Review Article

The antigravitation-fiction or reality?

Abstract

The paper presents commentaries related to a theoretical model of anti-gravitational type force generating, resulted from a vortexial model of particle , specific to a cold genesis theory of particles and fields (CGT) which explains the gravitation with a Fatio/leSage type model, by etheronic fluxes produced in the matter de-structuration process, when the temperature inside of cosmic bodies tends toward or attains a critical value $T_c \approx 2x10^{12}K$.

The model may explain the nature of the force which had pushed the cover of almost 2000 tons of the reactor Elena during the Tchernobyl accident and gives theoretical implications related to the generation of a pulsatory antigravitic (pseudo)charge of quasaric black-holes, in accordance with the evidenced field-like nature of the dark energy and with a toy" model using the concept of "negative mass". According to a preonic sub-structure of quarks specific to CGT, it results also the conclusion that it is not logical the existence of temperatures higher than $10^{13} \div 10^{14} K$ in Universe.

Keywords: anti-gravitational force, vortexial model of particle, cold genesis theory, dark energy, Fatio/leSage type model, etheronic fluxes, antigravitic (pseudo)charge

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Introduction

In a previous paper[1] were presented briefly some basic particle models resulted from a cold genesis theory of matter and fields,[2–5] (CGT), regarding the cold forming process of cosmic elementary particles, formed- according to the theory, as collapsed cold clusters of gammons- considered as pairs: $\gamma^* = \left(e^- e^+\right)$ of axially coupled electrons with opposed charges, which gives a preonic, quasi-crystalline internal structure of cold formed quarks with hexagonal symmetry,[5] based on $z^0 \approx 34 \, m_e$ preon- experimentally evidenced in 2015[6] but considered as X- boson of a fifth force , of leptons- to quark binding, and on two cold formed bosonic 'zerons' : $z_2 = 4z^0 = 136 \, m_e$; and $z_\pi = 7z^0 = 238 \, m_e$, formed as clusters of degenerate electrons with degenerate mass and magnetic moment and with degenerate charge $e^* = \left(2/3\right)e$, (characteristic to the up-quark- in the quantum mechanics).

According to this theory,[2–5] based on the Galilean relativity, the magnetic field is generated by an etherono-quantonic vortex $\Gamma_M = \Gamma_A + \Gamma_i$ of s-etherons (sinergons- with mass $m_s \approx 10^{-60} kg$)- giving the magnetic potential **A** by an impulse density: $p_s(r) = (\rho_s \cdot c)_r$ and of quantons (h-quanta, with mass: $m_h = h \cdot 1/c^2 \approx 7.37 x10^{-51} kg$, formed as compact cluster of sinergons)- giving the magnetic moment and the magnetic induction **B** by an impulse density: $p_c(r) = (\rho_c v_c)_r$, the nuclear field resulting from the attraction of the quantum impenetrable volume υ_i of a nucleon in the total field generated- according to the fields superposition principle, by the N^n superposed vortices $\Gamma^*_\mu(r)$ of component degenerate electrons of another nucleon, having an exponential variation of quanta impulse density, the nuclear potential resulting in the form:

$$V_n(r) = \upsilon_i P_n = V_n^0 \cdot e^{-r/h^*}; \; P_n(r) = \left(^1/_2\right)\rho_n(r) \cdot c^2 \qquad (1)$$

By an electron model with radius: a = 1.41 fm and with an exponential variation of the quantum volume density and of the magnetic field quanta:

$$\rho_\mu(r) \approx \rho_e(r) = \rho_e^0 \cdot e^{-r/h}; \qquad (2)$$

In the context in which the theoreticians are still search for physical models which may explain the gravity, a few more or less experimental cases raised the question of whether it is possible to produce quantum anti-gravitational forces from nuclear transformations. One of these cases is a consequence of the Chernobyl nuclear accident, consisting of the fact that an unidentified force pushed the lid of almost 2000 tons of the reactor called Elena, which was moved without the destroying of the reactor walls. Because the calculations of steam pressure generated inside the reactor could not explain the phenomenon, it was formulated the hypothesis of an unknown antigravity force generating.[7]

To sustain this hypothesis, it is necessary to know the physical cause of the gravitation force. The theory of generalized relativity gives verifiable observational results, but it is a geometrized theory of gravity, describing the gravity by correlating the curvature of the four-dimensional space-time with the energy and impulse of matter and radiation in a specific area of space.

As physical theory of causal explanation of the nature's phenomena, the quantum mechanics postulated the existence of a quantum of the gravitational field: the graviton, considered in quantum mechanics with a speed equal to the light speed (c) and with very low mass of mass: $m_g \approx 10^{-69} \div 10^{-70} kg$. It is recognized, in the same time, that the possibility of producing or annihilation of these gravitational quantum fields is unclear. It is also accepted that the gravitational mass that appears in Newton's relation of gravity:

$$F_g = -G\left(m_g M_g\right)/r^2 \qquad (3)$$

is equal to the inertial mass of the particle or of particle assembly (nucleus, atom, solid body, etc.).

Although there are several causal theories of gravitation, the most well-known is the LeSage type theory, also known as "push gravitation", resulting from the fact that it implies a pressure of a quantum flux of quanta (gravitons) on the elementary particles and on the material bodies formed by these particles.

The origins of the physical model explaining the force of gravity through the pressure of a quanta flow are, according to the known history, in the theoretical model of Nicolas Fatio de Duillier (1690) and Georges-Louis Le Sage.[8]

In 1965, Richard Feynman examined the Fatio/LeSage model, noting that the gravity quantum pressure mechanism reproduces the force of gravity variation inversely proportional to the square of the distance from the center of the body, but it noted that the quantum density that would generate such a force, would generate- according to the model, also a drag effect on the bodies displaced by this medium.

Other theories,[9,10] reconsidered the Fatio/LeSage explanatory model of gravity, noting the necessity to reconsider also the classical concept of ether as an ultra-finer medium that fills the entire cosmic space, explaining the structural consistency of the elementary particles and the gravitational field - in particular, showing the possibility to explain the inertia force as drag force generated when the material body is moving through ether.

Although the Einstein's special theory of relativity concludes that the concept of ether is not necessary to explain relativistic physical phenomena, the revival of the Fatio/LeSage theory in an etheronic model of the gravitational force generating is justified by some researches that validates the existence of the "dark energy" - considered as a cause of cosmic expansion, with a density of the order of 10^{-26} kg/m³, physicists such as P.A.M. Dirac showing the connection of the concept of "quantum vacuum" with the concept of "ether".[11]

An important argument for a gravitation force model of Fatio/LeSage type is also the Einsteinian relation: $E_0 = m_0 c^2$ (c- the light speed in vacuum) which assigns a rest energy E_0 to any rest mass m_0 of a particle, but which assign a specific mass density ρ_φ also to an energy density $E(\rho_\varphi)$ as those of the gravitational or the electromagnetic field.

It may be mentioned also the "kineto-etheronic" theory[10] which considers also a quantum energy component of the quantum vacuum with the smallest non-etheronic quantum of energy $\varepsilon = h \bullet 1$, (h- the Planck's constant) and which- by confining in the form of photonic structures, can explain the rest mass of the elementary particles, in a Galilean relativity.

The problem of an etheronic drag force generating at the bodies displacement was reconsidered - in this context, either by considering the d'Alembert paradox,[12] which shows that a superfluid medium with a negligibly low viscosity (such as the ether) generates a quasi-null drag force on a particle or a material body, or by considering a super-luminous, tachyonic speed of the quanta which generates gravitational force, (which would generate a negligible drag force at the particle's displacement through ether- in report with the gravitation force).

In a cold genesis theory of matter and fields (CGT),[2–4] which also uses a Fatio/LeSage model of gravitation, it is possible to use a generalized static charge model for an unitary expression of the gravitational and electromagnetic forces, according to which the attractive gravitational charge is given by the impulse density of the un-compensated component of etheronic flux acting radially on the surface of the attracting mass of a particle, (Figure 1).
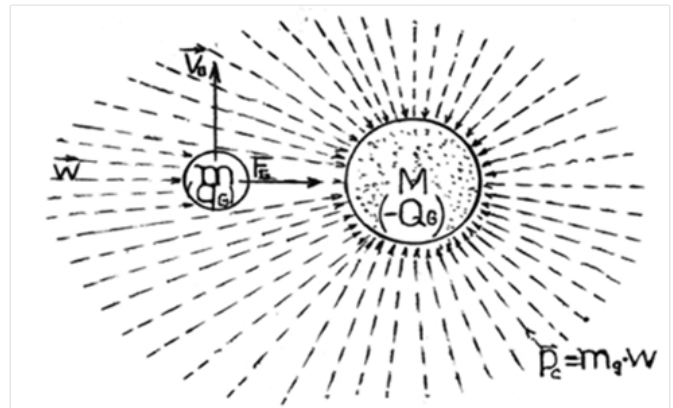

Figure 1 Gravitic interaction in a Fatio/LeSage type model.

A possible theoretical model of anti-gravitational-type force generating

From the mentioned theoretical model of gravitation, it results also the possibility to formulate a concept of repulsive anti-gravitic (or pseudo-antigravitic) charge, given by the impulse density of an emergent etheronic flux produced by an intensely vibrated particle whose internal structure is considered in a quantum-vortexial model,[2–4] as being composed of "quantons" with the energy $\varepsilon = h \bullet 1$ with its own vortex of "heavy" etherons (called "sinergons"- in CGT, with a mass of about 10^{-60} kg), these "heavy" etherons being considered in CGT as the component of the etherono- quantonic vortex of the particle's magnetic moment which gives the magnetic potential **A**.

The theoretical argumentation for an etherono-vortexial nature of the magnetic potential **A** generating the magnetic induction **B** = **rot**.**A**, is sustained in CGT (chpt. II,[2,3]) by the microphysical explaining of the magneto-electric and the magneto-mechanical effects such as the Aharonov-Bohm effect, the Monstein effect and the Einstein-De Haas effect.

The conclusion of the existence of "heavy" etherons results semi-empirically in CGT (being named "sinergons"), from the observation that the most widespread and stable quanta : the "quanton" (0.737×10^{-50} kg) - as massical component of the photons and the half of the cosmic background radiation quantum, of 2.73K, ($\sim 2 x 10^{-40} kg$, considered in CGT as the electric field quantum, named "vecton") differ in the mass value by $K \approx 2 \times 10^{10}$ which differentiates this last quantum (and the most stable particle: the electron, ($m_e = 9.1 \times 10^{-31}$ kg), while in the opposed sense, the quanton's mass differs to the graviton's mass by $\sim (K)^2$, suggesting the existence of the "heavy" etheronic quantum of $\sim 10^{-60} kg$.

The possible explanation of this massic difference, K, may be the conclusion that these structures are formed by a "vortex cascade" generation mechanism,[2–4] in the sense that the vortex of sinergons forms the quanton, the mixed vortex of sinergons and quantons forms the vector photon (the "vecton") and the vortex of sinergons, quantons and light "photons" forms the quantum volume of the electrons by vortexial confinement of photons.

In this model of leptonic particles structuring, the "quanton" is identifiable- within a Galilean relativity, as the smallest massic component, generating also the inertial mass of the photons, which can explain in particular the photon's deviation or the photon's

energy decreasing in a gravitational field - phenomena experimentally observed, as is known.

The "cold" genesis of the photon and of the electron can be explained on the basis of the vortexial kinetic energy of the sub-quantum medium, by the hypothesis that in a period specific to a Proto-Universe, the primordial "dark" energy included both "light" etherons as well as "heavy" etherons ("sinergons") and a relative high density of "quantons" formed by etheronic vortexes of "sinergons" produced by the kinetics and the pressure of fluxes of gravitonic etherons, as "chiral" fluctuations of the energy of the quantum "vacuum".[1]

According to the particle model of CGT,[2–5] in a Galilean-type relativity, the elementary particles such as the electron, the proton or the neutron have a super-dense centroid in the center of their vortexial structure of the quantum volume giving the electromagnetic mass (confined electromagnetic energy, given by "frozen" photons, with rest energy and with quantum-vortexal structure, of etherono-quantonic vortex type). For example, in the case of the electron, the experiments of X-ray scattering on electron have indicated a scattering center with a radius of about 10^{-18}m which,[13] in the most plausible way, can be considered to be the radius of the electron's super-dense centroid.[2–5] Also, the energy of the etherono-quantonic vortexes of the vectorial photons into the electronic quantum volume can explain the electron's rest energy: $m_e c^2$, released at its annihilation with its antiparticle: the positron.

The particle model with a vortexial structure is generally specific to the "etheronic" theories, based on the reconsidering of the ether concept,[14] which in particular considers the gravitation to be generated by "etheronic winds" as in the Fatio/LeSage model.[15]

In the case of the nucleons: protons, neutrons, whose structure is considered in the standard model of quantum mechanics as consisting of sub-particles called "quarks" linked together by strong interaction quanta called "gluons", the sub-structure of "cold" photons of the nucleonic quantum volume considered in CGT is equivalent to the gluonic shell of the nucleons,[4,5,18] the current mass of quarks containing the electronic centroids sub-structure that forms the nucleonic super-dense core - according to the nucleon model of CGT, which considers a nucleonic cluster of degenerate electrons coupled in "gammonic" pairs (negatron-positron pairs with diminished mass and magnetic moment)- a structure which is equivalent to the "partonic" core of the quark, considered to be of high density and small radius (less than 10^{-18}m).

A concordance with the observational data of this particle model results indirectly from the observation of a neutron emission of TXS 0506+056 (a quasar with intense particle emission at relativistic speed close to that of light) coincident in direction and time with the emission of its gamma rays,[16] a phenomenon predicted as possibility in CGT in the reference[4] (pages 90 and 99) by the possibility of transforming some relativistic gammons (gamma radiation quanta of about 1MeV energy) into electronic neutrinos (neutral particles accompanying the nuclear beta radiation), the relativistic gammons resulting from the transformation of the nucleons mass into gamma radiation, according to the nucleon model of CGT, (mass→ energy conversion, specific especially to quasaric cosmic sources).

At intense vibration of the particle, this quantum-vortexal structure-energetically maintained by etherono-quantonic winds, is disturbed and partially destroyed by the vibrational energy of the superdense centroid of the particle, and the released quantons and heavy etherons (sinergons) generates an emerging quantum flux whose etheronic

component generates an antigravitic force F_a that can cancel or even exceed the intensity of the gravitational etheronic component which gives attractive interaction, (Figure 2). In this case the particle will become repellent particle, as having an anti-gravitic pseudo-charge as long as its vibration is maintained at high value.[2–4]
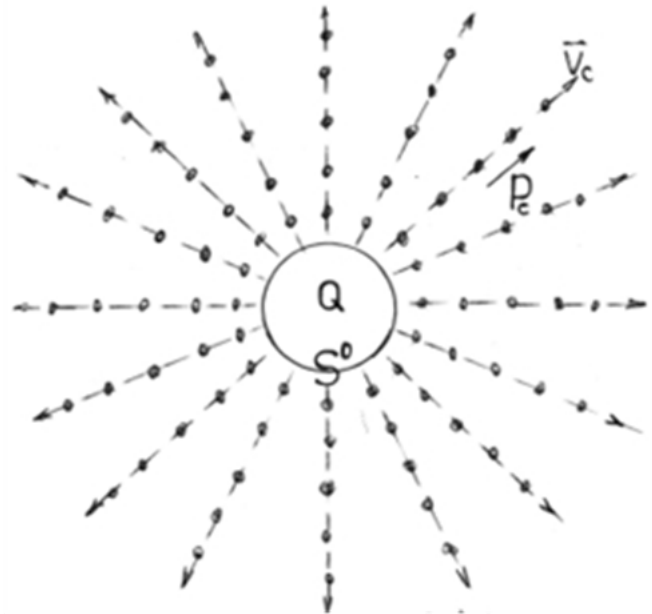

Figure 2 Antigravitic type charge.

This conclusion is consistent with the experiments performed by Shaw et al.[17] who obtained a relation for the decreasing of the gravitational mass value with the temperature, of the form:

$$F_G(T) = F_0(1-\alpha \cdot T); \ F_0 = -G \cdot (M \cdot m)/r^2 \qquad (4)$$

with an experimentally determined value of the coefficient: $\alpha = 1/T_G = 2x10^{-6}\left[K^{-1}\right]$, ($T_G = 5x10^5$ K).

According to relation (4) and to the previous explanations, the temperature T, i.e.-the vibrational energy of the atomic nuclei forming the m-mass, reduces the value of the gravitational force because this vibration generates an anti-gravitic force and (pseudo)charge, by destroyed vortexial sub-structures (cold photons) of the nucleon's quantum volume which releases also heavy etherons (sinergons), the total cancelling of the gravitation force resulting at a temperature T_G:

Because the determined temperature T_G is much lower than the quarks deconfining temperature: $T_d \approx 2x10^{12}K$, it results –in this case, the conclusion that at higher temperature than the T_G value (but lower than T_d) it may be generated an antigravitic total charge , i.e- an antigravitic force and field.

The possibility of anti-gravitic force producing through this mechanism in the case of the Chernobyl's nuclear reactor Elena is in correlation with another enigma found following the nuclear accident:[7] the disappearance of 90% of the nuclear fuel and the discovery of 10 tons of aluminum, with an increase in U235 and of the Pu239/U235 ratio, as a result of a fast nuclear reaction chain, fueled by the increase in neutron flux.

It is well-known that when an uranium nucleus decomposes into two smaller nuclei, approximately 0.1% of the uranium nucleus massic

energy appears as fission energy with a mean value of $\sim 202\ MeV$ - for U235, of which $\sim 169\ MeV$ occurs as kinetic energy of the resulted nuclei, 4.8MeV occurs as kinetic energy of the resulted neutrons and $\sim 7\ MeV$ are the energy of some gamma-ray photons.

According to CGT, the nuclear energy which accelerates the resulted nuclei and nucleons and the difference: 202–(169+4.8+7)=21.2MeV is released in the form of quantum energy, including an etheronic component resulted from the vortexial energy of the magnetic moments of degenerate electrons forming cold quarks, which explains- by the pressure of quanta flux, the kinetics of the uranium fission products and the release of neutrons and gamma-ray photons. Also, at least the etheronic component of the etherono-quantonic flux can explain the enigma of the Elena reactor by the conclusion that its value resulted intense enough to substantially reduce the gravitation force and to push the reactor cover so that it had been removed by the force of the steam formed inside, without the reactor walls destroying.[18] In correlation with the relation (4), this conclusion is sustained by the fact that 1MeV vibration energy corresponds- by the relation of the quantum oscillators: $E_v=k_B\cdot T$ (k_B–the Boltzmann's constant) to a temperature: $T \approx 10^{10}K > T_G$.

Theoretical implications of the anti-gravitation force generating model

The explanatory model of antigravitation-type force generating has- through CGT,[2–4] theoretical connections with some other phenomena:

A theoretical consequence of the model of antigravitation force generating through etheronic fluxes emanating from the destruction of matter subjected to a pressure above a critical value is the conclusion that inside the quasars (whose energy is explained by the transformation of the mass of an accretion disk or of nearby stars into energy, at the surface of a massive "black hole" star at temperatures close to that of nucleonic quarks disintegration: $T \approx T_d$), the quasaric black-hole may obtain a pulsatory antigravitic (pseudo)charge by quantum vortexes destruction inside the neutrons quantum volume, containing "frozen photons", according to CGT,[4] (the equivalent of the "gluonic shell" considered by the standard model of particle and the quantum chromodynamics), the etheronic component of these quantum vortexes, being periodically released in form of sinergonic fluxes, identifiable as field-like component of the "dark energy", that explain also the expansion of the Universe and partially- some gravitational waves recently detected.[2–4]

This theoretical conclusion is consistent with a very recent observational result of a team of astrophysicists of the Portsmouth University that evidenced the existence of a dynamic character of the "dark energy" at a level suggesting that the source of the dark energy is not the energy given by the quantum vacuum, but one of a dynamic field.[19]

An Universe expansion model based on this mechanism of anti-gravitational force-generating, proposed by CGT, [2–4] supposes the intense emission of etheronic fluxes identifiable as fluxes of "dark energy," coming both from the center of the expansion and from the edges of the material universe- from a zone of "stellar cemetery" where the stellar structures and the non-leptonic elementary particles are disintegrated as a result of the decrease in the density of etherons that may form sinergonic vortices. According to the resulted model, the expansion force is of semi-sinusoidal variation,[2–4] in accordance with the relation:

$$F_e = F_a - F_d = M_s^* \frac{d\mathrm{v}_e}{dt} = \frac{\pi \cdot M_s^* \cdot \mathrm{v}_M^2}{2R_u} \sin \frac{2\pi R}{R_u}; \quad R < \frac{4}{5}R_u; \qquad (5)$$

in which $v_M \approx 0.5\cdot c$ is the maximal expansion speed and R_u –the radius of the material Universe.

It was shown in CGT[2–4] that the eq. (5) corresponds to a classical equation of the Universe' expansion with the field's source containing both gravitic and anti-gravitic charges density, which is equivalent to the Einstein-Friedmann equation for the flat Universe with negligible matter pressure and high dark enery density, ρ_Λ, for $\rho_a^* \approx 2\rho_\Lambda^*$, with: ρ_Λ^* -the mean "dark energy" density; ρ_a^* - mean density of anti-gravitic pulsatory (pseudo)charges, given especially by quasars and hypernovae, with $\rho_a(R) \sim T_u(R)$, (T_u- the mean Universe's temperature).

This phenomenological model of Universe' expansion is concordant with the observation that the dark energy corresponds to a dynamic field[19] and to the modified ΛCDM „toy" model of Universe' expansion of J Farnes[20] based on the concept of "negative mass fluid", which reconsiders the Einstein's propose to consider also the existence of gravitationally repulsive negative masses (in reality-negative, antigravitic pulsatory (pseudo)charges, of periodically very hot cosmic sources, emitting periodical fluxes of "heavy" etherons detectable on Earth as gravitational waves, according to CGT.[4]

b) In the quantum-vortexial particle model of composite fermion, used in CGT, which considers the quarks as preonic clusters (of collapsed Bose-Einstein condensate of pre-quarks $z^0 \approx 34\ m_e$))[1–5], it can be considered also the existence of a critical temperature T_q of quarks destruction into preons.[2–4]

We may suppose that this temperature corresponds to that resulting from the relativistic speed ($v \to c$) of all kinetised quarcic sub-components of the nucleon, i.e - to the Einsteinian mass-energy conversion relation:

$$M_p c^2 \approx E_v^M = k_B T_q; \Rightarrow T_q \approx 10^{13}K \qquad (6)$$

in which: M_p = 1,67x10^{-27}kg –the proton' mass;

E_v^M the maximum value of the vibration energy.

Also, since the quantum-vortexial forces between the quasi-electrons of a z^0-preon, considered as Bose-Einstein condensate of gammons, are relatively weak,[2–4] it is deductible that- at T_q – temperature, also the preons may be transformed into semi-hard gamma quanta ($\gamma = e^-e^+$) but also into electronic neutrins, by the loosing of the shell of "frozen photons" of the gammonic electrons.[2–4]

In this case, the nucleon disintegration products can no longer generate temperatures higher than $10^{13} \div 10^{14}K$, according to the relation (6).

Since nucleons are particles that can form stable or quasi-stable material structures, it results - through the relation (6) - that it is not logical the existence of cosmic temperatures higher than $10^{13} \div 10^{14}K$ (temperatures assumed by some astrophysical models, including the cosmological Big-bang model of Universe expansion),[21] even in the context of the considering of a relativistic Einsteinian relation of particle's mass increasing with its speed.

In the relation (6), the considering of the particle's rest mass and not the Einsteinian relativist mass, given by the relation:

$$M(v) = M_0 / \beta; \beta = \sqrt{\left(1 - v^2/c^2\right)} \qquad (7)$$

in which: M_0 - the rest mass, v - the relativist speed of the particle, is consistent with the fact that at the experimental realizing of the proton's disintegration performed with accelerated nuclei at relativist speeds $(v \rightarrow c)$, the measured temperature of the mixture of nucleons and quarks- gluons plasma was "only" 2x10^{12}K, (below $T_q \approx 10^{13} K$, corresponding to the relation (6)). At the same time, in our opinion, this fact indicates that the relativist mass given by the Einsteinian relation (7) gives the value of an apparent and not real mass, there being an argument in favor of the conclusion of the relativist variation of the longitudinal electric field which accelerates a charged particle, variation which gives the appearance of the speed-depending mass variation (7).[22]

c) An eventual confirmation of the possibility of anti-gravitational force generating through etheronic fluxes emitted in the partial destruction of etherono-quantonic vortexes from the sub-structure of nucleons or of electrons intensively vibrated, in accordance with the relation (4), would lead to the conclusion of the possible technical use of this phenomenon by generating a quantum pressure difference (implicitly- of a quantum force) between the faces of a metal plate in which only the charges of one of the faces are vibrated intensely by the action of electromagnetic waves of high frequency.

This conclusion is concordant with the conclusions of other authors regarding the possibility of asymmetric Casimir effect producing by quantum vacuum energy[23] and allow a new theoretical explanation of the propulsion force generating in the EM-Drive case, exclusively by electromagnetic waves, (by microwaves).[24]

Conclusion

The concept of antigravitational pseudo-charge developed in CGT by a Fatio/LeSage type model of gravitational force generating, implies the formation of emerging etheronic fluxes by intensely vibrated particles (particularly-electrically charged particles) by the destruction of "sinergonic" vortexes of heavy etherons that explain in CGT the physical nature of the magnetic potential **A**. This process may occur in the partial or integral matter destructuring, especially when the cosmic body's temperature exceeds a critical value $T_q \approx 2x10^{12} K$ - specific to the quarks deconfining inside the quantum volume of nucleons.

Although it is based on an experimentally not enough validated particle model, the resulted model of anti-gravitational (pseudo)charge and anti-gravitational force generating is consistent with the result of the experiments of Shaw et al.[17] regarding the temperature-depending gravitational mass decreasing and can explain in a non-contradictory way the accidental pseudo-anti-gravitational phenomenon in the case of Elena reactor from Chernobyl, of reactor cover removing without the reactor walls destroying.

The used explanatory model indicates the possibility of pulsating (pseudo)anti-gravitic charge producing in the case of elementary particles with magnetic moment and vibrational energies corresponding to temperatures close to that of quarks deconfining: $T \rightarrow T_q$, especially in the case of collapsed stars such as massive "black hole" stars, which determine matter $\rightarrow$ energy transformations at their surface.

The conclusion of the liberation through this phenomenon of "heavy" etherons, identifiable in astrophysics with the so-called "dark energy", is in accordance with the nature of "repellent" field of the "dark" energy,[19] evidenced by astrophysical observations, and to the observation that a modified ΛCDM cosmologic model of Universe' expansion with continuously-created negative masses can resemble the cosmological constant and can flatten the rotation curves of galaxies,[20] with the observation that the causal explanation is a negative and periodically generated antigravitic (pseudo)charge, and not a negative mass (considering the mass as measure of matter' quantity).

According to a preonic model of quarks, specific to CGT, it results also a critical temperature of quarks transformation into preons and the conclusion that it is not logical the existence of temperatures higher than $10^{13} \div 10^{14} K$ in our Universe.

By the resulted model it is argued also the possibility of technical producing of antigravitation force, generated as quantum pressure gradient, by intense vibration of charged particles, mainly- of atomic nuclei or/and of nucleons.

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Conflict of interest

Authors declare there is no conflict of interest.

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