The universal gravitational variable

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Abstract

Local cosmological phenomena, such as the systematic and constant Moon removal of 3.8 cm from the Earth and the removal of the 60 moons of Jupiter and 40 moons of Saturn from its planets, require an analysis of the local universe and the laws that govern it.

Keywords: Universe, gravitation, potential, gravity, speed, velocity, mass, physics, variable.

The local Universe

With the available information that the Moon is moving away from Earth at a rate of 3.8 cm per year (http://eclipse.gsfc.nasa.gov/SEhelp/ApolloLaser.html) obtained as measured since 1969, ie measurements taken for over 30 years, through the Apollo Laser Ranging Experiments Yield Results.

Jupiter has more than 60 natural satellites, but only the top four deserve particular attention: Io, Europe, Ganymede and Callisto. They have nearly circular orbits, and exhibit the same face toward Jupiter. They are also slowly moving away from the planet.

Saturn has over forty satellites, except for two, always run with the same face toward the planet, and they are slowly moving away."

These phenomena require an analysis of the local universe and the laws that govern it.

The universe of constant velocities, amounts of movement and energy

Local gravitational field

With the assurance, that the laws of inertia are the basic structuring of this universe.

The velocities of celestial bodies in a gravitational equilibrium field will always be constant, so we are in the presence of constant gravitational potential.

The masses belonging to a gravitational field are moving away from the mass of the field generator. At time i, we get:

$$U_i = G_i \frac{M_i}{R_i}$$

At time i +1, we get:

$$U_{i+1} = G_{i+1} \frac{M_{i+1}}{R_{i+1}}$$

The gravitational potential will then be constant:

$$U_{i+1} = U_i$$

$$G_{i+1} \frac{M_{i+1}}{R_{i+1}} = G_i \frac{M_i}{R_i}$$

As the mass generating the field in consecutive instants is constant, we get:

$$\frac{G_{i+1}}{R_{i+1}} = \frac{G_i}{R_i}$$

$$\frac{G_{i+1}}{G_i} = \frac{R_{i+1}}{R_i}$$

As we have seen in the Earth / Moon, the Moon moves away from the Earth each year, then $R_{i+1} > R_i$.

We can conclude for now that the gravitational radius increases due to the increase of G and in proportion to their increase.

$$R_i = G_i \frac{M_i}{U_i}$$

How M_i and U_i, are constant, then we have:

$$R_i = G_i \, k$$

Confirming what we concluded earlier.

$$G_i = \frac{R_i}{k} = R_i \text{ k'}$$

How R_i increases in the proportion of G, we conclude that G is not the universal gravitational constant but rather the universal gravitational variable on site.

- Let's try to understand why G increases and why the removal of the constant value between the Earth and Moon

Universal vision

The gravitational potential:

$$U_i = G_i \frac{M_i}{R_i}$$

To happen, at a distance R_i gravitational potential is a necessary condition that the mass M_i radiate.

What is the growth rate of the universe?

For a radius anywhere in the local universe i:

What is M?

M as we have seen, is the radiation mass of a mass located at the local **j**, which reaches the local **i**, Muji.

We talk about mass radiation. But what are their characteristics?

In local gravity have mass radiation, although is controlled.

Is this radiation mass subject to gravity?

To answer, we look for black holes. Mass generate gravitational fields, capable of bending its own radiation of light.

While this happens, the black holes continue to create gravitational field, so this type of radiation doesn't bend under the action of local gravity.

The gravity is not able to bend the radiation mass, spreads a straight line across the universe.

In its radial spread, there will always be perpendicular to the surface of the universe, and if we go back to the Big Bang then we realize that the limit of mass radiation is spherical, and therefore:

The universe will grow at the speed of Light.

The distribution of density of potential energy in the universe is spherical hence the universal mass distribution if is not completely spherical, walk very close to that.

The universe has a spherical design.

Now we know how fast the universe grows, C.

Formally, then we have:

Where:

Muji - It is the radiation mass of a mass located at the site j that reaches the local i.

As electromagnetic radiation, the radiation mass is limited to a maximum velocity C, a condition for considering the Doppler effect.

Being $e_{d_{j-i}}$ the Doppler effect between the mass at local j and local i.

$$M_{u_{ji}} = M_{u_j}\ e_{d_{ji}}$$

What is R?

R is therefore the radius of emission of radiation mass j to the Universal site i, given the date of issue.. Reji. The radiation has a rectilinear propagation.

The universal escape gravitational potential at the local i will be:

$$C_i^{\,2} = 2\ G_i\ \sum_1^n \left(\frac{M_{u_{ji}}}{R_{e_{ji}}}\right)$$

$$G_i = \frac{C_i^{\,2}}{2\ \sum_1^n \left(\frac{M_{u_{ji}}}{R_{e_{ji}}}\right)}$$

$$\rho_{ui} = \sum_1^n \left(\frac{M_{u_{ji}}}{R_{e_{ji}}}\right)$$

$$G_i = \frac{C_i^{\,2}}{2\ \rho_{ui}}$$

$$C_i^{\,2} = 2\ G_i\ \rho_{ui}$$

The local gravitational variable is inversely proportional to the energy density universal potential at local.

What is the relationship between the average radius of emission and the radius of the universe?

The distribution of mass in the universe, regardless of their dispersion along the radius of the universe will always radial symmetrical. Look at the distribution / radiation of mass / energy from the Big Bang.

As we have seen that in order to limit the universal mass distribution should be very close to spherical.

At the same distance from the universe center/Big-Bang, should appear the same cosmological events and should be a radial symmetry.

We can thus speak of more or less finite slices of equal density or equal variation of mass density.

When we talk about the growth of the universe, we speak of an evolution of masses in space proportional to their position in the universal radius.

Since, R_u the radius of the universe:

$$R_{iu} = \text{Ki}\ R_u$$

The average radius of emission of radiation from point i Universal, one that takes place when the position i, the same percentage of the radius of the universe, will be proportional to the radius Universal.

$$\text{G} = \text{K}\ R_u$$

As the increase of local gravitational radius are proportional to the increase in the value of universal gravitational variable in place, and in turn, this increase is proportional to the average radius of universal issue for the site, then the local radius of gravitation, will be proportional to the average radius of universal issue for the local.

If the great universal gravitational field resulting from all local gravitational fields, we encountered a potential universal gravitational constant, then it should happen in the constant gravitational fields in local equilibrium, gravitational potential should be constant.

Initiated the expansion of the universe with the Big Bang, this is never locked, because the universal gravitational variable increase at the rate of expansion, thus ensuring the stability, gravity and expansion of the universe.

In a homogeneous universe expanding, then locally will be expanding in the same proportion.

In universal terms we then, in that (u) indicates universal:

Einstein characterized the speed of light as a result of the potential leakage anywhere and in all directions. Where:

$M_{ui} = \sum_1^n M_{u_{ji}}$

$R_{umi} = \dfrac{\sum_1^n \left(\frac{M_{u_{ji}}}{R_{e_{ji}}}\right)}{\sum_1^n M_{u_{ji}}}$ Average radius of radiation.

$$C_i^{\,2} = \frac{2\ G_i\ M_{ui}}{R_{umi}}$$

$$G_i = \frac{{C_i}^2}{2\,M_{ui}} R_{umi}$$

M_{ui} , the universal mass/energy will always constant.

C, will also be constant.

We will:

$$\frac{{C_i}^2}{2\,M_{ui}} = \mathrm{K}$$

$$G_i = \mathrm{K}\, R_{umi}$$

What is sensed, the local gravitational variable increases with the expansion of the universe. Here is the reason why the masses of our local universe move away from the masses generating the gravitational field, the reason is now apparent, is the increase of the gravitational variable that causes the phenomena on which we started our approach.

If a homogeneous universe is expanding globally, then locally should also be expanding in the same proportion.

Where:

R – Radius of gravitation in the local universe..

$$G_i = \mathrm{K}\, R_i$$

To a instant 0 and 1:

$$G_o = \mathrm{K}\, R_0 \quad \text{a)}$$

$$G_1 = \mathrm{K}\, R_1 \quad \text{b)}$$

If we divide b) by a):

$$\frac{G_1}{G_o} = \frac{R_1}{R_o}$$

$$R_1 = R_o \frac{G_1}{G_o}$$

Locally the gravitational radius, of a mass relatively to the mass-generating potential, will also grow in proportion to the increase of the local gravitational variable Universal, G

Locally, as we have seen previously, we have:

$$\frac{R_1}{R_o} = \frac{G_1}{G_o}$$

Then:

R_u – Universal radius

$$\frac{R_1}{R_o} = \frac{R_{u1}}{R_{uo}}$$

The increase of the gravitational radius of the local universe, are proportional to the increase in the average radius of emission of all universal masses to reach the site at present given the date of issue of this radiation

As shown in the Earth / Moon, the centers of mass move away from the constant value, which leads to the conclusion, and as we have seen that the average radius of emission of all universal masses which currently reach the local, also grows constant value.

Given a homogeneous radial distribution of the mass / universal energy, then the radius of the universe as the average radius of the emission mass / universal energy, also expected to grow at a constant value

The growth in constant value of the local universe Earth / Moon, at least the past 30 years, originated by the constant evolution of G leads to the conclusion of a consistent radial homogeneity of the universe.

The gravitational potential it's always constant. The going away of masses from the mass generating the gravitational field, is the adjustment of a mass that has a certain potential, to the new location of the same power, which it now occurs at a greater distance.

Just as the moon is moving away from Earth, the Earth and all planets of the solar system are moving away from the Sun, the Sun moving away from the center of the Milky Way, etc., with all the stars to move with a constant potential

All the planets of the solar system are now moving away from the Sun in proportion to the distance they are from him.

As we have seen the moons of the solar system, also are moving away from the gravitating planet, and will be moving away in proportion to the distance they are from your planet.

We see now, how is meaningless, the old theory of the tides as an explanation for the removal of the Moon relative to Earth and especially from all the other moons of Jupiter and Saturn in relation to their fluid planets. (I think it is necessary to revise this study. I personally have not got access to the original)

As the radius of the universe grows with the time and the speed C:

I – Age of the universe

$$R_u = \text{C I}$$

$$\frac{R_{u1}}{R_{uo}} = \frac{I_{u1}}{I_{uo}}$$

$$\frac{G_{u1}}{G_{uo}} = \frac{I_{u1}}{I_{uo}}$$

G will change in time, ie in proportion to the age of the universe.

The universal gravitational potential

There is a given, we already know in the local universe, the "speed of light" C and its constancy in any direction.

Locally the "speed of light," C is the maximum speed permitted in any direction of space.

This is the constant C we find the energy of matter.

We are therefore in the presence of a maximum local escape potential.

The local light is subject to this maximum gravitational escape potential in any direction which causes the speed of propagation constant in all directions.

We will therefore have a locally universal escape potential given by:

$$U_f = C^2$$

The universal density of potential energy

The "speed of light," C in two different places in the universe, evaluated from a given reference is always constant.

We have then to a place or time o and a place or time t .

$$C_o{}^2 = 2\, G_o \rho_o$$

$$C_t{}^2 = 2\, G_t \rho_t$$

$$C_o{}^2 = C_t{}^2$$

$$\frac{G_t}{G_o} = \frac{\rho_o}{\rho_t}$$

$$G_t = G_o \frac{\rho_o}{\rho_t}$$

After all we have a variable and not a Universal gravitational "constant".

The Universal gravitational variable in location is inversely proportional to the density of universal potential energy at the local. As with the expansion of the universe the universal density of potential energy decreasing, then the gravitational variable increases in inverse proportion.

$$\frac{G_t}{G_o} = \frac{\rho_o}{\rho_t} = \frac{R_{ut}}{R_{uo}}$$

The gravitational potential

The purpose of the analysis:

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

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.

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.

If we think in universal terms, so perhaps we will be able to understand the nature of G_k.

The universal gravitational potential

There is a given that we already know, from Einstein, in the local universe, the "light velocity", C, and its constancy in all directions.

We will therefore have a local escape potential universal given by:

$$U_f = C^2$$

Because we are considering universal escape potential we in universal terms:

Where:

$M_u\ C^2$ - The radiation mass / energy that reaches the Universal local. Where one has to consider the Doppler effect.

$\mathrm{R_u}$ - The average radius, resulting from the location where they were generating the masses of the radiation that reaches the site at present.

$$C^2 = 2\ G_k \frac{M_u\ C^2}{4\ \pi\ \mathrm{R_u}}$$

$\frac{M_u\ C^2}{4\ \pi\ \mathrm{R_u}}$ - It is the universal potential of the mass that reaches the site, which logically includes the Doppler effect.

$$G_k = \frac{2\ \pi}{\frac{M_u}{\mathrm{R_u}}}$$

G_k - Not more than the gravitational permeability of vacuum.

Is this then the limiting factor of the pure radiation (MC^2) of the local mass. Is the "resistance" that the universal density of potential mass / energy, has on the local mass radiation, preventing its pure radiation, or limiting it.

Given the usual expression:

$$C^2 = 2\ G \frac{M_u}{\mathrm{R_u}}$$

Implies:

$$G = G_k \frac{C^2}{4\pi}$$

Returning to the local potential:

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

After the traditional expression of the gravitational potential, is no more than a formal expression of its informality.

$\frac{M}{R}$ - It is the mass potential, but hidden by G. It is the informality of the potential.

Going forward I can work with one or another condition that has always in mind that after all the G value corresponds formally:

$$G = \frac{G_k\,C^2}{4\pi}$$

G – It is so too, albeit hidden factor inhibitor pure radiation mass.

$$G = \frac{C^2}{2\frac{M_u}{R_u}}$$

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

G has a nature clear.

The gravitational radiation, the gravitational attraction

Locally there is the gravitational radiation (no crepuscular radiation), the radiation allowed by the universal density of potential radiation (its also no crepuscular radiation):

$$E_G = -\,G_k\,MC^2$$

This gravity energy has negative.

The masses of the same sign, do not attract itself, the negative gravitational radiation (-) of a mass attracts other masses positive (+) and vice versa.

$$F_G = \frac{\left(-\,G_k\,MC^2\right)(m)}{4\pi\,R^2}$$

Or:

$$\mathrm{F_G} = \frac{-\,G\,M(m)}{\mathrm{R}^2}$$

Lack of understanding of this phenomenon has been one of the factors that led to the model of the curvature of space to understand gravitation.

It is not possible to directly detect the matter or gravitational waves, since both are not crepuscular. The detection of these waves is possible only in an indirect manner, through the variation of G.

As we are part of the material energy, just being able to build, devices that can detect interference of material energy with matter which is our reality.

Interpret the constant removal between the Earth and Moon

In the local universe.

As seen previously.

$$\frac{G_t}{G_o} = \frac{I_t}{I_o}$$

Verification evidence:

Whereas a universal existence of K periods of years, the annual variation is given by:

$$d_1 = R_o \left(\frac{G_1}{G_0} - 1\right)$$

$$d_1 = R_o \left(\frac{K+1}{K} - 1\right)$$

$$d_1 = \frac{R_o}{K}$$

$$R_1 = R_o(1+\frac{1}{K})$$

$$R_1 = R_o(\frac{K+1}{K})$$

$$d_2 = R_1 \left(\frac{G_2}{G_1} - 1\right)$$

$$d_2 = R_1 \left(\frac{K+2}{K+1} - 1\right)$$

$$d_2 = \frac{R_1}{K+1}$$

$$d_2 = \frac{R_o(\frac{K+1}{K})}{K+1}$$

$$d_2 = \frac{R_o}{K}$$

$$d_2 = d_1$$

The constant universal growth, causes the constant removal between the centers of mass.

We then proceeded to have a gravitational variable and not a gravitational constant.

The cosmological variable

Given the expression:

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

Will be:

$$G_i = \frac{1}{U_{upi}} K$$

$$G_i = \frac{4\,\pi\,R_{eui}}{M_{uri}\,C^2}\ k$$

$$U_i = \frac{4\,\pi\,R_{eui}}{M_{uri}\,C^2}\ \frac{M_{uri}}{R_{eui}}\ k$$ – Informality.

$$U_i = \frac{4\,\pi}{C^2}\ k$$

$$\frac{C^2}{2} = \frac{4\,\pi}{C^2}\ k$$

$$k = \frac{C^4}{8\,\pi}$$

$$U_{upi} = \frac{C^4}{8\,\pi\,G}$$ – The cosmological variable

If we are formal:

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

$$G_i = \frac{1}{U_{upi}} K$$

$$\frac{C^2}{2} = \frac{4\,\pi\,R_{eui}}{M_{uri}\,C^2}\ \frac{M_{uri}\,C^2}{4\,\pi\,R_{eui}}\ k$$

$$k = \frac{c^2}{2}$$

$$U_{upi} = \frac{c^2}{2\,G_k}$$

As we saw earlier this constant would be obtained through the product of G by the universal

As we saw earlier this constant would be obtained through the product of G by the universal potential created by all universal masses:

$$K1 = G\ Uup = \frac{c^2}{2} = 4{,}49378E{+}16\ m^2 s^{-2}$$

The expansion of the universe don't need "dark energy"

When we get a variable universal gravity, which grows proportionally to the radius of the universe, there is the potential created by the masses for the same relative location of the universe (relative, because this point will follow the growth of the universe itself) will always constant.

The universe expands, the energy density locally universal potential decreases, which increases the gravitational variable in local, allowing the masses to deviate from the center of mass of the gravity field generator without changing their velocities. The process is interactive and the universe keeps stable.

The local gravitational potential is constant for the same proportional local rise which means that the velocities are also constants.

Therefore the universe, from the standpoint of constant gravitational potential created at a proportional distance, it will behave the same way as a "static universe" and not collapse.

Now we don't need any dark energy to explain the expanding universe.

"Dark energy" isn't more than the increase in gravitational variable.

The velocity limit of expansion of the universe

Universal translation speed

The velocity of translation in different parts of the Universe, shall be that obtained from the gravitational potential, generated simultaneously by the masses Universal, taking into account the propagation speed C of gravitational radiation

Because there is a global symmetry in the universal mass distribution the potential created by the universal masses at any point of the universe will be perpendicular to the radius of the universe in which that point lies.

We will have to consider the potential generated by each mass, given the age of the radiation which creates that potential, i.e. the value of the local gravity j, in any given date of emission of radiation, because as proven before the gravity travels always at the “velocity of light”, C.

Because of that said, we expect a translation speed of zero at the center of the universe due to the symmetrical distribution of universal masses.

Since the limit of the universe moves at the velocity of C, then the radiation of gravitational mass does not reach the local, so the gravitational potential is null.

The translation velocity at the limit of the universe is null.

Radial velocity of the universe

At the universe´s core we have a null radial velocity, at its core the “velocity of light”, C. Mass radiation doesn’t curve by action of universal mass, by which a part of these radiates perpendicularly to the universal surface, making the universe grow to the velocity C.

As predicted by Friedmann and latter on was confirmed by Hubble, radial velocity of the stars is directly proportional to the distance they are at.

The radial velocity of the stars will be proportional to the place they are in the universe´s radius, and is given by:

$$V_r = \frac{R_i}{R_u} \mathrm{C}$$

The limit velocity of expansion

The universe will grow in a radial way to the velocity C, because of the previously stated reasons.

Conclusion:

- A constant speed of light in consecutive years, in a expanding universe, also implies the existence of a gravitational variable.

- The local gravitational variable is inversely proportional to the universal density of potential energy.

-The weight of matter in each celestial body will increase because the gravity will increase, which means we will be heavier.

-The escape velocity of the celestial bodies is due to increase. Leaving the Earth is going to get more difficult every time? Which, we have to do sooner or later, to preserve ourselves.

- The planets in the past of the planetary system are already placed closer to the stars.

-What has happened in the solar system?

-Mars has already been as far to the Sun as the Earth is now.

-Venus will soon be as far from the Sun as the Earth is now.

-Thermodynamically what has happened? What will happen?

-What will happen to the Sun?

-All planets of solar system are moving away from the Sun.

-All natural moons are moving away from their planets.

-The Sun move away, every year, to the Center of the Milky Way.

- In all the planetary systems, galaxies, clusters of galaxies, super clusters of galaxies are moving away from their centers of gravity.

-Does the planet at any time before or after the necessary conditions for the development of life as we know it on Earth? Considering the temperature 284.57K life that we received today on Earth?

- Now we have the cosmological variable and not the cosmological constant.

-No more it is necessary to consider repulsive forces, Black energy, to justify the expansion of the Universe.

-Given the variation of gravitational variable trough out time, probably all dating made by radioactive elements will have to be rethought. Is the solar system much older, about twice as old as we thought until nowadays and is it own source very close to the universe itself?

-Through the analysis of a black hole it is concluded that the density of universal energy propagates at the speed C and the mass energy radiation, does not bend under the action of the local matter, so the limit of the energy density is spherical and dispersion of matter should be, too, very close to spherical in shape.

-Never the limit of the universe´s radius will be seen, because any ray light, even if in the exterior radial direction of the universe will achieve getting a limit travelling at the speed of light.

- The universe grows at the velocity C. The universe grows at a constant value.

- The appearance of the gravitational variable, leads to rethink the whole gravitation, including the concept entity space-time?

- We are now obliged to deduct relativity, from the universal gravitational field, verify the adequacy of quantum mechanics to field theory and analyze the theory of relativity of Einstein.

- To my wife and my daughter, your love, my encouragement.

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