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GRAVITATION AND HEAT TRANSFER MECHANISMS ISSUED FROM GASEOUS ETHER THEORY

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Key words

Gravitation, graviton, photon, gaseous ether, ether, Fatio force, Newton, elon, heat exchange, centrifugal force, electron, gas

The Summary

Ether friendly physics views the Universe as composed with four essential interconnected material components, such ones being proton and electron gases, atomic-molecular matter (together with ions) built up with particles of the proton and electron gases interconnected by the forces of Fatio balanced with centrifugal forces, and all-permeable gaseous ether, composed with infinitesimal particles (elons). In some point of the ethereal space and in some direction, there can arise an elons pressure impulse of a strength different comparably to impulses in all other directions. At the same time, as well as all other impulses, such an extraordinary impulse would spread out with the speed of light to unlimited distances. The nature of the extraordinary impulse may consist in that one moment in the direction of its action the frequency of elons' travel may become greater or lesser than the elons' travel frequencies in all other directions, or the energies of elons running through this point may become greater or lesser than of those running through it in other directions. Energy weakening of elons rebounding from atomic-molecular structures orbital electrons or electrons structures may be associated with a local pressure impulse weakening, the said impulses weakening occurring without interruption during the electron's (electronic structure's) revolution around the atomic-molecular structure nucleus, the said weakened impulses always choosing orientations opposite to the direction to the nucleus. The weakened pressure impulse propagates in space with the speed of light on a direct trajectory to an unlimited distance until it reaches some obstacle, for instance the nucleus of some atom or molecule. The engaged atomic or molecular nucleus that was until now under all-around ethereal pressure loses its pressure balance in favor of the impulses directed oppositely to the arrival direction of the weakened impulse. Therefrom results the momentary attraction of the engaged nucleus in the direction of the weakened impulse generation source. The weakened impulses action is advisable to consider as gravitational and the weakened themselves – as the long ago cited in literature gravitons, which the nature has been until now unexplained. The mechanism of gravitation can have as a source the atomic-molecular matter because it has orbital electrons or electrons structures, but It is not inherent to separate electrons or protons. Nevertheless, those separate electrons and protons can be objects to gravitational action of this mechanism. The heat exchange between two solid bodies (or between two volumes of liquid or gas) consists in that the energy of molecules of the warmer body is transported to the penetrable in its interior elons of the gaseous ether that being in constant contact with those of the environment transport them their excess of energy, and those in their turn transport it the elons of the cooler body that warm it up. Extraordinary elons' pressure impulses are advisably to associate with photons, such of them being weakened ones – with gravitons.

Introduction

No matter the Newtonian Universal gravity law has already been known for more than three and a half centuries, its mechanism remains just as incomprehensible as in such ancient times. Such incomprehensibility embarrassed Newton himself who in 1692 in his well-known letter to Bentley wrote: "That gravity should be innate inherent & {essential} to matter so that one body may act upon another at a distance through a vacuum without the mediation of any thing else by & through which their action or force {may} be conveyed from one to another is to me so great an absurdity that I believe no man who has in philosophical matters any competent faculty of thinking can ever fall into it. Gravity must be caused by an agent {acting} <7v> consta{ntly} according to certain laws, but whether this agent be material or immaterial is a question I have left to the consideration of my readers" [1]. The above cited gives to understand that while trying to explain the phenomenon of gravitation Newton just missed a mediator (an "agent"), just as it keeps missing to other theorists of the past and today. As I believe, as such mediator would certainly be proper the proposed in my earlier works gaseous ether, which existence explains, as well as many other incomprehensible phenomena, the nature of electromagnetic interaction and light propagation mechanism.

As it was proposed in my precedent articles, particularly [2], the existence in nature of the gaseous ether explains the phenomenon that I had called mechanism of Fatio, which for instance in the case of mutual attraction of electron and proton of hydrogen atom is perceived by science as electromagnetic attraction of two opposite electric charges.

For unprepared reader better understand what mechanism of Fatio is, I will just remind that in the gaseous ether, as well as in any other gaseous medium (see for instance [3]) a body shadowed with other one would undergo action of the force of Fatio generated by the hits stricken by particles of the gaseous medium and directed oppositely to the source of shadow. Such force presses the body to the source of shadow and is proportional to the shadow's area; but because the body must be balanced, such force is as a rule balanced by another one that usually is centrifugal force considered now as fictitious. As to my mind such centrifugal force is not fictitious at all but rather force of inertia that resists changing the body's direct trajectory to circular one. As to the question about how and why such circular movement could be generated (the source of unwinding), such question was examined in [4]. It is worth to notice that there uncovered mechanism of rotation velocity acceleration (unwinding) is active as well in the case of bodies rotation about their proper axes (spin) as during the unwinding astronomic bodies systems connected with gravitational forces, such as planets and even galaxies.

Astronomic bodies revolving about common center (as for instance the planets revolving around the Sun) are subordinated to the 3-d law of Kepler, in accordance to which the Kepler constant equaling the product of cubes of their radii and quadrats of their angular velocities is the same for all planets of the system.

$$K = R^3 \omega^2 \quad (1).$$

This means that if a body of the system could somehow change its revolving velocity, it would have also to change its radius. From here there would issue that the solar system planets while gradually intensifying their rotation around the Sun should also have to gradually approach it. The fact that such rapprochement has not yet been noticed may be explained by that in astronomic scales the unwinding mechanism acts very sluggish unlike its action in scales of microparticles.

As an example of Fatio mechanism in scales of microparticles one might imagine hydrogen molecule creation by means of pressing electrons to two protons of its nucleus under its action. Simultaneously one should imagine entering in action of the unwinding mechanism, which would create the centrifugal force intended to balance the mechanism of Fatio attraction, the necessary balance being established when the torque applied to the electrons equals the resistance torque of the ethereal medium. The last would mean that the relation between the angular velocity and rotation radius of an electron would acquire such a value that the

electron would revolve with such constant speed, which the relation to the speed of light would equal the fine structure constant [5].

Turning back to the abovementioned unwinding mechanism let's draw our attention to that just by its action one could explain the cause of the daily rotation of our Earth, of the daily rotation of other planets and their satellites, as well as the rotation around its axis of our Sun with a periodicity of 24.47 days on equator and 26.24 days on poles. Additionally, I would like to express the idea that this mechanism works with a gradually increasing intensity, and that by the results of its activity, namely by the rotation speed one might appreciate the age of that or another astronomic body.

Much more quickly than Sun is rotating the star named Anchar, which is the tenth by brightness in our sky and placed from us at the distance of 139 light years in the constellation of Eridanus [6]. It has mass 7 times greater than that of the Sun and rotates around its axis every two days. Nevertheless, the fastest of all the known stars to turn around their axes is the star VFTS 102, which has 25 solar masses and is situated 160 000 light years from us in the Tarantula nebula of Magellan cloud. Its surface moves with a speed of 2 million km/hour that might be dangerous for its integrity, because if it were little more the star would be torn to pieces similarly as do the stars giving birth to a supernova.

Components of the Universe

Ether friendly physics views the Universe as composed with four essential interconnected material components, each of which is built with characteristic to it elementary particles. Such components are proton and electron gases, atomic-molecular matter (together with ions) built up with particles of the proton and electron gases interconnected by the forces of Fatio balanced with centrifugal forces, and all-permeable gaseous ether, composed with infinitesimal particles (elons), that might be the most important of all abovenamed components. In many aspects as an analogue to the gaseous ether and as its best model might serve the already well studied and thoroughly described ideal gas or even common real gases.

The Universe's energy is composed with energies of all the cited components, the most important part of the Universe's energy being that of the gaseous ether, which as it seems to me just composes that dark energy, whom tries to determine the modern science.

At the same time, the matter and energy are as to my mind completely different categories that do not transfer one to another under no circumstances. The amount of matter as well as that of energy in the Universe are unchangeable. There does not exist any antimatter nether any antiparticles as well as do not exist any parallel Universes or anti-universes.

Gaseous ether

The gaseous ether as I see it is a gas composed with infinitesimal particles that I had dubbed "elons". The mass of these particles is some orders less than that of electron. The same as in any other gas, elons are in a chaotic motion, and if the conditions in the whole space are the same their kinetic energies must be the same, as well as the pressure made by the moving elons must be the same in all points of space and in all directions and must make up a value that I had dubbed "ethereal pressure" [7]. The ethereal pressure arises as a result that every point of the ethereal space if to imagine it as material one sustains from all the directions elastic blows or impulses from the elons hitting it from all directions and rebounding from it with the same energy. Nevertheless, there may exist circumstances, under which in a certain point of the ethereal space and in a certain direction there could arise a pressure impulse of a strength different from impulses in other directions, such extraordinary impulse as well as all others spreading to unlimited distance with the speed of light. The nature of such extraordinary impulse may consist in that one moment in the direction of its action the frequency of the elons' travel may become greater or lesser than the elons' travel frequencies in all other directions, or the energies of elons running through this point may be greater or lesser than of those running through it in other directions. It seems advisable to associate such extraordinary impulse with photon; and if

it arises with a certain periodicity the consequence of such periodicity may be perceived as a certain for instance light signal. Extraordinary impulses of a certain direction may be not lonely, in a certain volume of ether they may be thousands and even billions of billions, and their multitude together with high concentration in space may be perceived as a phenomenon named in science as “electromagnetic field”. Elons’ energies i.e. temperatures of the gaseous ether in different space areas may also be different, which may become the cause of heat transfer between objects situated in these areas.

Mechanism of gravitation

Atoms, molecules and most of ions are built up with nuclei (which in their turn are built up with protons, pressed together by forces of strong interaction [8]) and electrons or structures made up with some electrons revolving around the nuclei on to them characteristic orbits [9,10,11]. Electrons and electronic structures are kept up on these orbits by forces of Fatio known in science under the name of “electromagnetic forces”, balanced by centrifugal forces.

The way, in which the above electromagnetic force arises needs some explanation.

If a still electron is situated in space by itself, then symmetrically from all sides it sustains hits from elons jumping upon it and rebounding off without breaking its calm and losing their energies. But when a moving electron approaches an atomic nucleus, then from the side of this nucleus elons would stop jumping on the electron (because it would be placed in the nucleus’ shadow), whereas those which would jump on it from the opposite side, because of not meeting elons’ resistance from the shadowy side would knock the electron from its direct trajectory to the nucleus accomplishing some work.

On one side, it leads to incurvating of the electron’s trajectory and making it circular or close to circular while, on the other side, - to the absorption of the rebounding energies of the elons involved in such incurvating. The elons’ hits become inelastic.

If to take to account that keeping on bodies revolving (here electrons or electrons structures) requires energetic expenses, which was wrote about in [12], then it becomes clear that keeping the atomic-molecular matter active needs huge amounts of energy, amounts that are replenished with energy of the gaseous ether, which as to me is now considered as dark energy. How such expenses are replenished will be clear from the next chapter.

Weakening of the elons energies taking place while rebounding from electrons of the atomic-molecular matter may be associated with that local pressure impulse weakening in the ethereal space, which was mentioned in the above chapter, the weakened pressure impulses arising continuously during the electron’s (or electronic structure’s) revolving around the nucleus of an atomic-molecular structure, each time taking different direction but always opposite to the nucleus.

A weakened pressure impulse generated for instance in a solar molecule spreads in space with the speed of light on a direct trajectory to an unlimited distance until it touches some obstacle, for instance an atomic or molecular nucleus on our Earth. The touched nucleus of the terrestrial atom or molecule, which had been earlier under all-round ethereal pressure when meeting with the weakened impulse loses its pressure balance in behalf of impulses directed from the side opposite to the source of the weakened pressure impulse. Such pressure balance losses of the touched terrestrial atoms and molecules when summarized make up a force that attracts the Earth to the Sun.

It would be worth to notice that the above mentioned elons hitting terrestrial atom or molecule nuclei from the side opposite to the solar sources of weakened impulses also loose at least part of their energy, the part that is spent to keep on the revolving of the Earth around the Sun, the one that is also replenished by the said “dark energy”.

The above described action of weakened impulses is quite advisable to consider as gravitational one and the weakened impulses themselves - as the long ago mentioned in literature gravitons, the nature of which until now has been kept undisclosed.

As it must be clear from the above described the here characterized mechanism of gravitation can have as its source only the atomic-molecular matter because it is characterized by availability of orbital electrons and electronic structures. It is in no way may be characteristic to separate electrons or protons.

Heat exchange

Hereabove it was mentioned that there can exist reasons why in certain area of the ethereal space and in a certain direction there can arise a pressure impulse of a value different as compared to the impulses in other directions. Such impulse might be weakened, and such ones were discussed about in the previous chapter, or on the contrary they might be strengthened. Such strengthened impulses are generally related with heat exchange.

Science knows several kinds of heat exchange that finally could be reduced to the exchange of so-called quants of energy or photons. As to the photons' nature and structure scientists have not yet any certain ideas, the more that except the heat photons there are those, which to the heat transfer have not any relation, as for instance those that are responsible for luminescence, which in most cases occurs without any exchange of heat.

The processes of heat exchange inside the gaseous ether one can understand on the example of heat exchange between two neighboring areas of a certain volume of real gas, between which thanks to some reasons there has arisen a certain temperature difference.

Temperature difference is the difference of gas molecules chaotic motion velocities, and if some two areas are close to each other a little later the molecules' velocities would equalize, and both areas would obtain the same temperature. The gaseous ether being by its nature gas, elons would similarly strive to have energies equal in all neighboring areas.

Elons of ethereal areas neighboring the Sun have temperatures equal to those of the neighboring solar atomic-molecular matter, and the chaotic motion energies of these elons are continuously spreading in all directions with speeds nearing the speed of light because such are the velocities of their chaotic motion.

In what way the solar atomic-molecular temperature is keeping up I am going to highlight in next publications.

If the ether's heating by the solar matter is going continuously, then same continuously must go its equal cooling by the way of continuous and even emitting of energy in all directions. Quite obviously the amount of emitted energy transported through each point of space would be inversely proportional to its distance to the Sun.

The solar energy transported by ether for instance to the Earth keeps up the temperature of the terrestrial atomic-molecular matter.

Quite similarly one can explain for instance the heat exchange between two solid bodies (or between two volumes of liquid or gas) if to imagine that the energy of molecules of the warmer body is transported to the penetrable to its interior elons of the gaseous ether that being in constant contact with those of the environment transport them their excess of energy, and those in their turn transport it the elons of the cooler body.

Conclusions:

1. Ether friendly physics views the Universe as composed with four essential interconnected material components, such ones being proton and electron gases, atomic-molecular matter (together with ions) built up with particles of the proton and electron gases interconnected by the forces of Fatio

balanced with centrifugal forces, and all-permeable gaseous ether, composed with infinitesimal particles (elons).

2. In some point of the ethereal space and in some direction, there can arise an elons pressure impulse of a strength different comparably to impulses in all other directions. At the same time, as well as all other impulses, such an extraordinary impulse would spread out with the speed of light to unlimited distances.
3. The nature of the extraordinary impulse may consist in that one moment in the direction of its action the frequency of elons' travel may become greater or lesser than the elons' travel frequencies in all other directions, or the energies of elons running through this point may become greater or lesser than of those running through it in other directions.
4. Energy weakening of elons rebounding from atomic-molecular structures orbital electrons or electrons structures may be associated with a local pressure impulse weakening, the said impulses weakening occurring without interruption during the electron's (electronic structure's) revolution around the atomic-molecular structure nucleus, the said weakened impulses always choosing orientations opposite to the direction to the nucleus.
5. The weakened pressure impulse propagates in space with the speed of light on a direct trajectory to an unlimited distance until it reaches some obstacle, for instance the nucleus of some atom or molecule. The engaged atomic or molecular nucleus that was until now under all-around ethereal pressure loses its pressure balance in favor of the impulses directed oppositely to the arrival direction of the weakened impulse. Therefrom results the momentary attraction of the engaged nucleus in the direction of the weakened impulse generation source.
6. The weakened impulses action is advisable to consider as gravitational and the weakened impulses themselves – as the long ago cited in literature gravitons, which the nature has been until now unexplained.
7. The mechanism of gravitation can have as a source the atomic-molecular matter because it has orbital electrons or electrons structures, but It is not inherent to separate electrons or protons. Nevertheless, those separate electrons and protons can be objects to gravitational action of this mechanism.
8. The heat exchange between two solid bodies (or between two volumes of liquid or gas) consists in that the energy of molecules of the warmer body is transported to the penetrable in its interior elons of the gaseous ether that being in constant contact with those of the environment transport them their excess of energy, and those in their turn transport it the elons of the cooler body that warm it up.
9. Extraordinary elons' pressure impulses are advisably to associate with photons, such of them being weakened ones – with gravitons.

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