

## A short presentation of a new physics theory based on the HM16 model of ether

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*Summary.*

*Here we briefly expose a new physics theory, which contains some explanations of physical phenomena in nature including some unexplained to date. The New Physics Theory 2016 (NPT16) is based on a new model of ether HM16 which lead to NPT16.*

We have initiated the development of NTP16 based on our findings regarding the existence of some errors, even in basic chapters of physics, as follows.

By briefly exposing the following new physics theory, we are addressing those interested in a new proposal for a theory to explain physical phenomena in nature including some unexplained ones. The New Physics Theory 2016 (NPT16) is based on developing a new model of ether HM16 (Has, Miclaus, 2016), which will lead to NPT16.

We have initiated the development of NTP16 based on our findings regarding the existence of some errors, even in basic chapters of physics, as follows.

i). A first error of Physics, refers to the analytical part of Michelson's experiment. There was wrongly admitted that the form of transverse path of light in interferometer is an isosceles triangle. We have demonstrated analytically that the form of light in transverse path in the Ether Frame must be a right triangle. The error in the case of the interferometer is proven both analytically and geometrically Ref. [1].

Also in Ref. [1] the error in the transverse path is intuitive proven, for a boat (or a swimmer) on a river, a situation that represents the identical mechanical model of the interferometer.

In the case of the transverse path as right triangle, the time  $t_2$  results to be even equal to the longitudinal time  $t_1$  and in the situation when from Michelson's experiment resulted  $t_2 = t_1$ , Einstein would not have the main argument for his initiative to eliminate the ether from physics, which constituted his physical basis of SRT. Note that all similar experiments must contain the same error (Sagnac experiments type, are not similar).

ii). A second error of Physics is related to the wrong extrapolation of the results of Coulomb's experiments made at the scale of his laboratory, aimed at establishing the law for the interaction force  $F_C$  between two electric charges as function of the distance  $r$ . The extrapolation of the simple formula in  $r^{-2}$  of the electrical force  $F_C$ , was made both at the molecular-atomic scale and at the planetary- astronomical scale, but without a based justification.

ii a). However, from experiments resulted that at molecular-atomic scale exist new electrical forces called van der Vaals forces or Johnson or Yukawa potential type forces, which are not abiding the  $F_C$  type force. But because in these situations the interactions are all from electrical nature, this means that also these new forces must constitute some components of the electric type Coulomb  $F_C$  force. It follows that the simple formula  $F_C$  is no longer valid in this atomic-molecular area, and hence  $F_C$  formula should be corrected in accordance with reality.

ii b). At planetary, scale we observe that the researchers could not establish until now a unique theory of apparition and of development of electrical phenomena including lightning in Earth's

atmosphere. Such a theory must be generally accepted and based on the current electrostatics force  $F_C$  formula. This situation is an indirect confirmation of the fact that trying to extrapolate  $F_C$  at the planet level is a mistake. This conclusion is all the more valid, since until now, no direct experimental verification of the law of  $F_C$  type, at planetary scale exist.

ii c). At the astronomical scale one ascertains that so far it has not been established a theory to explain the development of all phenomena at galactic and extragalactic level (eg. the origin and properties of cosmic radiation, etc.), based on generally accepted theory of electromagnetism and electrostatics, both based on the formula of  $F_C$ .

ii d). At the same time deviations were observed in the movements of celestial bodies from the current theory of gravitation (eg. the necessity to introduce, “ dark matter and dark energy “ notions, the isotropic around Terra “expansion “ of the universe, etc.). This theory is based on the Newton’s law of attraction force  $F_N$  given by the simple formula in  $r^{-2}$  type (which  $F_N$  has also an electrostatic nature as we show below). These data and facts constitute another indirect confirmation that the extrapolation attempt of  $F_C$  at galactic level is an error. This is true even more, since to date not even at galactic level, there is no direct experimental verification of the law of  $F_C$  type.

iii). To correct these errors due to inapplicability of the simple law of Coulomb force  $F_C$  type, at any range of space, as we have shown at points ii)., we have proposed and admitted in our efforts, a new hypothesis. The new hypothesis admits that the simple Coulomb’s law  $F_C$  with a single term in  $r^{-2}$  should be completed as a series of powers of  $r$ . The new form of electrical force can be obtained by completing the current term, with new terms in  $r$  powers, situated on both sides of the current term. And last term from left, will have the form  $-lnr$ . This completed form of electrical force of Coulomb’s law, was denoted with  $F_{CC}$  Ref [2].

iv). The next step was to elaborate a new theory of gravity, that we started from admitting in our calculus, the completed Coulomb’s law  $F_{CC}$ .

We started also from the observation of a real fact of nature, that two electric charges  $+q$  and  $-q$ , independent or even from an atom, do not overlap in present, and will not overlap never in future, within existing matter at a moment. So they constitute and will constitute a permanent dipole  $p$ , having an arm  $l$ , which can vary in size and direction but it ( $l$ ), will never be cancelled. A perfect overlap of electric charges  $+q$  and  $-q$  will still be able to appear only at their mutual annihilation, that is at their disappearance (really, their transformation into other forms of matter or energy). In this situation, it means that at the atomic, nuclear, neutron level, will act permanent dipoles  $p$ , consisting of electric charges  $+q$  and  $-q$  Ref [2]. Neglecting this fact regarding electric charges  $+q$  and  $-q$  in actual physics is another error.

v). Then we calculated analytically the force  $F_{DC}$  of interaction between two identical dipoles  $p$ , using completed Coulomb’s law  $F_{CC}$ . We achieved the result that the force  $F_{DC}$  is also a power series in  $r$ , and the last left term depends on  $r^{-2}$  just as the gravity Newton’s force  $F_N$  depends, also on  $r^{-2}$ , so the two force laws  $F_{DC}$  and  $F_N$  have the same structure of terms Ref [2].

Then, we calculated the value of force  $F_{DC}$  for two identical dipoles  $p$ , situated at an astronomical distance, using in the calculation, for the parameters from the  $F_{DC}$  formula, even the actual values of electron charge  $e$ , and the actual permittivity of vacuum  $\epsilon_0$  (corrected for different units in different terms).

It was then calculated the value of  $F_N$  force, corresponding to the masses of atoms, forming the two dipoles  $+q / -q$ , using as parameter of gravitational constant the current value  $G$  of the formula  $F_N$ . And by comparing the two values of  $F_N$  and  $F_{DC}$  resulted from calculations, it was revealed that they are practically equal (ratio  $R = F_N / F_{DC} \approx 0,65$ ) Ref [2].

Thus we obtained the result, that the current gravitational force  $F_N$  between two masses of the two atoms, situated at astronomical distance, (regarded today as a force having its own nature of attractive type), is exactly equal with the electric interaction force between electric dipoles  $F_{DC}$

which are constituted in the two atoms, but considering valid our hypothesis of completed Coulomb's law  $F_{CC}$ . It follows from the obtained equality of the two forces, that actual gravity force  $F_N$  does not really exist as a distinct force, but its effect remains, which will be given by the force of interaction  $F_{DC}$  between electric dipoles which are constituted in the two masses Ref [2].

vi). And this result of equality  $F_{DC} \approx F_N$ , shall constitute an indirect confirmation of the validity of our hypothesis regarding the completion of Coulomb's law as  $F_{CC}$ . Otherwise it is quite unlikely to obtain  $F_{DC} \approx F_N$ .

vii). Based on the results and findings of the Sections. i). .... vi). it was possible to develop a new model of ether, HM16 .

This ether model HHM16 is based on our assumption regarding the existence of discrete particles at ether level 1, etherons  $\alpha$  and  $\beta$  forming the ether, present in the entire space of the universe. Etherons  $\alpha$  and  $\beta$  are placed in a regular network of crystalline type or of fluid type (this type of aggregation has no significance on the overall presentation of the ether). Etherons  $\alpha$  and  $\beta$  are subjected to some connexion forces between them, forces having a special nature, but they must be of electric completed Coulomb  $F'_{CC}$  type (by similarity with MPs, but this type of force has no significance on the overall presentation of the ether). This ether is real matter and represents a particular form of the matter with ideal behaviour, its displacements and deformations occur without friction, and therefore no loss of energy appears, so having a behaviour of the perpetuum mobile Ref [3].

viii). The types of material observable particles can be: microparticle (MP), submicroparticle (SMP), elementary submicroparticle (SMPE), depending of their behaviour and on the scale of the analysis. They consist of groups of etherons  $\alpha$  and  $\beta$ , which received an initial intake of energy  $W_0$ . That energy causes the particles to have inside, a perpetual motion of vortex type or of vibration type, which accumulates the energy  $W_0$ . This vibration/vortex of MP will be transmitted also to the adjacent ether by the appearance in ether of some vibrations of wave type, called fundamental vibration (FV), that propagate through ether with fundamental wave velocity  $v_F$ .

ix). Vibrations VFs of an MP1 will reach MP2, producing upon MP2 some interaction forces  $F_O$  (pressure-tension), whose resultant will be a force R of electrical nature. This force R should be exactly the completed Coulomb  $F_{CC}$  force. And the interaction between dipoles p, made up of MPs, will create even the force  $F_{DC}$ , which will constitute the current gravitational force, according to Sections v). and vi) Ref [3]. Also we note that by FV wave propagation through the ether, no energy is transmitted (the energy of the MPs does not diminishes).

x). But by passing an MP between two energy states, the last state being lowered, it will release an amount of energy  $\Delta W$  which will lead to creation and emission of a SMPE that will be even a photon F, which will travel / move through the ether with speed c. But the photon F in its turn being a special microparticle SMPE type it will create its own VFs, which will be transmitted through the ether with the speed  $c_F$  and this combination Fs+FVs will create electromagnetic waves EM. Giving the nature of the two phenomena produced in the same ether we appreciate, that  $c_F > c$  Ref [3].

xi). We can advance the idea that movement in ether of F's and MP, can be done in two ways Ref [3].

In the hypothesis IP1, the movement of MP/F can be done by translating the effect of vibration/vortex, over the etherons encountered on the particle's trajectory, the etherons remaining unmoved in ether.

In the hypothesis IP2 the displacement, of the existing etherons in the volume occupied by MP/F, along the particle's trajectory is being produced. Simultaneously with displacement, reoccupation of the place freed by MP/F, in its displacement on the trajectory is being produced.

These displacements of ether in IP2, will occur without friction and therefore without loss of energy.

xii). Because  $c_F > c$ , F photon, in its movement through ether with speed  $c$ , it will be preceded by the own waves of vibration FV. Thus the interaction of F with the other MPs, there will be in fact, the interaction of these two FVs, and thus one can explain the dual character wave-particle of both, of the photon F and of the EM waves, as well as dual character wave-particle of MPs (de Broglie waves).

xiii). It is obvious that movements of MP or F in the ether, may be made only by jumps from one to another etheron, therefore all movements occur in quantum mode.

In IP2, involving the movement of the ether itself comprised in MP/F volume, the movement will occur by jumps from one to another subetherons which should represent an ether of order 2. Thus one explains the apparition and development of processes at MP physical scale, being of quantum type.

## **References**

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