The bending of the time under a gravitational field.

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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.

Introduction:

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

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:

$$U_i = 2 \; G_i \; \rho_i$$

$$G_i = \frac{C^2}{2\,\rho_i}$$

$$C^2 = 2 \, G_i \; \rho_i$$

Local we will have to the escape potential:

$$U_o = 2 \; G_o \; \rho_o$$

$$U_o = C^2$$

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:

$$U_v = 2 \, G_v \; \rho_o$$

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

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

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

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

As:

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

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

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.

The bending of the time and the gravitational field.

Given the density of universal potential energy.

When we are in presence of a local gravitational field, this participates in the pure potential of universal mass, that is part of ρ_o.

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

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

$$U_s = \frac{G_s\, M_o}{R_o}$$

$$\frac{M_o}{R_o} = \frac{U_s}{G_s} = \rho_s,$$

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

$$\rho_u = \rho_o - \rho_s$$

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

$$\rho_d = \rho_u + \frac{U_d}{G_o}$$

$$\rho_d = \rho_o - \frac{U_s}{G_o} + \frac{U_d}{G_o}$$

$$\rho_d = \frac{C^2}{2\,G_0} - \frac{U_s}{G_o} + \frac{U_d}{G_o}$$

$$G_d = \frac{C^2}{2\,\rho_d}$$

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

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

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

Velocity:

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

Rt – Rotation surface

$$V_{Rt}^{\,2} = U_{Rts}$$

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

Gravitational potential:

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

As:

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

$$\sqrt{\frac{G_d}{G_o}} = \sqrt{\frac{\rho_o}{\rho_d}\,\frac{C^2 - \mathrm{V_d}^2}{C^2 - \mathrm{V_{Rt}}^2}} = \frac{t_d}{t_o} = \frac{\surd_o}{\surd_d}$$

Speed of light at local **d.**

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

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, but just because our time dilation due to the expansion of the universe.

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 want 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

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

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

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

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

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

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

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

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

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

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

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

The time in the solar system

If we look at the speed of rotation of the Earth:

Vt = 464.56 m/s

Urt = 215.820 (m/s)^2

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

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

In the case of satellite Moon

USL - the potential gravity of the Moon

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

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.

$$\frac{t_s}{t_o} = \sqrt{\frac{G_{os}}{G_{oo}}} = \sqrt{\frac{\rho_{oo}}{\rho_{os}}\;\frac{C^2 - {V_s}^2}{C^2}}$$

Generically for the unit of unitary time t_o we will have then the potential of escape given for:

Let us consider the black hole as referential. Stopped.

$$\frac{t_s}{t_o} = \sqrt{\frac{G_{os}}{G_{oo}}} = \sqrt{\frac{\rho_{oo}}{\rho_{0s}}}$$

The potential energy created by the black hole, taking part in the universal energy density on the site.

.The density of potential energy created by the black hole must be greater than the density of energy generated on site for all other universal mass.

$$\frac{M}{R} = k\ \rho_{oo} \text{ para } k \geq 1$$

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

$$\rho_{os} = (1 + k)\ \rho_{oo}$$

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

$$\frac{G_s}{G_o} = \frac{\rho_o}{\rho_s}$$

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

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

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

The speed of light in the frame of the black hole is:

$$C_s = C_o \frac{t_o}{t_s}$$

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

$$U_{fs} = U_{fo}\ (1 + k)$$

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

From relativity RF

$$G_s = G_s \left(\frac{t_o}{t_s}\right)^3$$

$$\rho_{ss} = \rho_{0s} \frac{t_s}{t_o}$$

$$\rho_{ss} = \mathrm{k}\ \rho_{oo} \frac{t_s}{t_o}$$

$$U_s = 2G_s\ \rho_{ss}$$

$$U_s = 2G_o \left(\frac{t_o}{t_s}\right)^3 \mathrm{k}\ \rho_{oo} \frac{t_s}{t_o}$$

$$U_s = 2G_o \rho_{oo} \left(\frac{t_o}{t_s}\right)^2 \mathrm{k}$$

$$U_s = {C_o}^2 \left(\frac{t_o}{t_s}\right)^2 \mathrm{k}$$

$${C_s}^2 = {C_s}^2\ \mathrm{k}$$

The black hole, like all other bodies have to be in this universe. By being in this universe it continues to radiate into the universe, that is, continues to cause gravitation.

As seen previously, the universal escape potential never exceeds the square of the speed of light.

$$K = 1$$

Hence we conclude that:

$$\frac{M}{R} = \rho_{oo}$$

Whatever the black hole mass (M), the potential surface of mass, is always equal to the universal potential of the local mass created by all the other universal masses.

The radius of the black hole, adapted to be, so that the potential of the surface mass of the black hole is equal to the remaining potential of mass on the surface created by all other universal mass.

$$R = \frac{M}{\rho_{oo}}$$

The density of potential energy surface of the black hole will always be:

$$\rho_{os} = 2\ \rho_{oo}$$

Generically:

$$\frac{M}{R} = \rho_{oo} = \frac{C^2}{2G}$$

$$C^2 = 2G\,\frac{C^2}{2G}$$

$$C^2 = C^2$$

The size of the radius of the black hole is always so that the energy density generated by it is equal to the potential energy density of all other universal mass at the site.

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 mass, with R = $\frac{M}{\rho_{oo}}$

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

The black hole lives in the limit of no radiation, for what, is enough any small alteration in its balance, to radiate.

The black hole is not a hole. Its mass is invisible, but opaque.

They are in space, as all other universal mass.

Black holes with very high rotational speeds.

A black hole with very high speed, we will find a large flattening of the poles and a weight distribution towards the equator, which will increase the average distance from the circle of radiation and the slope of the potential for escape, allowing the poles the escape potential is less than C ^ 2.

This is the reason why black holes with great speed pump energy through the poles.

As its radius is limited by the potential energy density universal in local, then all the matter will be expelled for his downed poles.

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