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The General Form of Gravitational & Electric Field

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I. Fundamental Postulates

i) All, the existences, have energy
ii) All the energies, whether in form of wave or particle curve the space. The curvature amount depends on the amount of energy and the nature of curvature is the results of different nature of energy.
iii) Pole is a cause that effects the nature of curvature of the space. If in a space, there have two same poles, the nature of curvature is likely of repulsion and if two opposite poles, the nature of curvature is as likely as attractive.
iv) The nature of pole free curvature is only effect of curvature energy which is always attractive nature.

By the Newton's Gravitational Law-

$$F_g = G\,\frac{m_1 m_2}{x^2}$$

$$\Rightarrow F_g.\ x = G\,\frac{m_1 m_2}{x}$$

The work done by the force field -

$E_g.\ x = G.m_1 m_2$ ------------------ (i)

Here, E is the work done on space.
From, Einstein's mass-energy equivalent
Theorem, we have-

$E_g = mc^2$

$\therefore E_g.x = \frac{G}{c^4}\,E_{m1}\,E_{m2}$ ------------------ (ii)

<u>Coulomb's law</u>

$F_e = \frac{1}{4\pi\varepsilon}\,\frac{q_1 q_2}{x^2}$

$\Rightarrow F_e.x = \frac{1}{4\pi\varepsilon}\,\frac{q_1 q_2}{x}$

The work done by the electric force field

$E_e = \frac{1}{4\pi\varepsilon}\,\frac{q_1 q_2}{x}$

$\therefore\ E_e.x = \frac{1}{4\pi\varepsilon}q_1 q_2$ ---------------- (iii)

Equation (i) & (iii) are the same form of two different force field. So, it may be possible to represent (iii) as likely the same form of eqn. (ii).

$\therefore\ E_e.x = \frac{G}{c^4}\,E_{q1}\,E_{q2}$ ------------------- (iv)

$\therefore\ \frac{1}{4\pi\varepsilon}q_1 q_2 = \frac{G}{c^4}\,E_{q1}\,E_{q2}$

$\Rightarrow E_{q1}\,E_{q2} = \frac{1}{4\pi G\,\varepsilon}q_1 c^2 q_2 c^2$

$\therefore\ E_q = \frac{1}{\sqrt{4\pi G\,\varepsilon}}qc^2$

$$\boxed{\therefore\ E_q = \frac{1}{2\sqrt{\pi G\,\varepsilon}}qc^2 \quad \text{-------------------- (v)}}$$

This is the energy change equavalnet theorem.
Hence,

$$m = \frac{1}{2}\ \frac{1}{\sqrt{\pi G\,\varepsilon}}$$

$\therefore$ 1 c $<\Rightarrow 2\sqrt{\pi G\varepsilon}$ 1 kg

These means – the energy stored in 1c is absolutely equal to the energy stored in $2\sqrt{\pi G\varepsilon}$ kg. Thus, where the natural actions depend on the energy, there the $2\sqrt{\pi G\varepsilon}$ times mass is equivalent to the 1 coulomb charge.

II. Energy Mass Charge Equivalent Theorem:

Energy, mass and charges are equivalent. The energy and mass are universal equivalent. But the energy-charge and mass-charge are equivalent which ratio depends upon the medium and exactly the permittivity of the medium.

Consider, a field of two particles both have mass and change and the direct distance between them is x. Then the field equation becomes -

$(E_g + E_e)\, x = \frac{G}{c^4} (Em_1 + Eq_1)(Em_2 + Eq_2)$

$\therefore E_f.\, x = \frac{G}{c^4} E_1E_2 = \frac{G}{c^4} (Em_1 + Eq_1)(Em_2 + Eq_2)$----------------- (vi)

This is the general form of gravitational and electric field theorem.

Here,

E_f – The field energy or the work done on space or the measurement of curved space in energy form or curvature energy.

x - Distance between two energy particle.

III. Theorem

"The curvature energy on the work done or space (E_f) is directly proportional to the particle's energy and inversely proportional to the direct distance between the particle which may be the amount of curvature space in length."

$\therefore E_f \ \alpha \ \frac{E_1E_2}{x}$

The proportional constant is $\frac{G}{c^4}$

$\therefore E_f = \frac{G}{c^4} \frac{E_1E_2}{x}$

Energy may have two equivalent form mass and charge.

Equation (vi) implies ---- field system is finite for-----

i) Energy may be in the form of wave

ii) Energy in a particle may only charge or only mass.

iii) Energy may be both mass and charge form in a particle.

Hence, we can bounded it to the Higg's field.

In Higg's – field energy may be remain in wave or may transform in the form-

i) Only mass.

ii) Only charge

iii) Both mass and charge with a mass-charge ratio.

<u>The explanation of eqn: (vi):</u>

No matter whether it mass charge or wave, the existence of two seperate energy always curves the space.

The force eqn:

$E_f.x = \frac{G}{c^4} E_1E_2$

$\Rightarrow F = \frac{G}{c^4} \frac{E_1E_2}{x^2}$

As a result the field force also acts on the photon. Photon passes the field system though space is curved appearance of the photom because of escape-velocity. In the field system of black hole escape-velocity is not satisfied as of its greater value.

The Astronomical concept is-

Mass of Star must be always greater than the planet. But it's not right. Rather the energy of star must be always greater than the planet. And in a particle or object energy may be stored in the form of mass or energy on both and also may be in wave. So, it's not necessary that mass of planet is always less than the star.

The work done give the concept of force.

$$E_{f}.x = \frac{G}{c^4} E_1 E_2$$

$$= \frac{G}{c^4} (m_1 + \frac{q_1}{2\sqrt{\pi G \varepsilon}})\, c^2 \,(m_2 + \frac{q_2}{2\sqrt{\pi G \varepsilon}}) c^2$$

$$\Rightarrow F = G \frac{\left(m_1 + \frac{q_1}{2\sqrt{\pi G \varepsilon}}\right)\left(m_2 + \frac{q_2}{2\sqrt{\pi G \varepsilon}}\right)}{x^2}$$

$$\therefore F \propto \left(m_1 + \frac{q_1}{2\sqrt{\pi G E}}\right)\left(m_2 + \frac{q_2}{2\sqrt{\pi G E}}\right) . \frac{1}{x^2}$$

This the force is untouched rather the result of space mechanism.

The mass have no poles. So, the gravitational force is always attractive. But the charge creates poles on the space. So, the electric force may attractive or repulsive.

It's the mechanism of space. The energy curved the space and the poles create the typical variation of space. So, both the curvature energy and poles make the path of movement of a particle. And thus the force-field (combined force) may behave as attractive or repulsively.

Limitation of eqn: (vii)
The force F is the resultant force only for the attractive (to poles are inversely) perspective. Rather resultant force have to be measured step by step method

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