Variable magnetic permeability of vacuum

A new vision of the Universe

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In concluding a new theory of universal gravitation, which abandons the concept of the universal gravitational constant, which is replaced by the universal gravitational variable depends on the density of potential energy and deduce the universal relativity NBS (No Bend Space), it is mandatory to look at the electromagnetic field.

It is in this direction that I elaborate this study.

Intro:

The gravitational variable and its implications

The new concept of gravitational variable, raise new questions about the structure of the universe and its development.

$$U = \frac{G\,M}{R}$$

Analyzing the expression of gravitational potential in the local perspective, this can't articulate a clear concept for the local potential.

But this is the expression that gives the gravitational potential, whatever their nature. This is the scientific concept that we have to analyze.

Method

Thought structuring

The purpose of the analysis:

$$U = \frac{G\,M}{R}$$

Analyzing the expression of gravitational potential in the local perspective, we see no relationship understandable scientific point of view.

G – Still do not know their nature, because this is the reason for analyzing the expression.

$\frac{M}{R}$ – It has no scientific meaning clear.

The magnetic permeability of vacuum

In our view the gravitational potential, should be comprehensible to the form:

$$U = G_k \frac{M\,C^2}{4\,\pi\,R}$$

Where:

$$\frac{M\,C^2}{4\,\pi\,R}$$

It is the potential of local mass, generated by radiation of local mass MC^2.

This expression, have a scientific significance.

G_k - Can only be a factor of "resistance" to the radiation of gravitational mass location.

The variable magnetic permeability of vacuum

As the density of potential energy provides resistance to the gravitational radiation of local matter through gravitational permeability of vacuum, should also be the density of potential energy that offers resistance to radiation of pure electric charges. The electric radiation allowed by the universal density of potential energy, the magnetic permeability of vacuum, is also dependent on this universal local density of potential energy.

The value of variable G in the same place with different velocities.

As we saw earlier:

$$\frac{G_o}{G_v} = \frac{C^2}{C^2 - V^2}$$

The value of the variable-G in the same place/referential but with different velocities, is directly proportional to the value of their escape gravitational potential.

On the other hand, we have:

$$\frac{G_o}{G_v} = \left(\frac{t_o}{t_v}\right)^2$$

$$\frac{t_o}{t_v} = \sqrt{\frac{G_o}{G_v}}$$

A referential time is directly proportional to the square root of the value of G this referential.

The value of G at different places with different universal density of potential energy

As we saw earlier:

$$\frac{G_c}{G_d} = \frac{\rho_d}{\rho_c}$$

The value of the universal gravitational variable is inversely proportional to the universal density of potential energy at place.

Conjugate:

$$\frac{G_c}{G_d} = \frac{\rho_d}{\rho_c} \frac{C^2 - {V_c}^2}{C^2 - {V_d}^2}$$

$$\frac{t_c}{t_d} = \sqrt{\frac{\rho_d}{\rho_c} \frac{C^2 - {V_c}^2}{C^2 - {V_d}^2}}$$

The "Universal gravitational constant" is one of the last remnants of a geocentric view in physics.

Universal gravitational variable evaluated in the moving referential (velocities).

$$U_v = 2\, G_v\ \rho_v$$

$$U_o\ (\frac{t_o}{t_v})^2 = 2\, k\, G_o\ \rho_o\ \frac{t_v}{t_o}$$

$$\mathrm{K} = (\frac{t_o}{t_v})^3$$

$$G_v = G_o(\frac{t_o}{t_v})^3$$

Permeability gravitational variable of vacuum, G_{kv}

$$G_v = \mathrm{k}\ G_{kv}\ {C_V}^2$$

$$G_o = \mathrm{k}\ G_{ko}\ {C_o}^2$$

$$\frac{G_o(\frac{t_o}{t_v})^3}{G_o} = \frac{\mathrm{k}\, G_{kv}\, C_o{}^2(\frac{t_o}{t_v})^2}{\mathrm{k}\, G_{ko}\, C_o{}^2}$$

$$G_{kv} = G_{ko}\,\frac{t_o}{t_v}$$

The variable magnetic permeability of vacuum, U_v

The gravitational permeability and the magnetic permeability have the same nature.

$$U_v = U_o\,\frac{t_o}{t_v}$$

The relativity of the variable G, between different referential with different universal density of potential energy measured in another referential

$$U_d = G_d\,\frac{M_d}{R_d}$$

$$U_c\,\frac{\rho_d}{\rho_c} = \frac{G_c\,\mathrm{K}\,M_c\sqrt{\frac{\rho_c}{\rho_d}}}{R_c\,\frac{\rho_c}{\rho_d}}$$

$$\mathrm{K} = \sqrt{\frac{\rho_d}{\rho_c}}$$

$$G_d = G_c\sqrt{\frac{\rho_d}{\rho_c}}$$

Permeability gravitational variable of vacuum, G_{kt}

$$G_t = \mathrm{k}\, G_{kt}\, C_\rho{}^2$$

$$G_o = \mathrm{k}\, G_{ko}\, C_o{}^2$$

$$\frac{G_o\sqrt{\frac{\rho_t}{\rho_o}}}{G_o} = \frac{\mathrm{k}\, G_{kt}\, C_o{}^2\frac{\rho_t}{\rho_o}}{\mathrm{k}\, G_{ko}\, C_o{}^2}$$

$$G_{kt} = G_{ko}\sqrt{\frac{\rho_o}{\rho_t}}$$

The variable magnetic permeability of vacuum, U_t

The gravitational permeability and the magnetic permeability have the same nature.

$$U_t = U_o \sqrt{\frac{\rho_o}{\rho_t}}$$

Conjugate:

Universal gravitational variable

$$G_{dv} = G_{cv\prime} \sqrt{\frac{\rho_{do}}{\rho_{co}} \left(\frac{C^2 - \mathrm{V_c}^2}{C^2 - \mathrm{V_d}^2}\right)^3}$$

Permeability gravitational variable of vacuum

$$G_{kdv} = G_{kcv\prime} \sqrt{\frac{\rho_{co}}{\rho_{do}} \frac{C^2 - \mathrm{V_c}^2}{C^2 - \mathrm{V_d}^2}}$$

The variable magnetic permeability of vacuum

$$U_{dv} = U_{cv\prime} \sqrt{\frac{\rho_{co}}{\rho_{do}} \frac{C^2 - \mathrm{V_c}^2}{C^2 - \mathrm{V_d}^2}}$$

To my dearest mother.

To the sweet memory of my father.

José Luís Pereira Rebelo Fernandes

Oporto, from December 2005 to 11-2011.