

The new permeability of vacuum variable.

A new vision of the Universe

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To my dearest mother.

To the sweet memory of my father.

When creating a new theory of universal gravitation, where the universal constant gravitation is substituted by the variable universal gravitation variable, I felt me obliged to look at for the electromagnetic field, to analyze it to the light of new concepts, its nature.

It is in this direction that I elaborate this study.

Intro:

1-The arousal of the gravitational variable and its implications.

The new concept of gravitational variable arouses new questions about the structure of the universe and its development. Some of the issues raised in the previous article "The new gravitational variable. A new version of the universe", will now be dealt with, given the new model of Universe and also given the quantum mechanics.

These issues will now be analyzed in face of the new concept of gravitational variable, i.e. a variable proportional to the universe radius.

$$G_1 = \frac{G_o R}{R_o}$$

Given by:

$$G_1 = \frac{C^2}{2} \sum \frac{R_i}{Mr_j}$$

$$C^2 = 2 G \frac{M_{ur}}{R_{eu}}$$

$$G_1 = \frac{C^2 R_{eu}}{2 M_{ur}}$$

Being:

Mr_j – The multiple masses distributed throughout the universe.

R_i – The distance from those masses to the G_i determination site i.

M_{ur} - = Total radiated mass existing in the Universe $\left(\frac{\text{mass+energy}}{C^2}\right)$, to local i, with Doppler effect.–
Radiated mass

R_{eu} – Average emission Radius of matter. Average emission radius of all matter in the universe to the point i.

Method

2-The gravitational field and the electromagnetic field. Their similarities.

Let us try to make an analogy between matter and electrical charge, in the same way that until nowadays, we had the dielectric constant of vacuum

and the magnetic permeability of vacuum, we should also find, given it names, the “dimassic” constant of vacuum and the gravitational permeability of vacuum given the similarities of the field concept.

Being:

M - Total mass of the universe ($\frac{mass+energy}{C^2}$)

A_e – Electromagnetic field acceleration

A_m – Gravitational field acceleration

E_{O_e} – Dielectric constant of vacuum

U_{O_e} – Magnetic permeability of vacuum

E_{O_m} – Dimassic constant of vacuum

U_{O_m} – Gravitational permeability of vacuum

$$a_e = \frac{1}{4 \pi E_{O_e}} \frac{Q}{R^2}$$

$$a_m = \frac{1}{4 \pi E_{O_m}} \frac{M}{R^2}$$

$$\frac{1}{4 \pi E_{O_m}} = G$$

$E_{O_m} = \frac{1}{4 \pi G} = 1.192.598.412$ – dimassic constant of vacuum

In the same way

$$C^2 = \frac{1}{E_{O_m} U_{O_m}}$$

$U_{O_m} = \frac{1}{E_{O_m} C^2} = 9,32963E-27$ - gravitational permeability of vacuum

On the other hand:

\sqrt{e} – Electrical wave frequency

\sqrt{m} – Gravitational wave frequency

λ_e – Electrical wave length (long wave)

λ_m – Gravitational wave length

h – Planck constant

As seen previously, the distance between the celestial bodies increases, with the increase of the universe’s radius. From the gravitational variable calculus, we can see that the inner field action (universe) has quite a load on the value of the gravitational potential. In the expression of the electrical potential, given the existence, in the expression, of the dielectric constant of vacuum, until now considered constant, leads to thinking that the field will be the same type as the one found for gravity.

It should therefore exist a universal electrical charge capable to cause the appearance of U_{O_e} – magnetic permeability of vacuum.

Dirac said: “Vacuum consists of a sea of electrons in negative levels of energy”

Until nowadays no electron was found in a negative level of energy, for which it shouldn’t be its existence the cause of that vacuum characteristic.

Is that electrical charge caused by universal mass radiation, given its electromagnetic characteristic, because as we well know the radiation has crepuscular and electromagnetic nature?

It could well be, a characteristic of radiation matter, the creation of the universal electrical loads, because as we well know the radiation has electromagnetic nature creating an electrical and magnetic field.

I suppose now, that the Earth’s magnetic field is caused by electrical current, created by Earth’s mass electromagnetic radiation nature. The field is perpendicular to radiation. The Earth’s magnetic field will then be the result of the electrical field created by electrical current of mass radiation, controlled by local permeability and will become a magnetic field in the presence of matter.

As we seen before, when studying space, what is given to observe are the existences over space, for which the observed magnetic field can only be the product of mass radiation of the local potential, i.e. controlled by magnetic permeability of vacuum.

For the charge unit that we have chosen, the coulomb, we should have a mass unity equivalent to $\frac{U_o C^2}{G_o 4 \pi}$

$$= 1,25664E-06 / (6.6726e-11 \times 4 \times \pi / C^2) =$$

1,34693E+20 Kg of mass, for unification of

permeability?

Can we define that raw radiation of $1,34693E+20$ Kg sends a current of 1 C?

Assuming that the sun send $6,6726E-11 \times 1,9891E+30 / (4 \times \pi \times 696.000.000^2)$ kg massa/ m² x s, then it sends $1,61874E-19$ C / m² x s?

What would the electromagnetic field created, in the presence of matter, in the Sun or the earth itself? This subject should be studied conveniently.

Regardless the origin, its distribution will be according with the universal mass distribution, (consider free electrons even in levels of negative energy, they presume mass which should be accordingly with universal mass distribution) creating a universal electrical charge, with relative effect.

The potential is given by:

$$U = \frac{C^2 U_o Q}{4 \pi R}$$

We confess that really exist a total concept match.

The coefficient $\frac{C^2 U_o}{4 \pi}$ should also be proportional to the universe radius.

Simplifying and considering the two different times, o, i.e. considering that $\frac{C^2}{4 \pi}$ are constant, then what varies is U_{oe} – magnetic permeability of vacuum.

$$U_{e1} = +U_{eo} \frac{R_1}{R_o} \text{ –Local and generically}$$

3-The impact of the electrical radiation of the Universe in the magnetic permeability of vacuum variable value.

As seen previously, the magnetic permeability of vacuum increases with the increase of the universe’s radius which implies, that the increase of the magnetic permeability of vacuum happens with the growth of the universe.

The energy that varies linearly with the radius of the universe is electrical potential energy.

Because the potential electrical energy decreases with the increase of the universe’s radius, only one entity inversely proportional to that potential will increase the value of the magnetic permeability of vacuum.

Because the potential electrical energy, of universal electrical charge, is not equal in all points of the universe, then magnetic permeability of vacuum will not be as well.

These concept ends by being inherent to the universal electrical potential expression.

Being

Q_u – universal charge

d – Doppler effect

We shall have

$$Q_{ur} = Q_u d$$

Q_{ur} –Universal electrical charge radiated to point i.

$$U = \frac{C^2 U_{oe} Q_{ur}}{4 \pi R_{eu}}$$

Universal radiation at any given point will be:

$$U = \frac{U_{oe} C^2 Q_{ur}}{4 \pi R_{eu}}$$

Through the escape velocity we will have

$$C^2 = \frac{2 C^2 U_{oe} Q_{ur}}{4 \pi R_{eu}}$$

$$U_{oe} = 2 \pi \frac{R_{eu}}{Q_{ur}}$$

$$Q_{ur} = 2 \pi \frac{R_{eu}}{U_{oe}}$$

$$Q_u = \frac{Q_{ur}}{d}$$

“as if there was a universal electrical charge reducing of local charge.”

Being

$$R_{eui} = \frac{\sum Q_{urji}}{\sum R_{euji}}$$

Q_{ji} – Universal charge of local universe j

R_{eui} – Generic Reu

R_{ji} – the distance of radiation of those charges at the determined site.

Given the electromagnetic potential

$$U_{o_{ei}} = 2 \pi \sum \frac{R_{ji}}{Q_{rji}}$$

$$U = \frac{U_o C^2 Q}{4 \pi R}$$

Universally:

$$U_{o_{ei}} = \frac{2 \pi}{\sum \frac{R_{ji}}{Q_{rji}}}$$

$$U = \frac{U_o C^2 Q_{ur}}{4 \pi R_{eu}}$$

The maximum velocity in the universe is C, then the maximum escape velocity in the universe, in any direction will be C^2 .

Here we have the proportion between the magnetic permeability of vacuum and the growth of the universe's radius, because the radius of emission, given the chosen model, will be proportional to the radius of the universe.

$$C^2 = \frac{2 U_o C^2 Q_{ur}}{4 \pi R_{eu}}$$

The local electrical potential will then be given by:

$$U_o = 2 \pi \frac{R_{eu}}{Q_{ur}}$$

$$U = 2 \pi \sum \frac{R_{ji}}{Q_{rji}} \frac{C^2 Q}{4 \pi R}$$

Electrical permeability variable of vacuum

Let us be pragmatic and direct:

The obtained value is exactly the same, from where we are forced to conclude that the characteristics of space are given y the potential created by universal masses on that site.

Being:

The mathematical determination of the solution seems impossible to other points beyond the centre of the universe, but is possible its determination trough out the creation of an informatics program, capable of giving us the simultaneous radiation, on any given point of the universe from the several charges of which, considering the homogeny model of distribution already adopted.

Q_u – Universal electrical charge (relative) on the site j

E_{dj} – Doppler effect of universal electrical charge on any given site of the universe

$$Q_{ur} = Q_u E_{dj}$$

Besides of the previously said, we should also have in consideration the Doppler effect.

R_{eu} – average radius of emission of the distance to which the universal electrical charge is located in relation to the same site of the universe.

From the previous study we take for relative the local mass radiation $\frac{M_{ur}}{R_{eu}} = \frac{C^2}{2 G} = 6,73467E+26$

To the electric local radiation we have: $\frac{M_{ur}}{R_{eu}} = \frac{2 \pi}{U_o}$
= 5,00E+06

From now on all analysis made has a basis the consideration that de Planck constant is valid for all Universe, confirmed at mi theory about the new relativity.

Now, the new fundamental lines of the new theory are defined.

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