Physics to XXI Century

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The concept introduced for the new theory of relativity, where the space don't bend, comes to create a new vision of the universe and the proper physics. After that, I present the boarded subjects in this document.

Relation between the speed, the atomic ray and the energy of the matter.

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We now go to study which the local characteristics, relatively to the atomic ray and energy of the matter, when it subjects the speed alteration. This is plus a proposal of experience of verification of relativity theory RF, the not bending space.

Introduction:

Let us remember the mechanical transformations, gotten for relativity RF, where the space don't bend:

$$t_v = t_o \sqrt{1 - \frac{V_o^2}{C_o^2}}$$

$$C_v = \frac{C_o}{\sqrt{1 - \frac{V_o^2}{C_o^2}}}$$

$$m_v = m_o \sqrt{1 - \frac{V_o^2}{C_o^2}}$$

$$e_v = e_o \sqrt{1 - \frac{V_o^2}{C_o^2}}$$

Relation between the local gravitational variable, the speed.

$$G_o = \frac{C_o^2}{2\frac{M_{uo}}{R_{uo}}}$$

$$G_v = \frac{C_v^2}{2\frac{M_{uv}}{R_{uo}}}$$

$$G_v = \frac{\frac{C_o^2}{1-\frac{V_o^2}{C_o^2}}}{\mathbf{2}\frac{M_{uo}}{R_{uo}}\sqrt{1-\frac{V_o^2}{C_o^2}}}$$

$$G_v = \frac{C_o^2}{\mathbf{2}\frac{M_{uo}}{R_{uo}}\left(\sqrt{1-\frac{V_o^2}{C_o^2}}\right)^3}$$

$$G_v = \frac{G_o}{\left(\sqrt{1-\frac{V_o^2}{C_o^2}}\right)^3}$$

The variable of the gravitational permeability of the vacuum:

$$G_{kv} = \frac{G_v}{C_v^2} 4\pi$$

$$G_{ko} = \frac{G_o}{C_o^2} 4\pi$$

$$\frac{G_{kv}}{G_{ko}} = \frac{G_v}{C_v^2}\frac{C_o^2}{G_o}$$

$$\frac{G_{kv}}{G_{ko}} = \frac{G_v}{G_o}\frac{C_o^2}{C_v^2}$$

$$\frac{G_{kv}}{G_{ko}} = \frac{1-\frac{V_o^2}{C_o^2}}{\left(\sqrt{1-\frac{V_o^2}{C_o^2}}\right)^3}$$

$$\frac{G_{kv}}{G_{ko}} = \frac{1}{\sqrt{1-\frac{V_o^2}{C_o^2}}}$$

The variable of the magnetic permeability of the vacuum and the speed:

As the variable of the magnetic permeability of the vacuum and the variable of the gravitational permeability of the vacuum they have the same nature:

$$U_v = \frac{U_o}{\sqrt{1-\frac{V_o^2}{C_o^2}}}$$

The dependence of the dimension and the energy of the matter with the speed:

Atomic ray:

$$R_o = \frac{4\,\pi}{m_o\,U_o\,C_o{}^2\,z\,e_o{}^2}\left(\frac{h}{2\,\pi}\right)^2 n^2$$

$$R_v = \frac{4\,\pi}{m_v\,U_v\,C_v{}^2\,z\,e_v{}^2}\left(\frac{h}{2\,\pi}\right)^2 n^2$$

To simplify:

$$B = \sqrt{1 - \frac{V_o{}^2}{C_o{}^2}}$$

$$R_v = \frac{4\,\pi}{m_o B\;\frac{U_o}{B}\,\frac{C_o{}^2}{B^2}\,z\,e_o{}^2 B^2}\left(\frac{h}{2\,\pi}\right)^2 n^2$$

$$R_v = \frac{4\,\pi}{m_o\,U_o\,C_o{}^2\,z\,e_o{}^2}\left(\frac{h}{2\,\pi}\right)^2 n^2$$

$$R_v = R_o$$

The ray of the matter does not get excited when it subjects the speed alteration.

This phenomenon has that to be observed in the particle accelerators.

Energy;

$$E_o = \frac{m_o\,U_o{}^2\;C_o{}^4\,z^2\;e_o{}^4}{2\,(4\,\pi)^2}\left(\frac{2\,\pi}{h}\right)^2\frac{1}{n^2}$$

$$E_v = \frac{m_v\,U_v{}^2\;C_v{}^4\,z^2\;e_v{}^4}{2\,(4\,\pi)^2}\left(\frac{2\,\pi}{h}\right)^2\frac{1}{n^2}$$

To simplify:

$$B = \sqrt{1 - \frac{V_o{}^2}{C_o{}^2}}$$

$$E_v = \frac{m_o\, B\, \frac{U_o^{\,2}}{B^2}\, \frac{C_o^{\,4}}{B^4}\, z^2\, e_o^{\,4}\, B^4}{2\,(4\,\pi)^2} \left(\frac{2\,\pi}{h}\right)^2 \frac{1}{n^2}$$

$$E_v = \frac{m_o\, \frac{U_o^{\,2}}{B}\, C_o^{\,4}\, z^2\, e_o^{\,4}}{2\,(4\,\pi)^2} \left(\frac{2\,\pi}{h}\right)^2 \frac{1}{n^2}$$

$$E_v = \frac{E_o}{B}$$

$$E_v = \frac{E_o}{\sqrt{1 - \frac{V_o^{\,2}}{C_o^{\,2}}}}$$

What it is in perfect agreement with relativity.

Porto, 8/01/2009.

José Luís Pereira Rebelo Fernandes.

The radius and energy of matter with the pure potential of universal mass.

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Let us now consider what the local consequences, for the atomic radius and energy of matter, subject to change of the potential of pure mass universal. This is another draft of verification experience of RF relativistic theory of non-curved space.

Introduction:

Remember, the mechanical changes, obtained for the RF relativity in which space does not curve:

Consider therefore:

t_o - Time on our site

t_l - Time on site under study

$$E_l\ t_l = E_o\ t_o$$

$$E_l = E_o \frac{t_o}{t_l}$$

$$C_l\ t_l = C_o\ t_o$$

$$C_l = C_o \frac{t_o}{t_l}$$

$$m_v\ C_l^{\,2}\ \ t_l = m_v\ C_l^{\,2}\ \ t_l$$

$$m_v = m_o \frac{t_l}{t_o}$$

Similarly:

$$e_v = e_o \frac{t_l}{t_o}$$

Relationship between the local variable gravitational, and the pure potential of the Universal mass.

The dependence of the dimension of matter and energy of matter with the potential of pure mass Universal - P_{pu}:

As seen previously in the article “Relation between the speed, the atomic ray and the energy of the matter.” the speed does not change the radius of the matter.

General and from the new relativity:

$$\frac{t_o}{t_l} = \sqrt{\frac{P_{Pulo}}{P_{Puo}}}$$

$$m_l = m_o \frac{t_l}{t_o}$$

The gravitational permeability in referential o.

$$G_{ko} = \frac{2\pi}{P_{Puo}}$$

The gravitational permeability in reference l measured from the referential o.

$$G_{klo} = \frac{2\pi}{P_{Pulo}}$$

The gravitational permeability in reference l measured in referential l.

$$G_{kll} = \frac{2\pi}{P_{Pulo}\frac{t_l}{t_o}}$$

$$G_{kll} = \frac{G_{ko}\, P_{Puo}}{P_{Pulo}\frac{t_l}{t_o}}$$

$$G_{kll} = G_{ko}\ \frac{P_{Puo}}{P_{Pulo}} \frac{t_o}{t_l}$$

Atomic radius:

As:

$$R_o = \frac{4\,\pi}{m_o\, U_o\, C_o^2\, z\, e_o^2} \left(\frac{h}{2\,\pi}\right)^2 n^2$$

$$R_{ll} = \frac{4\,\pi}{m_l\, U_l\, C_l^2\, z\, e_l^2} \left(\frac{h}{2\,\pi}\right)^2 n^2$$

$$R_l = \frac{4\,\pi}{m_o \frac{t_l}{t_o}\, U_o\, \frac{P_{Puo}}{P_{Pulo}} \frac{t_o}{t_l}\, C_o{}^2 \frac{t_o{}^2}{t_t{}^2}\, z\, e_o{}^2 \left(\frac{t_t}{t_o}\right)^2} \left(\frac{h}{2\,\pi}\right)^2 n^2$$

$$R_l = R_o\, \frac{P_{Pulo}}{P_{Puo}} = R_o\, \frac{t_o{}^2}{t_t{}^2}$$

The radius of the matter is directly proportional to the local pure potential of the universal.

Energy of photon;

$$E_o = \frac{m_o\, U_o{}^2\; C_o{}^4\, z^2\; e_o{}^4}{2\,(4\,\pi)^2} \left(\frac{2\,\pi}{h}\right)^2 \frac{1}{n^2}$$

$$E_l = \frac{m_t\, U_l{}^2\; C_l{}^4\, z^2\; e_l{}^4}{2\,(4\,\pi)^2} \left(\frac{2\,\pi}{h}\right)^2 \frac{1}{n^2}$$

$$E_t = \frac{m_o \frac{t_t}{t_o} \left(U_o \frac{P_{Puo}}{P_{Pulo}} \frac{t_o}{t_l}\right)^2 \left(C_o \frac{t_o}{t_l}\right)^4 z^2 \left(e_o \frac{t_l}{t_o}\right)^4}{2\,(4\,\pi)^2} \left(\frac{2\,\pi}{h}\right)^2 \frac{1}{n^2}$$

$$E_l = \frac{m_o\, U_o{}^2\; C_o{}^4\, z^2\; e_o{}^4}{2\,(4\,\pi)^2} \left(\frac{t_t}{t_o}\right)^3 \left(\frac{2\,\pi}{h}\right)^2 \frac{1}{n^2}$$

$$E_v = E_o \left(\frac{P_{Puo}}{P_{Pulo}}\right)^{\frac{3}{2}} = E_o \left(\frac{t_t}{t_o}\right)^3$$

So let's do the calculation to the same place that will always have the same speed, but pure potential of universal mass varies with the universal radius that is proportional to time.

Is this the future on Earth.

$$G_o = \frac{C_o{}^2}{2\,\frac{M_{uo}}{R_{uo}}}$$

$$G_t = \frac{C_t{}^2}{2\,\frac{M_{ut}}{R_{ut}}}$$

$$G_t = \frac{C_o{}^2 \frac{t_o{}^2}{t_t{}^2}}{2\, \frac{M_{uo} \frac{t_t}{t_o}}{R_{uo} \left(\frac{t_t}{t_o}\right)^2}}$$

$$G_t = G_o \frac{t_o}{t_l}$$

The variable of the gravitational permeability:

$$G_{kt} = \frac{G_t}{C_t^2} 4\pi$$

$$G_{ko} = \frac{G_o}{C_o^2} 4\pi$$

$$\frac{G_{kt}}{G_{ko}} = \frac{G_t}{C_t^2} \frac{C_o^2}{G_o}$$

$$\frac{G_{kt}}{G_{ko}} = \frac{G_t}{G_o} \frac{C_o^2}{C_t^2}$$

$$\frac{G_{kt}}{G_{ko}} = \frac{t_o}{t_l} \left(\frac{t_t}{t_o}\right)^2$$

$$\frac{G_{kt}}{G_{ko}} = \frac{t_t}{t_o}$$

As the variable magnetic permeability of the vacuum and variable gravitational permeability of the vacuum are the same type:

$$U_t = U_o \frac{t_t}{t_o}$$

U_t- is the value read at the site l, in his own time, on the value read at time o.

Being T - real-time clocks

Atomic radius:

As:

$$R_o = \frac{4\,\pi}{m_o\, U_o\, C_o^2\, z\, e_o^2} \left(\frac{h}{2\,\pi}\right)^2 n^2$$

$$R_{lt} = \frac{4\,\pi}{m_t\, U_t\, C_t^2\, z\, e_t^2} \left(\frac{h}{2\,\pi}\right)^2 n^2$$

$$R_l = \frac{4\,\pi}{m_o \frac{t_l}{t_o}\, U_o \frac{t_t}{t_o}\, C_o^2 \frac{t_o^2}{t_t^2}\, z\, e_o^2 \left(\frac{t_t}{t_o}\right)^2} \left(\frac{h}{2\,\pi}\right)^2 n^2$$

$$R_l = R_o \frac{t_o^2}{t_t^2} = R_o \frac{T_t}{T_o}$$

The variation of the pure potential of the universal mass, causes the change of atomic radius of the matter.

If we consider the potential of the pure potential local of Universal mass, we have:

$$P_{puo} = \frac{M_{uro}}{\mathrm{R_{euo}}}$$

$$U_o = \frac{2\,\pi}{\frac{M_{uro}}{\mathrm{R_{euo}}}}$$

$$U_o = \frac{2\,\pi}{P_{puo}}$$

$$\mathrm{R_l} = \mathrm{R_o}\,\frac{P_{pul}}{P_{puo}}$$

The radius of the matter is directly proportional to the value of the pure mass potential universal at local.

This has to be observed in different places in our local universe.

The lengths on the surface of the Moon will be lower than those on Earth. -1.34 E-09, and in Mars-7.9E-09.

Energy of photon;

$$\mathrm{E_o} = \frac{m_o\,U_o{}^2\;\mathrm{C_o}{}^4\;\mathrm{z}^2\;e_o{}^4}{2\,(4\,\pi)^2}\left(\frac{2\,\pi}{\mathrm{h}}\right)^2\frac{1}{\mathrm{n}^2}$$

$$\mathrm{E_t} = \frac{m_t\,U_t{}^2\;\mathrm{C_t}{}^4\;\mathrm{z}^2\;e_t{}^4}{2\,(4\,\pi)^2}\left(\frac{2\,\pi}{\mathrm{h}}\right)^2\frac{1}{\mathrm{n}^2}$$

$$\mathrm{E_t} = \frac{m_o\frac{t_t}{\mathrm{t_o}}\,(\mathrm{U_o}\frac{t_t}{\mathrm{t_o}})^2\;(C_o\,\frac{t_o}{\mathrm{t_t}})^4\;\mathrm{z}^2\;(\,e_o\frac{t_t}{\mathrm{t_o}})^4}{2\,(4\,\pi)^2}\left(\frac{2\,\pi}{\mathrm{h}}\right)^2\frac{1}{\mathrm{n}^2}$$

$$\mathrm{E_l} = \frac{m_o\,U_o{}^2\;\mathrm{C_o}{}^4\;\mathrm{z}^2\;e_o{}^4}{2\,(4\,\pi)^2}\left(\frac{t_t}{\mathrm{t_o}}\right)^3\left(\frac{2\,\pi}{\mathrm{h}}\right)^2\frac{1}{\mathrm{n}^2}$$

$$\mathrm{E_v} = \mathrm{E_o}\left(\frac{t_t}{\mathrm{t_o}}\right)^3$$

Radius of the matter:

Its value is directly proportional to the raw potential of universal mass.

Locally as the pure potential of universal mass will decrease, the atomic radius will decrease which will cause the stars are shrinking. Soon the Earth is shrinking. Currently, its radius shrinks in the order of 42cm per millennium.

The Sun for this purpose without regard to mass loss, will shrink 4580 cm in the next millennium.

Locally the centers of mass move away with the growth of the universe and the local bodies vary in inverse proportion to that growth.

The Earth and all the other stars and planets are decreasing their radius, are getting smaller.

Porto, 8/01/2009.

José Luís Pereira Rebelo Fernandes

The bending of the time under a gravitational field.

Relativity and the universal gravitational variable.

The time and the universal gravitational variable.

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After the creation of the new theory of universal gravitation, under the paradigm of the radiation of mass and the new theory of relativity, where the space not bend. i go to analyze the bending of the time under a intense gravitational field. One best notion of a black hole.

1 Introduction:

The new theory of universal gravitation that supports this study comes in annex.

2 The speeds and the Universal gravitation variable.

As already we on the basis of saw and the new theory of relativity, the speed of the light is constant in all the universe, being its value in each different referential, because of its proper bending of the time and exclusively therefore.

That is C happens therefore is this, the escape potential that if finds all in the universe and any local. ~

Being: $\sum_1^n \left(\frac{M_{u_{j-i}}}{R_{e_{j-i}}}\right)$ the addition of all the potentials generated in the local i for all the Universal mass subjects to respective doppler effect that radiates for the local i

To facilitate the presentation, we go to make to substitute:

$$\sum_1^n \left(\frac{M_{u_{j-i}}}{R_{e_{j-i}}}\right) = Rad_i$$

Of where we start to have to the escape potential:

$$U_i = 2 \ G_i \ Rad_i$$

$$G_i = \frac{C^2}{2 \ Rad_i}$$

$$C^2 = 2 \, G_i \ Rad_i$$

Local we will have to the escape potential:

$$U_o = 2 \ G_o \ Rad_o$$

$$U_o = C^2$$

When a particle if dislocates to the speed V, which is the escape potential that if finds in the particle?

$$U_v = C^2 - V^2$$

If to care of that Rad_i it is constant for the referential in cause, we will have:

$$U_v = 2 \ G_v \ Rad_o$$

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

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

$$\frac{G_o}{G_v} = \frac{1}{1 - \frac{V^2}{C^2}}$$

$$\sqrt{\frac{G_o}{G_v}} = \frac{1}{\sqrt{1 - \frac{V^2}{C^2}}}$$

As:

$$\frac{1}{\sqrt{1 - \frac{V^2}{C^2}}} = \frac{t_o}{t_v} = \frac{\surd_v}{\surd_o}$$

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

Now yes we have something completely new. We are namely as the time if it relates with the gravitation variable. As well as the frequency it also varies with the gravitation variable.

3 The bending of the time and the gravitational field.

When we are in presence of a local gravitational field, this participates in the universal radiation, that is part of Rad_o.

This value of Rad_o, is the gotten one to the surface of celestial body.

As the potential to the surface of celestial body it is U_s:

$$U_s = \frac{G_s\ M_a}{R_a}$$

$$\frac{M_a}{R_a} = \frac{U_s}{G_s} = Rad_s,$$

Then we will have, for the universal pure radiation Rad_u, that to remove the local radiation:

$$Rad_u = Rad_o - Rad_s$$

In one any long-distance place d of the center of celestial body, the existing universal radiation will be:

$$Rad_d = Rad_u + \frac{\mathrm{U_d}}{G_o}$$

$$Rad_d = Rad_o - \frac{\mathrm{U_s}}{G_o} + \frac{\mathrm{U_d}}{G_o}$$

$$Rad_d = \frac{C^2}{2\ G_0} - \frac{\mathrm{U_s}}{G_o} + \frac{\mathrm{U_d}}{G_o}$$

$$G_d = \frac{C^2}{2\ Rad_d}$$

$$G_d = \frac{C^2 G_o}{C^2 - 2\ (\mathrm{U_s} - \mathrm{U_d})}$$

$$\frac{G_d}{G_o} = \frac{C^2}{C^2 - 2\ (\mathrm{U_s} - \mathrm{U_d})}$$

$$\sqrt{\frac{G_d}{G_o}} = \sqrt{\frac{C^2}{C^2 - 2\,(\mathrm{U_s} - \mathrm{U_d})}}$$

As:

$$\sqrt{\frac{G_d}{G_o}} = \frac{t_d}{t_o}$$

$$\sqrt{\frac{C^2}{C^2 - 2\,(\mathrm{U_s} - \mathrm{U_d})}} = \frac{t_d}{t_o} = \frac{\surd_o}{\surd_d}$$

4 Final condition of the bending of the time and the gravitational field.

Velocity:

$$\mathrm{V_d}^2 = \mathrm{U_d}$$

$$\frac{G_d}{G_o} = \frac{C^2 - \mathrm{U_d}}{C^2}$$

Gravitational potential:

$$\frac{G_d}{G_o} = \frac{C^2}{C^2 - 2\,(\mathrm{U_s} - \mathrm{U_d})}$$

As:

$$\frac{G_d}{G_o} = \frac{C^2 - \mathrm{U_d}}{C^2}\,\frac{C^2}{C^2 - 2\,(\mathrm{U_s} - \mathrm{U_d})}$$

$$\frac{G_d}{G_o} = \frac{C^2 - \mathrm{U_d}}{C^2 - 2\,(\mathrm{U_s} - \mathrm{U_d})}$$

$$\sqrt{\frac{G_d}{G_o}} = \sqrt{\frac{C^2 - \mathrm{U_d}}{C^2 - 2\,(\mathrm{U_s} - \mathrm{U_d})}}$$

$$\sqrt{\frac{G_d}{G_o}} = \sqrt{\frac{C^2 - \mathrm{U_d}}{C^2 - 2\,(\mathrm{U_s} - \mathrm{U_d})}} = \frac{t_d}{t_o} = \frac{\surd_o}{\surd_d}$$

Speed of light at local **d.**

$$C_d = C_o \sqrt{\frac{C^2 - 2\,(\mathrm{U_s} - \mathrm{U_d})}{C^2 - \mathrm{U_d}}}$$

We have now completely defined the equation of the time under the share of a gravitational field.

5 The variation of the speed of the light throughout the times.

Of the previous considerations, we conclude, that when local the gravitation variable increases the time also it increases:

With growing of the Universe the local gravitation variable, increases in the ratio of the growth of the Universe.

$$\sqrt{\frac{G_{ot}}{G_o}} = \frac{t_{ot}}{t_o}$$

As for all always the relation will be remained:

$$t_o\ C_o = t_{ot}\ C_{ot}$$

$$C_{ot} = C_o\ \frac{t_o}{t_{ot}}$$

$$C_{ot} = C_o\ \sqrt{\frac{G_o}{G_{ot}}}$$

Taking care of to the one that in the initial phase of the Universe the value of G_{ot}would be very small, at any local the speed of the light in the initial phase it was very bigger of what today.

From there and in accordance with Magueijo (VSL), to accept the beginning of the variable speed of the light, therefore in all the universe, independently of the local, the speed of the light read in the past was very superior that one that if can measure today.

In the same way that we will go to read a lesser speed of the light, all the speeds will also go to be chores in a lesser value.

This phenomenon goes to make with that the translation speeds of the Hearth want of the Moon go in them to appear slower

Not because these had softened, but yes because our time will go to increase.

The future value of the mass at local.

$$m_{ot} = m_o \sqrt{\frac{G_{ot}}{G_o}}$$

At local the mass increase.

The escape potential, in the observed referential.

$$G_v = \frac{{C_v}^2}{2\,\frac{M_v}{R}}$$

$$G_v = \frac{{C_o}^2 (\frac{t_o}{t_v})^2}{2\,\frac{M_o \frac{t_v}{t_o}}{R}}$$

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

$$U_v = 2G_v\,\frac{M_v}{R}$$

$$U_v = 2G_o\,(\frac{t_o}{t_v})^3\,\frac{M_o \frac{t_v}{t_o}}{R}$$

$$U_v = 2G_o\,\frac{M_o}{R}\,(\frac{t_o}{t_v})^2$$

$$U_v = U_o\,(\frac{t_o}{t_v})^2$$

$${C_v}^2 = {C_o}^2 (\frac{t_o}{t_v})^2$$

$$C_v{}^2 = C_o{}^2 \left(\frac{t_o}{t_v}\right)^2$$

$$C_v = C_o \frac{t_o}{t_v}$$

$$C_v = \frac{C_o}{\sqrt{1 - \frac{V^2}{C^2}}}$$

6 Black Holes.

Now that we know the bending of the time under the share of a gravitational field, we are in conditions to analyze what is transferred in a black hole. Generically for the unit of unitary time t_o we will have then the potential of escape given for:

$$C^2 = 2\, G_o \;\; Rad_o$$

$$G_o = \frac{C^2}{2\; Rad_o}$$

To be black hole, as we saw:

$$\frac{M}{R} = \text{k}\; Rad_o \text{ para k} \geq 1$$

The universal radiation to the surface of the black hole, would start to be:

$$Rad_s = (1 + k)\; Rad_o$$

We would have then in the referential for the black hole:

$$G_s = \frac{C^2}{2(1+k)\; Rad_o}$$

$$U_s = 2\; G_s \;\; Rad_o$$

$$U_s = \frac{C^2}{(1+k)}$$

As now, we know:

$$G_s = \frac{C^2}{2(1+k)\; Rad_o}$$

$$\frac{G_s}{G_o} = \frac{1}{(1+k)}$$

$$\frac{G_o}{G_s} = (1 + k)$$

$$\frac{G_o}{G_s} = \left(\frac{t_o}{t_s}\right)^2 = (1+k)$$

$$C_s = C_o \sqrt{\frac{G_o}{G_s}}$$

$$C_s = C_o \frac{t_o}{t_s} = C_o \sqrt{(1+k)}$$

$$m_s = m_o \sqrt{\frac{G_s}{G_o}}$$

$$m_s = m_o \frac{t_s}{t_o}$$

$$U_s = U_o \frac{G_o}{G_s} = U_o \ (1+k)$$

In the referential of the black hole, visa of our referential we would have:

$$G_s = \frac{C_s{}^2}{2Rad_s}$$

$$G_s = \frac{C_o{}^2 \ (\frac{t_o}{t_s})^2}{2(1+k) \ Rad_o \frac{t_s}{t_o}}$$

$$G_s = \frac{C_o{}^2 \ (\frac{t_o}{t_s})^2}{2(\frac{t_o}{t_s})^2 Rad_o \frac{t_s}{t_o}}$$

$$G_s = G_o \frac{t_o}{t_s}$$

$$U_s = 2G_o \frac{t_o}{t_s} \frac{M_s}{R}$$

$$U_s = 2G_o \frac{t_o}{t_s} \frac{M_o \frac{t_s}{t_o}}{R}$$

$$U_s = U_o = C^2$$

The black hole is really black, the escape potential is always equal the C^2.

The black hole lives in the limit of the potential of C^2 escape, independently of its dimension.

The maximum potential of escape of a black hole, any that is its relation, $\frac{M}{R} \geq \; Rad_o$, is always C^2., and never superior.

The black hole lives in the limit of not the radiation, for what, is enough any small alteration in its balance, to radiate.

The speed of the light in the proper time of the black hole will be:

Being G_o the value of the gravitational variable of our referential:

Being G_b the value of the gravitational variable of the black hole referential

$$C_b = C_o \sqrt{\frac{G_o}{G_b}}$$

In the proper referential of the black hole:

$$U_s = 2\, G_s \frac{M_s}{R}$$

$$G_s = \frac{C_s^2}{2\,\frac{M_s}{R}}$$

$$G_s = \frac{C_o^2 \frac{t_o^2}{t_s^2}}{2\,\frac{M_o \frac{t_s}{t_o}}{R}}$$

$$G_s = G_o \frac{t_o^3}{t_s^3}$$

$$U_s = 2\, G_o \frac{t_o^3}{t_s^3} \frac{M_o \frac{t_s}{t_o}}{R}$$

$$U_s = U_o \frac{t_o^2}{t_s^2}$$

$$C_s{}^2 = C_o{}^2\,(1+k)$$

$$C_s = C\sqrt{(1+k)}$$

Experience of confirmation of the theory.

When thinking about the future, with the increase of the local gravity, they will appear two different phenomena:

The ray of the matter, diminishes in the same ratio of the increase of the ray of the Universe.

$$\text{R1} = \text{Ro}\,\frac{t_o}{t_1}$$

On the other hand, with the increase of the local gravity the time goes to increase, for what the speed of the light deals will be lesser:

$$\text{t1} = \text{to}\,\sqrt{\frac{G_1}{G_0}}$$

$$\text{C1} = \text{Co}\,\sqrt{\frac{G_o}{G_1}}$$

Now let us analyze the time that a blinking will delay to give the return to the Hearth:

$$\text{To} = \frac{2\,\pi\,R_o}{C_o}$$

In the future, being:

n - Number of passed years.

Age of universe - 15.197.368.380 a.l

$$\text{T1} = \frac{2\,\pi\,R_1}{C_1}$$

$$\text{T1} = \frac{2\,\pi\,\text{Ro}\,\frac{t_o}{t_1}}{\text{Co}\,\sqrt{\frac{G_o}{G_1}}}$$

$$\text{T1} = \frac{2\,\pi\,\text{Ro}\,\frac{t_o}{t_1}}{\text{Co}\,\sqrt{\frac{t_o}{t_1}}}$$

$$\text{T1} = \frac{2\,\pi\,\text{Ro}\,\sqrt{\frac{t_o}{t_1}}}{\text{Co}}$$

$$\text{T1} = \text{To}\,\sqrt{\frac{t_o}{t_1}}$$

$$\text{T1} = \text{To}\,\sqrt{\frac{15.197.368.380}{15.197.368.380+\mathbf{n}}}$$

Logically that the annual variation will be almost imperceptible.

1 year, 1 return ∂T = - 0,0044 nanosseconds

1 year 1000 returns ∂T = - 4,4 nanos.

25 years, 1 return ∂T = - 0,11 nanos.

25 years 1000 returns ∂T = - 110 nanos.

Either perhaps possible to make the experience ....

The time at the solar system.

If to take care of, to the Earth rate:

Vt = 464.56 m/s

Urt = 215.820 (m/s)^2

$$B = \frac{1}{1 - \frac{U_{rt}}{C^2}}$$

$$\sqrt{\frac{G_d}{G_o}} = \sqrt{B \frac{C^2 - U_d}{C^2 - 2\,(U_s - U_d)}} = \frac{t_d}{t_o}$$

In the case of the satellite, Moon.

Usl – Gravitational potential of the Moon.

$$\sqrt{\frac{G_d}{G_o}} = \sqrt{B \frac{C^2 - U_d}{C^2 - 2\,(U_s - U_d - \mathrm{Usl})}} = \frac{t_d}{t_o}$$

Place the surface with rotation	Advance the clock for a day, for the time on Earth nanoseconds	Speed of ligth m/s	Diferential C local - C Earth m/s	Modification of the length a) Partes	Apparent speed of light. m/s	Differential apparent local C - C Earth m/s
Terra	0	299.792.458,40	0,00	0,00000E+00	299.792.458,40	0,000
Estação Espacial h=380 km	-24.895	299.792.458,49	0,09	-7,82826E-11	299.792.458,42	0,023
Satélite h=20,200 km	38.597	299.792.458,27	-0,13	-1,05811E-09	299.792.458,72	0,317
Lua	56.038	299.792.458,21	-0,19	-1,30632E-09	299.792.458,79	0,392
Órbita do sol h=2,000,000km	-69.650.293	299.792.700,07	241,67	1,07439E-06	299.792.377,98	-80,418
Mercúrio	-1.974.518	299.792.465,25	6,85	3,00701E-08	299.792.456,24	-2,164
Vénus	-484.396	299.792.460,08	1,68	7,40816E-09	299.792.457,86	-0,540
Marte	487.703	299.792.456,71	-1,69	-7,89808E-09	299.792.459,08	0,676

a) - The diameter of the matter varies with the potential of pure mass universal. Does not vary with speed. An instrument that is carried to measure the speed of light will also do so. When considering the size it would have on Earth we get the apparent speed of light.

The future of the speed of light in Earth.

Real value.		
Year	Value of real C	Variation
1978	299.792.458,87	0.00
2005	299.792.458,60	-0,27
2008	299.792.458,57	-0,30
2028	299.792.458,46	-0,41
2053	299.792.457,96	-0,91
2078	299.792.457,47	-1,40

If we repeat the experiment in 1978 by the English group, which concludes that the speed of light would be 299.792.458.8 ± 0.2 m / s, it appears that the value measured today, 31 years later, varying 0.31 m / s which is already outside the margin of error.

We believe that, given the time elapsed, it should repeat the experiment under the same conditions of 1978. The experience made in 1987 however, should provide a range of 0.09 m / s, which would still be within the margin of error.

The value of the Universal gravitation variable in Hearth.

$$G_t = \frac{C_t^2}{2\frac{Mur_t}{Reu_t}}$$

$$G_t = \frac{C_t^{\ 2} Reu_t}{2Mur_t}$$

$$G_t = \frac{C_0^{\ 2}\left(\frac{t_o}{t_t}\right)^2 Reu_0 \left(\frac{t_1}{t_o}\right)^2}{2Mur_o \frac{t_1}{t_o}}$$

$$G_t = \frac{C_0^{\ 2}\left(\frac{t_o}{t_t}\right)^2 Reu_0 \left(\frac{t_1}{t_o}\right)^2}{2Mur_o \frac{t_1}{t_o}}$$

$$G_t = G_o \frac{t_o}{t_t}$$

$$G_t = G_o \sqrt{\frac{R_{uo}}{R_{ut}}}$$

Value read	
Year	Value
1978	6,672600000E-11
2005	6,672599994E-11
2008	6,672599993E-11
2020	6,672599991E-11
2070	6,672599980E-11
2120	6,672599969E-11

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$$G_t = G_o \frac{t_o}{t_t}$$

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2120	6,672599969E-11

The future of the gravity on Earth.

$$g_t = G_t \frac{M_t}{{R_t}^2}$$

$$g_t = G_o \frac{t_o}{t_t} \frac{M_o \frac{t_t}{t_o}}{(R_o \frac{t_o}{t_t})^2}$$

$$g_t = g_o \left(\frac{t_t}{t_o}\right)^2$$

$$g_t = g_o \frac{T_t}{T_o}$$

The value of gravity on Earth or in any place will increase in proportion to the age of the universe.

Valor lido	
Ano	Valor de g
1978	9,810000000
2005	9,810000017
2009	9,810000020
2059	9,810000052
2159	9,810000117
3009	9,810000666

José Luís Pereira Rebelo Fernandes

Porto. 27/10/2008

The new relativistic Doppler effect.

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After defining the new theory of relativity, where the space does not bend,

we are in a position to consider the relativistic Doppler effect.

Determination of the Doppler effect.

In this relativity, in that space does not bend, we find a different Doppler effect, considered by the relativity of Einstein.

As the space does not bend, we find a Doppler effect of the same type as found for the sound.

For V> 0, the source away from the observer:

For the frequency:

$$\surd = \surd_o \frac{C+V}{C}$$

For the wavelength:

$$\lambda = \lambda_o \frac{C}{C+V}$$

For V <0, the source is close to the observer:

For the frequency:

$$\surd = \surd_o \frac{C-V}{C}$$

For the wavelength:

$$\lambda = \lambda_o \frac{C}{C-V}$$

By quantum mechanics.

Analyzing the process of annihilation of pairs.

Of photons generated:

$$2\, \boldsymbol{m_v C_v}^{\boldsymbol{2}} = \boldsymbol{P_1 C_v} + \boldsymbol{P_2 C_v} \quad 1)$$

Canceling the momentum of the pairs:

$$2\, \boldsymbol{m_v V_v} = \boldsymbol{P_1} - \boldsymbol{P_2}$$

Multiplying both terms by C_v:

$$2\, \boldsymbol{m_v V_v}\, \boldsymbol{C_v} = \boldsymbol{P_1}\, \boldsymbol{C_v} - \boldsymbol{P_2 C_v} \quad 2)$$

Adding 1) e 2):

$$2\, \boldsymbol{m_v C_v}\, (\boldsymbol{C_v} + \boldsymbol{V_v}) = \boldsymbol{2}\, \boldsymbol{P_1}\, \boldsymbol{C_v}$$

$$\boldsymbol{P_1} = \boldsymbol{m_v}\, (\boldsymbol{C_v} + \boldsymbol{V_v})$$

$$\boldsymbol{P_1} = \boldsymbol{m_o} \sqrt{\boldsymbol{1} - \frac{\boldsymbol{V^2}}{\boldsymbol{C_o}^{\boldsymbol{2}}}}\; \frac{\boldsymbol{C_o} + \boldsymbol{V_o}}{\sqrt{\boldsymbol{1} - \frac{\boldsymbol{V^2}}{\boldsymbol{C_o}^{\boldsymbol{2}}}}}$$

$$\boldsymbol{P_1} = \boldsymbol{m_o}\, (\boldsymbol{C_o} + \boldsymbol{V_o})$$

$$\boldsymbol{P_1} = \boldsymbol{m_o}\, \boldsymbol{C_o}\, \frac{\boldsymbol{C_o} + \boldsymbol{V_o}}{\boldsymbol{C_o}}$$

$$\boldsymbol{\lambda} = \frac{\boldsymbol{h}}{\boldsymbol{P_1}}$$

$$\boldsymbol{\lambda} = \frac{\boldsymbol{h}}{\boldsymbol{m_o}\, \boldsymbol{C_o}\, \frac{\boldsymbol{C_o} + \boldsymbol{V_o}}{\boldsymbol{C_o}}}$$

$$\boldsymbol{\lambda} = \boldsymbol{\lambda_o}\, \frac{\boldsymbol{C_o}}{\boldsymbol{C_o} + \boldsymbol{V_o}}$$

What confirms the expected for a source, approaching the observer.

Subtracting 2) de 1):

Get:

$$\boldsymbol{\lambda} = \boldsymbol{\lambda_o}\ \frac{\boldsymbol{C_o}}{\boldsymbol{C_o - V_o}}$$

What confirms the expected for a source, the move away from the observer.

The impact on universal analysis.

If we take into account for example the building was considered for the Ursa Major, this would keep away from us at a speed of 15,000 km / s, from the perspective of this new theory, we would have:

$$\boldsymbol{\lambda} = \boldsymbol{\lambda_o}\ \frac{\boldsymbol{C_o}}{\boldsymbol{C_o - V_o}}$$

$$431{,}05409 = 410\ \frac{C_o}{C_o - V_o}$$

$$V_o = 14.643\ \text{Km/s}$$

Different from what was considered:

This new concept of the Doppler effect, will force me to review the impacts of varying gravitational and magnetic permeability variable of the vacuum in the analysis of the cosmos.

What is the Doppler effect of a source that in our benchmark issues with frequency $\sqrt{}_{o}$ The and this source is then to leave the our reference to the speed V.

A source that emits radiation $\sqrt{}_{o}$ when stopped, will deliver at a speed V, the velocity V is the velocity of expulsion compared to our benchmark, with a frequency given by:

$$\sqrt{} = \frac{\sqrt{}_{o}}{\sqrt{1 - \frac{V^2}{C^2}}}$$

The frequency that we received from a source in the previous condition will be given by:

$$\sqrt{} = \frac{\sqrt{}_{o}}{\sqrt{1 - \frac{V^2}{C^2}}}\,\frac{C - V}{C}$$

$$\sqrt{} = \sqrt{}_{o}\sqrt{\frac{C^2}{(C+V)(C-V)}}\sqrt{\frac{(C-V)(C-V)}{C^2}}$$

$$\sqrt{} = \sqrt{}_{o}\sqrt{\frac{C-V}{C+V}}$$

What is according to Einstein's relativistic Doppler effect.

This condition is only valid for a source with frequency $\sqrt{}_{o}$ in our benchmark, which is then put into motion.

When the source approaches, then V =-V, we will have a Doppler effect given by:

$$\sqrt{} = \sqrt{}_{o}\sqrt{\frac{C+V}{C-V}}$$

José Luís Pereira Rebelo Fernandes

Porto, 29/01/2009

The dimension of the Universe

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The study of the bending of the time under the share of a gravitation field, it created the condition to be able itself to study the dimension of the Universe.

Determination of the age of the Universe.

As already we study, we are in a universe opened in pure stability. I want to say that the local potentials are always constant. If to take care of to the fact, that the universe if expands of a homogeneous form, then the coefficient of local growth is equal to the coefficient of growth of the universe.

If to take care of to this fact and knowing since the universe if it expands to the speed of the light, as already studied in the article, "A new law of universal gravitation. The gravitation variable. ", then we can easily calculate the dimension of the Universe:

Being:

- Distance of the Land to the Moon of 385.000.000 meters...

$\mathbf{D_1}$ – Real Increase of in the distance annual of the Earth to the Moon.

R_u - Radius of the Universe

$$R_u = \frac{\mathbf{1\ ano\ luz}}{D_1} 385.000.000 \text{ m}$$

As soon as if it obtains to determine the annual removal of the Moon in relation to the Earth, easily we obtain to calculate the dimension of the Universe.

Correction of the coefficient of correlation of the removals taking care of to the bending of the time due to the increase of the universal gravitation variable in the local.

Considering:

Speed of the current light $\boldsymbol{C_o}$ - 299.792.458,4 m/s

Current distance of the Earth to the Moon. $\boldsymbol{L_o}$ - 385.000.000 m

The virtual increase of in the distance between the Earth and the Moon $\boldsymbol{D_o}$ - 0.038 m

The real increase of this distance $\boldsymbol{D_1}$

$$\frac{G_1}{G_0} = \frac{L_o+D_1}{L_o}$$

$$\frac{t_1}{t_0} = \sqrt{\frac{G_1}{G_0}}$$

$$C_1 = \sqrt{\frac{G_o}{G_1}}\ C_o$$

$$t_o = \frac{L_o}{C_o}$$

$$t_1 = \frac{L_{o+D_1}}{C_1}$$

$$(t_1 - t_o)\ c_1 = D_1$$

$$D_1 = 0{,}02533333 \text{ m}$$

This is therefore the real value of removal between the Earth and Moon.

The Moon if does not move away the 0,038 m that we thought, but 0,0253333 m per year, this having to the increase of the local time derived from the increase of the value of the local gravitation variable.

$$K_c = \frac{385.000.000}{0,025333}$$

$$K_c = 15.197.368.380 \text{ years.}$$

$$R_u = 15.197.368.380 \text{ a.l.}$$

$$R_u = 1{,}437782\text{E}{+}26 \text{ m}$$

Correction to the values of the removal between celestial bodies.

- The earth is moved away 9.48 m/year. (Real distance).
- The Sun for being the 30,000 year-light of the center of the Way Lacteal, will have to be to move away itself from this center, 18.675.728 km every year, that is to move away a speed to it from 592 m/s. (Real distance).
- The proper Way Lacteal that has a diameter of 99.000 year-light, will have to be to grow to the return of 61.629.900 km per year, then to grow to a speed of 1.953 m/s. (Real distance).
- The proper Universal masses will be to the same move away from the center of the Universe annual value. (Law of Hubble – 63.67 km/s x Mpc). (Real velocity).

Porto, 11/200

The apparent acceleration of the universal expansion

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After defining the curvature of the time under the action of a gravitational field, we are able to study what impact the analysis of the speed of expansion of the universe, caused by the dilation of time due to the increase in severity, the fruit of this expansion.

Introduction

Let us review the theory, developed for the curvature of the time under the action of a gravitational field.

For this theory we will focus on the development of different characteristics caused by the universal extension of time.

As we already know.

$$\sqrt{\frac{G_o}{G_v}} = \frac{1}{\sqrt{1-\frac{V^2}{C^2}}} = \frac{t_o}{t_v} = \frac{\surd_v}{\surd_o}$$

$\frac{t_o}{t_v} = \frac{\surd_v}{\surd_o}$ because we know the frequency is the inverse of time.

The variation of the speed of light over time.

From the above we conclude that when a locally variable gravitational increases also increases the time:

With the expansion of the universe the variable gravitational local increases in proportion to the growth of the universe.

$$\sqrt{\frac{G_t}{G_o}} = \frac{t_t}{t_o}$$

As for the whole always remains the relationship:

$$t_o\ C_o = t_t\ C_t$$

$$C_t = C_o\ \frac{t_o}{t_t}$$

$$C_t = C_o\ \sqrt{\frac{G_o}{G_t}}$$

Considering that in the initial phase of the universe the value of G_o would be smaller, locally then the speed of light in the initial phase was much higher than today.

It makes sense, accept the principle of variable speed of light, because in the world, regardless of location, the reading of the speed of light in the past was much higher than what can be measured today.

Just as we read a lower speed of light, all speeds will also be read in a lower value.

This will cause the speed of translation and the Earth or the Moon will appear in slower not because they slowed down, but because our time will increase.

On the local mass what will happen:

$$m_t = m_o\ \sqrt{\frac{G_t}{G_o}}$$

-We then analyze what is happening locally with the wavelength of the photons received:

$$m_t\ {C_t}^2 = h \sqrt{}_t$$

$$m_o\ \sqrt{\frac{G_t}{G_o}}\ (C_o\ \sqrt{\frac{G_o}{G_t}})^2 = h \sqrt{}_t$$

$$m_o\ {C_o}^2\ \sqrt{\frac{G_o}{G_t}} = h \sqrt{}_t$$

$$h \sqrt{}_o\ \sqrt{\frac{G_o}{G_t}} = h \sqrt{}_t$$

$$\sqrt{}_t = \sqrt{}_o \sqrt{\frac{G_o}{G_t}}$$

The wavelength of will given by:

$$\lambda_t \sqrt{}_t = C_t$$

$$\lambda_t = \frac{C_t}{\sqrt{}_t}$$

$$\lambda_t = \frac{C_o \sqrt{\frac{G_o}{G_t}}}{\sqrt{}_o \sqrt{\frac{G_o}{G_t}}}$$

$$\lambda_t = \lambda_o$$

Once the universe expands to a constant speed.

What is the error that was committed to conclude that the universe is expanding?

When measuring the characteristics of the radiation of light coming from stars, which is measured is the frequency of radiation.

As currently still considering the constant speed of light, then we have to wave length:

$$\lambda_t = \frac{C_t}{\sqrt{}_t}$$

C_t is regarded as constant, then we have:

$$C_t = C_o$$

As:

$$\sqrt{}_t = \sqrt{}_o \sqrt{\frac{G_o}{G_t}}$$

So we have:

$$\lambda_t = \frac{C_o}{\sqrt{}_o \sqrt{\frac{G_o}{G_t}}}$$

$$\lambda_t = \lambda_o \sqrt{\frac{G_t}{G_o}}$$

As:

$$\sqrt{\frac{G_t}{G_o}} > 1$$

$$\lambda_t > \lambda_o$$

Taking into account the Doppler effect:

Do not forget to consider constant C, which is wrong but so far considered academically right.

RF's relativity:

$$\lambda = \lambda_o \frac{C}{C-V}$$

$$\frac{C}{C-V_t} > \frac{C}{C-V_o}$$

$$V_t > V_o$$

That is, apparently the expansion of the universe is accelerating.

This error, as we come to consider C in and not the correct value given by:

$$C_t = C_o \sqrt{\frac{G_o}{G_t}}$$

José Luís Pereira Rebelo Fernandes

Porto, 29/01/20089

Universal Hierarchy of gravitational fields.

The creation of the unit of time and mass in each field

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After the development of all previous theories, we are in a position to understand the functioning of the universe. The above mentioned theories ranging from a new theory of relativity to non-curved space, the universal gravitational new variable, the variable magnetic permeability of vacuum, etc.

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The Universal structure.

The whole universe is based on hierarchical gravitational fields.

While hierarchical, each field has a kinetic independence with regard to the fields to which it is subject.

Independence in the sense, that the center of mass for the field is the center of reference. This is because of the field move the same speed of the center of mass of bodies that generate, can thus be considered that the field is stationary in the center of mass.

From a physical place the center of mass is stationary, it is the center of reference.

In the physical location of the field, the masses of the hierarchical gravitational fields, only interfere with the standard definition of time and the mass pattern of this field.

Fields promote a hierarchical gravitational pure potential mass, homogeneous in the subject field. This homogeneity is found practically unchanged throughout the field and on their way of translation.

The energy of the pure potential of universal mass is constant, and speed of translation is also constant.

This uniform potential and speed that moves the field are the defining characteristics of the time and pattern of the mass field.

As such, any variation of the pure potential of mass in the field is caused by the mass generating the field, is the pure potential of the local mass and the speed that will make the place significant changes found in various parts of the field.

In default of an entity resident of the area of generating mass is modeled either by the pure potential of mass generated by the mass to its surface, or the speed of rotation on the surface of the mass

.Where:

$-_l -$ On the local

$-_o -$The homogeneous potential subject of the field.

$V_l -$ Speed of displacement of center of mass, velocity of translation caused by the field that is submitted.

$\boldsymbol{Rad}$ - Pure potential of mass

$\boldsymbol{Rad_l} = \frac{\mathbf{M_l}}{\mathbf{R_l}} + \boldsymbol{Rad_o}$

$$\frac{G_l}{G_o} = \frac{Rad_o}{Rad_l} \frac{C^2 - V_l{}^2}{C^2}$$

$$\frac{t_l}{t_o} = \sqrt{\frac{G_l}{G_o}} = \sqrt{\frac{Rad_o}{Rad_l} \frac{C^2 - V_l{}^2}{C^2}}$$

The influence outside the field, does not promote major changes in kinetics in the field, because as we saw the pure potential of mass and speed across the field caused by the field officers, are almost constant.

Yes interfere in the pattern of unit of mass and time.

The bending of time under the action of a gravitational field has been studied in a separate article already published.

As the concept of mass and velocity, are related to local time, with the local perspective of the universe, then generally we can consider that a field of level i, we have:

$$\frac{G_{li}}{G_o} = \frac{Rad_o}{Rad_1}\,\frac{C^2 - V_{l1}{}^2}{C^2}\,\frac{Rad_1}{Rad_2}\,\frac{C^2 - V_{l2}{}^2}{C^2}\,\frac{Rad_2}{Rad_3}\,\frac{C^2 - V_{l3}{}^2}{C^2}\,\ldots\ldots\ldots\ldots\,\frac{Rad_{i-1}}{Rad_i}\,\frac{C^2 - V_{li}{}^2}{C^2}$$

$$\frac{G_{li}}{G_o} = \frac{Rad_o}{Rad_i}\,\frac{C^2 - V_{l1}{}^2}{C^2}\,\frac{C^2 - V_{l2}{}^2}{C^2}\,\frac{C^2 - V_{l3}{}^2}{C^2}\,\ldots\ldots\ldots\,\frac{C^2 - V_{li}{}^2}{C^2}$$

Take the case study of the Earth.

For simplicity we consider the systems from Virgin, Local Group, Milky Way, Sun and Earth.

Rad_o - The pure potential of mass caused by universe, at the center of mass of the Virgin.

If we consider, that t_o is the pure potential mass at stationary local Rad_o.

V_o - Speed translation of Virgo in the Universe

.Rad_{Vo}- The pure potential of mass of Vigo in their own center of mass.

If we consider t_{Vo} the of center mass of Virgo, where, Rad_o+ Rad_{Vo}

$$\frac{G_{Vo}}{G_o} = \frac{Rad_o.}{Rad_o + Rad_{Vo}}\,\frac{C^2 - V_o{}^2.}{C^2}$$

$$t_{Vo} = t_o\sqrt{\frac{Rad_o.}{Rad_o + Rad_{Vo}}\,\frac{C^2 - V_o{}^2.}{C^2}}$$

$\boldsymbol{Rad_{V-GL}}$- The pure potential of mass of Virgo, in the center of mass at the Local Group.

$\boldsymbol{Rad_{GL}}$- The pure potential of mass of Group Local, in their own center of mass.

$\boldsymbol{V_{Gl}}$ – The Local Group speed translation at Virgo.

To the center of mass of the Local Group:

$$\frac{G_{GLo}}{G_{vo}} = \frac{Rad_o + Rad_{Vo}}{(Rad_o + Rad_{V-GL} + Rad_{GL})}\,\frac{C^2 - V_{GL}{}^2.}{C^2}$$

$$\frac{G_{GLo}}{G_o} = \frac{Rad_o.}{(Rad_o + Rad_{V-GL} + Rad_{GL})}\,\frac{C^2 - V_{GL}{}^2.}{C^2}\,\frac{C^2 - V_o{}^2.}{C^2}$$

$$t_{GLo} = t_o \sqrt{\frac{Rad_o.}{(Rad_o + Rad_{V-GL} + Rad_{GL})} \frac{C^2 - V_{GL}{}^2.}{C^2} \frac{C^2 - V_o{}^2.}{C^2}}$$

Rad_{GL-VL}- The pure potential of mass of the Local Group, at the Milky Way center of mass.

Rad_{VL}- The pure potential of mass of the Milky Way, in their own center of mass.

V_{VL} – The Milky Way speed translation at the Local Group.

On the center of mass of the Milky Way:

$$\frac{G_{VL}}{G_o} = \frac{Rad_o.}{(Rad_o + Rad_{V-GL} + Rad_{GL-Vl} + Rad_{VL})} \frac{C^2 - V_{VL}{}^2.}{C^2} \frac{C^2 - V_{GL}{}^2.}{C^2} \frac{C^2 - V_o{}^2.}{C^2}$$

Rad_{VL-Sol}- The pure potential of mass of the Milky Way, at the Sun center of mass.

$Rad_{Sist\ Solar-Sol}$ - The pure potential of mass of the hall planets of a solar system at the Sun center mass.

V_{Sol} – The Sun speed translation at the Milky Way.

On the center of mass of the Sun .

$$\frac{G_{Sol}}{G_o} = \frac{Rad_o.}{(Rad_o + Rad_{V-GL} + Rad_{GL-Vl} + Rad_{VL-Sol} + Rad_{Sist\ Solar-Sol})} \frac{C^2 - V_{Sol}{}^2.}{C^2} \frac{C^2 - V_{VL}{}^2.}{C^2} \frac{C^2 - V_{GL}{}^2.}{C^2} \frac{C^2 - V_o{}^2.}{C^2}$$

$$t_{Sol} = t_o \sqrt{\frac{Rad_o.}{(Rad_o + Rad_{V-GL} + Rad_{GL-Vl} + Rad_{VL-Sol} + Rad_{Sist\ Solar-Sol})} \frac{C^2 - V_{Sol}{}^2.}{C^2} \frac{C^2 - V_{VL}{}^2.}{C^2} \frac{C^2 - V_{GL}{}^2.}{C^2} \frac{C^2 - V_o{}^2.}{C^2}}$$

As yet we are only confined to the solar system, let us consider the pure potential of mass of all the gravitational fields that are subordinate is the potential created in the Universal Solar System:

$$\boldsymbol{Rad_o + Rad_{V-GL} + Rad_{GL-Vl} + Rad_{VL-Sol+} Rad_{Sist\ Solar-Sol} = Rad_U}$$

Consider now the Earth's surface:

Take the center of the Earth

$$\boldsymbol{Rad}_{(\boldsymbol{Sol-Terra})} = \frac{\mathbf{M_{Sol}}}{\mathbf{D_{(Sol-Terra)}}}$$

$$\boldsymbol{Rad}_{(\boldsymbol{Lua-Terra})} = \frac{\mathbf{M_{Lua}}}{\mathbf{D_{(Lua-Terra)}}}$$

$\boldsymbol{V_{T/S}}$ - Velocidade de translação da Terra à volta do Sol.

$$\frac{\boldsymbol{G_{Centro\ Terra}}}{\boldsymbol{G_{Sol}}} = \frac{\boldsymbol{Rad_U}}{\left(\boldsymbol{Rad_U + Rad_{(Sol-Terra)} + Rad_{(Lua-Terra)}}\right)} \frac{\boldsymbol{C^2 - V_{T/S}{}^2}}{\boldsymbol{C^2}}$$

At the Earth's surface:

$$\boldsymbol{Rad_{Terra}} = \frac{\mathbf{M_{Terra}}}{\mathbf{R_{Terra}}}$$

V_{Terra} - Speed of rotation of the Earth

As we have seen previously, we have:

$$\frac{\boldsymbol{G_{Terra}}}{\boldsymbol{G_{Centro\ Terra}}} = \frac{\boldsymbol{Rad_U + Rad_{(Sol-Terra)} + Rad_{(Lua-Terra)}}}{\boldsymbol{Rad_U + Rad_{(Sol-Terra)} + Rad_{(Lua-Terra)} + Rad_{Terra}}} \frac{\boldsymbol{C^2 - V_{Terra}{}^2}}{\boldsymbol{C^2}}$$

We now move to the opposite:

As the Earth's surface, where G know, we have:

$\boldsymbol{Rad_o}$ = $\boldsymbol{Rad_l}$

$\boldsymbol{G_v}$ = 6.6726E-11

$\boldsymbol{V = 463.8\ m/s}$

$$G_O = 6{,}67259999998E\text{-}11$$

$$Rad_O = \frac{C^2}{2\ G_O}$$

$$Rad_O = 6{,}734670002E{+}26 \text{ Kg/m}$$

We know then that this is the radiation of the entire universe, including the radiation of the Sun, the Moon and the Earth itself in this area:

$$Rad_{Sol-Terra} = \frac{1.9891E+30}{1.496E+11} = 1{,}329612299E{+}19$$

$$Rad_{Terra-Terra} = \frac{5.98E+24}{6.378.000} = 9{,}375979931E{+}17$$

$$Rad_{Lua-Terra} = \frac{7.36E+22}{385.000.000} = 1{,}911688312E{+}14$$

The pure potential of mass that are universal in the local solar system, then the difference:

$$Rad_U = 6{,}734670002E{+}26 - 1{,}329612299E{+}19 - 9{,}375979931E{+}17 - 1{,}911688312E{+}14$$

$$Rad_U = 6{,}734669860E{+}26$$

The times and speeds in the solar system have already been processed in the article: The bending of time under the action of a gravitational field.

José Luís Pereira Rebelo Fernandes

Porto, 01/03/2009

Rotational platforms.

Transmission of electromagnetic signals.

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In order to understand the light and the electromagnetic transmission of information in the universe I will develop this work. The rotational platform, have always been controversial in the theory of relativity of Einstein, so I serve them to me to try some understanding of the phenomenon.

Rotational platforms.

To date there has been a great controversy regarding the rotational platforms.

All because an electromagnetic signal emitted towards the Earth's rotation, or a light signal on a rotational platform, it takes more time to give back to the platform of an electromagnetic signal emitted in the opposite direction of rotation.

.Doing the calculation of the time in both directions would in our benchmark:

In the direction of rotation:

$$t_1 = \frac{l_o - V_o t_1}{C_o}$$

$$t_1 = \frac{l_o}{C_o + V_o}$$

In the opposite direction to the rotation:

$$t_2 = \frac{l_o + V_o t_2}{C_o}$$

$$t_2 = \frac{l_o}{C_o - V_o}$$

This difference in values has created many difficulties, those who want the speed of light to obey the Lorentz transformations.

Instead of considering there is a serious problem with the theory, help resolve are the inertial transformations to solve the problem.

The error is not accepting this is the way to the bottom where they will examine the problem.

At the very essence of relativity, when examining the curvature of space, this reasoning is used, leading to the expressions calculated above.

Jeopardize the results of rotational platforms in our referential is concerned by the very relativity.

The results in rotational platforms, are evidence of the defense I do, the existence of an absolute speed of light, only in the absolute opposite of concept of relative, as in the universe.

This observation leads to an experiment measuring the speed of light, measured in one direction for example in the direction of rotation of the Earth will be different from what we find is measured in the opposite direction. Even with mirror, round-trip time measured in the direction of rotation of the Earth, will differences in the measured orthogonal to the rotation.

.If not, we have to change the founding principles of relativity.

How can an electromagnetic signal to the return to Earth or any other element circular?

This is only possible if the signal is transmitted to the middle, represents the potential energy of the radiation pure mass universal, and that means being able to absorb the characteristics of the signal and transmit them by itself, the environment.

This phenomenon is known, due to the differences, the sound. We hear the folding of a wall.

.The means of transmission of electromagnetic signal, is the pure constant potential of universal mass.

.

What is the power of the signal to an observer on Earth?

In the direction of rotation of the Earth have given a signal with a frequency:

$$\surd = \surd_o \sqrt{\frac{C+V}{C-v}}$$

After a complete turn how frequently we will read, because we are departing from the sign?

$$\surd_f = \surd \sqrt{\frac{C-V}{C+v}}$$

$$\surd_f = \surd_o \sqrt{\frac{C+V}{C-v}} \sqrt{\frac{C-V}{C+v}}$$

$$\surd_f = \surd_o$$

On the contrary it will give the opposite signal and will have the same frequency $\surd_o$.

Of course it is not necessary to give the signal a turn, the process is for any observer who is on a surface in rotation.

If C is the speed of transmission of the signal, the values found may be those of the original expressions. Even considering the movement of translation of the Earth around the Sun, the findings are always the same. Logical to find always the same value, even considering the translation of the same or galactic cluster or super cluster.

The time a light signal takes to make a complete turn circular platform, only depends on the perimeter of the platform and its speed of rotation. Never depends on its speed of translation because the means by which spreads have the ability to transmit the signal to the speed of light.

Porto, 19/03/09

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