Trial experiments for the technology of theories.

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Abstract.

There are amazing properties of mathematics to model and calculate physical properties of matter. Mathematics describes physical experiments, generalizes and predicts physical properties. And mathematical models are created in the Euclidean axiomatics of points ("...having no parts"), lines ("...length without width"), a system of numbers equal by analogy to units. A set of Euclidean points at one point, is it a point or a set of them? A set of Euclidean lines at one "length without width", is it a line or a set of them? Euclidean axiomatics does not give answers to such questions. But it is this axiomatics that is our technology of theories in space-time. There is another technology of theories of dynamic space-matter, in which the technology of theories in Euclidean axiomatics is a limiting, special case.

To test the reality of such a technology of theories, in essence, research is conducted by examining trial experiments that follow from such a technology of theories of dynamic space-matter.

1.Introduction.

We considered the properties of dynamic space-matter with its own axiomatics (as facts that do not require proof) in which the Euclidean axiomatics, as well as its technology, is a special case. Let us recall briefly.

Isotropic properties of straight parallel (∥)lines-trajectories give Euclidean space with zero ($\varphi = 0$)angle of parallelism.

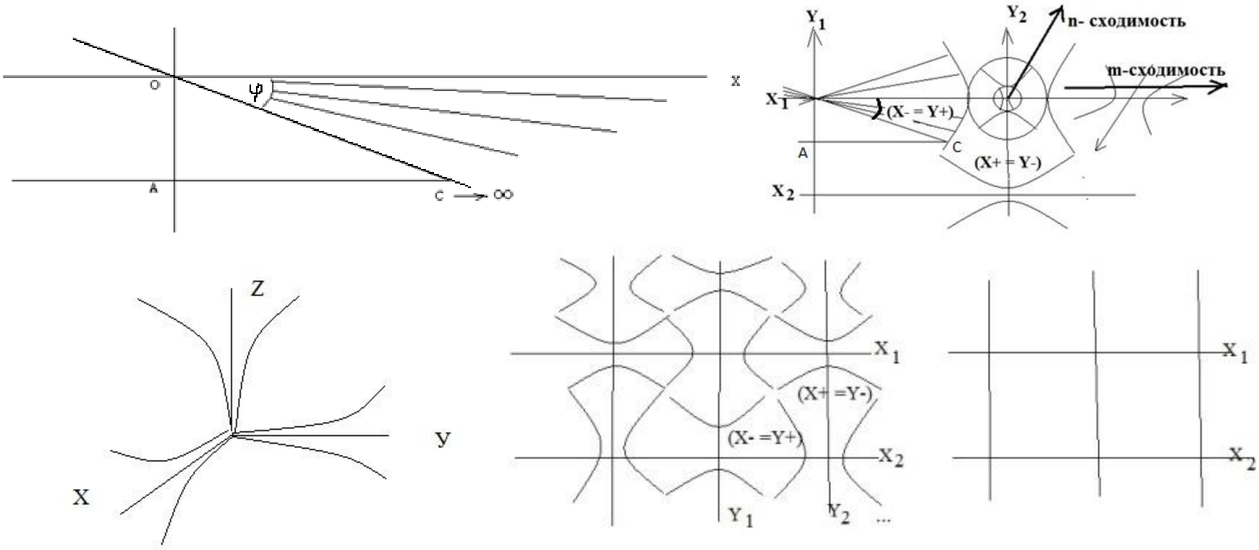


Fig. 1. Dynamic space-matter.

In this case, through the point O, outside the ray (AC → ∞), there passes only one straight line (OX)that does not intersect the original straight ray (AC → ∞). The fact of reality is that when moving along (AC → ∞)to infinity, within the dynamic ($\varphi \neq const$)angle of parallelism, there is always a dynamic bundle of straight lines in (X−)a dynamic field, with a non-zero ($\varphi \neq 0$)angle of parallelism, and not intersecting the ray (AC → ∞)at infinity. We are talking about a set of straight lines passing through the point O, outside the straight line (AC → ∞)and parallel to the original ray (AC → ∞). This is "length without width" in Euclidean axiomatics, with the uncertainty principle (X−)of the line- trajectory. In the

axes (XYZ), as we see, Euclidean space loses its meaning. It simply does not exist. Such mathematics of Riemannian space $\boldsymbol{g_{ik}}(x^s \neq const)$, with a variable geodesic, does not yet exist.
Therefore, there is no geometry of the Euclidean non-stationary sphere, there is no geometry of the space of the geometry of Lobachevsky, with variable asymptotes of hyperbolas. These orthogonal $(X-) \perp (Y-)$lines-trajectories have dynamic spheres inside, non-stationary Euclidean space $(\varphi \neq const)$. And these $(X-) \perp (Y-)$lines-trajectories have their own fields of a single and$(\varphi \neq const)$ dynamic $(X+ = Y-)$, $(Y+ = X-)$space-matter. In the Euclidean grid of axes $(X_i) \perp (Y_i)$, we do not see it, and cannot imagine it. And this is already another $(\varphi \neq const)$technology of mathematical and physical theories, in which the existing technology of Euclidean axiomatics $(\varphi = 0)$or $(\varphi = const)$Riemannian space is a limiting and special case, respectively.

Based on these ideas, theoretical models are constructed, the reality of which is tested in trial experiments.

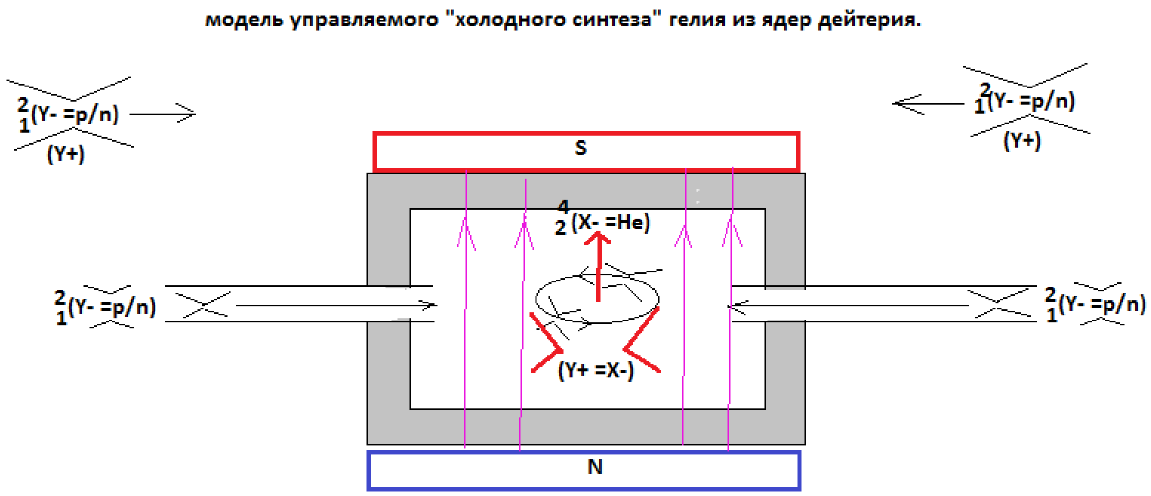
2.Controlled thermonuclear reaction

From the axioms of dynamic space-matter, considered in " Quantum Gravity " , the properties of a single space-matter follow $(X\pm = Y\mp)$: $(X+)(X+) = (Y-)$or $(Y+)(Y+) = (X-)$. Their symmetries give structural forms of matter of proton and electron. There are quantitative calculations of such structural forms, including proton and electron. In general, antimatter $(X\pm)$or $(Y\pm)$quanta of space-matter, is in the structural form of matter. There are such calculations.

These are geometric facts, we emphasize, of dynamic space-matter, with non-stationary Euclidean space, which correspond to the physical properties of matter. Therefore, the quantum of Strong Interaction $(Y\pm = p^+/n)$of the substance of the proton and neutron in the nucleus of an atom is represented as a structure having the properties of antimatter $(Y\pm = p^+/n = e^{***+})$, similar to the antimatter of the positron $(Y\pm = e^+)$. Therefore, such quanta are in a bound state of matter in the form of $({}^4_2\alpha)$a particle of the nucleus. A separate quantum of the deuterium nucleus is bound by the matter of the orbital electron, forming the external matter of $({}^2_1H)$the deuterium atom. At the same time, the quanta of Strong Interaction themselves $(Y\pm = p^+/n)$have a minimum binding energy in the nucleus, $\Delta E = 2 * \alpha * p = 2 * 6{,}9 = 13{,}8 MeV$. Their maximum energy in metal nuclei, $\Delta E = 2 * 8{,}5 = 17\ MeV$, recorded in experiments. Thus, deuterium nuclei in the plasma state, unlike the substance of deuterium atoms, are a structure of quanta $(Y\pm = p^+/n = e^{***+})$of the Strong Interaction, with the properties of antimatter, similar to the positron $(Y\pm = e^+)$.

Today, controlled thermonuclear reaction: $({}^2_1H + {}^3_1H \rightarrow {}^4_2He + {}^1_0n + 17{,}6MeV)$is created in plasma. These are different nuclei. In space-matter $(Y- = X+)$, this $({}^2_1H + {}^3_1H)$is similar to the connection of mass trajectories of the "positron" $(Y- = p^+/n = e^{***+})$ or $(Y- = e^+)$, and "proton" $(X+ = {}^3_1H = p^{***+})$or $(X+ = p^+)$. Proton with positron, with mutually perpendicular$(Y-)\perp(X-)$ trajectories , this is hydrogen, in which **<u>everything goes to the rupture of the structure</u>** , in plasma in this case. And only with impacts in high-temperature plasma, in fields$(X+ = p^+)$ Strong Interaction , vortex mass trajectories are formed $(Y- = p^+/n)(Y- = p^+/n) = (X\pm = {}^4_2He)$, already of a new core, as a stable structure.

More effective conditions for controlled Thermonuclear Reaction are counter flows of deuterium plasma, with perpendicular injection of antiproton beams at the point of meeting of plasma flows. The flow of deuterium plasma itself is a controlled flow of ions, a more stable state of plasma. Or inelastic collisions of deuterium beams of low energies, in a chamber with perpendicular lines of force of a strong magnetic field, without primary plasma. This will already be controlled "cold fusion" of helium.



The resulting alpha particles heat the water jacket of the already controlled thermonuclear reactor. The energy yield of such a synthesis of structured plasma is calculated according to the standard scheme.

$$\Delta m(2[{}_1^2H]) = 2[(1{,}00866 + 1{,}00728) - (m_{core} = 2{,}01355)] = 0{,}00478aem$$

$$\Delta m([{}_2^4He]) = [(2 * 1{,}00866 + 2 * 1{,}00728) - (m_{core} = 4{,}0026)] = 0{,}02928aem.$$

$$\Delta E = \Delta m([{}_2^4He]) - \Delta m(2[{}_1^2H]) = (0{,}02928 - 0{,}00478) = (0{,}0245) * 931{,}5MeV = 22{,}82MeV$$

2 grams (one mole) of such deuterium plasma is equivalent to 25 tons of gasoline.

3. Ultra-high frequency gravitational waves.

From the equation of Einstein's General Theory of Relativity, as a mathematical truth in dynamic space-matter, the equations of quantum gravity . And already in the direction of the source of gravity, we speak of quasi-potential quantum gravitational fields of acceleration of mass trajectories. Their superposition from a set of (quantum) protons in a massive sphere forms a common gravitational field of accelerations, of a massive sphere in this case.

If we talk about ultra-high-frequency gravitational waves, without going into "Black Holes" and galactic nuclei, "black spheres" wandering in galaxies, then we can check their presence in simple experiments on Earth. Within the framework of the properties of dynamic space-matter, we can check the presence of quantum gravitational acceleration fields (Fig. 4).

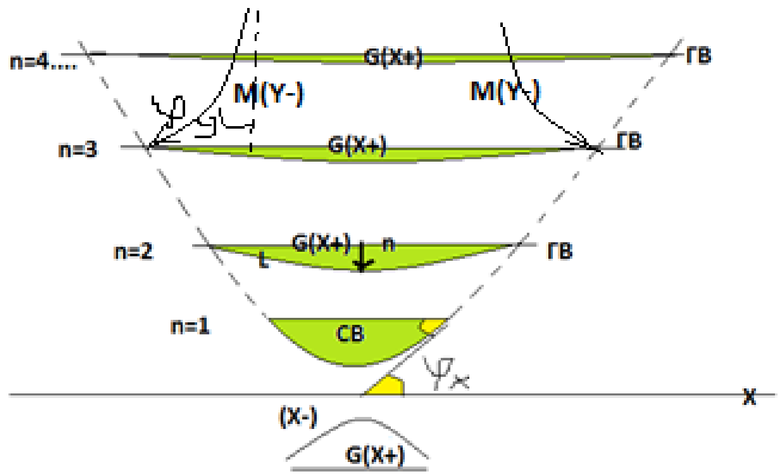


Fig . 4. Quantum gravity fields .

The essence of the experiment is to pass a photon through quasi potential quantum gravitational fields of accelerations, for example ${}_2^4\alpha$- particles, nuclei of helium, or deuterium, or tritium of simple nuclear structures. These are the levels of mass G (X + = Y -) trajectories of electron (Y - = e^-) orbits of an atom. But these are precisely high-frequency (up to 10^{22} Hz) quantum gravitational fields, which correspond to the goals of the experiment.

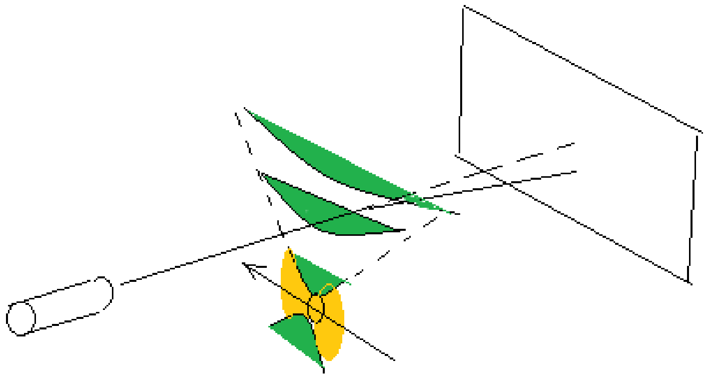


Fig . 4.1. Quantum gravity fields .

By passing nuclei ${}^{4}_{2}\propto$- particles through a beam of photons, on the screen we will see the curvature of the photon trajectories around the nucleus, similar to the curvature of light rays around the Sun. But here we can take the characteristics of the curvature of the trajectories of individual photons, in the parameters of the quantum gravitational field.

4.Superluminal photons

From the axioms of such a dynamic $(\varphi \neq const)$space-matter, as geometric facts that do not require proof, $(m-n)$convergence, are formed by Indivisible Areas of Localization as indivisible $(X\pm)$and $(Y\pm)$quanta of dynamic space-matter. Indivisible quanta

$$(X\pm=p),\ (Y\pm=e),\ (X\pm=\nu_{\mu}),\ (Y\pm=\gamma_{o}),\ (X\pm=\nu_{e}),\ (Y\pm=\ \gamma),$$

form OL $_1$ – the first Region of their Localization. OL $_2$, OL $_3$ – Regions of Localization of indivisible quanta are formed in exactly the same way.

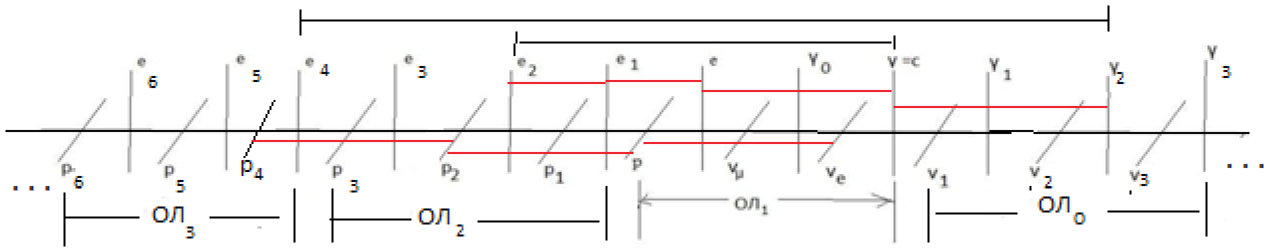


Fig.4 quantum coordinate system

In "Unified Theory 2" the calculated characteristics of such quanta are presented, which correspond to the recorded facts of reality. An electron emits and absorbs a photon: $(e \leftrightarrow \gamma\ )$. Their speeds are related by the relation: . The speeds of a photon $(v_e=\alpha * c)$and a superluminal photon $(v_{\gamma} \leftrightarrow \alpha * v_{\gamma_2})$are related in exactly the same way $(\gamma \leftrightarrow \gamma_2\ )$. They are connected by red lines in Fig. 4. In "Black Holes", we considered the sequences of emission and absorption of indivisible (stable) quanta, in such a quantum coordinate system, in the form: : $(p_8^+ \to p_6^-)$, $(p_6^- \to p_4^+)$, $(p_4^+ \to p_2^-)$, $(p_2^- \to p^+)$, with the corresponding atomic nucleus: (p^+/e^-)substances of an ordinary atom,(p_2^-/e_2^+) antimatter of the nucleus of the "star atom",(p_4^+/e_4^-) matter of the galaxy core, (p_6^-/e_6^+)antimatter of the quasar core and "," (p_8^+/e_8^-)matter of the core of the "quasar galaxy." Further, we proceed from the fact that the quantum(e_{*1}^-) substances$(Y- = p_1^-/n_1^- = e_{*1}^-)$ planet cores emits a quantum

$$(e_{*1}^+ = 2*\alpha*(p_1^- = 1{,}532E7\ MeV)) = 223591MeV, \qquad \text{or:} \qquad \frac{223591}{p=938{,}28} = e_*^+ = 238{,}3*p$$

mass of the uranium nucleus, the quantum of "antimatter" $M(e_*^+) = M(238{,}3*p) = {}^{238}_{92}U$, the uranium nucleus. Such "antimatter" $(e_*^+ = {}^{238}_{92}U = Y-)$is unstable and disintegrates exothermically into a spectrum of atoms, in the core of the planets. Such calculations are consistent with the observed facts.

In the superluminal level$w_i(\alpha^{-N}(\gamma=c))$ physical vacuum, such stars do not manifest themselves. Further, we are talking about the substance $(p_3^+ \to p_1^-)$of the core$(Y- = p_3^+/n_3^0 = e_{*3}^+)$ "black spheres" around which, in their gravitational field, globular clusters of stars are formed. Similarly, further, we are talking about the radiation of matter from antimatter and vice versa: $(p_6^+ \to p_5^-)$, $(p_5^- \to p_3^+)$, $(p_3^+ \to p_1^-)$, $(p_1^- \to \nu_{\mu}^+)$. The general sequence is: $p_8^+, p_7^+, p_6^-, p_5^-, p_4^+, p_3^+, p_2^-, p_1^-, p^+, \nu_{\mu}^+, \nu_e^-$ ....

Next: НОЛ $= M(e_4 = 1{,}15\text{ E}16\ )(k=3.13)M(\gamma_2 = 2{,}78\text{ E}-17\ ) = 1$. These quanta$(p_4/e_4)$ the nuclei of galaxies are surrounded by individually emitted quanta(p_2/e_2) cores of stars, and are the cause of their formation. Such cores of galaxies, in the equations of quantum gravity, have, spiral arms of mass trajectories, already: $v_i(\gamma_2 = \alpha^{-1}c) = 137 * c$, in superluminal space of velocities. Below the energy of light photons ($v_{\gamma_2} = 137 * c$)in a physical vacuum, galaxies do not manifest themselves. Outside galaxies, we are talking about the quanta of the core of megastars($Y- = p_5^-/n_5^- = e_{*5}^-$) . They generate a lot of quanta. ($e_{*5}^- = 2 * \alpha * p_5^- = e_{*4}^+ = 290p_4^+$) galactic nuclei. And so on.

The important thing is that an ordinary photon ($Y\pm = \gamma$)can emit and absorb a superluminal photon ($Y \pm = \gamma_2$)in exactly the same way as an electron ($Y\pm = e$)emits an ordinary photon ($Y\pm = \gamma$). The source of ordinary photons are stars. And the source of superluminal photons are the "heavy" electrons of the galaxy's core.

$$\text{НОЛ} = M(e_2 = 3{,}524\text{ E7 })(k = 3.13)M(\gamma = 9{,}07\text{ E} - 9\text{ }) = 1$$
$$\text{НОЛ} = M(e_4 = 1{,}15\text{ E16 })(k = 3.13)M(\gamma_2 = 2{,}78\text{ E} - 17\text{ }) = 1$$

Moreover, for a photon ($Y\pm = \gamma$), the speed of a superluminal photon ($Y \pm = \gamma_2$)will have the same speed of light: $w = \frac{c+137*c}{1+\frac{137*c*c}{c^2}} = \frac{c(1+137)}{(1+137)} = c$. These connections are shown in Fig. 4. In essence, we are talking about "immersion" of quanta of the core of stars and galaxies, in the corresponding levels of physical vacuum. As we see, quanta of the core of galaxies are "immersed" in the superluminal space of velocities. And there is a fact of the presence of "supermassive compact objects" discovered in the core of galaxies. And there is another representation of the properties of such objects:

$$(R < R_0) = \frac{2GM}{(v_i > c)^2}$$

with the presence of superluminal space: ($v_i > c$), inside ($R < R_0$)such "black spheres" called "black holes". There are no "holes" and no singularities in "black holes". The mass of such "black spheres" ($M \neq 0$)is not zero, and this is a fact of our galaxy. The false idea of Einstein's General Theory of Relativity is that it is believed that the equation presents a non-zero mass as a source of curvature of space-time, as a source of gravity. There is no such mass in Einstein's equation. In the equation of Einstein's General Theory of Relativity, as a mathematical truth in dynamic space-matter in its full form:

$$R_{ik} - \frac{1}{2}Rg_{ik} - \frac{1}{2}\lambda g_{ik} = \frac{8\pi G}{c^4}T_{ik}.$$

there is no mass: ($M = 0$), in its classical understanding. In mathematical truth, this is the difference in relativistic dynamics at two fixed points of Riemannian space, one of which **is reduced to the Euclidean sphere** (these are the key words), in the external, non-stationary ($\lambda \neq 0$)Euclidean space-time. No one enters inside the sphere, just as in Newton's law. This is a repeatedly tested law: $F = \frac{Gm_1m_2}{K^2}$, where (K)is the distance between the centers of massive spheres of the Earth and the Moon, for example. And if a small ball is dropped into the diametrical hole of a large sphere, the gravitational force should tend to infinity at ($K = 0$). This is also a kind of singularity, which does not exist in Nature. Newton's law is valid only outside the massive sphere.

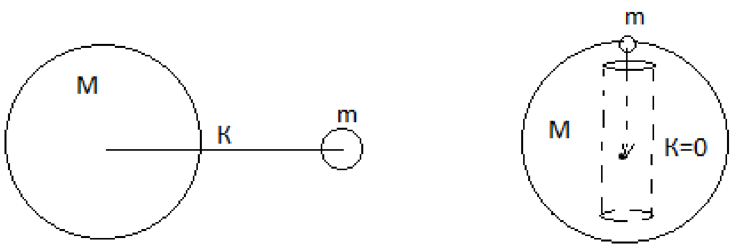


Fig.5. Newton's law

In the same way, the equation of Einstein's General Theory of Relativity is really outside the Euclidean massive sphere, in its gravitational field. In the physical truth, in the equation of Einstein's General Theory of Relativity, in the unified Criteria of Evolution, the formula (law) of Newton is "sewn up":

$$E = c^4K, P = c^4T, \left(c_i^2 - c_k^2 = \Delta c_{ik}^2\right) = \frac{E^2}{P^2} = \left(\frac{K^2}{T^2} = c^2\right), \quad \Delta c_{ik}^2 = Gv^2(X+) \neq 0$$

$$\Delta c_{ik}^2 = \frac{c^4c^4K^2}{c^4c^4T^2} = \frac{G(c^2K_Y = m_1)(c^2K_Y = m_2)}{c^2(c^2T^2 = K^2)} = \frac{Gm_1m_2}{c^2K^2}, \qquad \Delta c_{ik}^2 = \frac{Gm_1m_2}{c^2K^2}, \qquad \Delta c_{ik}^2c^2 = F$$

As we see in Einstein's General Theory of Relativity, the force of gravity acts in fields with zero mass. In relativistic dynamics $E^2 = m_0^2c^4 + p^2c^2$, in fields with zero mass ($m_0^2 = 0$), Einstein took the tensor of only energy-momentum $\frac{E^2}{p^2} = c^2$, already as a gravitational potential. It is read: the difference in mass flows $\Delta c_{ik}^2(Y-)$in the external gravitational field $c^2(X+)$, with their

Equivalence Principle, gives force. Let us pay attention - the gravitational field in both Newton's law and Einstein's General Theory of Relativity is reduced to the Euclidean sphere. In both cases, there is no entry into the Euclidean sphere with a non-zero mass, as a source of gravity.

Thus, from two sides: $(R < R_0) = \frac{2GM}{(v_i > c)^2}$, and $(v_{\gamma_2} = 137 * c)$, we came to the conclusion about the existence of a superluminal space of velocities inside the "black sphere" of the galactic core, to which the gravitational field of Einstein's General Theory of Relativity is reduced. Inside the "black sphere", all the laws of physics, space-time, as a special case of a fixed state of dynamic space-matter, work, but already in the space of superluminal velocities. That is why even photons cannot get inside the "black sphere" of the galactic core. Photons simply circle around such a "black sphere", which is called a "black hole".

The question is, how to catch a superluminal photon $(Y \pm = \gamma_2)$with an ordinary photon $(Y \pm = \gamma)$? This is a typical problem of absorption $(Y \pm = e)$of a photon by an electron $(Y \pm = \gamma)$. We are talking about the change in the energy of the photon $(Y \pm = \gamma)$when absorbing a superluminal photon $(Y \pm = \gamma_2)$. The energy of the photon has a momentum: $E = p * c$, with zero mass $m_0^2 = 0$. Such a photon can only absorb energy $E = p * \alpha * c$, already a superluminal photon $(Y \pm = \gamma_2)$. Thus, the energy of the photon $(Y \pm = \gamma)$that absorbed the superluminal photon $(Y \pm = \gamma_2)$is: $E = p * c * (1 + \alpha)$, where $(\alpha = 1/137)$, for any momentum of the primary photon $(Y \pm = \gamma)$. The problem is to find such photons in the direction of the galactic core, as a source of superluminal photons $(Y \pm = \gamma_2)$. For example, an orbital electron of hydrogen emits a photon when it passes from one orbit to another. Understood. So, the emitted photons, from the same orbits of hydrogen electrons in the direction of the galactic core, and in the direction perpendicular from the galactic core, can have the following: $E = p * c * (1 + \alpha)$, the difference in energies. And the decisive word here will be given by trial experiments.

5. New stable particles of matter.

In uniform (X + = Y-) (Y + = X-) =1, space - matter, remove Maxwell's equations for electro (Y + = X-) magnetic field. In a space angle $\varphi_X\,(X-) \neq 0$ of parallelism there is isotropic tension of a stream A_n a component (Smirnov, b.2, page 359 -375). A full stream of a whirlwind through a secant a surface $S_1(X-)$ in a look:

$$\iint_{S_1} rot_n A dS_1 = \iint \frac{\partial (A_n / \cos\varphi_X)}{\partial T} dL_1 dT + \iint_{S_1} A_n dS_1 .$$

A_n Component corresponds to a bunch $(X-)$ of parallel trajectories. It is a tangent along the closed curve L_2 in a surface S_2 where $S_2 \perp S_1$ and $L_2 \perp L_1$. Similarly, the ratio follows: $\int_{L_2} A_n dL_2 = \iint_{S_2} rot_m \frac{A_n}{\cos\varphi_X} dS_2$.

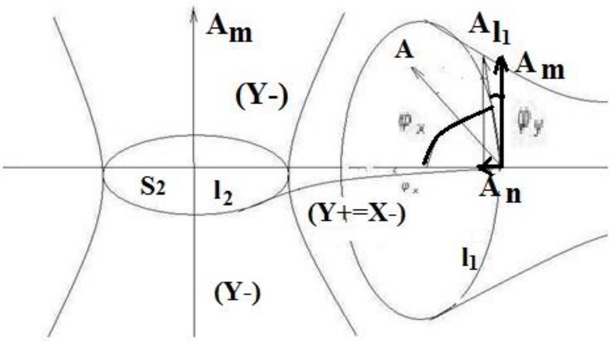


Fig.2. Electro (Y+ =X -) magnetic and gravity (X+=Y-) mass fields.

In a space angle $\varphi_X\,(X-) \neq 0$ of parallelism the condition is satisfied

$$\iint_{S_2} rot_m \frac{A_n}{\cos\varphi_X} dS_2 + \iint \frac{\partial A_n}{\partial T} dL_2 dT = 0 = \iint_{S_2} A_m (X-) dS_2 . \quad (2.1)$$

In general, there is a system of the equations of dynamics (X - = Y+) of the field.

$$\iint_{S_1} rot_n A dS_1 = \iint \frac{\partial (A_n / \cos\varphi_X)}{\partial T} dL_1 dT + \iint_{S_1} A_n dS_1 \quad (2.2)$$

$$\iint_{S_2} rot_m \frac{A_n}{\cos\varphi_X} dS_2 = -\iint \frac{\partial A_n}{\partial T} dL_2 dT \quad , \quad \text{and} \quad \iint_{S_2} A_m dS_2 = 0 \quad . \tag{2.3}$$

In Euclidean $\varphi_Y = 0$ axiomatic, accepting tension of a stream vector a component as tension of electric field $A_n / \cos\varphi_X = E(Y+)$ and an inductive projection for a nonzero corner $\varphi_X \neq 0$ as induction of magnetic $B(X-)$ field, we have

$$\iint_{S_1} rot_X B(X-) dS_1 = \iint \frac{\partial E(Y+)}{\partial T} dL_1 dT + \iint_{S_1} E(Y+) dS_1$$

$$\iint_{S_2} rot_Y E(Y+) dS_2 = -\iint \frac{\partial B(X-)}{\partial T} dL_2 dT, \quad \text{in conditions} \quad \iint_{S_2} A_m dS_2 = 0 = \oint_{L_2} B(X-) dL_2 . \tag{2.4}$$

Maxwell's equations.

$$c * rot_Y B(X-) = rot_Y H(X-) = \varepsilon_1 \frac{\partial E(Y+)}{\partial T} + \lambda E(Y+); \tag{2.5}$$

$$rot_X E(Y+) = -\mu_1 \frac{\partial H(X-)}{\partial T} = -\frac{\partial B(X-)}{\partial T}; \tag{2.6}$$

Induction of vortex magnetic field $B(X-)$ arises in variation electric $E(Y+)$ field and vice versa.

For L_2 the ratio, which is not closed, there are ratios $\int_{L_2} A_n dL_2 = \iint_{S_2} A_m dS_2 \neq 0$ a component. In the conditions of orthogonally $A_n \perp A_m$ the vector component A, in nonzero, dynamic $(\varphi_X \neq const)$ and $(\varphi_Y \neq const)$ corners of parallelism $A\cos\varphi_Y \perp (A_n = A_m \cos\varphi_X)$, is dynamics $(A_m \cos\varphi_X = A_n)$ components along a contour L_2 in a surface S_2. Both ratios are presented in the full form.

$$\int_{L_2} A_m \cos\varphi_X dL_2 = \iint_{S_2} \frac{\partial(A_m(X+) * \cos\varphi_X)}{\partial T} dL_2 dT + \iint_{S_2} A_m dS_2 \tag{2.7}$$

The zero streams through S_1 a whirlwind surface $(rot_n A_m)$ out of a space angle $(\varphi_Y \neq const)$ of parallelism corresponds to conditions

$$\iint_{S_1} rot_n A_m dS_1 + \iint \frac{\partial A_m}{\partial T} dL_1 dT = 0 = \iint_{S_1} A_n(Y-) dS_1 \quad . \tag{2.8}$$

In general, the system of the equations of dynamics $(Y- = X+)$ of the field is presented in the form:

$$\iint_{S_2} rot_m A_m(Y-) dS_2 = \iint_{S_2} \frac{\partial(A_m(X+) * \cos\varphi_X)}{\partial T} dL_2 dT + \iint_{S_2} A_m dS_2 \tag{2.9}$$

$$\iint_{S_1} rot_n A_m(X+) dS_1 = -\iint \frac{\partial A_m(Y-)}{\partial T} dL_1 dT \quad , \quad \iint_{S_1} A_n(Y-) dS_1 = 0 \quad . \tag{2.10}$$

Entering tension $G(X+)$ of the field of Strong (Gravitational) Interaction and induction of the mass field by analogy $M(Y-)$, we will receive similarly:

$$\iint_{S_2} rot_m M(Y-) dS_2 = \iint \frac{\partial G(X+)}{\partial T} dL_2 dT + \iint_{S_2} G(X+) dS_2 \tag{2.11}$$

$$\iint_{S_1} rot_n G(X+) dS_1 = -\iint \frac{\partial M(Y-)}{\partial T} dL_1 dT, \quad \text{at} \quad \iint_{S_1} A_n(Y-) dS_1 = 0 = \oint_{L_1} M(Y-) dL_1 \quad . \tag{2.12}$$

Such equations correspond gravity $(X+ = Y-)$ to mass fields,

$$c * rot_X M(Y-) = rot_X N(Y-) = \varepsilon_2 * \frac{\partial G(X+)}{\partial T} + \lambda * G(X+) \tag{2.13}$$

$$M(Y-) = \mu_2 * N(Y-); \qquad rot_Y G(X+) = -\mu_2 * \frac{\partial N(Y-)}{\partial T} = -\frac{\partial M(Y-)}{\partial T}; \tag{2.14}$$

By analogy with Maxwell's equations for electro (Y+ =X -) magnetic fields. We are talking about the induction of a field of mass $M(Y-)$ in an alternating $G'(X+)$ gravitational field, similar to the induction of a magnetic field in an alternating electric field. There are no options here. This is a single mathematical truth of such fields in a single dynamic space-matter. We are talking about the induction of mass fields around moving masses (stars) as well as the induction of magnetic fields around moving charges.

Thus, the rotations $rot_y B(X-)$ and $rot_x M(Y-)$ of the trajectories, give the dynamics of $E'(Y+)$ and $G'(X+)$ of the electric $(Y+)$ and gravitational $(X+)$ fields, respectively. And the rotations $(Y+)$ of fields around $(X-)$ trajectories and $(X+)$ fields around $(Y-)$ trajectories give dynamics

$rot_x E(Y+) \to B'(X-)$, and dynamics $rot_y G(X+) \to M'(Y-)$of mass trajectories.

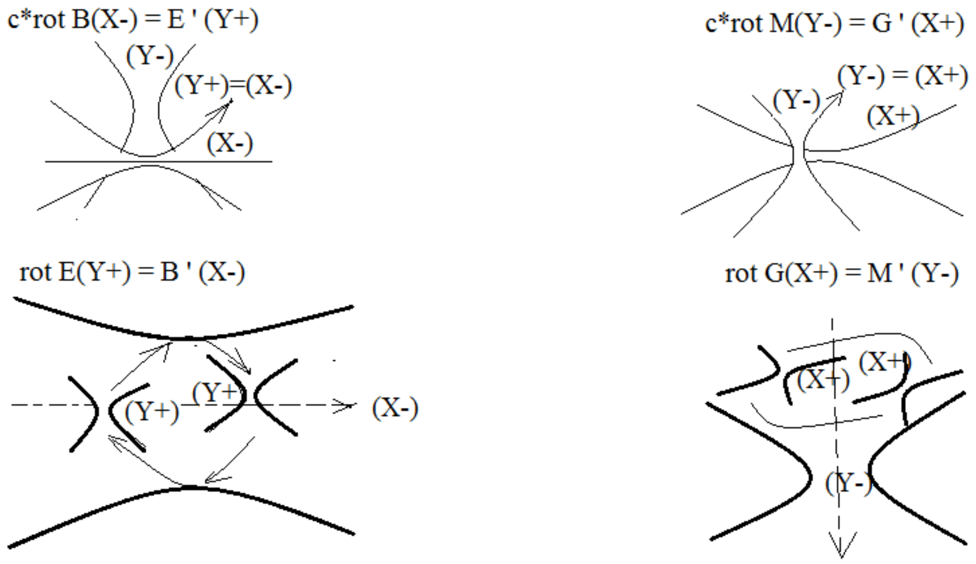


Fig. 2.2-2. Uniform fields of space matter

Similarly, the charge of unit masses is determined: $m_0 = 1$, in the form:

$$q = Gm_0\alpha(1-\alpha)^2 = 6{,}674 * 10^{-8}(1/137.036) * (1 - 1/137.036)^2 = 4.8 * 10^{-10}\ , \qquad (5.10)$$

And their relations: $\hbar\alpha c = q^2$. The model of products of an annihilation of proton and electron corresponds to such calculations. Mass fields (Y- = e) = (X+ = p) of an atom. In addition, the proton does not emit an exchange photon during an electromagnetic, charge interaction with an electron of an atom.

Having a standard, field-free speed of an electron $(W_e = \alpha * c)$ emitting a standard, field-free photon $V(\gamma) = c$, the constant $\alpha = W_e / c = \cos\varphi_Y = 1/137{,}036$ gives, by analogy, the calculation of the speeds $V(c) = \alpha * V_2(\gamma_2)$ for superluminal photons in the form: $V_2(\gamma_2) = \alpha^{-1}c$, $V_4(\gamma_4) = \alpha^{-2}c$ … $V_i(\gamma_i) = \alpha^{-N}c$, in standard, field-free conditions. An orbital electron with an angle of parallelism

$$\alpha = \frac{W_e}{c} = \frac{1}{137} = \cos\varphi_{MAX}(Y-)$$

of the trajectory does not emit a photon, as in rectilinear, acceleration-free motion. **This postulate of Bohr, as well as the principle of uncertainty of space-time and the principle of equivalence of Einstein, are axioms of dynamic space-matter.** The dynamics of mass fields within $\cos\varphi_Y = \alpha$, $\cos\varphi_x = \sqrt{G}$, interaction constants, gives the charge isopotential of their unit masses.

$m(p) = 938{,}28 MeV, G = 6{,}67 * 10^{-8}. m_e = 0{,}511\ MeV, (\ m_{\nu_\mu} = 0{,}27\ MeV),$

$$\left(\frac{X=K_X}{K}\right)^2 (X-) = cos^2\varphi_X = \left(\sqrt{G}\right)^2 = G, \qquad \left(\frac{Y=K_Y}{K}\right)(Y-) = cos\ \varphi_Y = \alpha = \frac{1}{137{,}036}$$

$$m = \frac{F=\Pi^2}{Y''} = \left[\frac{\Pi^2 T^2}{Y} = \frac{\Pi}{(Y/K^2)}\right] = \frac{\Pi Y = m_Y}{\left(\frac{Y^2}{K^2} = \frac{G}{2}\right)}, \qquad \text{where} \qquad 2m_Y = Gm_X\ ,$$

$$m = \frac{F=\Pi^2}{X''} = \left[\frac{\Pi^2 T^2}{X} = \frac{\Pi}{(X/K^2)}\right] = \frac{\Pi X = m_X}{\left(\frac{X^2}{K^2} = \frac{\alpha^2}{2}\right)}, \qquad \text{where} \qquad 2m_X = \alpha^2\ m_Y$$

$$(\alpha/\sqrt{2}) * \Pi K * (\alpha/\sqrt{2}) = \alpha^2 m(e)/2 = m(\nu_e) = 1{,}36 * 10^{-5}\ MeV\ , \qquad \text{or: } m_X = \alpha^2 m_Y / 2\ ,$$

$$\sqrt{G/2} * \Pi K * \sqrt{G/2} = G * m(p)/2 = m(\gamma_0) = 3.13 * 10^{-5} MeV$$, or: $m_Y = Gm_X/2$

$$m(\gamma) = \frac{Gm(\nu_\mu)}{2} = 9{,}1 * 10^{-9} MeV.$$

In a single $(Y\pm = X\mp)$or $(Y+ = X-)$, $(Y- = X+)$space-matter of indivisible structural forms of indivisible quanta $(Y\pm)$and $(X\pm)$:

$(Y\pm = e^-) = (\boldsymbol{X} += \nu_e^-)(Y -= \gamma^+)(\boldsymbol{X} += \nu_e^-)$ electron, where NOL $(Y\pm)$= KE(Y +)KE(Y -), and

$(X\pm = p^+) = (\boldsymbol{Y} -= \gamma_0^+)(\boldsymbol{X} += \nu_e^-)(\boldsymbol{Y} -= \gamma_0^+)$proton, where NOL $(X\pm)$=KE(X +)KE(X -),

We separate electromagnetic $(Y+ = X-)$fields from mass fields $(Y- = X+)$in the form:

$(X+)(X+) = (Y-)$And $\frac{(X+)(X+)}{(Y-)} = 1 = (Y+)(Y-)$; $(Y+= X-) = \frac{(X+)(X+)}{(Y-)}$, or: $\frac{(\boldsymbol{X}+=\nu_e^-/2)(\sqrt{\boldsymbol{2}}*\boldsymbol{G})(\boldsymbol{X}+=\nu_e^-/2)}{(Y-=\gamma^+)} = q_e(Y+)$

$$q_e = \frac{(m(\nu_e)/2)(\sqrt{\boldsymbol{2}} * \boldsymbol{G})(m(\nu_e)/2)}{m(\gamma)} = \frac{(1.36 * 10^{-5})^2 * \sqrt{2} * 6{,}67 * 10^{-8}}{4 * 9{,}07 * 10^{-9}} = 4{,}8 * 10^{-10}\text{СГСЕ}$$

$(Y+)(Y+) = (X-)$And $\frac{(Y+)(Y+)}{(X-)} = 1 = (X+)(X-)$; $(Y+= X-) = \frac{(Y-)(Y-)}{(X+)}$, or: $\frac{(\boldsymbol{Y}-=\gamma_0^+)(\boldsymbol{\alpha^2})(\boldsymbol{Y}-=\gamma_0^+)}{(\boldsymbol{X}+=\nu_e^-)} = q_p(Y+= X-)$,

$$q_p = \frac{(m(\gamma_0^+)/2)(\alpha^2/2)(m(\gamma_0^+)/2)}{m(\nu_e^-)} = \frac{(3{,}13 * 10^{-5}/2)^2}{2 * 137{,}036^2 * 1.36 * 10^{-5}} = 4{,}8 * 10^{-10}\text{СГСЕ}$$

Such coincidences cannot be accidental. For a proton's wavelength $\lambda_p = 2{,}1 * 10^{-14}$см, its frequency $(\nu_{\gamma_0^+}) = \frac{c}{\lambda_p} = 1{,}4286 * 10^{24}$Гцis formed by the frequency(γ_0^+) quanta, with mass $2(m_{\gamma_0^+})c^2 = G\hbar(\nu_{\gamma_0^+})$.

$1\text{г} = 5{,}62 * 10^{26} MeV$, or$(m_{\gamma_0^+}) = \frac{G\hbar(\nu_{\gamma_0^+}).}{2c^2} = \frac{6{,}67*10^{-8}*1{,}0545*10^{-27}*1{,}4286*10^{24}}{2*9*10^{20}} = 5{,}58 * 10^{-32}\text{г} = 3{,}13 * 10^{-5} MeV$

Similarly, for an electron $\lambda_e = 3{,}86 * 10^{-11}$см, its frequency $(\nu_{\nu_e^-}) = \frac{c}{\lambda_e} = 7{,}77 * 10^{20}$Гцis formed by the frequency(ν_e^-) quanta, with mass $2(m_{\nu_e^-})c^2 = \alpha^2\hbar(\nu_{(\nu_e^-})$, where$\alpha(Y-) = \frac{1}{137{,}036}$ constant, we get:

$(m_{\nu_e^-}) = \frac{\alpha^2\hbar(\nu_{(\nu_e^-)}}{2c^2} = \frac{1*1{,}0545*10^{-27}*7{,}77*10^{20}}{(137{,}036^2)*2*9*10^{20}} = 2{,}424 * 10^{-32}\text{г} = 1{,}36 * 10^{-5} MeV$, for the neutrino mass.

A physical fact is the charge isopotential of a proton $p(X-= Y+)e$and an electron in a hydrogen atom with a mass ratio of $(p/e \approx 1836)$. By analogy, we speak of the charge isopotential $\nu_\mu(X-= Y+)\gamma_0$, and $\nu_e(X-= Y+)\gamma$, subatomic , with the ratio of masses $(\nu_\mu/\gamma_0 \approx 8642)and(\nu_e/\gamma \approx 1500)$ respectively. In this case, sub atoms (ν_μ/γ_0) are held by the gravitational field of the planets, and sub atoms (ν_e/γ) are held by the gravitational field of the stars. This follows from calculations of the atomic structures (p/e), sub atomics of planets $(p_1/e_1)(p/e)(\nu_\mu/\gamma_0)$and stars $(p_2/e_2)(p_1/e_1)(p/e)(\nu_\mu/\gamma_0)(\nu_e/\gamma)$, for: $e_1 = 2\nu_\mu/\alpha^2 = 10{,}2GeV)$, $e_2 = 2p/\alpha^2 = 35{,}2TeV)$, НОЛ $= e_1 * 3{,}13 * \gamma_0 = 1$, and НОЛ $= e_2 * 3{,}13 * \gamma = 1$.

And also for $p_1 = \frac{2e}{G} = 15{,}3TeV$, and $p_1(X-= Y+)e_1$"heavy atoms" inside the stars themselves. If quanta $(m_X = p_1^-) = \frac{2(m_Y=e^-)}{G} = (15{,}3\ TeV)$and exist $(m_Y = e_2^-) = \frac{2(m_X=m_p)}{\alpha^2} = (35{,}24\ TeV)$, then similar to the generation by quanta(p_1/n_1) cores of the earth cores$(2\alpha p_1^- = 238p^+ = {}^{238}_{92}U)$ uranium, $p^+ \approx n$, with subsequent decay into a spectrum of atoms, quanta $p_2^- = \frac{2e_1^-}{G} = 3{,}06 * 10^5 TeV$, and (p_2/n_2), $(p_2 \approx n_2)$the Sun's (star's) nuclei generate "stellar uranium" nuclei, $(2\alpha p_2^- = 290p_1^+ = {}^{290}U^*)$, with their exothermic decay into a spectrum of "stellar" atoms (p_1^+/e_1^-)in the solid surface of the star (Sun) without interactions with ordinary atoms(p^+/e^-) hydrogen and the spectrum of atoms. The emission of $(p_1^+ \to \nu_\mu^-)$muon antineutrinos by the Sun, like the emission $(e \to \gamma)$of photons, means the presence of such stellar matter on the Sun(p_1^+/e_1^-) without interaction with proton- (p^+/e^-)electron atomic structures of ordinary matter (hydrogen, helium...). These are the calculations and physically admissible possibilities. On colliding beams of muon antineutrinos (ν_μ^-) in magnetic fields:

$$НОЛ(Y = e_1^-) = (X -= \nu_\mu^-)(Y += \gamma_O^-)(X -= \nu_\mu^-) = \frac{2\nu_\mu}{\alpha^2} = 10.216GeV$$,

in unstable form these are known levels of upsilonium .

On the counter beams of positrons (e^+), which are accelerated in the flow of quanta $(Y- = \gamma)$, photons of **the “white” laser** in the form of:

$$НОЛ(X = p_1^+) = (Y -= e^+)(X += \nu_\mu)(Y -= e^+) = \frac{2m_e}{G} = 15{,}3TeV$$,

In colliding beams of antiprotons (p^-), the following occurs:

$$НОЛ(Y \pm = e_2^-) = (\boldsymbol{X} -= p^-)(Y += e^+)(\boldsymbol{X} -= p^-) = \frac{2m_p}{\alpha^2} = 35{,}24\ TeV.$$

For oncoming ones $НОЛ(Y -) = (X += p^{\pm})(X += p^{\pm})$, the mass of the quantum is calculated

$$M(Y -) = (X += p^{\pm})(X += p^{\pm}) = \left(\frac{m_0}{\alpha} = \overline{m_1}\right)(1 - 2\alpha)$$

or $$M(Y -) = \left(\frac{2m_p}{2\alpha} = \frac{m_p}{\alpha} = \overline{m_1}\right)(1 - 2\alpha) = \frac{0{,}93828\ GeV}{(1/137{,}036)}\left(1 - \frac{2}{137{,}036}\right) = 126{,}7\ GeV$$

This is the elementary particle that was rediscovered at the CERN collider .Thus, new particles, such as indivisible quanta $(m_X = p_1^-) = \frac{2(m_Y = e^-)}{G} = (15{,}3\ TeV)$ and $(m_Y = e_2^-) = \frac{2(m_X = m_p)}{\alpha^2} = (35{,}24\ TeV)$, are not yet available in modern experimental technology.

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