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Complements to Gravity Theories

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Abstract:- Gravity, electricity, magnetism and strong and weak nuclear forces form the fundamental energies and force fields for the organization of matter in the universe. All visible matter emits electromagnetic waves at specific frequencies; dark matter does not emit them. It is assumed, or else, that it can be formed by particles like the neutrino, which subtly interact with electromagnetic waves and with matter. Under the action of strong energy, the neutrino can theoretically reach speeds greater than that of light. Such an effect can occur when this particle becomes detached from electromagnetic interference, which is very difficult to observe. Sound also participates in the transport of matter and energy and can participate as the main means of coupling neutrinos and transmitting their information.

I. INTRODUCTION

With the explosion of highly concentrated energy, tiny filaments of energy, with variation of energy inside, started to move intrinsically and electromagnetically, producing frequencies of various characteristics, in addition to small magnetic poles in their outermost regions. By agglomerating to form larger particles, the fields produced are reduced, but concentrated. With the larger mass of matter, zones of lesser energy appear on its periphery. It is due to these zones that gravity occurs, becoming one of the fundamental forces of the universe. "She is always attractive and works over great distances" [1].

In the nucleus of atoms, neutrons attract each other and protons so that between materials there are different levels of energy that attract each other.

The force necessary to keep the nucleus cohesive is fundamental to the stability of matter.

The nuclear force also acts between two neutrons, as well as between a proton and a neutron. It is then that it guarantees the stability of the nucleus. That is why it is so difficult to tear protons and neutrons out of the nucleus of an atom. It is easier to pluck electrons out of the outermost orbitals.

The electrons are attached to particles smaller than it with high energy and different frequencies, which causes it to oscillate in a region of space. This energy is stronger than the gravitational and electromagnetic energy exerted by the nucleus.

The two forces that act together are gravity and magnetism. The resulting kinetic and vibrational energy of the small and larger filaments of matter, produces heat and contributes to some chemical reactions.

The associated electricity and magnetism limit the speed of matter to a maximum of 300,000 km / s. When a particle, such as the neutrino, is influenced by one or two of these forms of energy, its speed may become greater than that of light, even slightly. That is why a few years ago neutrinos showed speed slightly above the speed of light. "In late October 2011, researchers at the European Council for Nuclear Research (CERN) disclose that neutrinos - particles without charge - apparently traveled above the speed of light" [2].

It is possible that magnetism interferes with gravitational action. "The graviton can appear when the magnetic field is theoretically canceled out by magnets approaching like poles. As a result, it attracts particles or atoms. It can arise from interaction with the nuclei of oxygen atoms in water. It can also be associated with a subatomic particle "[3].

Atoms, condensed matter is only possible due to the combined action of energy; without the electric, magnetic and gravitational energies the world as we know it would not exist.

If man can manipulate gravity, he may be able to get quantum objects of great use, such as medicines, data transmission, among others.

The theory of relativity fits into the world of condensed matter, but it may not be applicable when the only known influence on a particle is gravity. Large intensities of energy in a neutrino can make it speed faster than the speed of light. Gravitational waves of great magnitude can promote extremely high kinetic energy in neutrinos.

II. IMPORTANT EQUATIONS

Kinetic energy, including that due to gravitational waves:

$E = mv^2 / 2$

Calculation of the speed of light: (you can see the dependence on magnetic and electrical permeability and permissiveness):

$V = 1 /\sqrt{8,85.10^{-12}4\pi}. 10^{\wedge} - 7$

V = 3.0.10 ^ 8 m / s

AND0 = 8.85.10 ^ -12 C ^ 2 / N.0² is the electrical permittivity of the vacuum

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U0 = 4.10 ^ -7 Tm / A is the magnetic permeability of the vacuum π

- *Gamma ray pressure:*

When total reflection occurs, the following formula is used:

$$F / P = 21 / v$$

- *Possible detection of neutrino velocity:*

High energy neutrinos must be produced; or else try to detect those coming from the sun. They must pass through a lead barrier so that electromagnetic waves, even of high energy, are reflected. After crossing the lead barrier, neutrinos cannot interact with any other types of electric and / or magnetic fields. Without this influence, it is possible that they have increased speed. If the greatest possible amount of thermal energy is added - within safety standards - on neutrinos they can exceed the speed of light. Their speed should be measured in the most reliable way possible, considering the initial frame the end of the lead plate and the final frame reservoirs of substance such as gadoline.

III. DARK MATTER

This matter is not composed of atoms, but rather neutral particles, without spin, rotation or vibration and which has only the graviton as an energetic intermediary with other materials. It acts gravitationally on celestial bodies and is responsible for the acceleration of the universe.

In the Big Bang its particles were formed and "ejected" in blocks. As they do not interact with magnetic and electric fields, they do not emit electromagnetic waves and also do not receive them.

IV. ENERGY MASS AND TRANSPORT

Electromagnetic waves must have mass, even in practically immeasurable quantities, as they are gravitationally attracted by black holes; gravitational interaction occurs between masses.

Massless energy breaks down easily. Even gravity between small and large bodies is only possible through particles associated with its mass, gravitons.

The denser a body, the more particles with gravitons it will have; as a consequence the attraction force exerted on a body with less mass will be greater.

The more a body moves away from a denser one, the greater the force. A theory that would explain how this occurs considers the graviton as the smallest fraction of gravity, associated with a particle. This particle has a quantum entanglement with the graviton and deforms like a spring when "stretched", that is, when the body moves away from the higher density (theoretically an energy similar to the elastic potential is formed); above the rupture tension the association of the body with the gravitons can continue, however the gravitational force is no longer sufficient to attract it. It is possible that this tension occurs well at the level of the curvature of the particles of the gravitons in the planetary orbit, even if this tension is discrete.

If it is acceptable that the speed of light is not the highest possible, it can be theorized that a quantum entanglement is mediated by several even more elementary particles with speeds greater than that of light, with non - electromagnetic interaction.

$$E = (Kv^2) / 2$$

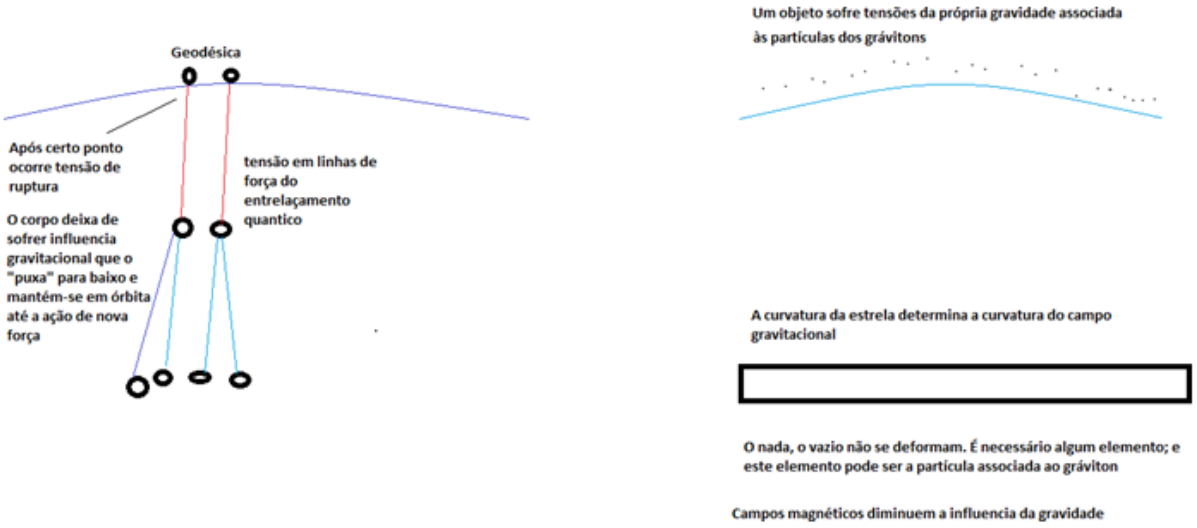

Fig 1:- planetary gravitational field Source: own authorship

V. BLACK HOLE AND GRAVITATIONAL WAVES

What enters the black hole loses the properties of atom and energy, forming matter identical to dark matter. New laws of physics could emerge inside the black hole as long as a stimulus caused some change sufficient for the emergence of energetic interactions. Thermal energy would promote the oscillation of a material that does not oscillate very little - it can be concluded that this dark matter would be made up of neutrinos. Waves derived from neutrinos could arise from their vibration and kinetic energy. They would not be electromagnetic in nature, but gravitational; behold, then, gravitational waves appear indirectly generated from gravitational waves of greater magnitude. In them the kinetic energy of neutrinos - $E = (m.v^2) / 2$ would be present.

The singularity at the center of the black hole may no longer be made up of atoms; but by particles. If gravitational waves of great intensity crashed into this singularity, a phenomenon similar to the Big Bang would occur on a smaller scale.

VI. POSSIBLE SPEED ASSOCIATED WITH GRAVITATIONAL FIELDS OF GREAT MAGNITUDE

E kinetics of neutrinos is equal to E gravitational wave, since the latter gives rise to the former possibly without loss of energy in the initial instant.

You should look for the new speed value, which may differ from the speed of light. According to Nasa [4], gravitational energy density can be described with a formula similar to that of electrical density:

$uG = g2 / (8\pi G)$

$uG = 5,736.10 \wedge 10 \text{ j / m} \wedge 3$

Neutrino mass =2,14.10 ^ -37 (it can vary, depending on whether the neutrino is alone or associated with leptons - electron, tau and muon)

$E = mv^2 / 2$

Considering that there are hypothetically 1.1 ^ 9 neutrino particles per cubic meter, the energy found can be divided by this amount:

5,736.10 ^ 10 / 1.10 ^ 9 = 5,736.10

The possible speed, according to the exposed parameters, would be:

$E = (mv^2) / 2$

$5.736.10 = 2.14.10 \wedge -37.v^2 / 2$

$5,736.10 \wedge 10 = 1.10 \wedge -37.v^2$

$V^2 = 5,736.10 \wedge 38$

$V = 2,394.10 \wedge 19 \text{ m / s}$

The formula $E = mc^2$ does not seem to be valid for particles with almost negligible mass.

The main difficulty in detecting the speed of neutrinos coming from gravitational fields of great intensity is that they tend to "travel" with electromagnetic waves, such as those with gamma rays. When coupled with electromagnetic waves, its speed would be reduced to that of light.

Calculations similar to the speed of light show that it is possible that an immune particle or that is weakly influenced by electromagnetic interference can travel at a speed greater than that of light.

A possibility to confirm this would be the study of neutrinos with great energy that lost part of it during the course.

VII. SOUND WAVES AND MASS

Sound waves carry mass - in particular, gravitational mass. This implies that a sound wave is not only affected by gravity, but also generates a minuscule gravitational field, an aspect not appreciated until today [5].

VIII. OTHER POSSIBLE APPLICATIONS

- *Sound waves and neutrino mass*

A sound wave carries mass. When passing from one side to another through a neutrino field in a magnetic chamber, it tends to carry part of the neutrinos - due to the gravitational interactions of the mass of the sound wave - from one side, A, to the other, B, of the chamber. If there is a microphone on side B, the resulting sound waves will be transformed into electrical current and later on electromagnetic, audio waves. They can be modulated by a carrier wave and transported, or they can be decoded directly by an electrical circuit coupled to another microphone; the sound corresponding to the mass of neutrinos would come out.

Neutrino capture is possible. A small object could be placed between the magnets in a magnet chamber; it, due to the gravitational force of the water and its interior, would capture the neutrinos.

The magnetic chamber is formed by a set of a container, water inside and high value magnets or electromagnets arranged 180 ° from each other, with the faces of the same magnetic pole facing each other and brought together until they form a field of forces that tend to "push" the magnets away from each other.

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A utility would be communication over long distances, possibly also in space. Another could be, in the future and with improved instrumentation, the use of a combination of neutrinos and ultrasound in places in space in order to obtain possible information through sound resonance, mainly of dark matter and energy. "All mechanical structures have one or more natural oscillation frequencies. If the structure is subjected to a periodic external force whose frequency coincides with one of the natural frequencies, the amplitude of the oscillation will reach high values that can lead to the collapse of the structure. This phenomenon is called resonance (DONOSO, 2020). [6].

- *Use in medicine*

The magnetic chamber could be used for a new treatment modality, in which one would try to couple neutrinos in parts of the body with some dysfunction. Before, normal values for age, size, sex and weight must be elaborated. Value ranges, but not absolute values, must be used. Medicines and enzymes could be created, perhaps at the microscopic level or without color (since neutrinos do not absorb electromagnetic radiation), from gravitational interaction with atoms present in the periphery of different compounds, such as proteins, elements present in cytoplasmic membranes, among others.

It is possible to create the special magnetic field inside the human body and to reproduce the conditions of a magnetic camera.

It is also possible, through the combination of sound with neutrino fields, to determine if there is a relationship between neutrinos and pathological processes.

- *Second harmonic:*

The mass of neutrinos can also be transported by electromagnetic waves of terahert frequencies towards a superconducting material, when produced together with this wave- in the sun. It can produce a second harmonic.

"Pulses of light were used at terahertz frequencies (trillions of pulses per second) to accelerate electrons known as Cooper pairs. After tracking the light emitted by the accelerated electron pairs, they found "light emissions from the second harmonic" or light at twice the input frequency used to accelerate the electrons. The scientists used terahertz quantum spectroscopy, which can visualize and direct the flow of electrons. The team employed laser flashes at a rate of trillions of pulses per second, which helps to accelerate superconductors and therefore access new quantum states of matter. " [7]. One of the utilities would benew formation of quantum and electronic computing strategies.

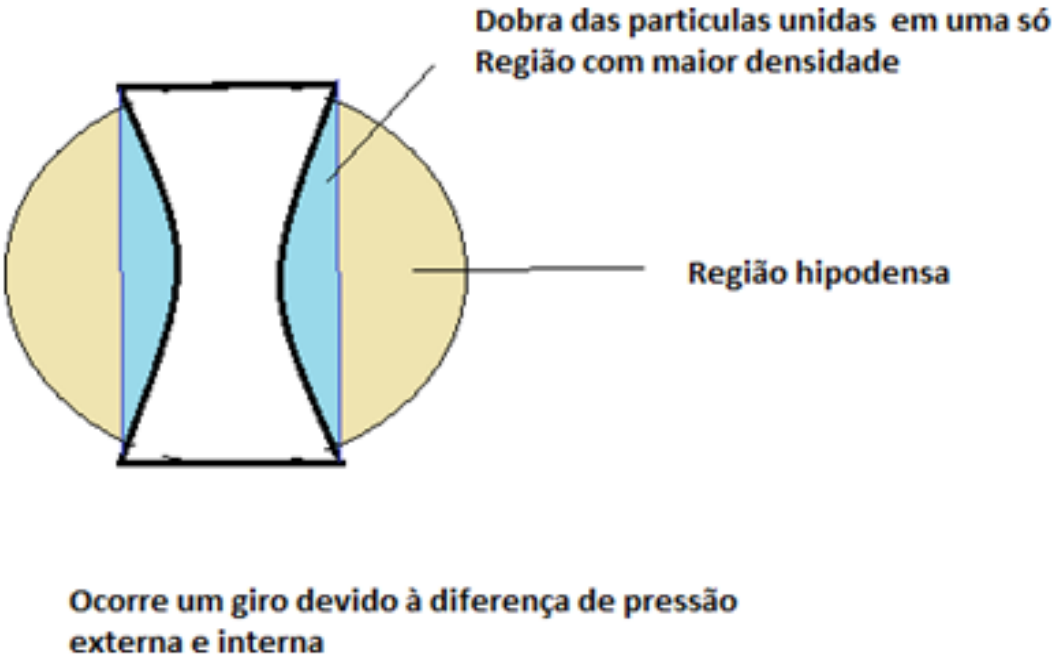

Fig 2:- Particle with spin other than 1.
Source: own author

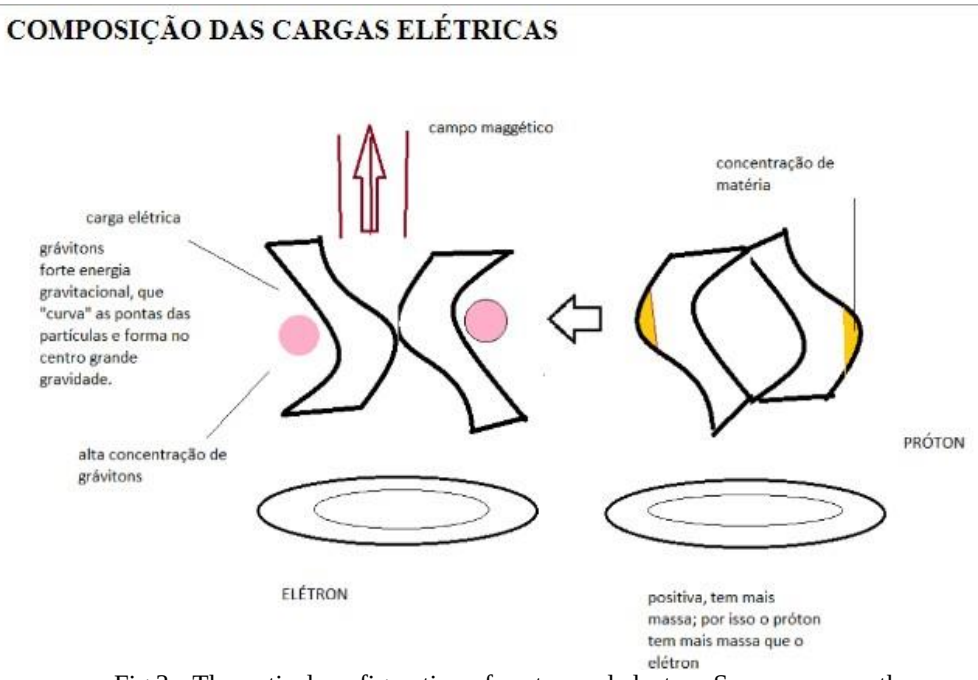

Fig 3:- Theoretical configuration of proton and electron Source: own author

IX. BIG BANG, GRAVITATIONAL WAVES AND ELEMENTARY PARTICLES

In the beginning there are particles without any deformity, kinetic energy and mass fluctuations. The Big Bang occurred after gravitational waves hit this land and hit each other. As they passed through the article, they "pulled" it violently against the one next to them; the result was an explosion with gigantic thermal and kinetic energy as the resulting opposite vectors. Deformations also occurred in the particles.

It is possible that gravitational waves of very high energy promoted "torsion" in elementary particles such as neutrinos or even smaller - hypothetically. This causes a difference in the density of matter and energy in the particle itself. Gravitational wave of great intensity also, however opposite, promotes deformation at the other end of the particle. Particles can be fused; at the end of the formed particle, the density differences continue and cause internal movements, such as rotations around themselves and fluctuations of mass and energy within them; examples of these particles would be protons and electrons. The internal movements of the particles determine electric and magnetic fields.

After the shock and the deformation, the strong and weak nuclear forces also appeared, which can theoretically be variables of gravity, only greater magnitude.

Although the electron, muon and tau neutrinos have different masses, it is possible for a neutrino with different masses that has gravitationally linked to particles associated with gravitons.

Einstein's equation could give an idea of the size of strain strain if the values of other variables were known and the object was considered as a set of particles in a known geometric shape:

$$R_{\mu\nu} - \frac{1}{2} g_{\mu\nu} R = \frac{8\pi G}{c^4} T_{\mu\nu}$$

From his theory of General Relativity, where Ruv and R = g R represent, respectively, Ricci's tensor and scalar, the speed of light is c and G corresponds to the universal gravitation constant [8].

The gravitational wave deforms space-time during its propagation. Thus, when passing, it generates a force density field, on a given material[9].

$$f_i^{OG}(x,t) = \frac{1}{2}\rho \sum_j \frac{\partial^2 h_{ij}(t)}{\partial t^2} x_j$$

H is the metric perturbation tensor, p is the density of the material and xj, its position in an arbitrary coordinate system. This force field can be represented as the gradient of a scalar potential of the form:

$$f_i^{OG}(x,t) = \nabla_i \Phi(x,t) = \nabla_i \left(\sum_{j,k} \frac{1}{4} \rho x_j \bar{h}_{jk}(t) x_k \right).$$

It is possible to calculate a circle composed of elementary particles.

Einsten's tensor would also need to be determined. It is from it that variations in the mass of a particle occur and that directly or indirectly the other forms of energy arise. Gravitational density would have to be an extremely large value to cause distortions in elementary particles and this energy is imaginable in the Big Bang. In this case, also the geometry and volume of the highly compressed matter should be determined - considering a set of particles.

X. CONCLUSION

Currently the study of particles, in Quantum Physics, manages to determine the existence of atomic subparticles. Neutrinos, which have extremely small mass, according to current studies, can, through gravitational action, promote, in theory, practical and useful arrangements of matter, which would have great similarity to dark matter because they do not interact with electromagnetic radiation in a way that reflect visible light; such arrangements could favor, for example, the medical and communications areas.

In a Big Bang theory exposed here, gravitational waves may have passed through a set of masses of great density, in different directions at the same time, and have caused spatial distortions in matter, including elementary.

The graviton here was considered to be the intermediate particle of gravity; it is possible that it is also associated with a specific particle, with which it can maintain quantum interrelated. The probable existence of it was determined by Souza (2020) after experiments with a magnet chamber, water and a precision scale; the “trapped” matter was colorless and by the magnetic trap its nature was not determined in the experiment. In this work it is considered that the possible material is or is not a cluster of neutrinos - which may or may not be dark matter.

It emphasizes the need for more theoretical and practical studies to affirm, or not, and to deepen the theories mentioned in this work.

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