# The electromagnetic nature of the gravitational field. Theoretical value of G. Theoretical value of the proton radius.

When Einstein wrote his first work, he conceived the ether like a material with a certain mass, with density $J_e$ of which could be subject to minor fluctuations (Einstein and the ether L.Kostro). The measurement of the volume $V_N$ and mass $M_N$ of a particle N with density $J_N$, contained in the ether with density $J_e$, will be null and the particle cannot be detected.
If we imagine to be able to remove a certain amount of volume in the ether in which the particle N is found ( imaginary experiment ), then we could distinguish the particle N from the ether that contains it. In the space ( $x_1$, $x_2$, $x_3$, $x_4$), let's imagine desplacement this volume from space ( $x_1$, $x_2$, $x_3$) to space ( $x_1$, $x_2$, $x_4$). In this case the particle N will be dectable in the portion of volume V in space ( $x_1$, $x_2$, $x_3$) and its mass $M_N$ can be measured. The missing volume is the sum of infinitesimal missing volumes; therefore the absolute value of the mass $M_N$ of the particle N must be equal to the absolute value of the missing volume V: $|V| = |M_N|$.
With this imaginary experiment we can treat the mass as if it were a volume.
Let's consider the mass flow equation $V J_X = V$ (xKg / 1m³) ( see Vixra 1711.0299 Authors: Piscedda Giampaolo ); let's assume that 1m³ is the volume desplacement from space ( $x_1$,$x_2$,$x_3$) to space ( $x_1$, $x_2$, $x_4$) that allows to detect the mass xKg. Since we can consider xKg as if it were a volume of space ( $x_1$, $x_2$, $x_3$), then the volume moved in ( $x_1$, $x_2$, $x_4$) and the volume analogous to the quantity xKg, will have in common the surface ( $x_1$, $x_2$) delimited by $x_1$=1 and $x_2$ = 2.

Then the value of the physical quantity xKg, will coincide with the one-dimensional component x of space ( x , x , x ). In the theory Gravity from Electricity (Vixra 1801.0242 Author: Piscedda Giampaolo; Vixra.org/author/piscedda_giampaolo ), it was obtained that the value of the mass flux due to the neutron was equal to 9 ( $h/c^2$ ) = $9m_h$. Then, being able to treat the mass flow as if it were a volume flow, to the second member of the equation V(xKg/ 1m³), we must not place $9m_h$ but $((3/4\pi)\, 9|m_h|) = |x_3|$; So we get $V$ (xKg/1m³) = $x_3$Kg; from which xKg/1m³ = $x_3$Kg/V i.e. $J_G = V/x_3$Kg = 6.6692 × $10^{-11}$ m³/Kg.
Hence the value of the gravitational constant G = 6.66921 × $10^{-11}$ m³/ Kg (1sec)².
The value obtained in the experiment conducted by scientists
G. Rosi, F. Sorrentino, M. Prevedelli & G. M. Tino, is 6.67191 (99) × $10^{-11}$
(Precision Measurement of the Newtonian Gravitational Constant Using Cold Atoms).
It follows that the gravitational field can be treated as if it were electromagnetic, as in article Gravity from Electricity, Vixra.org/author/piscedda_giampaolo, we have described the electric force through its mass flux. It can be deduced that also for the gravitational waves the experiment of the double slit of Young will have to be valid. If you imagine surrounding a rubber ball with slit, such that, between the surface of the plastic ball and the surface with slit surrounding it, the distance between the slit and the width of each slit, satisfy certain conditions, we could obtain a gravitational field with maximus and minimums. In this case a material point would follow the trend of these maximums and minimums. In this case a material point, in passing from a minimum to a maximum would suffer a repulsion that we can identify in a negative Gravity or anti-Gravity.

Three rubber balls are given surrounded by a surface with slit as described above; with the same mass, placed at the same distance from each other, such that the two outer balls generate a gravitational field, whose maxima and minima overlap with the maxima and minima of the central ball, so that the field of the latter annuls. In this case, taking into account that a mass generates a mass flux and viceversa, the central plastic ball would disappear?
In the Dier Grundlage der allgemeinen Relativitätstheorie of A. Einstein, page 819 equation (7a) $a = \varkappa M/8\pi$, we obtain that the volume flux is constant $4\pi c^2 (a/8\pi)$, i.e. doesn't depend on the distance from mass M ( see Vixra 1711.0299 Authors : Piscedda Giampaolo ), then for particle with radius of the order of magnitude of the volume flux $4\pi c^2 a' = (4\pi/3) r^3$, if we change the surface of the volume flux, for example through the double slit experiment of Young, by passing the volume flux of a electron into two slits, we observe that the electron, it will cross both slits at the same time.
From Young's experiment, I answer that I think it's possible for him to make a particle disapper.

The reasoning done in order to obtain the constant of gravitation, can be used in order to obtain the theoretical value of the radius of the proton, simply considering the proton mass itself as mass flux; in such case we obtain $VJ_p = [(3/4\pi)|M_p|]^{1/3}$ Kg with $|V| = |M_p|$ and $J_p = M_p / V_p$;
then $V_p = V M_p / [(3/4\pi)|M_p|]^{1/3}$Kg and so $r_p = 8.67976 \times 10^{-16}$m.
The theoretical value that we obtained of the proton radius is much higher than the CODATA values 2018 and 2014!

The article published in Arxiv: 1808.08677 ( title: Proton Mass Decomposition from Q'S energy momentum tensor ), shown that the contribution of the mass of the proton comes from the following four terms:
I) quark condensate 9 (1)% II) trace anomaly contributes 23 (1)%
III) quark energy contributions 32 (4)% IV) gluon energy contributions 36 (4)%.
The first term (quark condensate) is a mixture of the up and down quarks ad a sea of virtual strange quarks; the second term consists of contributions from condensates of all quark flavor, including the strange, charm, bottom and top quark (see Dissecting the mass of the proton, Author: André Walker - loud).
Then we deduce that The sum of the first and second terms, can be considered as a separate mass $M_q$ from the remaining mass of the proton and for the reasons given in the article Vixra 1711.0299 (Author: Piscedda Giampaolo), cause a volume flux within the proton volume of radius $r_p = 9.67976 \times 10^{-16}$m, which will decrease the radius $r_p$ of the proton;
if we give to $M_q$ a value between 34,3% and 34,4% of prton mass we obtain the $r_p$ CODATA value 2018: $V_{p_f} = V_p - M_q J_p$, with $J_p = V_p / M_p$ ; from which obtain the $r_p$ CODATA value 2018.
If instead we give to $M_q$ the value of 26% of proton mass, we obtain the value $r_p$ CODATA 2014.
In this case $M_q$ does not fall within the calculated contribution of proton mass and we must assume that the value $M_q$ must variable in the time; then we can assume that the value of the proton radius depends on the value assumed by the four terms that contribute to the mass of the proton. If we give to $M_q$ the value of 26% of proton mass, then to obtain the CODATA value 2018, we must consider the volume flux caused to the muon mass in the proton volume: Vixra 1711.0299. Authors: Piscedda Giampaolo).

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