

General Theory for the Unification of the Electric Force with the Gravitational Force

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ABSTRACT

From the foundations of Special Theory of Relativity, we demonstrate in the simplest way possible, that the electric force can be described through the Theory of General Relativity.

INTRODUCTIONS

To demonstrate, through the foundations of General Relativity Theory, that the charge radius of a particle, assuming the coincidence of the mass radius with that of charge, is reduced when another particle go into, we introduced the concept of ether J_G by the volumetric density J_P of the particle (the proof is valid even if the radius of mass and charge radius do not coincide, since in the presence of a gravitational field, the ratio between the charge radius and the mass radius remains constant).

THEORY

- a) Given any particle, we assume that the volumetric density of the ether isn't relative to the volumetric density of the particle, but relative to any particle, has a constant value equal to J_G .
This is tantamount to stating that

1) Relative to the ether, all particles have the same volumetric density J_G .

Then we can deduce that the volumetric density and then the specific volume of each portion of the ether, relative to the ether is zero; therefore the ether turns out to be indistinguishable from empty space.

b) Let's consider two particles with different volumetric density DJ of one with respect to the other, given by the difference between the volumetric densities of the two particles, is nothing but the relative density of one particle with respect to the other. This relative volumetric density of one particle with respect to the other, for 1), leads us to hypothesize the existence of an ether of volumetric density DJ between the two particles, whose value, in elementary cases, should be positive for the meaning physicist of ether.

It turns out that for General Relativity the two particles will have to attract each other since DJ has simply replaced J_G .

Since with respect to the curvature induced by the two particles, in the ether DJ , the ether J can be considered approximately flat, we can say that

2) The acceleration induced on the two part by the curvature generated by their masses in the ether DJ , for each particle, in the ether J_G , will be function of its own mass. Moreover, the acceleration modulus will be greater than that generated in J_G if DJ is smaller than J_G , as the relative volumetric density DJ of the moving particle must at all times coincide with the volumetric density of the ether J_G .

c) If the value of the difference in the volumetric density between two particles placed in the relative ether DJ is zero, we obtain that between these two particles there must exist another relative ether which in this case will have the negative value $-DJ$ and that instead of the attraction cause repulsion between these two particles. In fact in General Relativity we will simply substitute $-DJ$ to DJ .

From the points a), b) and c), we deduce that

- 3) the attraction between two particles with different volumetric density in the ether DJ, coincidence with the attractive electric force between particles opposite sign, as happened between proton and electron, while between two particles with the same volumetric density, the force will be repulsive, as happens between particles with the same sign, as between two protons or two electrons.
- d) With respect to the ether DJ, all electron - like particles, but different volumetric density, will be observed with different mass and equal volumetric density. From this point of view we can deduce that all remaining particles will have the same volumetric density as the proton.
Therefore point 3) will still be valid for these particles.

CONCLUSION

We can deduce that from the neutron decay, not only the electron, the proton, and the antineutrino arise, but also the ether DJ; therefore the proton and the electron are never free from each other, but are always bound by the ether DJ and when an electron orbits around a proton, it is as if the distance between this system and the bound one exclusively from the ether DJ, became infinite, vanishing the interaction between the proton (electron) of the hydrogen and the proton (electron) of a system bound only by the ether DJ.

This deduction must also hold for the neutron and all neutral particles; in this way the neutral particles can get closer to the others because the interaction scale is infinite small compared to the size of Hydrogen. Furthermore we can deduce that the photon has zero mass because it belongs to the ether J_G , while the neutrino appears to have mass in the ether J_G has zero mass in the ether DJ (see point a)).