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1. Introduction

Classical (Newton's) mechanics implied that gravitating masses *directly* interact at a distance, and this interaction is transferred in a moment, i.e. with infinite speed $c^* = \infty$.

Spontaneity of interaction (range action) and infinite speed of the transfer of gravitational information from one body to another implied the absence of any mediator (environment) for information transfer and, consequently, any distortion of such information.

By this reason, different from electromagnetism where the degree of distortion of electromagnetic information at interaction of charges with environment dividing them is characterized by relative dielectric and magnetic penetrability, the corresponding Newton gravitational constant $\wp_k$ was always equivalent to 1. This seems to proove that any gravitational environment, the condition of which is influenced by mass interaction, as it occurs in electromagnetism, as if does not exist at all.

Anyway, Maxwell's electromagnetism has greatly influenced the forming of physical mentality, so the special (SRT) and in particular the general (GRT) theories of relativity imply that, on the first hand, mechanical information is distorted during its perception by interacting bodies, and, on the other hand, that there exists a gravitational field around the gravitating bodies.

Truly these theories have distorted the sense of physical processes up to their total contradiction to the real state of things, but anyway they allowed to create a nearly perfect formal imitation model, which can not be surprising as, having some practice, we can accustom to finding destinations even on a map turned upside down. Physiologists claim that a person wearing glasses turning the picture over can not only find right ways, orientate himself well, but in time starts to perceive the surroundings quite adequately. Indeed, God's ways are inscrutable! However, it is more convenient, having normal sight, to wear no glasses than get used to an exotic unit, the thing that we will be trying to do further on.

The theory of relativity not only has distorted physics but led Einshtein himself nowhere, as he changed his view on the presence or absence of gravitational waves few times during his career. And no wonder! For, on one hand, if there exists a gravitational field, it has to spread with final speed (of which the speed of light c is meant), and this predetermines the existence of gravitational waves and distortion of information transferred by them. But on the other hand though, as stated before,

$\wp_k = 1$, there are no waves at all, while a paradox EPR (sudden polarization of one electron formed during annihilation and positron of broken quantum during polarization of the otner) proovs that information is transferred with infinite speed, which excludes the wave process. Thus we have to choose from either these or those ideas.

As to Einshtein, his last point of view was however to the benefit of gravitational waves, that is why the expensive search for them is still under way. However, as it will be showed further in this study, there are no gravitational waves and there can not be any, and the author wrote about it in 1983 [A. A. Denisov. Informatuional bases of management -L., Energoatomizdat, LO, 1983. p.70]. But at that time the respect for the theory of relativity was still very high, and the authors's statement went by as if unnoticed.

Later, in 1984, in "Science and Life" magazine academician V. Ginzburg published his annual forecast for the development of physics in which he claimed that in 1984 or either 1985, Russians or either Americans will discover gravitational waves. The author's application to this magazine with the reasoning of the absence of gravitational waves again was not noticed.

However, when the same year the author became candidate to the Academy of Sciences membership, it turned out that those statements had been noticed, and the expert commission for preliminary dropping out candidates under the influence of academicians Alexandrov, Gaponov-Grekhov and others sincerely thinking that to follow Eishtein's ideas meant to be a sinless scientist did not let him go to the elections.

Moreover, after the author's brochure "The Myths of the Theory of Relativity" [A. A. Denisov. The Myths ot the Theory of Relativity.- Vilnius 1989-52 p.] was issued, a bacchanalia of persecution began, and to hide from it the author had to become a people deputy of the USSR.

All this is said here not to arise compassion, for the author has been happy both in his scientific and private lives, but to outline the agressiveness and obtrusiveness of scientific dogmatism.

The only conclusion that can be made of this is to state that all this can be found among people of science even more often than among ordinarily people, for it is masked by erudution.

Anyway something prevents us from understanding that Einshtein's achievement lies not in creating shizophrenic model of physical processes but in understanding the decisive role of physical information in these processes when their development is defined not by the real condition of interacting objects but by that information they obtain about each other. For the same way our behaviour is influenced not by the real situation but by the information (which is often wrong or false) we have on this situation.

Thus, different from the classical mechanics which is based on absolute informativity of interacting objects about each other, the newest physics has only to make amendments in connection with the distortion of information in physical processes. SRT and GRT can be considered as the first though not successful attempt. So we try to make another one, basing upon this wistful experience.

2. Distortion of information

For this purpose let us consider a possibility to measure the length and velocity of a rod flying before us at a speed v_0 along the ruler we have. Suppose we also have a stop- watch and the length of the mentioned rod in a stationary condition before the experiment was l_0.

Everybody *except academicians* understands that when in the process of the experiment the beginning of the moving rod will correspond to the beginnig of the stationary ruler scale , the experimenter standing in the beginnig of the same scale will see the other end of the rod not opposite the l_0 ruler point, but opposite the $l_1 > l_0$ point the picture of which was brought by the light beam with speed c in the moment when the beginning of the rod was on the same level with the beginning of the ruler scale, i.e. l_1/c late.

But in this time the rear of the rod will fly over l_1 to l_0, so that $l_1 - l_0 = v_0 l_1/c$, is resulting in

$$l_1 = l_0/(1 - v_0/c). \qquad (1a)$$

When the the rear of the rod comes alongside of the beginning ot thr ruler scale, the experimenter by the same reason will see it opposed not to $|l_0|$, but to $|l_2| < |l_0|$, i. e.

$$l_2 = l_0/(1 + v_0/c). \qquad (1b)$$

If the experimenter fixes the gap $\Delta\tau$ of the time in which the rod passes the beginning of the ruler scale, then dividing (1*a*) and (1*b*) to $\Delta\tau$ he will get

$$v_1 = v_0/(1 - v_0/c) \qquad (2a)$$

$$v_2 = v_0/(1 + v_0/c). \qquad (2b)$$

Thus the SRT- free experimenter has to confirm that the approaching rod looks longer and faster than the moving away one of the same length.

Similarly when trying to measure the length of a stationary rod by means of a moving ruler the experimenter will obtain (1*b*) and (2*b*) at approaching the rod, and (1*a*) and (2*a*) at moving away from it.

Now let us imagine that in the process of measuring both of them are moving, i.e. the rod at speed v_{01}, and the experimenter towards him at speed v_{02}, passing a stationary ruler.

In the moment when the beginning of the rod from one side and the experimenter with his ruler, moving from the other side, will come along to the beginning of a scale of stationary ruler, the experimenter will see a familiar picture (1*a*) on the stationary ruler. However, on his moving ruler he will see $l'_1 = l_1/(1 - v_{02}/c)$, i. e.

$$l'_1 = l_0/(1 - v_{01}/c)(1 - v_{02}/c), \qquad (3a)$$

because for him the cut l_1 of the stationary ruler as if moves towards him motionless, with velocity v_{02}. Similarly, if in the same conditions the experimenter observes the passed beginning of the rod, when its end comes along to the beginning of the stationary ruler scale, he will see

$$l'_2 = l_0/(1 + v_{01}/c)(1 + v_{02}/c). \qquad (3b)$$

If the rod and the experimenter move along the stationary ruler in one direction though with different speeds v_{01} and v_{02}, then for the approaching and moving away of the rod there will be

$$l''_1 = l_0/(1 - v_{01}/c)(1 + v_{02}/c) \qquad (3c)$$

and $l''_2 = l_0/(1 + v_{01}/c)(1 - v_{02}/c)$.

Having come into such anisotropy of measurement ahead and behind him, which was evoked by the delay of information, for, in case $c = \infty$, all these effects would vanish, the observer has to form a certain suggestion regarding the properties of symmetry characteristic of the physical nature of measurement instruments he was using.

So, for electromagnetic and, in particular, optical nature of events it is reasonable to suppose there exists some harmonic symmetry of the observed measurement anisotropy, for it is the harmonic average value l_1 and l_2 from (1*a*) and (1*b*) permits to obtain l_0 with no distortions. Truly,

$$l_{harm.} = (2l_1l_2)/(l_1 + l_2) = l_0\,, \qquad (4a)$$

where average harmonic $l_{harm.}$ is as it is known a reverse value of arithmetic mean (in this case semisums) of the values reverse to the average ones :

$$l_{harm.} = 1/[(1/l_1 + 1/l_2)/2], \quad (4a).$$

Analogically for speed from (2*a*) and (2*b*)

$$v_{harm.} = (2v_1v_2)/(v_1 + v_2) = v_0. \quad (4b)$$

Then the average harmonic for measurement anisotropy at mutual opposite motion (3*a*) and (3*b*) will give for the lengths

$$l^{\Sigma}{}_{harm.} = (2l'_1l'_2)/(l'_1 + l'_2) = l_0/(1 + v_{01}v_{02}/c^2), \qquad (5a)$$

and for speeds

$$v^{\Sigma}{}_{harm.} = (v_{01} + v_{02})/(1 + v_{01}v_{02}/c^2), \qquad (5b)$$

where $v_{01} + v_{02} = l / \Delta\tau$, if $\Delta\tau$ – time which takes the rod to pass the experimenter at thei mutual opposite motion.

Let us pay attention to the two fundamental circumstances. Firstly, (5*b*) fully coincides with the well known formula for composition of velocities by Einshtein, but if by him it is a result of transcedental nonsense of length reduction, time slowing , etc., here it transparentry results from the appropriate measurement mistakes due to delay of information, as well as from the method of harmonic averaging of these measurement anisotropy.

So when one of the speeds v_{01} or v_{02} are equivalent to the speed of light, from (5*b*) results $v^{\Sigma}_{harm.} = c$ then this permanence of the speed of light for the moving or either the stationary observer means nothing more than a phenomenon *seeming* to the experimenter, and connected either with the choice of measurement instruments or the method of result treatment.

Secondly, as far as (5*b*) is connected with the harmonic averaging of velocity measurement anisotropy, then this formula as well as Einshtein's one is not universal, because at a different method of averaging there appear different results.

In particular, in case the experimenter had tried a geometrical method of anisotropy averaging, supposing that it is geometrical symmetry which is characteristic of mechanical (including gravitational) processes, then from (1*a*) and (1*b*) he would get

$$l_{geom.} = \sqrt{l_1 l_2} = l_0 / \sqrt{1 - v_0^{\,2} / c^2}\ , \qquad (6a)$$

and from (2*a*) and (2*b*)

$$v_{geom.} = \sqrt{v_1 v_2} = v_0 / \sqrt{1 - v_0^{\,2} / c^2}\ . \qquad (6b)$$

From the above it can be concluded that (6*a*) and (6*b*) are a result of the corresponding treatment of length and speed measurement anisotropy.

But from (6*b*) it also results that there is no increase of mass *m* of the moving body, for, if (6*b*) is multiplied om *m* we will get a relativistic form for the amount of motion:

$$mv_{geom.} = mv_0 / \sqrt{1 - v_0^2 / c^2}\ , \qquad (7)$$

where the famous and glorified by Einshtein "Lorenzev factor" $\sqrt{1-v_0^2 / c^2}$ according to (6*b*) has nothing to do with mass which is constantly unchangeable, though it is vice versa by Einshtein.

If, thinking that the mass is constant, we differentiate (7) by time, for velocity we will get

$$\boldsymbol{F}_0 = m\boldsymbol{a}_0 / \sqrt{1-v_0^2/c^2} + mv_0(\boldsymbol{v}_0\boldsymbol{a}_0)/(1-v_0^2/c^2)^{3/2}c^2, \qquad (8)$$

where $\boldsymbol{a}_0 = d\boldsymbol{v}_0 / d\tau$, $\boldsymbol{F}_0 = m\boldsymbol{a}$.

It should be however taken into account that if the experimenter does not simply measure the acceleration (force), but must himself move with this acceleration a_0, then resulting from (8), he will not move with this acceleration, but with acceleration measure by him as a_0, i.e. under the effect of force F initiating acceleration a, measured as a_0.

Thus eliminating the index from a_0 on the right, attaching it to the left and solving (8), in relation to a or in relation to $\boldsymbol{F} = m\boldsymbol{a}$, we will get the famous relativistic force by Minkovsky:

$$\boldsymbol{F} = \left[\boldsymbol{F}_0 - (\boldsymbol{F}_0\boldsymbol{v}_0)\boldsymbol{v}_0 / c^2\right]\sqrt{1-v_0^2 / c} \quad , \qquad (9)$$

in which however different from SRT the mass does not depend on velocity.

To compile a full impression let us consider another attempt of the experimenter to measure the length of the rod moving along the experimenter's stationary ruler with velocity v_0, and placed across it at the same time.

It is not hard to understand that, when the center of the rod reaches the experimenter, he will see the edges of the rod delayed in relation to the middle at $\Delta\tau = l / 2c$, i.e. for the time untill the light signal from the edges of the rod reaches its middle. But during this time the rod will fly a distance of $v_0\Delta\tau = vl / 2c$.

As a result, the rod will seem to the experimenter broken in the middle under the angle φ to the vertical, so $\sin\varphi = 2v_0\Delta\tau / l = v / c$.

Thus, if real length of the rod is $l_0 = l\cos\varphi$, the experimenter will measure its length as

$$l = l_0 / \sqrt{1-\sin^2\varphi} = l_0 / \sqrt{1-v_0^2 / c^2}, \qquad (6c)$$

i.e. the same way as in case of its position along (6*a*). So (6*a*) is a universal correlation for any motion in mechanics or gravitation, what also could be equally related to geometrical averaging (3*a*) and (3*b*). Anyway, (6*c*) could be expressed in a vector form as well:

$$\boldsymbol{l} = \boldsymbol{l}_0 + \boldsymbol{v}l/c \text{ or } l = l_0 + jv/c. \qquad (6d)$$

It may seem that we are just getting the known relativistic correlations in another interpretation as if turning them upside down. However it is far from being so, though it is significant for it brings sense back to physics being deprived of it by perverted formalism of coordinates SRT and GRT modification.

And anyway, if we count kinetic energy W_k of a moving body of constant mass m, integrating (7) from zero to v, then

$$W_k = \int_0^v mv\,dv = mv^2 / 2 = mv_0^2 / \left[2\left(1-v_0^2 / c^2\right)\right], \qquad (10)$$

while at the same time by Einshtein because of his Lorenzev factor $\sqrt{1-v_0^2 / c^2}$ which is under integral, relates no to v, but to m, there is quite a different expression

$W = mc^2 / \sqrt{1 - v_0^2 / c^2}$, in which instead of kinetic energy there appears some mixture of statics and kinematics , that is why at $v_0 = 0$ we get mc^2 from there, i.e. internal energy instead of zero kinetic as we did in (10).

Finally, if (3*a*) and (3*b*) are divided according to the time they pass the experimenter and geometrical averaging is conducted, we get a formula of velocity summation in mechanics and gravitation

$$v^{\Sigma}{}_{qeom.} = (v_{01} + v_{02}) / \sqrt{(1 - v_{01}^2 / c^2)(1 - v_{02}^2 / c^2)} \quad , \qquad (11)$$

of which Einshtein was not aware, that is how the legend of gravitational waves was created.

Truly, consequently from (11), in case any of the velocities v_{01}, v_{02} or either both of them are equal to the speed of light c , then the total seeming velocity for any mechanical measurement instruments (including gravitational) will be $v_{geom.} = \infty$.

In other words, for any gravitational observer, if there existed gravitational waves spreading with the speed of light they will seem to him as moving with infinite speed, i.e. because $v_{geom.} = \lambda f = \infty$, where λ – wave length, f – frequency, they would be of either infinite length or infinite frequency, i.e. would not be present at all.

All the above said is enough to turn to the description of gravitation itself.

3. Gravitational field

Any field may be presented by a totality of two components: potential and vortex (solenoidal). As to the latter, nothing is clear about it in relation to gravitational field. In any case neither the gyroscopes well screened from the effect of magnetic field nor the rotating cosmic bodies are likely to orientate the rotation axes parallel to each other, what could be inevitable if sufficient vortex component of gravitational field was present.

So we will describe gravitational field as a potential field the only source of which is a body mass m , so for it

$$Div\boldsymbol{D}_0 = \rho \, , \qquad (12a)$$

or

$$\oint_S \boldsymbol{D}_0 = d\boldsymbol{S} = m \, , \qquad (12b)$$

where ρ – volumatic density of mass in given point, $\boldsymbol{D}_0$ – density vector of gained mass, analogous to the vector of shift flow in electrodynamics, S – square of the arbitrary closed around m of the integration surface

Let us pay attention to the fact that, different from electrodynamics where the equations similar to (12 *a*) and (12*b*) stay invariable in all regimens, and dynamics is reflected in solenoidal component of electromagnetic field, due to the absence of any gravitational field rotation the dynamics is expressed in the weakening of potential field.

Truly, as

$$D_0 = dm_н / dS, \qquad (13)$$

where $m_н$ – mass, gained by field on the surface $d\boldsymbol{S}$, normal to vector $\boldsymbol{D}_0$, a $d\boldsymbol{S} = d\boldsymbol{l} \times d\boldsymbol{l}$, where dl –length of an area $d\boldsymbol{S}$ side, then according to (6*a*) at the motion of the field source with velocity v along one of the area $d\boldsymbol{S}$ sides in the average there will be a seeming increase of the area up to $d\boldsymbol{l} \times d\boldsymbol{l} \big/ \sqrt{1-v^2/c^2}$ and a corresponding reduction (13) up to

$$D_* = dm_и \sqrt{(1-v^2/c^2} \big/ dS = D_0\sqrt{1-v^2/c^2} \qquad (13a)$$

So instead of (12 *a*) and (12*b*) in general case we have

$$div\boldsymbol{D}_* = \rho\sqrt{1-v^2/c^2}, \qquad (14a)$$

or

$$\oint_S \boldsymbol{D}_* dS = m\sqrt{1-v^2/c^2} \qquad (14b)$$

However the latter expression (14*b*) is true only if all mass *m* moves with velocity *v*. If separate parts of a body move with different velocities v_k, as in the case of a body rotation, then

$$\oint_S \boldsymbol{D}_* d\boldsymbol{S} = \int_V \rho_k \sqrt{1-v_k^2/c^2}\, dV, \qquad (14c)$$

where *V* – cubic capacity of a body inside closed surface *S*.
In particular, as the radial component of gravitational field of a rotating hoop is (13*a*), then , deducting it from the same component of the gravitational field of a stationary hoop, we get the so-called-God-knows-what- field D_B of mass rotation

$$\boldsymbol{D}_B = \boldsymbol{D}_0\left(1-\sqrt{1-v^2/c^2}\right) \approx \boldsymbol{D}R^2\omega^2/2c^2, \qquad (14d)$$

where $v = \omega R, \omega$ – angle velocity of hoop rotation, *R* – its radius. In case of spherical field symmetry from (14*b*) there results

$4\pi r^2 D_* = m\sqrt{1-v^2/c^2}$ or $D_* = m\sqrt{1-v^2/c^2}/4\pi r^2$,

which corresponds to Newton's rule of a moving body.

For two bodies with masses m_1 и m_2, moving with velocities v_1 и v_2, we also have $D_{**}m_2 = m_1 m_2\sqrt{(1-v_1^2/c^2)(1-v_2^2/c^2)}/4\pi r^2$, and (14*a*) in transformed to

$$div\boldsymbol{D}_{**} = \rho\sqrt{(1-v_1^2/c^2)(1-v_2^2/c^2)}, \qquad (15)$$

which for $v_1 = v_2 = v$ gives

$$div\boldsymbol{D}_{**} = \rho(1-v^2/c^2). \qquad (15a)$$

Thus if the experimenter judges the value of the moving mass by density *D* gained by its mass field, then for him the body mass as if reduces $\sqrt{1-v^2/c^2}$, times which of course is due to the special features of the gravitational method of measuring ***D***, but not to the real reduction of the mass of the moving body. As to ***D***, at mutual motion with equal velocities *v* of the interacting bodies

$$D_{**} = D_0(1 - v^2/c^2). \qquad (16)$$

Now getting back to statics let us remember the principle of statics and kinematics equivalence in gravitation. According to this principle the *U* potential of gravitational field in size and on the whole is equivalent in number to kinetic energy of a trial body in calculation by its mass unit, and the body would acquire this energy if it was flying freely from the infinity till the given point, coming up to velocity *v*, so that $|U| = v^2/2$.
In other words, the potential of gravitational field is expressed as a square of some false velocity with which the two interacting bodies move, and according to this *D* is

subject to (16) with v^2 being replaced for U, *i.e.* even in statics we have the following instead of (12*a*) $div\ [\boldsymbol{D}/(1 - U/c^2)] = \rho$

or

$$(1 - U / c^2)div\boldsymbol{D} + \boldsymbol{D}gradU/c2 = \rho(1 - U/c^2)^2\ , \qquad (17)$$

where $D = D_0(1 - U/c^2)$.

Let us pay attention to the fact that (17) differs by form from (15*a*), for field potential U unlike v has a gradient. Besides, as it results from (17), due to the mass and energy equivalency, not only mass but the energy of a field itself can be the source of a field. Truly, having written (17) again in the form $div\boldsymbol{D} = \rho(1 - U/c^2) - (\boldsymbol{D}gradU/c^2)/(1 - U/c^2)$, it is easy to see that the second item from the right is a volumatic density of mass which was initiated by field energy, the density of which is $-DgradU/(1 - U/c^2)$.

This corresponds to (10), i.e. false kinetic energy, though (17) describes the field statics.

Thus, even if $\rho = 0$, divergence of gravitational field is not always zero, for in this occasion $div\boldsymbol{D} = -\boldsymbol{D}gradU/(1 - U/c^2) \neq 0$.

This is non-linearity of gravitational field if compared with a linear electromagnetic field.

4. Strong interaction

Multiplying (17) to $(-4\pi\wp)$, where $\wp$ – Newton's gravitational constant, we get for intensity $\boldsymbol{E} = -4\pi\wp\boldsymbol{D}$ of gravitational field

$$(1 - U/c^2)\,div\boldsymbol{E} + \boldsymbol{E}gradU/c^2 = -4\pi\wp\rho\ (1 - U/c^2)^2, \qquad (18)$$

where $E = E_0(1 - U/c^2)$.

In the linear theory of a field it is supposed

$$\boldsymbol{E}_0 = -gradU_0 \qquad (19)$$

inserting in into (12*a*), we get Poisson's equation

$$\Delta U_0 = divgradU_0 = 4\pi\wp\rho\ , \qquad (20)$$

where $\Delta \equiv div\ grad$.

But in gravitation due to $E = E_0(1 - U/c^2)$ and $U = U_0(1 - U/c^2)$ from (19) results that

$$\boldsymbol{E} = (-gradU)/(1 - U/c^2) = (-gradU_0)/(1 + U_0/c^2) \qquad (21)$$

$$\text{and} \qquad U_0 = U/(1 - U/c^2) \text{ or } U = U_0/(1 + U_0/c^2). \qquad (22)$$

So putting (21) instead of (18), we finally get

$$(1 - U/c^2)\,\Delta U = 4\pi\wp\rho(1 - U/c^2)^3 - 2(\nabla U)^2/c^2, \qquad (23)$$

where $\nabla \equiv grad$.

Of course the same result may be received while putting (22) instead of (20).

If we take into account the possible motion of gravitationally interacting objects with velocities v_1 and v_2, then on the background of (15) и (21) we finally get the system of gravitational field equations in the form

$$div\boldsymbol{E} - E^2/c^2 = 4\pi\wp\rho(1 - U/c^2)\sqrt{(1 - v_1^2/c^2)(1 - v_2^2/c^2)}$$

$$(1 - U/c^2)\boldsymbol{E} = -gradU, \ (24)$$

or either in the form

$$(1 - U / c^2)\Delta U + 1(U)^2 / c^2 = 4\pi\wp\rho(1 - U / c^2)^3\sqrt{(1 - v_1^2 / c^2)(1 - v_2^2 / c^2)}\ . \qquad (25)$$

It can be done in a simpler way with the use of (20) for determining U_0 and putting the result in (22) taking into account kinematics:

$$U = U_0\sqrt{(1-v_1^2 / c^2)(1-v_2^2 / c^2)} \Big/ \left[1+U_0\sqrt{(1-v_1^2 / c^2)(1-v_2^2 / c^2)} / c^2\right] \quad . \ (26)$$

In particular, for the case of point-like mass in statics we have for the potential

$$U_0 = -\wp m/r \text{ и } U = -\wp mc^2/(rc^2 - \wp m), \qquad (27)$$

and for the tensity of gravitational field

$$E_0 = -\wp m/r^2 \text{ и } E = (-\wp mc^2)/(rc^2 - \wp m)r. \qquad (28)$$

From (27) it results, that at mass annihilation, when radius r of a body becomes nil there generates energy

$$W = mU = mc^2, \qquad (29)$$

i.e. there is a trivial conclusion of mass and energy being equivalent without any Einshtein's mystique.

As it comes from (28), at small, if compared to $\wp m/c^2$, body radius r the force effecting the trial mass changes its character, i.e. attractions is replaced by repulsion. In the whole the force behaviour near $r = \wp m/c^2$ resembles strong interaction which it most apparently is. This obviously indicates the gravitational nature of strong interaction becoming classical Newton's gravitation $U \approx U_0$ è $\AA \approx \AA_0$ at big, if compared to $\wp m/c^2$, distances r from the field source.

It can be supposed that (28) in cosmology describes, on the first hand, the behaviour of pulsars the mass of which shrinks when $r > \wp m/c^2$, and explodes when r becomes less than $\wp m/c^2$.

On the other hand, (28) describes "black holes" as a state of bodies sized $r = \wp m/c^2$ or a little bigger, when their attraction is close to infinity.

We have yet to consider that in addition there are quantum effects in micro particles describing, in the form

$$E = [-(\wp m + hc/m)c^2]/[(rc^2 - \wp m - hc/m)r], \qquad (30)$$

where h– Plank's constant not revaling itself in macroscopic physics, i.e. at $m >> \sqrt{hc / \wp} \approx 10^{-7}$ kg. Though otherwise $U = -hc^2/(rcm - h)$ и $E = -hc^2/(rcm - h)r,$ and the border where attraction becomes repulsion is $r = h/mc$.

Finally let us note that for spherically symmetric source moving with velocity v_1 and the experimenter moving with velocity v_2 we have instead of (28) the following

$$E = -\wp mc^2\sqrt{(1-v_1^2/c^2)(1-v_2^2/c^2)} \Big/ (rc2 - \wp m\sqrt{(1-v_1^2)(1-v_2^2)} / r) \qquad (31)$$

which reduces the radius of the attraction transfer into repulsion in macroscopic physics but though does not effect microphysics.

Anyway the particular solvatiion (23) looks like

$$U = -4p\wp\int_V (cc/r)dV/1 - 4p\wp\int_V (\rho/r)dV/c^2\,] \ , (32)$$

where from for spheric symmetry we obtain (27).

In dynamics the gravitational field potential from the sense of logic would have to be delaying $U \approx [-4\pi\wp\int_V [\rho(\tau - r / c_*) / r] dV$, where c_* – seeming (measurable) velocity of gravitational field distribution, but if the field spreads in reality with velocity c, then according to (11) for any experimenter always $c_* = v_{geom}^{\Sigma} = \infty$, i. e.

there exists no delaying gravitational potential the same as there exist no gravitational waves.

Beside this, in all the correlations of the gravitational field there acts electromagnetic constant c , and this fact indicates electromagnetic origin of gravitation on one hand, and on the other hand makes us to suggest that gravitation is distributed by means of electromagnetic waves.
This also can be prooved by the fact that, according to (17) and as it has already been stated the source of gravitational field can be either in mass or in energy of the field itself, which may seem absurd if we do not suppose that gravitational and electromagnetic energies are identical. Then the absence of gravitational waves can be reasoned, for their function of field transmission is performed by of electromagnetic waves.

5. Correction of electrodymanics

Just before we try to obtain gravitation from electromagnetism we have to pay attention to the imperfection of the electromagnetic field equation system widely recognized since Maxwell times, if compared to the above displayed gravitation theory.
In fact, according to (16) the interaction of the two gravitating bodies moving with equal constant velocities v weakens $(1 - v^2/c^2)$ times despite the angle between the velocity $\boldsymbol{v}$ vector and the vector of gravitational field tensity $\boldsymbol{E}_0$.
It could not have been otherwise, because in this case, changing the mutual position of the bodies, i.e. placing them along the vector of their motion velocities or either perpendicular to this vector , and measuring their interaction each time we could have found their absolute motion related to the air (vacuum), the fact that would be in contradiction to the Galilean principle of relativity. But we observe a completely different situation in classical electromagnetism.
The most demonstrative in this respect is the so-called “Lorenz Force” which in a situation analogical to the one described above(replacing mass for charge) reveals

$$\boldsymbol{E}_e = \boldsymbol{E}_{e\,0} - (\boldsymbol{E}_{e\,0} \times \boldsymbol{v}) \times \boldsymbol{v}/c^2. \qquad (33)$$

As it follows from (33), if the two interacting charges are placed perpendicular to their velocity vector, the equivalent tensity of electrostatic field E will be $(1 - v^2/c^2)$ times less than the starting tensity of electrostatic field $\boldsymbol{E}_0$, i.e. the same way as it was in the analogical situation with masses.
But, if charges are placed along their velocity vector, then from (33) follows $E_e = E_{e0}$, i.e. something absurd from the relativistic point of view. For, turning the system of charges either into the flow of the motion or perpendicularly , we will find a difference in the forces of their interaction, i.e. discover their motion and this is what should be the least unlikely to occur.
Consequently, we need such a correction of electric field kinematics which will make the Lorenz Force indifferent to the change in mutual location of the charges moving with equal velocity, while the distance between them is preserved.
In particular, when the charges are parallel to motion when the second item of (33) is turned nil, the first item must decrease $(1 - v^2/c^2)$ times. But according to (6c) this what has to happen not only in gravitation but in electrodynamics as well though it is ignored for unclear reasons in the latter.
So, if the change of electrostatic field perpendicular to the motion in classical electrodynamics is adequately counted in the form of magnetic field with induction

$$\boldsymbol{B} = \boldsymbol{v} \times \boldsymbol{E}_{e\,0}/c^2, \qquad (34)$$

then the change of electrostatic field parallel to the motion must be counted generally in the form

$$\Delta \boldsymbol{E}_e = -(\boldsymbol{E}_{e\,0} \cdot \boldsymbol{v}_1)\, \boldsymbol{v}_2/c^2, \qquad (35)$$

where $\boldsymbol{v}_1$ и $\boldsymbol{v}_2$ –velocity vectors of interacting charges. Then instead of the Lorenz force and taking into account (35)

$$\boldsymbol{E}_e = \boldsymbol{E}_{e\,0} - \boldsymbol{B} \times \boldsymbol{v}_2 - \boldsymbol{v}_2\, T, \qquad (36)$$

$$\text{where } rot\boldsymbol{B} + qradT = -\partial \boldsymbol{E}_e / c^2 \partial \tau \,, \qquad (37)$$

$T = \boldsymbol{E}_{e0} \cdot \boldsymbol{v}_1/c^2$, $rotrot\boldsymbol{E} = -graddT\, / \,\partial\tau$, what presents the additions to the traditional Maxwell's equations.

But in fact (35) is a result of a double conversion of (6*d*) with arithmetical averaging of tensities for v_1 and $-v_1$, v_2 and $-v_2$:

$E_e = (E_1+E_2)/2 = E_{e0}\,[(1-jv_1/c)(1-jv_2/c) + (1+jv_1/c)(1+jv_2/c)]/2 = E_{e\,0}\,(1 - v_1 v_2/c)$.

At equal velocities $\boldsymbol{v}_1 = \boldsymbol{v}_2 = \boldsymbol{v}$, (36) in connection with (34) is turned into

$\boldsymbol{E}_e = \boldsymbol{E}_{e\,0}\,[1 - (\cos^2\alpha + \sin^2\alpha)\, v^2/c^2] = \boldsymbol{E}_{e\,0}\,(1 - v^2/c^2)$, which does not depend on angle α between $\boldsymbol{E}_{e0}$ and $\boldsymbol{v}$, i.e. it is reasonable in all cases, and, different from (33), fully corresponds to the Galilean classical principle of relativity.

6. Equivalence of mass and charge

Having thus established the correspondency between electrodynamics and gravitation and the principle of relativity, we can try to obtain gravitation from electromagnetism, and precisely from that of its components which was not present in the classical variant, i.e. from (35).

Suggest that, for elementary particles are subject to either "trembling" or rotation precession or orbital motion, all of them have a component of return- progressive motion towards each other. So, if we name the average velocity of electrons' return-progressive motion as $\boldsymbol{v}_e$, and the average velocity of protons' return- progressive motion as $v_{pr.}$, then according to (35) and Kulon's law the interaction of the electrons at distance r from e is a charge of electron (proton).

Here the first item in brackets corresponds to the usual repulsion of equal charges, while the second item realizes their weak attraction which corresponds to gravitation, so $-e^2 v_e^2/4\pi\varepsilon\, r^2 c^2 = -\wp\, m_e^2/r^2$, from where the electron's mass

$$m_e = e v_m \big/ 2c\sqrt{\pi\varepsilon\wp}\,, \qquad (37a)$$

only if the average velocity of electrons' return- progressive motion towards each other has the following order $v_e \sim 10^{-13}$ м/c.

Analogically the proton's mass is expressed the folowing way

$$m_{pr.} = e v_{pr.} \big/ 2c\sqrt{\pi\varepsilon\wp}\,, \qquad (37б)$$

in case $v_{pr.} \sim 10^{-10}$м/c.

Mutual "trembling" of opposite charges should be taken into account at the interaction between electrons and protons, so there is still $-e^2 v_e v_{pos.}/c^2 4\pi\varepsilon\, r^2 = -\wp\, m_e m_{pos.}/r^2$, while $m_{pos.} = m_e = e v_e \big/ 2c\sqrt{\pi\varepsilon\wp}$.

In the general case of the interaction of two bodies the first of which has a summar positive charge q_{+1} with average velocity of "trembling" v_{+1} and a a summar negative charge q_{-1} with average velocity of "trembling" v_{-1}, and the second body has the corresponding parameters q_{+2}, v_{+2} and q_{-2},v_{-2}, then taking into account (35) and different signs v_{+} и v_{-} ,we obtain

$$m_{+1} = q_{+1}v_{+1}/2c\sqrt{\pi\varepsilon\wp}, \quad m_{-1} = q_{-1}v_{-1}/2c\sqrt{\pi\varepsilon\wp}, \quad m_{+2} = q_{+2}v_{+2}/2c\sqrt{\pi\varepsilon\wp}$$

$$m_{-2} = q_{-2}v_{-2}/2c\sqrt{\pi\varepsilon\wp}, \quad m_1 = (q_{+1}v_{+1} + q_{-1}v_{-1})/2c\sqrt{\pi\varepsilon\wp}, \qquad (38)$$

$$m_2 = (q_{+2}v_{+2} + q_{-2}v_{-2})/2c\sqrt{\pi\varepsilon\wp}$$

For neutral bodies where $q_{+1}=q_{-1}=q_1$ и $q_{+2}=q_{-2}=q_2$, it follows $m_1 = q_1(v_{+1} + v_{-1})/2c\sqrt{\pi\varepsilon\wp}$ and $m_2 = q_2(v_{+2} + v_{-2})/2c\sqrt{\pi\varepsilon\wp}$ and for neutrino, which has $q = e$, $v_+ = v_- = v$, we have $m_0 = ev/c\sqrt{\pi\varepsilon\wp} \neq 0$, if only $v \neq 0$, which is highly probable, for it is hard to imagine that the pair of charges compiling it could be absolutely motionless. Though "trembling" of this pair is most apparently many times lower than the "trembling" of separately chosen electron and positron due to their strong correlation in neutrino.

From (38) follows that any mass is equivalent to charge

$$m = dq, \qquad (39)$$

where $d = d_0\ d_k$, d_0 – the new absolute world constant of mass and charge equivalence,

valied in

$$d_0 = 1/2\sqrt{\pi\varepsilon\wp} \approx 1{,}16 \cdot 10^{10} kg\ /\ culon, \qquad (40)$$

and d_k – a relative parameter of mass and charge equivalence, depending on velocities of "trembling" of the charges and generally valued in

$$d_k = v/c. \qquad (41)$$

In addition to gravitation, (35) permits to describe also the well known gyromagnetic phenomena, if attention is paid to the fact that according to (37) from

$$-rot\mathbf{B} = qradT \qquad (42)$$

it follows that changing of magnetic induction for example at body magnetizing results in changing T, i.e. velocity of body rotation $rot\ d\mathbf{B}/d\tau = qrad\ dT/d\tau$.

On the contrary, untwisting of a body results in its magnetizing. Thus the Earth's magnetic field could apparently be of mechanical nature.

Besides, having demonstrated the electrical origin of gravitation, we have confirmed once again the reason of electrodynamics equation system improvement by means of (35), and this makes us to revert again to SRT and GRT.

The fact is that SRT is based on fundamental transformations of coordinates by Lorenz-Einshtein, the correctness of which is justified by the invariance of classical system of electrodynamics equations towards them. But however, as far as we had to change this system it is no more invariant towards the transformations made by Lorenz- Einshtein which were prooved incorrect as well as SRT and GRT were.

And though the author's attitude to formal manipulations of systems of coordinates has been always suspicious, for these manipulations cast a shadow upon the physical sense of the processes [A. A. Denisov The Myths ot the Theory of Relativity.- Vilnius 1989-52 p.] , still for those for whom mathematical speculations are more important than their scientific meaning, we will show the conversions of coordinates, to which the (35)-improved system of electrodynamic equations is invariant and which correspond to the principles of classical relativity; resulting from (1*a*) and (1*b*):

$x' = (x - v\tau)/(1 - v/c)$, $y' = (y - jv\tau)/(1 - jv/c)$, $z' = (z - jv\tau)/(1 - jv/c)$,

$\tau'_x = (\tau - vx/c^2)/(1 - v/c)$, $\tau'_y = (\tau - j\,vy/c^2)/(1 - v/c)$,

$$\tau'_z = (\tau - jvz/c^2)/(1 - v/c) \qquad (43)$$

where it is implied that the experimenter's motion occurs along axis x with velocity v. However this system of coordinates is oblique- angled, where axes y' and z' are turned at angle $\varphi = arcsin\ v/c$ in relation to y and z from the point of view of a stationary observer. So in it there are $x'^2 + y'^2 + z'^2 \neq c^2\tau'^2$ for spheric light wave, while the Einshtein's interval $x'^2 + y'^2 + z'^2 - c^2\tau'^2$ is not invariant.
Instead, the invariant one is the following construction:

$$x' + c\tau'_x = x + c\tau, \quad y' + c\tau'_y = y + c\tau, \quad z' + c\tau'_z = z + c\tau, \qquad (44)$$

presenting the interval in oblique-angled coordinates.
To finalize we would like to remind that the anisotropy of the results of coordinate conversion for v and $-v$ should be averaged harmonically in lectrodynamics and geometrically in mechanics and gravitation.

Then we can obtain formalism in gravitation and electromagnetism as well.