad \Leftrightarrow \qquad E = \varepsilon^4 w^4$$

$$\varepsilon^4 = \frac{E^3 S}{h^2 c^6} \qquad \Leftrightarrow \qquad E = 2.465\times10^{29}\,eV$$

$$m = 4.4\times10^{-7}\,kg \;; \qquad w = 0.18 m/s$$

True Planck units

Planck mass:

$$m_{PL} = \sqrt{\frac{hc\alpha}{2\pi.G}} \;; \qquad \alpha \text{ - Fine structure constant.}$$

$$G = 6.67\times10^{-11} = \frac{q^2}{4\pi\varepsilon_0 m_{PL}{}^2} \qquad \Leftrightarrow \qquad m_{PL} = 1.86\times10^{-9}\,kg$$

True Planck length:

$$mwx = h \qquad \text{and} \qquad w = xf_M \qquad \text{and} \qquad f_M = \frac{c}{\sqrt{S}}$$

$$x^2 = \frac{h\sqrt{S}}{mc} \qquad \Leftrightarrow \qquad x_{PL} = 1.28 \times 10^{-25}\, m$$

$$w_{PL} = 2.78 m/s \;; \qquad E_{PL} = 10^{18}\, GeV$$

Planck permittivity: $\varepsilon_{PL} = 40.9m$

The magnetic field is a speed

$$mv = I\pi.R^2 \qquad \text{and} \qquad B = \frac{\mu_0 I}{2R}$$

$$\Leftrightarrow \qquad B = \frac{\mu_0 m}{2\pi.R^3} v$$

For the electron:

$$B = \frac{4\pi^2 \mu_0 m_e}{x_e^{\,3}} v \qquad \Leftrightarrow \qquad B = \pi.v$$

m – Mass; v – Speed of rotation; I – Electric current; R – Radius;
μ_0 - Vacuum permeability; x_e - Electron wavelength.

Usual values:

$$B = \frac{h}{2\pi.qR_B^{\,2}} = 2.35 \times 10^5\, T$$

Electron speed: $v = \alpha.c = 2.188 \times 10^6\, m/s \qquad \Leftrightarrow \qquad \frac{v}{B} \approx 3\pi$

Quantized vortices in super fluids/conductors:

$$vl = Bl = \frac{h}{m}$$

Gravitational constant

The macroscopic quantum of mass is the proton and the neutron.
From the force between two electric dipoles:

$$d^4 = \frac{4\pi.G\varepsilon_0 {k_B}^2}{3} D^2$$

$$D = \varepsilon_G = \frac{1}{\sqrt[3]{G}} \qquad \text{and} \qquad d = x_P$$

G – Gravitational constant; x_P - Proton Compton wavelength;
ε_0 - Vacuum permittivity; k_B - Boltzmann constant.

$$\Leftrightarrow \qquad G = \left(\frac{3{x_P}^4}{4\pi.\varepsilon_0 {k_B}^2} \right)^3 = 8\times 10^{-11} m^{-3}$$

Variation of G with the speed or the gravitational potential:

$$G = G_0 (1 - v^2 / c^2)^4 \ ; \qquad \varphi = v^2 = \frac{GM}{R}$$

Proton mass and wavelength:

$$m_P = 1.6728\times 10^{-27} kg \ ; \qquad x_P = 1.32134\times 10^{-15} m$$

For:

$$G = 6.6742\times 10^{-11} m^{-3} \ ; \qquad x_P = 1.3\times 10^{-15} m$$

The Unified Absolute Relativity Theory has only two constants:

$$x_e = 2.426\times 10^{-12} m \ ; \qquad c = 2.99792458\times 10^8 m/s$$

x_e - Electron Compton wavelength; c – Light speed.

Natural units are stupid.
If nothing exists, the nothing can't exist. So, the existence is eternal.
There was no beginning. No one starts the existence.

Exact formula of the mass or the electric dipole moment with wavelength:

$$m = \frac{qk_B\sqrt{S+x^2}}{x^2} \frac{1}{1+\frac{\pi^3\alpha^2}{2}}$$

Planck mass and wavelength:

$$m = \frac{q}{\sqrt{4\pi.\varepsilon_0 G}} \; ; \qquad x^2 = \frac{h\sqrt{4\pi.\varepsilon_0 G.S}}{cq} \qquad \Leftrightarrow$$

$$\Leftrightarrow \qquad \frac{4\pi G{\varepsilon_0}^3 {k_B}^2}{3} = \frac{4\pi^4 x^4}{\alpha^4}$$

Saraiva's constant:

$$S = \frac{{\varepsilon_0}^2 \alpha^4}{12\pi^4}$$

For large masses:

$$w = xf_M = x\frac{c}{\sqrt{S}}$$

$$S = \frac{{\varepsilon_0}^2 \alpha^4}{12\pi^4} = \frac{\pi.{x_e}^2 \alpha^5}{2} \qquad \Leftrightarrow$$

$$\Leftrightarrow \qquad \frac{\varepsilon_0}{x_e} = \sqrt{6\pi^5 \alpha} \qquad \text{(Not exact)}$$

Exact quantum correction:

$$= 1 + \frac{\alpha}{2.\sqrt[4]{2}}$$

α - Fine structure constant; x_e - Electron wavelength.

Electron mass or electric dipole moment

All forces are electric.
The Planck scale and the Planck particle don't exist.

General formula of mass:

$$m = \frac{q_e k_B \sqrt{S + x^2}}{x^2\left(1 + \frac{\pi^3 \alpha^2}{2}\right)} \; ; \qquad S = \frac{\pi.{x_e}^2 \alpha^5}{2}$$

m – Mass or electric dipole moment; q_e - Electron charge; k_B - Boltzmann constant;

x – Compton wavelength; S – Saraiva's constant; α - Fine structure constant; x_e - Electron Compton wavelength.

For the electron:

$$m_e = \frac{h\sqrt{6\pi^5\alpha}}{c\varepsilon_0\left(1+\frac{\alpha}{\sqrt[4]{2}.2}\right)}$$

$$m_e = \frac{q_e k_B}{x_e\left(1+\frac{\pi^3\alpha^2}{2}\right)}$$

Electron Compton wavelength:

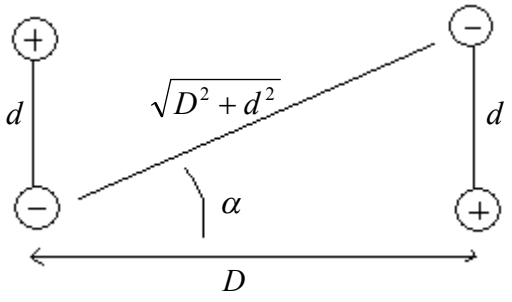
$$x_e = \frac{\varepsilon_0}{\sqrt{6\pi^5\alpha}}\left(1+\frac{\alpha}{2.\sqrt[4]{2}}\right)$$

Magnetic and electric forces:

$$F_M = F_E\frac{\pi}{4\alpha^2}$$

The gravitational constant II

The mass is the electric dipole moment, Coulomb meter is equal to kilogram. The gravitational force is the electric force between neutral electric dipoles.



$$\cos\alpha = \frac{D}{\sqrt{D^2+d^2}}\ ; \qquad \sin\alpha = \frac{d}{\sqrt{D^2+d^2}}$$

Attractive force between two dipoles:

$$F = \frac{2{q_e}^2}{4\pi\varepsilon_0 D^2} - \frac{2{q_e}^2 D}{4\pi\varepsilon_0 (D^2 + d^2)^{3/2}} = G\frac{m^2}{D^2}$$

Mass or electric dipole moment:

$$m = \frac{q_e k_B}{d}$$

q_e - Electron charge; D – Distance; d – Distance between poles;
k_B - Boltzmann constant; G – Gravitational constant.

$$F = \frac{{q_e}^2}{2\pi\varepsilon_0}\left(\frac{1}{D^2} - \frac{D}{(D^2 + d^2)^{3/2}}\right) = G\frac{{q_e}^2 {k_B}^2}{d^2 D^2} \quad ; \qquad \text{D>>d}$$

$$\Leftrightarrow \qquad G = \frac{d^2}{2\pi\varepsilon_0 {k_B}^2}\left(1 - \sqrt{\frac{D^6}{D^6 + 3D^4 d^2}}\right)$$

$$\Leftrightarrow \qquad G = \frac{3d^4}{4\pi\varepsilon_0 {k_B}^2 D^2}$$

The gravitational constant is not constant, but:

Particular quantization:

$$d^4 = \frac{4\pi\varepsilon_0 G {k_B}^2 D^2}{3} \qquad \text{and} \qquad D = \varepsilon_G = \frac{1}{\sqrt[3]{G}}$$

$$\Leftrightarrow \qquad d^4 = \frac{4\pi\varepsilon_0 G^{1/3} {k_B}^2}{3} = {x_P}^4$$

x_P - Proton Compton wavelength

The proton (and the neutron) is the quantum of the macroscopic mass.

$$G = 6.6742\times10^{-11}\, m^{-3} \qquad \Leftrightarrow \qquad d = 1.30\times10^{-15}\, m$$

$$x_P = 1.32\times10^{-15}\, m$$

$$G = \left(\frac{3{x_P}^4}{4\pi\varepsilon_0 {k_B}^2}\right)^3 = 8\times10^{-11}\, m^{-3}$$

S.I Units Unification C

Everything is made only of distance (L) and speed (V).
Reference values:

Compton wavelength of the electron - $x_e = 2.426310215 \times 10^{-12}\, m$

Local speed of rotation of the universe - $c = 2.99792458 \times 10^{8}\, m/s$

Time is a derived unit.

	L -1	L 0	L	L 2	L 3	L 4	L 5
V-1	Thermal resistance; Electric resistance	Resistivity	Time; Inverse frequency				
V 0	Ionizing radiation	1	Distance; Permittivity	Surface; Capacitance; Entropy; Boltzmann constant	Volume ; Inverse Gravitational constant		
V	Frequency; Vorticity	Speed; Magnetic field	Magnetic potential; Magnetic resistance; Circulation	Magnetic charge; Magnetic flux	True magnetic dipole moment; Inverse mass resistance		
V 2	Acceleration; Magnetic current density	Electric field; Inverse inductance; Mass voltage	Magnetic current; Electric voltage; Inverse permeability; Density; Electric displacement field	Electric flux	Electric charge	Mass; Electric dipole moment	
V 3		Electric current density; Potential vorticity	Magnetic field strength; Magnetization	Magnetic voltage; Electric current;	Magnetic pole Strength; Mass current	Momentum; False magnetic moment	Angular momentum; Planck constant
V 4			Pressure; Energy density	Temperature; Surface tension	Force	Energy; Torque	
V 5	Luminance	Spectral irradiance	Intensity; Irradiance		Power; Candela		

Cooper pair distance

$$d^2 = \frac{x^4 \alpha}{2\pi . S} \; ; \qquad S = \frac{{\varepsilon_0}^2 \alpha^4}{12\pi^4}$$

For the electron:

$$d = 1.44 \times 10^{-8}\, m \; ; \qquad x_e = 2.426 \times 10^{-12}\, m$$

For the proton:

$$d = 4.3\times10^{-15}\,m \;; \qquad x_P = 1.321\times10^{-15}\,m$$

$$d = \frac{n^2 x_P}{\pi} \qquad \Leftrightarrow \qquad n = 3.2$$

1/3.2 = Proton fine structure constant

$$n^2 = x\sqrt{\frac{\pi\alpha}{2S}}$$

Cooper pair force:

$$F = \frac{{q_e}^2 \varepsilon_0 \alpha^3}{24\pi^4 x^4} = \frac{hSf^4}{w^3}$$

Electron:

$$F = 1.1\times10^{-12}\,N$$

Proton:

$$F = 12.4N$$

x - Compton wavelength; α - Fine structure constant;
ε_0 - Vacuum permittivity; q_e - Electron charge.

Force with distance:

$$F = \frac{F_{CP} d^2}{D^2}$$

F_{CP} - Cooper pair force; d – Cooper pair distance; D – Distance.

Cooper pair energy:

Proton - $$E = \frac{{q_e}^2}{4\pi\varepsilon_0 4.3\times10^{-15}} = 0.335MeV$$

Electron - $$E = \frac{{q_e}^2}{4\pi\varepsilon_0 1.44\times10^{-8}} = 0.1eV$$

Electron rest energy:

$$\frac{q_e q_m c}{\pi R_e} = 0.511MeV \;; \qquad R_e = \frac{x_e}{2\pi}$$

q_m - Magnetic charge; $q_m = \frac{h}{2q_e}$

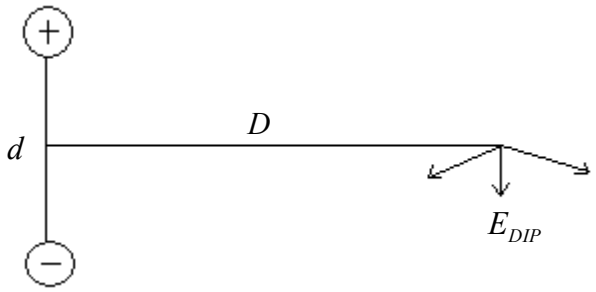
The gravitational potential is a squared orbital speed and is an electric field:

General formula:

$$v^2 = E = \frac{6q_e dn}{10\pi\varepsilon_0 {R_T}^2 D} = \frac{Gq_e k_B n}{dD} = \frac{GM}{D}$$

$R_T = 6.371\times10^6 m$ - Earth radius; v – Orbital speed; $d = x_P$ - Proton wavelength;
E – Electric field of a neutral dipole; G – Gravitational constant;
n – Number of quantuns of mass; k_B - Boltzmann constant;

Electric field of a neutral dipole:



$$E = \frac{q_e}{4\pi\varepsilon_0 D^2}$$

$$E_{DIP} = \frac{Ed}{\sqrt{2}D} \quad \Leftrightarrow \quad E_{DIP} = \frac{q_e d}{4\sqrt{2}\pi\varepsilon_0 D^3}$$

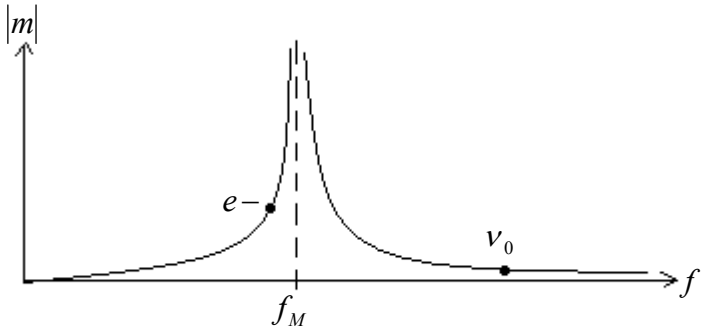
$$E_{DIP} = \frac{q_e d}{4\sqrt{2}\pi\varepsilon_0 {R_T}^2 D}$$

Force in a superconductor and between a superfluid:

$$F = \frac{hS{f_0}^4 (c^2 - v^2)^2}{c^2 (c^2 - vw_0)(w_0 - v)^3}$$

v = c $\Leftrightarrow$ F = 0 ; $w_0 \approx c$

Relation electron-neutrino:



Mass of the particles and waves:

$$m = \frac{hf}{c^2 - Sf^2}$$

Neutrino mass:

$$\frac{m_e}{m_\nu} = \frac{1}{2\pi\alpha^3} \qquad \Leftrightarrow \qquad m_\nu = 2.2\times10^{-36}\,kg$$

Neutrino wave speed:

$$w = \frac{cx_e}{2\pi\sqrt{S}\alpha^3} = 2.16\times10^{19}\,m/s$$

Neutrino frequency:

$$\frac{f_\nu}{f_e} = \frac{x_e^{\,2}}{2\pi S\alpha^3} \qquad \Leftrightarrow \qquad f_\nu = 1.57\times10^{36}\,Hz$$

$m_e; f_e, x_e$ -- Electron mass, frequency and wavelength.

Neutral particle of a visible photon:

$$f = 5\times10^{14}\,Hz \qquad \Leftrightarrow \qquad f_0 = 3.87\times10^{41}\,Hz$$

Important numbers of the electron:

$$3.05 = cx_e\sqrt{\frac{\varepsilon_0}{\pi.q_e}} \qquad\qquad 2.962 = \frac{3.05^2}{\pi}$$

Unified acceleration and force

All forces are only one, the electric force.

Cooper pair acceleration and force:

$$g = \frac{Sf^3}{w} \; ; \qquad F = \frac{hSf^4}{w^3}$$

General acceleration:

$$g = \frac{Sf^3}{w}\frac{R^2}{D^2}$$

g – Acceleration; $S = 1.9 \times 10^{-34} m^2$; f – Compton frequency; w – Wave speed; F – Force; h – Planck constant; R – Cooper pair radius; D – Distance; m – Mass; c – Light speed.

$$m = \frac{hf}{w^2} \; ; \qquad R = \frac{n^2 x}{\pi} \; ; \qquad n^2 = x\sqrt{\frac{\pi\alpha}{2S}}$$

x – Compton wavelength; α - Fine structure constant.

$$x = \frac{w}{f} \; ; \qquad w = \sqrt{c^2 - Sf^2}$$

$$\Leftrightarrow \qquad g = \frac{\alpha(c^2 - Sf^2)^{3/2}}{2\pi f D^2}$$

General force between two equal particles or bodies:

$$F = \frac{h\alpha.w}{2\pi D^2}$$

Frequency of the gravitational field of the earth:

$$g = \frac{-\alpha.S^{3/2} f^2}{2\pi D^2} = 9.8 \; ; \qquad D = R_T = 6.371 \times 10^6 m$$

$$\Leftrightarrow \qquad f = -1.143 \times 10^{34} Hz \text{ - Virtual photons}$$

Speed of the virtual photons:

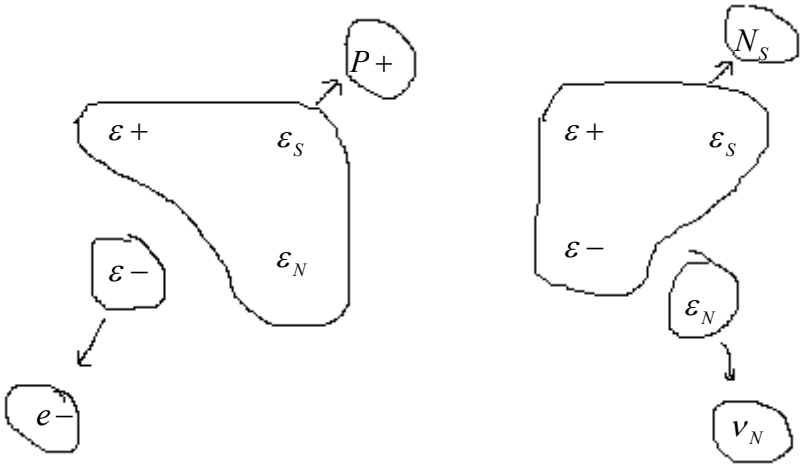
$$w = \sqrt{S} f = 1.576 \times 10^{17} m/s = 1.753c^2$$

Vacuon decay and asymmetry

Vacuon energy:

$$E_0 = \frac{\varepsilon_0^{\ 2}}{\mu_0^{\ 2}} = 310MeV$$

ε_0 - Vacuum permittivity; μ_0 - Vacuum permeability.



ε - Vacuon; e- -- Electron; P+ --Proton; Ns – Neutron; ν_N - Neutrino.

All the existence is equal to zero. So, our universe is not the only one, there's an antiuniverse.

There are at least four universes. Two electrically charged and two magnetically charged or neutrals.

Virtual photons from the sun

Gravitational field:

$$g = \frac{\alpha(c^2 - Sf^2)^{3/2}}{2\pi f D^2} = \frac{GM}{D^2} \quad ; \qquad M = 2\times10^{30}\,kg$$

α - Fine structure constant; c – Light speed; $S = 1.9\times10^{-34}\,m^2$;
f – Compton frequency; D – Distance; G – Gravitational constant, M – Mass

Frequency of the virtual photons:

$$f^2 = \frac{2\pi.GM}{\alpha.S^{3/2}} \qquad \Leftrightarrow \qquad f = 6.62\times10^{36}\,Hz$$

Wave speed:

$$w = \sqrt{S}f = 9.13\times10^{19}\,m/s$$

Frequency of the neutrino:

$$f_\nu = \frac{h}{Sm_\nu} = 1.6\times10^{36}\,Hz$$

The virtual photons are longitudinal waves or magnetic waves. The neutrino is the magnetic monopole.

Gravitational field of the electron:

$$g_e = \frac{\alpha.c^3}{2\pi.f_eD^2} = \frac{G_em_e}{D^2}\ ; \qquad G_e = \frac{{q_e}^2}{4\pi\varepsilon_0{m_e}^2}$$

The real photon is a wave, not a particle, and it is not quantized because its energy varies with frequency. It has constant amplitude.

The sun generates 2×10^{38} neutrinos per second.

The gravitational potential is an electric field.

Gravitational potential:

$$v^2 = \frac{\alpha.w^3}{2\pi.fD}$$

Greisen Zatsepin Kuzmin limit

The Saraiva's constant is universal. First we suppose that it changes in vacuum but now we know that it is a constant and the frequency in vacuum is lower then the frequency in the earth gravitational field.

Saraiva's constant:

$$S = \frac{{\varepsilon_0}^2\alpha^4}{12\pi^4} = 1.9\times10^{-34}\,m^2\ ; \qquad \lambda = \sqrt{S} = 1.3791\times10^{-17}\,m$$

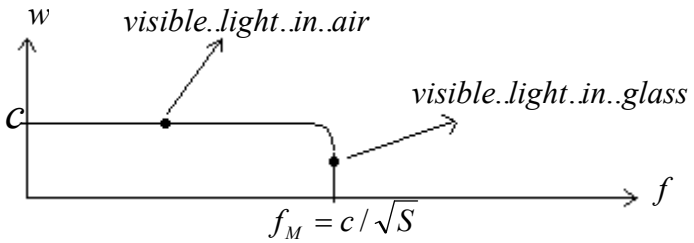
Frequency variation:

$g_U = 6.9\times10^{-10}\,ms^{-2}$ -- Gravitational field of the universe

$g_T = 9.8 ms^{-2}$ -- Earth gravitational field

$$f_{VAC} = f_{EARTH} \frac{g_U}{g_T}$$

Light speed w:



f – Frequency

GZK limit:

$$E = 5 \times 10^{19} eV = 8J$$

Classical wrong frequency:

$$f = 1.21 \times 10^{34} Hz$$

Correct frequency in earth:

$$E = hf \frac{c^2}{w^2} \; ; \qquad w = \sqrt{c^2 - Sf^2}$$

$$f = f_M = \frac{c}{\sqrt{S}} = 2.17386 \times 10^{25} Hz$$

Frequency in vacuum far from gravitational fields:

$$f = f_M \frac{g_U}{g_T} = 1.52 \times 10^{15} Hz$$

Energy:

$$E = hf = 6.3eV$$

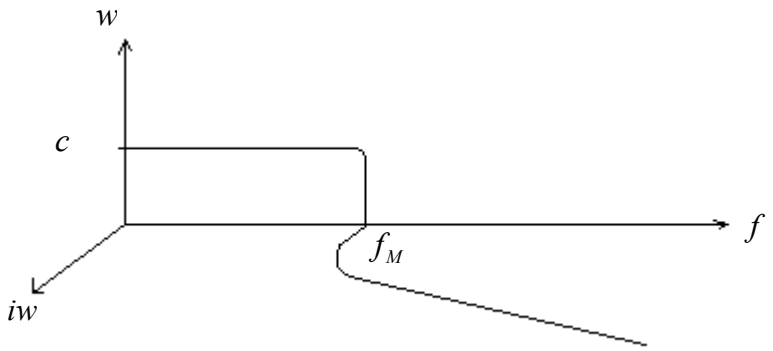
It's why the GZK limit can be overcame.

$$\Delta w = \frac{Sf^2}{2c} = 7.345 \times 10^{-13} \; ; \qquad w = c - \Delta w$$

The Unified Absolute Relativity Theory has only two constants:

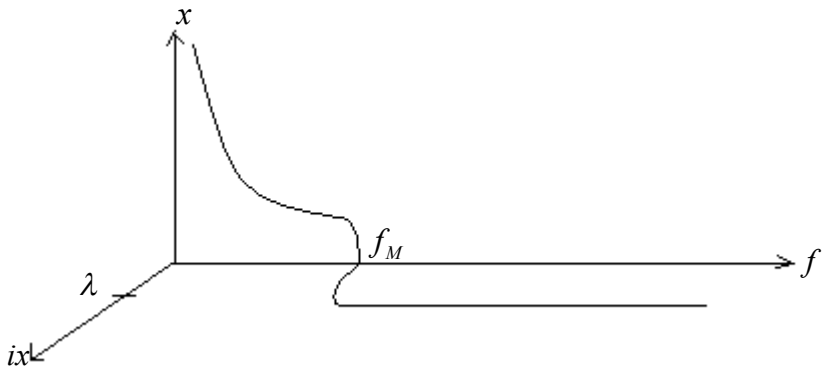
c – "Light speed" – The local speed of rotation of the universe.
$\lambda = \sqrt{S}$ -- The Compton wavelength of the longitudinal waves.

Light speed:



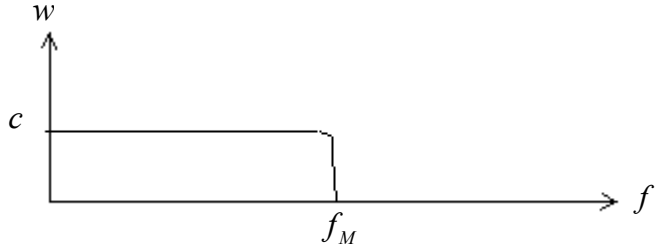
Compton wavelength:

$$x = \frac{\sqrt{c^2 - Sf^2}}{f}$$



Visible light in glass

Light speed:



n = 1.5 ; $f_0 = 5 \times 10^{14}\, Hz$

Frequency in glass:

$$w = \frac{c}{1.5} = \sqrt{c^2 - Sf^2}$$

$$\Leftrightarrow \qquad f = \frac{c}{\sqrt{S}} \frac{\sqrt{n^2 - 1}}{n} = 0.745 f_M = 1.6203 \times 10^{25}\, Hz$$

Gravitational potential of the glass:

$$v^2 = (c - \Delta v)^2$$

$$f = \frac{c f_0 \sqrt{c^2 - v^2}}{c^2 - v w_0} \qquad \Leftrightarrow \qquad f = f_0 \frac{\sqrt{2c\Delta v}}{\Delta v + \Delta w_0}$$

$$w_0 = c - \Delta w_0 \qquad ; \qquad \Delta w_0 = \frac{S f_0^{\,2}}{2c}$$

$$\Delta v = \frac{c f_0^{\,2}}{2 f^2} \frac{n-1}{n} = 4.758 \times 10^{-14}\, m/s$$

$$\Delta v = 0.6 \Delta w_0$$

A test to Absolute Relativity Theory

Using cosmic gamma rays of very high energy we can test our theory.
According to classical physics from a gamma photon with energy 500GeV:

Frequency: $f = 1.2 \times 10^{26}\, Hz$

Wavelength: $x = 2.5 \times 10^{-18}\, m$

According to UART:

$$f = 2.0 \times 10^{25}\, Hz$$

$$x = 5.9 \times 10^{-18}\, m$$

$w = 1.2 \times 10^8\, m/s$ -- Local speed in earth gravitational field

Formulas:

$$E = hf\frac{c^2}{w^2} \qquad \Leftrightarrow \qquad f = \frac{-hc^2 + \sqrt{h^2c^4 + 4E^2Sc^2}}{2ES}$$

$$c^2t^2 - x^2 = S \qquad \Leftrightarrow \qquad x = \frac{\sqrt{c^2 - Sf^2}}{f}$$

$$w = xf$$

Microwave background and universe frequency

Lorentz's invariance:

$$c^2t^2 - x^2 = S \quad ; \qquad t = \frac{1}{f} \quad ; \qquad w = xf$$

$$\Leftrightarrow \qquad w = \frac{cx}{\sqrt{S + x^2}} \quad ; \qquad \frac{dw}{dx} = \frac{Sf^3}{c^2} \quad ; \qquad S = \frac{{\varepsilon_0}^2\alpha^4}{12\pi^4}$$

Frequency of the microwave radiation:

$$f = \frac{k_BT}{h} \; ; \qquad \text{T} = 2.725 \text{ K}$$

Angular speed of the universe:

$$\omega_U = 2\pi\frac{dw}{dx} = \frac{c}{R_U} \quad ; \qquad R_U = 1.284 \times 10^{26} m$$

c – Light speed; t – Period; x – Wavelength; f – Frequency; w – Wave speed;
k_B - Boltzmann constant; h – Planck constant; T – Temperature;
R_U - Universe radius ; ε_0 - Vacuum permittivity ; α - Fine structure constant.

$$x = \frac{c}{f} \qquad \Leftrightarrow \qquad x^3 = 2\pi.SR_U$$

Period of the universe ("age"):

$$T_U = \frac{c^2}{Sf^3}$$

The universe is not expanding. It's rotating locally at light speed.
The "age" of the universe is related to the frequency of the cosmic microwave radiation.

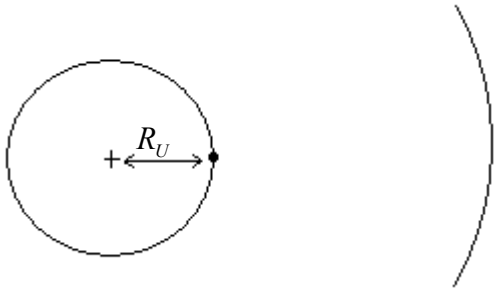
Gravitational acceleration of the universe:

$$g_U = \frac{c^2}{R_U} \; ; \qquad g = \frac{dw}{dt} = \frac{Sf^3}{c}$$

$$\Leftrightarrow \qquad g_U = 2\pi g$$

The cosmic microwave background radiation is generated by the rotation of the universe.

We are not at the centre of the universe! We live at the surface of a black hole.



Rotating universe data from temperature

All the correct values of our universe can be calculated from the temperature of the cosmic microwave radiation.

$$\text{T} = 2.725 \text{ K} \qquad \Leftrightarrow \qquad f = \frac{k_B T}{h} = 5.6753 \times 10^{10} \, Hz$$

Angular speed:

$$\omega_U = 2\pi f_U = 2\pi \frac{dw}{dx} = \frac{c}{R_U} \; ; \qquad \frac{dw}{dx} = \frac{Sf^3}{c^2}$$

Period (age) and radius of the universe:

$$T_U = \frac{c^2}{Sf^3} = 2.5852 \times 10^{18} \, s \; ; \qquad R_U = \frac{cT_U}{2\pi} = 1.2335 \times 10^{26} \, m$$

Frequency of the universe:

$$f_U = \frac{1}{T_U} = 3.8682 \times 10^{-19} \, Hz$$

Gravitational acceleration:

$$g_U = \frac{c^2}{R_U} = 2\pi \frac{Sf^3}{c} = 7.28622 \times 10^{-10}\, m/s^2$$

Mass of the universe:

$$M_U = \frac{g_U {R_U}^2}{G} = \frac{c^5}{2\pi G S f^3} = 1.661 \times 10^{53}\, kg$$

Hubble constant:

$$H_0 = \omega_U = 2.43042 \times 10^{-18}\, Hz$$

We live at the surface of a black hole:

$$\frac{GM_U}{R_U} = c^2$$

Wavelength of the cosmic microwave radiation:

$$x = \frac{c}{f} \qquad \Leftrightarrow \qquad x^3 = 2\pi R_U S \;\; ; \qquad S = \frac{{\varepsilon_0}^2 \alpha^4}{12\pi^4}$$

Interaction parameter of the proton:

$$\beta_P = {x_P}^2 q_e = 3.2 \times 10^{-49}\, m^2 C$$

Interaction parameter of the neutron:

$$\beta_N = S q_m = 3.8 \times 10^{-49}\, m^2 Weber$$

The neutron has one magnetic charge:

$$q_m = 2 \times 10^{-15}\, Weber \;\; ; \qquad q_m = \frac{h}{2q_e}$$

The neutrino has also a magnetic charge. It is the magnetic monopole.

Wavelength of the proton and the neutron:

$$x_P = 1.321 \times 10^{-15}\, m \;\; ; \qquad x_N = i\sqrt{S} = i1.3791 \times 10^{-17}\, m$$

There are no fractionary charges.

Our universe can be a subatomic particle in another superuniverse.

Force between the neutron and the neutrino

The neutron and the neutrino have magnetic charges. The neutrinos orbit the neutrons as the electrons orbit the protons.

$$\frac{q_m^{\,2}}{\mu_0 R^2} = m_\nu \frac{v^2}{R} \;; \qquad v = \frac{w}{n} \;; \qquad R = \frac{n\sqrt{S}}{2\pi}$$

$$\Leftrightarrow \qquad n = \frac{2\mu_0 q_e}{\pi . S} = 6.74 \times 10^8 \;; \qquad w = \frac{h}{q_e S} = 2.17 \times 10^{19}$$

$$v = \frac{w}{n} = 3.22 \times 10^{10} = \frac{c\pi}{4\alpha} \;; \qquad R = 1.48 \times 10^{-9}$$

Energy:

$$E = \frac{q_m^{\,2}}{\mu_0 R} = 1.3424 \times 10^4 \, eV$$

Orbital frequency:

$$f_{OR} = \frac{v}{2\pi R} = 3.46 \times 10^{18} \qquad \Leftrightarrow \qquad E = h f_{OR} = 1.34 \times 10^4 \, eV$$

A free neutron is neutral because it has an orbiting neutrino with the opposite magnetic charge.

There is no cosmic neutrino background radiation.
There's a longitudinal wave radiation:

T = 1.95 K

$$E = \frac{hc^2}{Sf} = k_B T \qquad \Leftrightarrow \qquad f = 1.1636 \times 10^{40} \, Hz$$

Neutrino: $f_\nu = \frac{h}{q_e S^{3/2}} = 1.5768 \times 10^{36} \, Hz$

$$\frac{f}{f_\nu} = \frac{\pi}{8\alpha^2}$$

The strong force is just electric

All forces are electric forces.
The neutron at short distance is electrically charged. It has a negative charge.

Fine structure constant of the proton:
Proton Cooper pair force:

$$F = m_P g_P = \frac{q_e^{\,2}}{4\pi\varepsilon_0 R^2} \; ; \qquad R = \frac{n^2 x_P}{\pi}$$

$$m_P = \frac{hf_P}{w_P^{\,2}} \; ; \qquad g_P = \frac{Sf_P^{\,3}}{w_P} \; ; \qquad w_P \approx c$$

$$\Leftrightarrow \qquad n^4 = \frac{\pi . q_e^{\,2} x_P^{\,2}}{4\varepsilon_0 Shc} \; ; \qquad \text{n} = 3.2 \; ; \qquad \alpha_P = \frac{1}{3.2}$$

Binding energy of the deuterium:

$$E = \frac{q_e^{\,2}}{4\pi\varepsilon_0 R} \; ; \qquad R = \frac{nx_P}{2\pi}$$

$$\Leftrightarrow \qquad \text{E} = 2.14 \text{ MeV} \; ; \qquad \text{Force:} \qquad \text{F} = 509.63 \text{ N}$$

Experimental value:

E = 2.2246 MeV

m_P -- Proton mass; g_P -- Proton acceleration field; q_e -- Electron charge;
ε_0 -- Vacuum permittivity; R – Radius; x_P -- Proton Compton wavelength;
h – Planck constant; f_P -- Proton frequency; c – Light speed; $S = 1.9 \times 10^{-34} m^2$;
α_P -- Proton fine structure constant.

Force electron-neutrino

The neutrino has a magnetic charge.

$$F = \frac{q_e q_m}{\sqrt{\varepsilon_0 \mu_0} R^2} = \frac{hc}{R^2}$$

$q_m = \frac{h}{2q_e}$ = Magnetic charge

$$\frac{hc}{R^2} = m_v \frac{v^2}{R} \; ; \qquad v = \frac{w}{n} \; ; \qquad R = \frac{n\sqrt{S}}{2\pi} \; ; \qquad w = \frac{h}{q_e S}$$

$$n = \frac{h}{2\pi . c q_e S} = 1.147 \times 10^{10} \; ; \qquad m_v = q_e \sqrt{S}$$

1/n = Neutrino fine structure constant

$$v = 2\pi . c \; ; \qquad R = 2.5261 \times 10^{-8} \, m$$

Energy:

$$E = \frac{hc}{R} = 49.08 eV$$

The real magnetic dipole moment

If light speed is not relative, how can we explain the Doppler effect?
Why our acceleration sense is stereoscopic?

The usual magnetic dipole moment is only a momentum that must be called rotational momentum (not angular momentum).

True magnetic dipole moment of the electron:

$$MDM_e = q_m \frac{k_B}{x_e} = \frac{h k_B}{2 q_e x_e} = 1.1763 \times 10^{-26} \, WeberMeter$$

Electric charge:

$$Q_e = MDM_e \times c = 3.526 \times 10^{-18} \, C$$

$$\frac{Q_e}{q_e} = \frac{1}{2\pi\alpha}$$

Electric and magnetic dipole moments of the electron:

$$EDM \, / \, MDM = MagneticVectorPotential...or...Circulation$$

The electric dipole moment is the mass of the electron.

Magnetic charge in spin ice:

$$Q_m = 4.8 \times 9.274 \times 10^{-24} \times 10^{10} = 4.45 \times 10^{-13} \, Weber$$

Elementary magnetic charge or magnetic flux quantum:

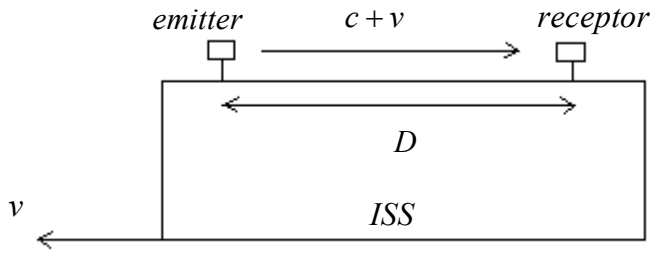
$$q_m = \frac{h}{2q_e} = 2.068 \times 10^{-15} Weber$$

$$\frac{Q_m}{q_m} = \frac{\pi}{2\alpha}$$

The end of the relativity theory

This experiment proves that light speed has relative speed, that the speed can be greater than light speed and that exists a rest medium for light.

It must be done at the International Space Station.



A short pulse of light is sent from the emitter to the receptor and the time of flight is measured.

$$D = 3m \ ; \qquad v = 7.7 \times 10^3 \, m/s$$

According to Einstein the time is:

$$t_1 = \frac{D}{c}$$

According to our theory:

$$t_2 = \frac{D}{c+v}$$

$$\Delta t = t_1 - t_2 = \frac{Dv}{c^2} = 2.57 \times 10^{-13} s$$

Length contraction or time dilation can't explain the result:

$$\Delta t = \frac{Dv^2}{2c^3} = 3.3 \times 10^{-18} s$$

It's much cheaper to prove that Einstein is wrong but there's always money to prove that he is wright by force.