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Basics of Motion Reflection Theory (MRT)

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Here we set a rational theory of high-velocity motion, which takes into consideration some effects, caused by its inadequate reflection by the environment and measurement instrumentation, the above-mentioned theory being entitled to replace the irrational and inadequate theory of relativity, which seems to be erroneous and contradictory to the common sense.

In this work we show electric origin of the mass, as well as of strong or weak coupling (interaction), and also of mass invariability in the process of its motion.

In this work we also show fallacy of relativist energy and inapplicability of Lorenz transform for the case of electrodynamics.

Here we give a description of a new electrostrictive field and its longitudinal waves.

We also show impossibility of gravitational waves existence and instantaneousness of gravitational data propagation.

Then, we describe general nature of the ball lightning, of the electron, of neutrino and define the mass of the latter one.

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SECOND EDITION FOREWORD

The second edition differs from the first one by having - alongside with redaction changes – a new part, entitled *General (Common) Field Theory* , which was earlier issued as a separate booklet [20].

2006

FIRST EDITION FOREWORD

The aim of every science is not just to describe obvious things, but to unveil those ones that are hidden from our sight by the cover of obviousness.

In other words, when describing a phenomenon, science should see clearly its inner essence, that is define a clear interrelation between information, which can be observed (measured) and which is meant 'for us', and information, immanent for the object observed, that is data 'in itself'.

It can be also said that the aim of science is to reveal interconnection between an essence and a phenomenon, for plain description of a phenomenon is nothing but fiction, or exercise in writing, or (at best) perfunctory systematization.

This interrelation is defined by science when the latter one studies structures of the matter and all kinds of its motion – from mechanical ones to biological and social ones.

Earlier we already had a chance to discuss some of those forms (see the list of literature in the end of this booklet). Here we intend to discuss only those most simple kinds of motion which are traditionally considered to be connected with physics, i.e. mechanical and electrical ones.

At all times these kinds of the motion used to be subdivided into relative ones, i.e. motion of an object relative to another one, arbitrarily taken as a stationary one, and absolute ones, i.e. motion of objects in universal immovable ether (i.e. physical vacuum).

Relative movement seems (though, only seems!) to be easily observed, and that was the reason because of which there were no problems, connected with its description, for it was considered that in such a case there was no difference between observed data (data 'for us') and immanent data (data 'in itself').

On the contrary, absolute motion always was enigmatic for scientists, for the abovementioned mysterious ether cannot be observed, because it affects neither our senses nor measuring instruments. And as motion is determined according to any change of position of the moving object relative to the immovable one, while the motionless ether cannot be detected, then absolute motion cannot be registered (established).

Thus, even some relative movement of the ship along a sheet of water cannot be established by the observer, staying in the hold, having no illuminators, because this person sees neither water, nor banks or other ships.

This fact permitted Galileo Galilei to formulate his famous classical principle of relativity, according to which any uniform (inertial) absolute movement cannot be detected by means of any observation, i.e. no information is available for us in such a case.

Nevertheless, a number of skeptical scientists carried out numerous experiments, trying to discover absolute movement.

The most well known one was Michelson-Morley experiment, by means of which they tried to measure orbital speed of the Earth in respect of the universal ether, i.e. the speed of its absolute motion, with the help of difference of absolute velocities of the light ray in along-track direction as well as in opposite direction.

If their experiment had a success, Galileo's principle would have been disproved.

However, while that one and all other similar experiments confirmed, and with great accuracy, independence of light velocity from light ray direction, Galilean relativity principle was proved brilliantly to be a triumphant one.

Of course, the very fact of absolute movement being impossible to be detected, tempts people greatly to proclaim such movement being non-existent, which was exactly done by Einstein in his relativist theory, in which he posed data 'for us', concerning light velocity constancy under any conditions, to look like some real (in spite of its being mythical) characteristic of light.

And no one dared to pay attention to the fact, that, if we follow that kind of logic, we should also declare relative inertial movement of a ship along the water sheet within the surrounding banks to be non-existent for a hold prisoner, as he does not see them.

That is why, if we follow the abovementioned criteria of scientific character, Einstein's approach should be recognized as a non-scientific one, for he not only refuses to set some correlation between observed data (data 'for us') and immanent data (data 'in itself'), but also rejects the last ones at all, or equates them to each other, which means the same.

As a result, it comes out, that an electric charge, moving in respect to any observer, has both electric and magnetic fields, but the same charge, according to the point of view of some other observer, moving together with the charge, has only electric field.

According to the theory of Einstein, it comes out that magnetic field is not an objective reality, but that it is something else, depending on a casual observer, acting as the demiurge and the maker of objective reality.

Of cause, all these things may seem to be real, but cannot, actually, be real; and the reason of such 'seemingness' should be explained from the point of view of physics. So, the present Motion Reflection Theory (MRT) is to give such an explanation.

Before giving it, however, we have to point out, that Einstein's relativist theory, serving as an imitational mathematical model, is able in some cases to present results, physically significant, which fact, however, does not render it either scientific character, or physical meaning, for if Einstein's relativist theory gives, for example, a correct velocity of 1000 *meters per second*, it does not mean that the process of getting such a result is relevant from the point of view of physics, because that figure can be obtained mathematically by a hundred of ways: 10^3, 500+500, 2000/2, etc., but none of them has any really physical meaning.

In other words, there can be several correct mathematical models, but there can be only one physical theory, correct in all details.

2004

I. Motion Characteristics Reflection

As a matter of fact, mankind came across the fact that an occurrence can reflect its essence inadequately, that is that observed data (data 'for us') and immanent data (data 'in itself') may differ, quite early - even before physics appeared on the world scene as a science.

Thus, sound information delay - relative to light information - in case of lightning may produce an impression that thunder is not simultaneous with lightning, but follows some time after it, as if being suspended.

That phenomenon did not become a cognition obstacle only because men often happened to be present in the centre of the thunderstorm, and in that case simultaneousness of lightening and thunder did not cause any doubts.

However, echo used to create an illusion of somebody imitating someone's yells for a long time, - till it became clear that echo is nothing more than delayed yells, coming back to the one who had uttered them some time ago.

However, the problem of data 'for us' retardation in respect to data 'in itself' always existed, though never created too big difficulties for one's activities, for visual (optic) checking, which was considered to be simultaneous, would remove all doubts.

Nevertheless, it was so only while velocity of observed processes was too small and incomparable with the speed of incoming optical information (dealing with those processes) intake. When such velocities became more or less comparable, all the more when the very light became the object of observation, the problem of difference between data 'for us' and data 'in itself' got such a scale, that caused famous "physics crisis" on the brink of XIX and XX centuries.

Unfortunately, in that time the problem was not understood as an informational one, that is as a problem of reflexion, and, because of that, it got perverted interpretation in relativity theory, which made the natural information dependency (retardation), concerning the speed of observed objects, look like some unnatural speed dependency of immanent information, concerning the same objects, and we are to make sure of that quite soon.

I-1. Moving Objects' Lengths and Velocities Reflection

To this end we are to consider an attempt to measure the length and the speed of a rod, passing us at speed v_0 in the air along the ruler which we assume to have at our disposal together with a stop-watch; let us suppose, too, that the length of the said rod was equal to l_0 before the beginning of the experiment, when it was motionless.

It is clear, that when in the process of the experiment the fore part of the moving rod comes to the beginning of the immovable ruler, then the experimenter, who is also situated at the beginning of the said ruler, will see the other end of the rod not as being near the point l_0 of the ruler's scale, but as being near that point $l_1 > l_0$, the image of which the light ray, traveling at speed *c,* will have brought at the moment, when the beginning of the rod is near the beginning of the ruler scale, that is with lag l_1 / c.

However, in the course of that period of time the further part of the rod will pass the way from l_1 to l_0, so that $l_1 - l_0 = v_0 l_1 / c$, wherefrom

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

When the end of the rod comes to the beginning of the ruler scale, the experimenter, according to the abovementioned reason, will see its forepart not near $|l_0|$, but near $|l_2| < |l_0|$, i.e.

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

If the experimenter has fixed the time span $\Delta\tau$ during which the whole rod, from its beginning to its end, passed the beginning of the ruler scale, then, having divided (1*a*) and (1*b*) by $\Delta\tau$, the experimenter will have:

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

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

Thus, the experimenter has to establish that the approaching rod **seems** to be longer and quicker than any recessive rod of the same length.

In a similar manner, at the attempt to measure the length of immovable rod by means of any moving ruler, the experimenter will have (1*b*) and (2*b*), when approaching the rod; and when moving off, the experimenter will have (1*a*) and (2*a*).

Now let us suppose that in the process of the measurement both of them are moving, the rod with velocity v_{01}, and the experimenter, approaching in the opposite direction, with speed v_{02} in respect to the motionless ruler.

At the moment, when the forepart of the rod, moving from the one side, and the experimenter, moving from the other side with the ruler in his/her hand, reach the beginning of the immovable ruler scale, the experimenter on the immovable ruler will see, of course, the picture (1*a*), quite familiar to him. However, on his own movable ruler he/she 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/her section l_1 of the immovable ruler seems to move towards immovable him/her with the speed of v_{02}.

Similarly, if under the same conditions the experimenter observes the forepart of the rod, having already passed him/her, when its end meets the experimenter and the beginning of the scale of the immovable ruler as well, then he/she will see

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

But if the rod and the experimenter moves along the immovable ruler in one direction, though with different speeds v_{01} and v_{02}, then for the cases of the rod coming nearer and further he/she will have

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

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

Having met with such anisotropy of measurements in front of him/her and behind him/her, which is obviously connected with data retardation (delay), for if $c = \infty$, all those effects would vanish, the observer has to work out some hypothesis, concerning properties of symmetry, typical for the physical nature of measuring instruments, used by him.

Thus, for electromagnetic and, particularly, optic nature of phenomena it is natural to suppose harmonic symmetry of observed measurements anisotropy, for it is harmonic averages l_1 and l_2 from (1*a*) and (1*b*) that let us get l_0 in its true value

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

where harmonic average l_{harm} is, as everybody knows, an inverse simple average (in the given case – half-sum) of values, inverse to the ones, being averaged:

$$l_{harm.} = 1/\left[(1/l_1 + 1/l_2)/2\right],$$

i.e. (4*a*). Analogously, for the velocity from (2*a*) and (2*b*)

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

Then harmonic inverse average for measurements anisotropy in case of reciprocal movements, coming from opposite directions, (3*a*) and (3*b*), will give for the lengths

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

and for the velocities

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

where $v_{01} + v_{02} = l/\Delta\tau$, if $\Delta\tau$ is time of passing the rod past the experimenter at their (rod and experimenter) reciprocal movement, coming from the mutually opposite directions.

Let us pay attention to two fundamental conditions. Firstly, (5*b*) is fully congruent with the famous velocities addition formula of Einstein, but if Einstein's formula is derived from his transcendental nonsense of shortening lengths, retardation of time and other rubbish, the present one, given by us, is clearly deduced from the error of measurements, caused by data retardation (delay) and also from the method of these measurements anisotropy harmonic averaging.

That is why in the case of equality of either of the velocities v_{01} or v_{02} to light velocity *c* from (5*b*) follows $v^{\Sigma}_{harm.} = c,$ and then this constancy of the light velocity means for both immovable and moving observers nothing more than a **seeming** phenomenon, caused both with a preferred type of measuring instruments and the mode of processing results.

Secondly, as long as (5*b*) is connected with velocity measurements anisotropy harmonic averaging, this formula – and, consequently, also Einstein's formula – is not a universal one, for when another mode of averaging is preferred, then other results are achieved.

Particularly, when we use geometric averaging for anisotropy of the velocity, corresponding to (3*c*), we obtain

$$v^{\Sigma}_{geom} = (v_1 + v_2)/\sqrt{(1 - v_1^2/c^2)(1 - v_2^2/c^2)} , \qquad (5c)$$

from which we deduce $v^{\Sigma}_{geom} = \infty$ for $v_1 = c$ or $v_2 = c$.

On the whole, these results are deduced from a definition of Galileo's relativity principle, according to which any absolute movement cannot be detected by any measurements, including, of course, also light velocity measurements, made by the moving observer, while here we have shown only technology of achieving the seeming light velocity constancy in any reference systems.

And though we cannot deduce from this, that observed information (information 'for us') may differ from immanent information (information 'in itself'), failure of certainly doomed

numerous attempts to 'bypass' relativity principle in optical experiments, including most famous Michelson-Morley experiment, gave, for some reasons, grounds to confirm light velocity constancy principle as immanent information (information 'in itself'), i.e. as the absolute truth, and by doing that to turn physics on its head, that is upside down. However, that happened instead of finding out real causes of such "seemingness", acting merely as information 'for us'.

Without going into details, we want to state, that if motion takes place along axis *x* of Cartesian coordinates, then plane *yz* seems to the observer to be a conic surface, while Cartesian system seems to be oblique-angled one, for when the beginning of coordinates is superposed with the observer, edges of the plane will seem to him/her being retarded because of information retardation (delay).

Consequently, transverse dimensions *h* of the moving body will get seeming perpendicular increments, so that in symbolic form $h = h_0 \pm jvh/c$, i.e.

$$h = h_0 /(1 \mp jv/c), \qquad (6)$$

where ***j*** is a unit vector, normal to ***v***, so that $j^2 = 1$.

As a result, the fore flat face of the approaching body seems to an immovable observer to be a pointed one, while the rear face seems to be inwardly impressed.

At this, information gets to the observer from h_0 quicker than from *h*, so that

$$\tau_{yz} = \tau_{yz0} /(1 \mp jv/c). \qquad (7)$$

It means that from the point of view of any motionless observer, some **seeming** anisotropy of the work of moving clock appears when it approaches (minus) or moves away (plus).

Unlike the case of relativist "real" retardation of the moving clock work, here we speak of the fact that the approaching clock **seems** to be getting forward, while the clock, moving away, seems to be slow.

In exactly the same way, temporal effects, connected with movement along the axis *x*, result in some situation when motionless observer thinks that

$$\tau_x = \tau_{x0} /(1 \mp v/c) \qquad (8)$$

for cases of approaching and moving away, and in the average (harmonic) $\tau = \tau_0$, i.e. at such averaging, time periods are reflected adequately. It should be stressed, however, that, if the man is able to use all spectrum of averaging, depending on circumstances, then nature knows only two kinds of averaging: a harmonic one and a geometrical one.

The first one is characteristic of all optic and, in general, all electromagnetic phenomena, and the second one (as it will be shown in Chapter IV) is characteristic of gravitational ones.

That is why, in gravitation, average length and average speed are perceived inadequately in the form of

$$l = l_0 / \sqrt{1 - v_0^2 / c^2} \qquad (9a)$$

$$v = v_0 / \sqrt{1 - v_0^2 / c^2}, \qquad (9b)$$

and the average time

$$\tau = \tau_0 / \sqrt{1 - v_0^2 / c^2}. \qquad (10)$$

Thus, we see that gravitational information 'for us' differs from information 'in itself' even on average, by which fact the theory of relativity was bewildered once and for all.

All the aforesaid proves that in reality, in nature there are no relativist length reduction and time retardation, though there is some real inadequacy of measuring lengths and work of clocks in moving objects. Thus, when we fly by a plane from Moscow to Vladivostok and compare local time with readings of our watch, we may think that our watch is slow, though such an impression is nothing but an apparent illusion.

In exactly the same way, when we fly in backward direction, we get an illusion of our clock being quick in comparison to local time; though, if we do not to put our clock back or forward, we will see on our return that our watch still shows Standard Moscow Time.

Still, Einstein in his experiments with the light ray suggested to average geometrically local time on the way there and back, and, according to (10), he got some absurd summary retardation of the work of tourists, who returned from a cruise (twins paradox).

Besides that, time flow along the reference axis, along which the movement takes place, seems for an observer to be, according to (7) and (8), different from time flow in other coordinates.

For a man (who once was provided by Satan with some cognitive impulse), when the former one has some observed information (information 'for us'), it seems to be a must for him to try solving any question by finding ways to reconstruct the lacking immanent data (data 'in itself') with the help of the abovementioned available information – just in the spirit of Immanuel Kant's transcendental apperception, and not to surrender in the face of cognitive difficulties in the spirit of Ernest Mach.

Our simpleminded nature does not make differences between such notions, apprehending information 'for us' as the holy truth and constantly staying in such a deception, which does not justify its adepts and followers, demonizing this natural phenomenon.

That is why a witty maxim was popular in the last century: "Darkness was o'er the surface of the deep. "Let there be light", was said – and Newton soon appeared. Satan revenged, and so Einstein came and light has disappeared".

To conclude, let us pay attention to two facts, most important for our further developments. First of all, it follows from seeming velocity (2*a*) and (2*b*), that, when observing **uniform** motion, immovable observer should apprehend it as a **retarding** one, in view of the fact that $v_1 > v_2$, which, from his point of view, makes a moving system not only an oblique-angled one, but also a non-inertial one.

Secondly, in view of equivalency of acceleration and tensity of gravitational field, the observer ascertains seeming gravitation, caused by the movement of the system, which will be discussed in Chapter IV.

The former ratios suppose that the velocities can be compared with light velocity, to some degree, i.e. $v \approx c$. Such velocities and corresponding ratios were usually called relativist ones. However, we state here something opposite to relativity theory; so, further, to avoid confusion, we will call such velocities and relations reflective, for the latter term corresponds better to the theory of reflected movement.

In those cases, when $v << c$, information 'for us', concerning movement, becomes practically the same as information 'in itself', and then both theory of relativity and RMT theory are not needed any more.

I-2. Moving Object Coordinates and Time Reflection

To describe some object's position, it is necessary to choose some co-ordinates among a great number of them – beginning with Cartesian coordinates, rectangular and rectilinear, and finishing with Riemannian coordinates, oblique-angled and curvilinear.

Coordinates are geometrical models, which we invent to formalize description of positions and movements of objects in space. Nature, however, does not use these conventional models and coordinates of ours.

That is why relativists, when they refer to curvature of coordinates in their description of gravity and ascribe this curvature to physical space, they just confuse sacraments with scrambled eggs, equating abstract ugliness of forms in the spirit of Salvador Dali, allowable in models, to reality.

We will restrict ourselves to consideration of coordinates of conventionally immovable object *A*, which has coordinates *x*, *y*, *z* in their immovable Cartesian coordinates, and coordinates x', y', z' in a system, moving with some velocity of *v* along *x,* while axes *x* and x' are situated on one straight line, parallel to ***v*** (Fig.1).

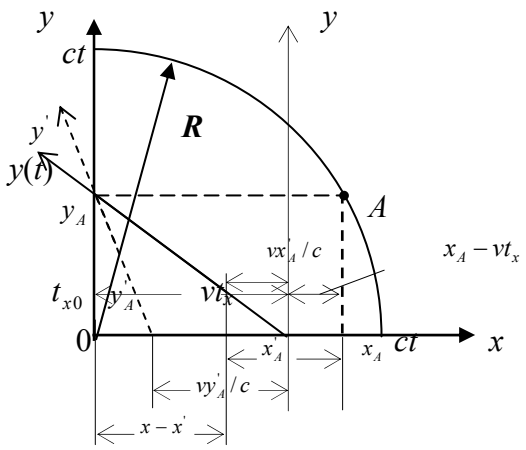

Fig. 1

We want to stress that, having chosen Cartesian coordinates and taken their game directive, we observe neither object itself, nor time readings of its clock but only its projection to the reference axes and local time readings, shown by clocks, situated in places of projections, being different for them if only $x \neq y \neq z$.

In this case no universal time *t* exists even in a static system, for an observer at 0 has an impression that the clock at places of projections *A* is slow, and the further it is from the beginning of coordinates, the slower it is, so that $t - t_x = x/c$, $t - t_y = y/c$ and $t - t_z = z/c$, where *t* is time at 0.

Of course, we could use also spatial polar (spherical) coordinates, and then provide observing the clock on the object itself, i.e. at the end of the ray, (the only linear coordinate), drawn to an object from the beginning of coordinates, but in such case we would have to introduce coordinate angles into our considerations instead of projections to Cartesian axes.

However, relativist Lorentz-Einstein transformation brings a lot of turmoil into the whole affair, using Cartesian coordinates for object positioning, but at the same time using the spherical coordinate for universal time, for otherwise that time would be projected to the axes with different values of retardation.

As RMT has nothing to do with mystifications, different reflective time corresponds to different reflective Cartesian coordinates in it.

So, according to Fig.1, the observer at the beginning of coordinates of any moving system in some moment t_x sees projection of the object on the axis x' not at $x - vt_x$, where it is, but in position x', preceding it for a certain time x'/c. But during this time projection of the object, having velocity *v*, will move to $x - vt_x$, so that $x' - vx'/c = x - vt_x$, whence

$$x' = (x - vt_x)/(1 - v/c). \qquad (11x)$$

Actually, everything happens in accordance with (1*b*), where $l_0 = x - vt_x$.

At this, both observers will see, correspondingly, *x* and x' at one and the same moment (in accordance to readings of their clocks) $t_x + x/c = t_x' + x'/c$, where t_x and t_x' are readings of the clock at *x* and x', so that

$$t_x' = t_x + (x - x')/c = (t_x - vx/c^2)/(1 - v/c), \qquad (12x)$$

for coordinates y' and z' as well as time t_y' and t_z', reasoning from the fact that $\boldsymbol{v}$ is orthogonal to *y* and *z*, and also to speed *c* of the information, propagating along these axes, we can absolutely formally and by analogy with (11*x*) and (12*x*) write down in symbolical form:

$$y' = (y - jvt_y)/(1 - jv/c), \qquad (11y)$$

$$t_y' = (t_y - jvy/c^2)/(1 - jv/c), \qquad (12y)$$

$$z' = (z - jvt_z)/(1 - jv/c), \qquad (11z)$$

$$t_z' = (t_z - jvz/c^2)/(1 - jv/c). \qquad (12z)$$

However, it immediately follows from Fig.1 that the observer from the beginning of coordinates of any moving system has to incline his/her axes y' and z', in order to measure distances between him and immovable projections y_A and z_A.

Symbolic actual distance l_0 between the observer and *y* is $y - jvt$, that is why the true time there amounts $\tau_0 = t_y - jvy/c^2$, so that having taken into consideration (7), it brings us to (11*y*) and (12*y*).

Correlations (11*z*) and (12*z*) are absolutely analogous ones, but corresponding events take place not at plane *xy*, but in plane *xz*.

As a matter of fact, these transformations describe transition from immovable Cartesian coordinates to oblique-angled moving coordinates and visa versa, though in theory of relativity take place Cartesian coordinates in both cases as well as some strange time, universal for *x*, *y* and *z*, which one cannot exist in nature at all when synchronizing local clocks from the beginning of coordinates for those projections that are not equidistant from the projections etalon.

For getting reverse transformation of coordinates from moving ones to immovable ones we should change places of coordinates with a stroke and without a stroke in (11) и (12) as well as to change the character of velocity to the opposite one.

Let us stress once again, that all these reflective transformations describe observe information (data 'for us'), that is seeming (not real) processes. That is why, when for coordinates of spherical light wave front intersection with any linear axes $x = ct$ at $y = z = 0$, $y = ct$ at $x = z = 0$ and
$z = ct$ at $x = y = 0$ we deuce from them

$$x'/t_x' = y'/t_y' = z'/t_z' = x/t_x = y/t_y = z/t_z = c, \qquad (13)$$

then this constancy of light speed along all coordinates and isotropy of the light wave in any reference systems are also seeming (not real) ones, behind which some classical Galilean composition of velocities is hidden, and the latter means that there was no physical reason for taking that seeming constancy as a postulate of the theory of relativity.

Actually, independence of light measurements from absolute movement can be directly deduced from Galilean principle of relativity, according to which absolute movement cannot be detected by any experiments.

However, there can be given two explanations for that phenomenon: either absolute movement cannot be detected, for it just does not exist, or the abovementioned movement uniformly changes parameters of both measurements, at the bottom of which ones lies comparison of some measured data with the etalon.

Einstein and special relativity stick to the former interpretation, automatically rejecting existence of any medium (ether), in which absolute movement takes place.

We, on the contrary, in our RMT theory stick to the second interpretation, which implies demonstration of the mechanism that compensates changes of measured value in absolute movement, and we are to discuss that in the further chapters of our work.

It is absolutely clear, that any most optimistic experiments would have to make provision for comparing velocity (phase) of the light ray, taking part in absolute movement (movement of the Earth, for example) with velocity (phase) of the etalon ray, which does not take part in that movement. However, where can we find such a ray, if the whole measuring system moves?

Equations (11) and (12) satisfy to three flat reflective invariants

$$\left.\begin{aligned} \delta_x &= x + ct_x = x' + ct'_x \\ \delta_y &= y + ct_y = y' + ct'_y \\ \delta_z &= z + ct_z = z' + ct'_z \end{aligned}\right\}, \qquad (14)$$

i.e. to the continium

$$(x' - x)/(t_x - t'_x) = (y' - y)/(t_y - t'_y) = (z' - z)/(t_z - t'_z) = c. \qquad (14a)$$

Let us stress once again that any optical experiments concerning light velocity measurement in moving mediums will always and under any circumstances, in spite of real Galilean combination of speeds, give invariable c for the light velocity, for retardation of optical information according to (11) and (12) is fully compensated by local time lag, due to which (13) will always be true for light, and also in any coordinate systems.

Einstein got mixed up rules of coordinate games, having rightfully written light spherical wave in spherical coordinates as $R = ct$, where t is local time in the most remote end of vector $\boldsymbol{R}$, but then, passing on to rectangular coordinates for $R^2 = x^2 + y^2 + z^2$, he left time t in spherical system and got $x^2 + y^2 + z^2 = c^2t^2$, though, according to the rules, he would better accept $x^2/t_x^2 + y^2/t_y^2 + z^2/t_z^2 = c^2$, where t_k is the relations of coordinates of the corresponding projections $\boldsymbol{R}$ to velocities of these coordinates changes, while the velocities are projections of $\boldsymbol{c}$ on corresponding axes, which absolutely does not resemble equation of sphere in the oblique-angled moving system (Fig.1).

Thus, in Cartesian coordinates every point of light sphere corresponds to not only different Cartesian coordinates (projections on the axis), but also different time of these projections even in immovable reference system, to say nothing about the moving one, and Einstein's universal time in such coordinates is nothing but fiction, giving birth to incongruous myth about spatiotemporal four-dimensional continuum.

It should be specially stressed, that in the result of all these things relativist transformations of coordinates as distinct from (13) regardless of declarations do not preserve isotropy of light wave in moving reference systems.

Indeed, if in these transformations

$x' = (x - vt)/\sqrt{1 - v^2/c^2}$, $t' = (t - xv/c^2)/\sqrt{1 - v^2/c^2}$ $y' = y$, $z' = z$, we divide coordinates by time, then, in that case, to cross the front of light sphere with axes for $x = ct$ we will get $x'/t' = c$, but for $y = ct$ and for $z = ct$, we will get $y'/t' = z'/t' = c\sqrt{1 - v^2/c^2} \neq c$, i.e. isotropy of the wave can not be preserved, which contradicts to initial postulate of special relativity, concerning light velocity constancy in any reference systems.

The point is, that quadratic forms, arbitrarily used by Einstein to deduce his coordinates transformations, do not have real physical sense, because they are not observable.

Physical sense is obtained only by immediately observable and measurable positions on axes of, for example, front of the spherical light wave, propagating from the beginning of coordinates, and not its quadratic equation, changing subject to the chosen reference systems.

That is why the main defect of relativity system lays in substitution of studying physical distortion of information, concerning position of moving objects, by mathematical speculations with quadratic forms.

All the more, that according to Fig. 1 the moving observer sees his/her coordinates as oblique-angled one, where equation of sphere differs from the equation in rectangular system and demands other transformations, so that equations of physics are invariant ones according to their contents only, not form.

Generally speaking, Galilean relativity principle tells of impossibility of direct **measurements** of absolute movement and, particularly, of impossibility of **measuring** spherical lights wave anisotropy by the moving observer (which was brilliantly proved by all optical experiments), and not of invariance of physically observed mathematical equations in regard to unobserved transformation of coordinates in unobserved reference systems (the fact being confirmed by both mistakes in mathematic modeling of this principle in the theory of relativity and mistakes, made by Galileo himself in this field).

However, the system of coordinates, as being represented physically, represents itself a set of rulers, provided with clocks (either skew ones, or curved ones), along which ones light wave propagates, and only its position and velocity, which are indicated by rulers and clocks, are trustworthy. Everything else belongs, at best, to the field of hypotheses, which ones should be verified only by means of the same clocks and rulers (scales), and not by correctness of mathematical operations.

Still, the main error of Einstein's theory is in the sphere of his ungrounded demand of physical processes independence from inertial movement of the system in which they proceed, though, for example, Minkovsky force (30*a*) and Lorentz force (39) for $v_2 = v_1 \neq 0$ differ according to their form from equations for $v = 0$.

It is in order to get out of such a scrape, that Einstein needed all the abovementioned formal compensators, having no physical sense.

Thus, retardation of the moving clock is not an objective reality, but exclusively an attribute of a mathematical model, adjusted to that reality.

The same role of compensators of untrue basic postulates is played in the theory of relativity by "reduction" of lengths, "increase" of mass, and "curvature" of space; the more, that while deducing transformations of coordinates we followed irrational relativist postulate of the true constancy of light velocity in any systems of reference, these transformations can be very well deduced from the rational Galilean composition of speeds, when inside moving system some information is transmitted with the speed *c*, and between systems with the speed *c* – *v*, so that $x'/c = (x - vt_x)/(c - v)$, i.e. (11*x*) etc., which makes it possible for the immovable observer at $0'$ and the immovable observer at vt_x, to see one and the same picture.

II. Reflection of Mechanical Magnitudes

To continue the topic of correspondence of observed information (data 'for us') and immanent information (data 'in itself', we are to pass to such fundamental notions as mass, impulse (linear momentum) and energy of moving objects, as well as to gravitational fields of such objects.

II-1. Reflection of Mass, Impulse and Energy Of Moving Bodies

As in conformity with mechanics reflection of velocity is described with the help of reflective formula (9), and mass *m* in RMT is considered to be unchangeable and independent of speed, the reflective impulse (linear momentum) takes the form

$$\rho = mv_0 / \sqrt{1 - v_0^2 / c^2} = mv . \qquad (15)$$

This form fully coincides with relativist impulse, though it is opposite to it by implication, for in (15) mass is permanent, while in the relativist formula $\rho = mv = m_0 v / \sqrt{1 - v^2 / c^2}$,

where $m = m_0 / \sqrt{1 - v^2 / c^2}$.

That is why, if at $v_0 = c$ the reflective speed (9) seems to be infinite, then in relativism under the same conditions in reality the mass seems to turn into infinity.

We would ask, what meaning can all these details have, as these two impulses are quantitively identical?

But the point is that, firstly, according to Ockham's razor principle one should not invent redundant essences; that is, if it is possible to manage with permanent, invariable mass, there is no need to invent some mass, mystically dependant of speed.

Secondly, (and this is not scholastics any more) kinetic energy of moving mass is an integral for the velocity from the impulse (15), i.e. $W_k = \int_0^v \rho dv$, which in RMT gives $\int_0^v mvdv = mv^2 / 2$, or, having taken into consideration (9),

$$W_k = mv_0^2 / 2(1 - v_0^2 / c^2) . \qquad (16)$$

It is significant, that at reflective (relativist) velocities (16) can manifold surpass relativist kinetic energy as far as ad infinitum at $v_0 \to c$. Besides, relativity theory forbids velocities trat surpass light velocity, as in such case mass and energy supposedly become imaginary that is they just do not exist. At the same time, reflective kinetic energy (16) in such cases does not herald any cataclysms, though it seems to be negative for the observer.

Once, Einstein used relativist kinetic energy to calculate tension *U* of the linear accelerator, needed for electric charge *q* to gather speed *v* in form of $U = mc^2 \left(\frac{1}{\sqrt{1 - v^2 / c^2}} - 1 \right) / q$. Corresponding reflective tension from equation $qU = mv^2 / 2(1 - v^2 / c^2)$ is deduced in the following form: $U = mv^2 / 2q(1 - v^2 / c^2)$.

These tensions and velocities can be compared experimentally without any problems, in order to get sure that (16) is true.

It is clear, that at speeds, which are slow in comparison with *c,* (16) turns into classical kinetic energy $mv^2/2$, and full energy

$$W = mc^2 + mv^2/2(1-v^2/c^2) = mc^2(1-v^2/2c^2)/(1-v^2/c^2)$$

under the same conditions coincide with relativist full energy (strength) $mc^2/\sqrt{1-v^2/c^2}$.

However, even as a second approximation, reflective kinetic energy constitutes $mv^2/2 + mv^4/c^2$, and the relative one constitutes $mv^2/2 + 3mv^4/4c^2$, where the second item is a forth less.

Now, let us pay attention to $\boldsymbol{a} = d\boldsymbol{v}/dt$, acquired by mass *m*, moving at speed $\boldsymbol{v}_0$ being influenced by the force of $\boldsymbol{F}_0 = m\boldsymbol{a}_0$, directed at some arbitrary angle to the line of velocity $\boldsymbol{v}_0$.

Having resolved $\boldsymbol{a}_0$ into its constituent parts, and, namely, into $\boldsymbol{a}_\perp$, which is perpendicular to the line of velocity, and the other one, $\boldsymbol{a}_\parallel$, parallel to the former one, we get

$$\boldsymbol{a_0} = \boldsymbol{a}_\perp + \boldsymbol{a}_\parallel . \qquad (17)$$

At that $\boldsymbol{a}_0 = \boldsymbol{F}_0/m$ presents the very acceleration, which *m* is prescribed to have by the nature itself. However, due to inadequacy of measurement by the mass of its velocity (9) and acceleration

$$d\boldsymbol{v}/dt = \frac{d}{dt}\left(\frac{\boldsymbol{v}_0}{\sqrt{1-v_0^2/c^2}}\right) = \boldsymbol{a}_0/(1-v^2/c^2)^{3/2} \qquad (18)$$

acceleration $\boldsymbol{a}$ is that very equation, which is measured by the mass as $\boldsymbol{a}_0$. The same is true for the constituents of $\boldsymbol{a}_0$, i.e. $\boldsymbol{a}_\perp$ and $\boldsymbol{a}_\parallel$.

That is why, reasoning from the coincidence of directions $\boldsymbol{a}_0$, and taking into consideration (17)

$$\boldsymbol{a} = \boldsymbol{a}_0(1-v_0^2/c^2)^{3/2} = \\ = [\boldsymbol{a}_0 - (\boldsymbol{v}_0 \cdot \boldsymbol{a}_0)\boldsymbol{v}_0/c^2 - \boldsymbol{v}_0 \times (\boldsymbol{v}_0 \times \boldsymbol{a}_0)/c^2]\sqrt{1-v_0^2/c^2}. \qquad (18a)$$

If we multiply both parts of (18) by *m*, then, in such case, if we do not take into consideration the third item in square brackets, (18) turns into Minkowski relativist force $m d\boldsymbol{v}/dt = [F_0 - (F_0 \cdot \boldsymbol{v}_0)\boldsymbol{v}_0/c^2]\sqrt{1-v_0^2/c^2}$, in which *m* depends mystically on velocity $m = m_0/\sqrt{1-v_0^2/c^2}$.

It is important to underline that, in spite of formal coincidence of Minkowski force with a part of reflective force $\boldsymbol{F} = m d\boldsymbol{v}/dt$, the latter one contains permanent mass, and Lorentz factor $\sqrt{1-v_0^2/c^2}$ appeared in it as early as when reflecting acceleration (18), i.e. before multiplying by *m*.

Besides, Minkowski managed to lose somewhere the third item of (18), meaning the same inertial resistance to lateral acceleration, as resistance to longitudinal acceleration according to the second item.

In practice, these resistances - including the resistance to centrifugal force at mass, rotating according to the third item in (18) – never cause anyone's doubt (with the exception of Minkowski and relativist adepts altogether), as, for example, in the case of movement of planets of the Solar System for which the attraction of Sun is always directed towards the Sun, irrespective of their position, which corresponds to (18), where $\boldsymbol{F}_0$ and $\boldsymbol{F}$ always agree in direction, but not to Minkowski force, where $\boldsymbol{F}_0$ and $\boldsymbol{F}$ may not agree in direction.

Indeed, if revolving mass obtains inner (potential) energy mc^2, then rotation (5*a*) will lessen this energy in $(1-v^2/c^2)$ so that negative gradient of general energy has the form of $\boldsymbol{F} = -\frac{\boldsymbol{r}m}{r}(c^2/r - v^2/r) = m[\boldsymbol{a} - \boldsymbol{v}\times(\boldsymbol{v}\times\boldsymbol{a})/c^2]$, i.e. the second item, lost by Minkowski, (18), where mv^2/r is the centrifugal force, $-mc^2/r$ is the centripetal force of intermolecular cohesion, $a = -c^2/r$, r is the radius of rotation.

At this, if F_0 acts as some prescribed programme of behaviour of *m*, that is as some information about the force 'in itself', then *F = mdv/dt* acts as information about the force 'for us', that is as force, that seems to the mass, and the force, which really defines behaviour of the given mass.

The second item in square brackets (20) means, actually, that, moving in the field of the outer force, the mass creates around itself some cynetic gravi-striction field scalar field

$$\boldsymbol{T}_G = (\boldsymbol{v}_0 \cdot \boldsymbol{a}_0)\sqrt{1-v^2/c^2}\,/c^2, \qquad (19a)$$

which prevents acceleration in the direction of $\boldsymbol{v}$, if $T > 0$, as well as retardation, if $T < 0$.

Of course, this field is a virtual one, for it acts only on the bounds of mass, but in the case, when acceleration is put into effect by a gravitational field, that extends in space, (19) it becomes objective reality.

The former also relates to the former item (18), to which corresponds some virtual vectorial gravity-magnetic field

$$\boldsymbol{B}_G = (\boldsymbol{v}_0 \times \boldsymbol{a}_0)\sqrt{1-v_0^2/c^2}\,/c^2. \qquad (20)$$

II-2. Gravitation Reflection

In Newtonian mechanics, implying momentary and instantaneous propagation of information, gravity potential V_0^2 and field strength (density) $\boldsymbol{A}_0$ of the point mass *m* are described as

$$V_0^2 = -Gm/r, \qquad (21)$$

where *r* is a distance from *m* to a given point of space, and

$$A_0 = -Gm/r^2. \qquad (22)$$

At the same time, as V_0^2 has dimension and meaning of the square of imaginary velocity of some virtual movement , then it is also reflected (measured) as the square of velocity in accordance with (9 *b*).

However, from informational point of view, V_0^2 is not a parameter of virtual movement V^2 of trial (test) mass in a given point, but only some prescribed programme of the movement.

That is why the trial mass m', moving virtually together with parameter V^2, should, in accordance with (9*b*), interpret it as prescribed parameter, V_0^2, i.e.

$$V_0^2 = V^2/(1 - V^2/c^2) \text{ or } V^2 = V_0^2/(1 + V_0^2/c^2). \qquad (23)$$

This is that gravitational potential, which in case of the central Newtonian field (21) becomes

$$V^2 = -Gmc^2/(rc^2 - Gm). \qquad (24)$$

Potential (23) differs from the Newtonian one, and first of all by the fact, that at $r = 0$ it becomes c^2, so point field source (mass collapse) always has internal (intrinsic) energy $mV^2 = mc^2$, which means equivalency of mass and energy, and secondly, by the other fact of changing the sign of energy at $r_G = Gm/c^2$, that is changing outside gravity to repulsion, in consequence of which, liquid, gas or relatively fine-dyspersated mass m concentrates on spherical surface with the radius of Gm/c^2.

On the outside of this sphere, attraction to it is infinite, according to (24), so it looks as a "black hole", attracting and absorbing even light.

However, from the other, inner, side of the sphere, every mass, having penetrated there due to inertia, is retarded and pushed out to the outside, where it is attracted again, and this may convert such "hole" into a pulsar.

In such case, due to the field decaying as many as $(1 - v_G^2/c^2)$ times, the pulsar has Newtonian gravity field
$V^2 = V_0^2 = -Gm/r = -v_G r_G/r$ and any dimensions r_G and velocity of pulsations v_G within

$$r_G v_G^2 = Gm. \qquad (24a)$$

Of course, such effects are possible only if volume of mass m is less than the volume of inner cavity of the sphere. Otherwise, the "black hole" stays within the body - both on the Earth or on the Sun - and - seemingly due to unlimited compression in the area of $r_G = Gm/c^2$ - only initiates ejection of liquid phase of the mass on the Earth or protuberances on the Sun.

From (24) it also follows, that in the centre of the Sun there can be an empty space with the diameter of $2Gm/c^2 \cong 10^3 m$.

As m and m' in reality are static in respect of each other, then (23) can be regarded also as a consequence of virtual movement of the medium between m and m' with the velocity V.

Then command information will come to m' after twofold reflection: first in the medium, and then from the moving medium to m', that is in compliance with the twofold application of (9*a*) for r.

As a result, we get V^2 resulting from twofold weakening of V_0^2 in the form $V^2 = V_0^2(1 - V^2/c^2)$, i.e. (23).

Analogically, (22) acts as a programme of acceleration of virtual movement of the trial (test) mass m', to which one (the programme) should correspond acceleration of its own movement, reflected (measured) by the trial mass in accordance with (19).

However, it is easier from the very beginning to base our speculations on the fact that if in virtual movement of the medium between m and m' vectors $\boldsymbol{A}_0$ and $\boldsymbol{V}_0$ are reciprocally

normal, then at twofold reflection into the medium and from the medium in accordance with (18) we get

$$\boldsymbol{A} = \boldsymbol{A}_0 (1 - V^2 / c^2) = \boldsymbol{A}_0 / (1 + V_0^2 / c^2) . \qquad (25)$$

As a result, for the central field in accordance with (22) and (23)

$$\boldsymbol{A} = -Gmc^2 / r(rc^2 - Gm). \qquad (26)$$

At this, if $\boldsymbol{A}_0 = -gradV_0^2$, then from (25) it also fallows that

$$\boldsymbol{A} = -(1 + V_0^2 / c^2) gradV^2 . \qquad (27)$$

If we study real movement of m' with speed v_0 in gravitation fields, then it will be characterized with reflective acceleration (20), where $\boldsymbol{A}$ from (25), and for the central field from (26), should be presented as $\boldsymbol{a}_0$, so

$$d\boldsymbol{v} / dt = [\boldsymbol{A}_0 - (\boldsymbol{A}_0 \cdot \boldsymbol{v}_0)\boldsymbol{v}_0 / c^2 - \boldsymbol{v}_0 \times (\boldsymbol{v}_0 \times \boldsymbol{A}_0) / c^2] \sqrt{1 - v_0^2 / c^2} /$$

$$/ (1 + V_0^2 / c^2) = \boldsymbol{A}_0 (1 - v^2 / c^2)^{3/2} / (1 + V_0^2 / c^2). \qquad (28)$$

This is also a precise description of annual Mercury perihelion displacement, which approximately agrees with the approximate relativistic displacement.

Specifically, if we get interested in deflection (curvature) of the beam in massive space bodies fields, then, in concordance with all the above-said, for the beam point, nearest to the field source centre, where A and $v_0 = c$ are mutually normal, dynamic equilibrium takes place.

$$dv / dt = -Gm \sqrt{1 - v_0^2 / c^2} / r_p^2 (1 - Gm / r_p c^2) .$$

Since $dv / dt \neq 0$ (light curves), and $\sqrt{1 - v_0^2 / c^2} = 0$ at $v_0 = c$, it means that $1 - Gm / r_p c^2 = 0$, i.e. maximum light curvature constitutes $1 / r_p = c^2 / Gm$, which is two times bigger than Newtonian curvature and exactly corresponds to direct observations.

Indeed, from equality of Newtonian potential and kinetic energies $Gm / r_0 = v_0^2 / 2$ follows, i.e. $1 / r_0 = v_0^2 / 2Gm$, which at $v_0 = c$ gives the beam curvature $1 / r_0 = c^2 / 2Gm$, whence $1 / r_p = 2 / r_0$, which now is true for any values of r_p and r_0

Doubled Newtonian light curvature can be also found by immediate equating potential and kinetic reflective energies, existing in the point of maximum curvature
$Gm / r_p (1 - Gm / r_p c^2) = v^2 / 2(1 - v^2 / c^2)$, whence
$1 / r_p = v^2 / 2Gm(1 - v^2 / 2c^2)$, which at $v = c$ produces $1 / r_p = c^2 / Gm$.

Nearly the same result is given by relativity theory, though only in approximation, for, as had been already said earlier, kinetic energy is not correctly determined there.

When all the mass of the body (ring) rotates around the center of symmetry with a speed of v_0 in accordance with (28), outer field of the mass weakens $\sqrt{1 - v_0^2 / c^2}$ times, and in the case of $v_0 = c$ this causes vanishing of the outer field, that is an “invisible man” appears, that creates some imperceptible element of the ether.

It seems, that planets rotate round their own axes just to minimize the store of their internal (intrinsic) energy

$4\pi\int_0^R \rho_r V_r^2[1-(\omega r\cos\varphi)^2/c^2]r^2dr$, where ρ_r is the mass bulk density on the depth of $R - r$, where R is the planet radius, ω is its rotation speed angular velocity, φ is the latitude of this point above the equator , while $V_r^2 \cong -4\pi G\rho r^2c^2/(3c^2-4\pi\rho r^2)$, if instead of ρ_r we use average density ρ of the planetary substance.

Then $W_c = W_{\min}$, if

$$\omega^2 \cong 4\pi G\rho/3 = Gm/R^3, \qquad (29)$$

in which connection $W_{\min} \cong -3Gm^2/5R$, but the latter suits for crude estimates only, for in reality, planet matter density considerably increases from the surface to its centre, which considerably decreases (29). Nevertheless, (29) it is not far from reality due to the order of values, and the latter, possibly, explains why heavenly bodies rotate.

Meanwhile, the second and the third items in (28) create, unlike (19) and (20), real inertial fields

$$\boldsymbol{T}_G = -(\boldsymbol{A}\cdot\boldsymbol{v}_0)\sqrt{1-v_0^2/c^2}/c^2 \qquad (28a)$$

and

$$\boldsymbol{B}_G = -(\boldsymbol{A}\times v_0)\sqrt{1-v_0^2/c^2}/c^2, \qquad (28b)$$

which are able to interact not only with the mass *m,* which has generated them in accordance with (28), but also with any other mass m', moving with speed v', in the form of

$$\boldsymbol{F}' = -m'(\boldsymbol{v}'T_G + \boldsymbol{v}'\times\boldsymbol{B}_G)\sqrt{1-v'^2/c^2}\,. \qquad (28c)$$

These fields, that can be, apparently, identified as the torsional fields, known from literature, are able, according to (28*c*), to synchronize gyroscopes and coordinate masses movements in the outer gravitational field.

Unlike existing electrical analogues, the gtavistrictional field (28*a*) and the gravimagnetic field (28*b*) can exist only at $v < c$, and at $v = c$ they disappear.

This means, first of all, that in the latter case also gravitational waves would vanish, which would formally follow from (28).

Secondly, if in electrodynamics the speed of conformably longitudinal wave is described as $c_Э = E/T = Ec^2/Ev = c$ at $v = c$, and the speed of transverse wave $c_Э = E/B = Ec^2/Ev = c$ at $v = c$, then gravitational analogues produce $c_G = A/T_G = A/B_G =$

$= c^2/v\sqrt{1-v^2/c^2} = \infty$ at $v = c$.

Thus, gravitation is transferred instantaneously, and gravitational waves do not exist, for formally written equation of the gravitational wave (of the retarded potential) $\partial^2V_0^2/c_G^2\partial t^2 = \Delta V_0^2$ at $v = c$ and $c_G = c^3/v\sqrt{c^2-v^2} = \infty$ just vanishes.

Of course, some slight hope remains that "slow" gravitational waves can exist at $v < c$, but even this hope will be destroyed in the end of this work.

Now let us examine the behaviour of the Galilean relativity principle inn the sphere of gravitation.

Einstein's relativity brought the problem to mathematic invariance of the system of equations in mechanics to Lorentz transforms, which, strictly speaking, has no direct attitude to physics.

Indeed, any system of equations can always be brought (for example, by means of equations linear combining) to some other form, when solutions of the two systems agree (coincide).

One can invent a lot such transformations, and invariance to them of some corresponding system of equations, with all this going on, testify only to their mathematic correctness.

All this has nothing in common with physics, for within this mathematics there is no criterion of physical adequacy of any transformation even in the case, when solution of these equations correspond to real physical regularities.

One may think that the only trustworthy criterion of correctness of different correlations are only those direct measurements of corresponding physical magnitudes, but all these may lead us to a dangerous trap, connected with lack of coincidence of the phenomenon and the essence in measurements. That is why we will leave out the problem of invariance of mechanics equations to transformations (11) and (12), though it also takes place, and turn to discussion of processes, connected with interaction of masses m and m' in moving fluid.

Of course, if only one mass would move, it would not experience impact of tensity $\boldsymbol{A}$ of the field (28), created by another mass.

However, field source movement, first of all, again weakens it by $\sqrt{1-v_0^2/c^2}$ times and, secondly, supplements with kinetic fields with opposite signs, for if the source moves past the medium in single direction $v>0$, then, in such case, the medium moves past the receiver the other direction $v<0$.

As a result of corresponding substitutions we get

$$\boldsymbol{a} = \boldsymbol{A} \pm (\boldsymbol{A}\cdot\boldsymbol{v}_0)\boldsymbol{v}_0/c^2 \pm \boldsymbol{v}_0\times(\boldsymbol{A}\times v_0)/c^2 = \boldsymbol{A}(1-v_0^2/c^2). \qquad (30)$$

This means that the movement of the media (including the so called “ether wind”) weakens masses attraction in $(1-v_0^2/c^2)$ times, which, one would think, contradicts to Galilean relativity principle, according to which absolute movement can be detected by no measurements.

However, measurements give only information ‘for us’, while to get information “in itself’, that is to reveal the essence of the phenomenon, it is necessary to study technology of measurements.

The point is that any measurement is comparison with some etalon, the role of which in case of gravitation most often is played by commonplace weights.

Thus, every pair of scales compare attraction of m' towards m (say, the centre of the Earth) with attraction of corresponding etalon weight to m at equality of which ones scales are in the state of equilibrium.

In the case of the “ether wind” and uniform, rectilinear (inertial) absolute movement of the scales in compliance with (30) weight m' should lessen by $(1-v_0^2/c^2)$ times, which, actually, takes place. However, weight of the etalon weight lessens by the same number of times, so the equilibrium is not impaired. That is why measurements of the kind cannot detect absolute movement. At that, weights of bodies do not change, but their masses remain unchanged, whatever relativists might say.

Acting in advance, in order to prevent possible perplexities, let us say in a good time that physical nature of any etalon plays no role.

Thus, when only source m of the field moves with velocity $\boldsymbol{v}_1$, or only trial mass m' with velocity $\boldsymbol{v}_2$ does, in such case static tension $\boldsymbol{A}$ of gravitation field, firstly, seems to get some increments $(\boldsymbol{A}\cdot\boldsymbol{v})\boldsymbol{v}/c^2$ and $\boldsymbol{v}\times(\boldsymbol{A}\times\boldsymbol{v})/c^2$, and, secondly, it lessens by $\sqrt{1-v^2/c^2}$ times.

If in (28) $A_0 = -Gm/r^2$ is a self field of mass *m*, moving uniformly, then due to its symmetry $\boldsymbol{a} = 0$, but fields (28*a*) and (28*b*) exist and, firstly, lessen self-contracting of *m* $(1 - v_0^2/c^2)$ times, and, secondly, stimulate

$div\boldsymbol{A} = -\partial T_G/\partial t = -Gm\boldsymbol{r}\cdot d\boldsymbol{v}/r^3 dt\sqrt{1-v^2/c^2}$ and

$rot\boldsymbol{A} = -\partial \boldsymbol{B}_G/\partial t = -Gm\boldsymbol{r}\times d\boldsymbol{v}/r^3 dt\sqrt{1-v^2/c^2}$, if, of course, $d\boldsymbol{v}/\partial t \neq 0$.

These fields are very weak, but they can be controlled with regard of ***v.***

If masse *m* and m' move with different velocities $\boldsymbol{v}_1$ and $\boldsymbol{v}_2$, then two-fold reflection of initial field with further geometrical averaging gives

$$\boldsymbol{F} = m'[\boldsymbol{A} - (\boldsymbol{v}_1\cdot\boldsymbol{A})\boldsymbol{v}_2/c^2 + (\boldsymbol{v}_2\cdot\boldsymbol{A})v_2/c^2 - \boldsymbol{v}_2\times(\boldsymbol{v}_1\times\boldsymbol{A})/c^2 - \\ - \boldsymbol{v}_2\times(\boldsymbol{v}_2\times\boldsymbol{A})/c]^2\sqrt{(1-v_1^2/c^2)(1-v_2^2/c^2)}, \qquad (30a)$$

which corresponds to (30) at $v_1 = v_2$, where *A* is static tension of field *m*, and projections $\boldsymbol{v}_1$ and $\boldsymbol{v}_2$ on $\boldsymbol{A}$ have the same sign.

Thus, mutual interaction of moving masses, gets, first of all, weaker $\sqrt{(1-v_1^2/c^2)(1-v_2^2/c^2)}$ times in comparison with statics, and then, secondly, it gets four increments , caused by inertial potentials (torsion fields)

$\boldsymbol{T}_{G1} = (v_1\cdot\boldsymbol{A})\sqrt{1-v_1/c^2}/c^2$, $\boldsymbol{T}_{G2} = (\boldsymbol{v}_2\cdot\boldsymbol{A})\sqrt{1-v_2^2/c^2}/c^2$,

$\boldsymbol{B}_{G1} = (\boldsymbol{v}_1\cdot\boldsymbol{A})\sqrt{1-v_1^2/c^2}/c^2$ and $B_{G2} = (\boldsymbol{v}_2\times\boldsymbol{A})\sqrt{1-v_2^2/c^2}/c^2$.

It is here that $\boldsymbol{F}$ and $\boldsymbol{A}$ can really not agree in direction, if $\boldsymbol{A}$, $\boldsymbol{v}_1$ and $\boldsymbol{v}_2$ are not in one and the same plane.

It seems, we should once and for all answer the question of gravitational waves existence, for too much money is still being spent to discover them.

Even if gravitational waves exist in themselves and propagate with the velocity of light *c*, then the gravitational observer (trial mass m') will measure the velocity of approaching and withdrawing wave as $v_{geom} = \infty$ due to geometric averaging (9*b*) of its velocities anisotropy.

The same relates to the wavelength $\lambda = \infty$ in accordance with (9*a*), the wavelength being correspondent to a constant at *v* = *c* at least.

All detectors, used to register gravitation waves, act in a similar way, so we can say that trying to find them is a hopeless pastime, having no prospects, for gravitational field, in contrast to the electric one, behaves as some absolutely solid body in this respect.

This means, firstly, that non-wave processes in the source of cannot cause any waves in the world ether.

And it means, secondly, that wave movements of the source (mass), are transmitted (delivered), of course, as wave ones, but for any distances and without any phase retardation (that is in a synphasing way), so we can deduce from all the above-said the possibility of instantaneous transfer of gravitational information, and it is really worth being started studying.

Indeed, if $c_G = \infty$, then gravitational field behaves itself as some absolutely solid body in respect of transferring disturbances and, therefore, T_G and B_G are agitated in it only by mass movement, and not by $\boldsymbol{A}$ changing in the course of time.

Thus, from conservation laws, taking into consideration (28a) and (28*б*) for weak fields and minor – in comparison with *c* - velocities, we have

$div\boldsymbol{A} = -\partial T_G/\partial t = -\boldsymbol{A}_0\cdot d\boldsymbol{v}/dtc^2$, $rot\boldsymbol{A} = -\boldsymbol{\partial} B_G/\partial t = -\boldsymbol{A}_0\times d\boldsymbol{v}/dtc^2$,

$grad\boldsymbol{T}_G + rot\boldsymbol{B}_G = -4\pi G\rho_G\boldsymbol{v}/c^2$,

where $\rho_G = div\boldsymbol{A}_0/4\pi G$ is mass bulk (packed) density at a given point.

It follows henceforth that when velocity *v* of any fluid flow in pipes, or electrons flow in wires, or, in general, any mass movement, changes, it causes rotations and divergence of free masses, e. g. electrons in metals. However, as electrons have not only mass, but also a charge, their movement is equivalent to electric current.

That is why electronic ripple in transmitting aerials, dependent of their configurations, cause in receiving aerials not only delayed electromagnetic and striction waves, but also electrons pulsation, synphasal with the transmitting aerial, that is instantaneous.

Gravitational signals, of course, are very weak in comparison with electric ones, but, on the other hand, they are instantaneous and all-penetrating, for forced mode gravity wave attenuation damping factor (decrement) $\sqrt{\omega\gamma / 2\varepsilon} / C_G$, where ω is a wave circular frequency, γ is medium conductivity, ε is its permittivity, turns into nil at $C_G = \infty$ and at any parameters of the medium.

Let us now turn to gravity potentials composition ("three bodies problem").

If there are two (or more) sources of gravitation, with Newtonian potentials of gravitational fields V_{01}^2, V_{02}^2 etc., then summary classical gravity potential constitutes $V_0^2 = V_{01}^2 + V_{02}^2 + \ldots$, which is to be substituted into (23) to get reflective summary potential V_Σ^2

Thus, the procedure of getting reflective potential of the whole of several gravity fields is reduced to summation of corresponding Newtonian potentials in the numerator and in the denominator of a potential (23), that is to the form for, say, two fields

$$V_\Sigma^2 = [(V_1^2 + V_2^2)c^2 - 2V_1^2 V_2^2]c^2 / (c^4 - V_1^2 V_2^2). \qquad (23a)$$

To sum this part of our work, we want to say that in spite of approaches and interpretations being direct opposite, within the bounds of mechanics the formal divergence of relativity theory and refection theory amounts, in fact, to nothing more than divergence of kinetic energies and the resulting consequences. On the other hand, reflective electrodynamics has nothing in common with relativist electrodynamics at all.

III. Electric charge movement reflection

It is probably better to start with electrostatics where in contrast to gravitation even immobile charge is reflected inadequately.

So field intensity $\boldsymbol{E}$ of point electric charge q as analogous to gravitation should have had the form $E = q / 4\pi\varepsilon_0 r^2$, where $4\pi\varepsilon_0$ – absolute dielectric constant, similar to Newtonian gravitational constant G.

However, in practice

$$E = q / 4\pi\varepsilon_0\varepsilon_\kappa r^2, \qquad (31)$$

where ε_κ is the relative electric permeability of the medium, so that the medium ε_κ times decreases reflection of the charge.

Since

$$\boldsymbol{E} = -grad U, \qquad (32)$$

where U is a potential of the field of the charge, then the potential is concerned with the very same way.

It means that, even in statics, "information for us" regarding the charge (as well as "information for a trial charge") ε_κ times differs from "information in itself". Charge movement and/ or medium movement double this discrepancy.

III-1. Uniformly moving charge field reflection

If q is electric charge movement velocity in regard to ambient medium $\boldsymbol{v}$, then it is convenient to express the electric-field vector as the sum of two vectors

$$\boldsymbol{E} = \boldsymbol{E}_\perp + \boldsymbol{E}_\parallel, \qquad (33)$$

where $\boldsymbol{E}_\perp$ is the electric-field vector component normal to $\boldsymbol{v}$, and $\boldsymbol{E}_\parallel$ is the electric-field vector component parallel to $\boldsymbol{v}$.

If we direct x axis of cylindrical coordinate system towards the motion, then according to (32): $E_{\parallel 0} = -\partial U / \partial x_0$, $E_{\perp 0} = -\partial U / \partial r_0$.

Taking into consideration (1) and (6) distortion of ∂x and ∂r moving line segments, we obtain due electric-field vector components distortion

$$\boldsymbol{E}_{\parallel 1} = -(1 - v/c)\partial U / \partial x_0 = \boldsymbol{E}_{\parallel 0}(1 - v/c) \qquad (34a)$$

and

$$\boldsymbol{E}_{\parallel 2} = \boldsymbol{E}_{\parallel 0}(1 + v/c) \qquad (34б)$$

and also

$$\boldsymbol{E}_{\perp 1} = -(1 - v/c)\partial U / \partial r_0 = \boldsymbol{E}_{\perp 0}(1 - v/c). \qquad (34в)$$

and

$$\boldsymbol{E}_{\perp 2} = \boldsymbol{E}_{\perp 0}(1 + v/c) \qquad (34г)$$

Double symbols in the formulas mean that it seems for motionless medium as if a moving charge had different electric field strengths both forward/ backward itself and on each its side oppositely (34).

Since the medium must respond to it, and its response must not be equivocal, it has to average this anisotropy arithmetically.

As the result of such an arithmetical averaging (34), after the substitutions into (33) we have

$$\boldsymbol{E} = \boldsymbol{E}_0 \pm (\boldsymbol{E}_0 \cdot \boldsymbol{v}) / 2c \pm (\boldsymbol{v} \times \boldsymbol{E}_0) / 2c = \boldsymbol{E}_0 \pm (T + \boldsymbol{B})c / 2 = \boldsymbol{E}_0, \qquad (35)$$

where $T = (\boldsymbol{E}_0 \cdot \boldsymbol{v}) / c^2 = \boldsymbol{E}_\text{II} v / c^2$ is the potential of the scalar field, $\boldsymbol{B} = (\boldsymbol{v} \times \boldsymbol{E}_0) / c^2 = \boldsymbol{E}_\perp v / c^2$ is the induction of the magnetic field, while (35) as a whole is compatible to (20) reflective ratio.

This means that, from the point of view of the medium, the moving charge possesses not only its $\boldsymbol{E}_0$ static field, but also T striction field and $\boldsymbol{B}$ vector magnetic field.

It is worth noticing that whereas Maxwell has described $\boldsymbol{B}$ in "the nothing" with his set of electromagnetic field equations

$$\left.\begin{aligned} rot\boldsymbol{B} &= \partial \boldsymbol{E} / c^2 \partial t \\ rot\boldsymbol{E} &= -\partial \boldsymbol{B} / \partial t \end{aligned}\right\}, \qquad (36)$$

for some strange reason he has left the electrostriction field out, so we have to write down the due set of equations

$$\left.\begin{aligned} gradT &= \partial \boldsymbol{E} / c^2 \partial t \\ div\boldsymbol{E} &= -\partial T / \partial t \end{aligned}\right\}. \qquad (37)$$

It is worth emphasizing the following: if the reflexive strength of the electrostatic field in essence had remained totally constant when its source moved, then the relativistic field should allegedly have flattened out, getting weaker in course of the movement and growing larger in the lateral sides of the charge because of illegitimacy of applying transformation suitable in non-linear mechanics Lorentzian (that is (34) geometric averaging of anisotropy), in electrodynamics, while they are unsuitable for non-linear electrodynamics where arithmetical averaging is but the only appropriation. Furthermore, though modern accelerators ensures v almost equal to c, nobody can observe any amplification in fields of moving charges.

But since all so-called relativistic electrodynamics is based on Lorentzian transformation, it is nothing but a relativistic myth. After all, even if one agrees with another relativistic myth regarding "distortion" of space in presence of mass (which, in particular, is expressed by Lorentzian transformation), why should one deal so with the charge?!

As regards to newly discovered T electrostriction field of moving charge, its discovery had been inevitable, since Maxwellian set of equations do not fit in Galilean principle of relativity if Maxwell's equations include only $\boldsymbol{B}$ without including T.

Indeed, if a couple of charges were involved in inertial absolute motion, then their $\boldsymbol{E}_{\perp}$ owing to magnetic interaction (Lorentzian force) would have reduced $(1-v^2/c^2)$ times, and, because of absence of striction field, $\boldsymbol{E}_{\parallel}$ would have remained constant, so absolute motion rate would have been measurable, but it conflicts with Galilean principle.

Striction field at the expanse of $(\boldsymbol{E}\cdot\boldsymbol{v})\boldsymbol{v}/c^2$ varies $\boldsymbol{E}_{\parallel}$ component in $(1-v^2/c^2)$ times as well, that prevents us from absolute motion rate varying, because any electric reference interaction varies in $(1-v^2/c^2)$ times as well.

But since any reference interaction is based on either gravitation or electricity, then absolute motion rate cannot be measured with any devices.

Furthermore, there is no doubt that alternating displacement current traverses a spherical capacitor, in which magnetic field is absent because of spherical symmetry of the current. That is striction field alone, the form of which is $gradT = \partial E / c^2 \partial t$, that ensures the current traversing a spherical capacitor.

The situation is just the same in a cylindrical capacitor (with the deduction of effects of end surfaces where magnetic field can take place as well), and, generally speaking, everywhere wherever charges move along their own field, since there are $\boldsymbol{B} = (\boldsymbol{v}\times\boldsymbol{E})/c^2 = 0$ and $T = \boldsymbol{v}\cdot\boldsymbol{E}/c^2 \neq 0$ always there.

If a charge moves angularly to its own field, then both magnetic and striction fields are always presented there, $B^2 + T^2 = E^2 v^2 / c^4$, and the nature of the current does not affect any part.

(36) set of equations describes the transverse electromagnetic waves, which are emitted laterally by a non-uniformly moving charge, and (37) set of equations describes the longitudinal electromagnetic waves, which are emitted with the same charge while being in front of or behind them.

So far it has not been taken into account that kinetic energy $mv^2/2$ of an electron moving with velocity of v had to exceed the electromagnetic energy of its field, density of which is $B^2/2\mu$, where μ is the magnetic permeability of the medium.

Subject to striction field, energy density of which is $T^2/2\mu$, we can have from (35)

$$(B^2 + T^2)/2\mu = \varepsilon E_0^2 v^2 / 2c^2, \qquad (38)$$

i.e. $mv^2/2 = \int_{r_0}^{\infty} \varepsilon E_0^2 v^2 4\pi r^2 dr / 2c^2 = e^2 v^2 / 8\pi\varepsilon r_0 c^2$, where e is the charge of an electron, and r_0 is the radius of an electron, from there we have

$$e^2 / 4\pi\varepsilon r_0 = mc^2, \qquad (38a)$$

that corresponds exactly to intrinsic energy of a stationary electron upon supposition that all mass m of the electron has but an electric origin.

By the way, the development of a wave equation from (36) set for the retreated potential $\Delta U = \partial^2 U / c^2 \partial t^2$ is only possible under the condition of postulation of so-called Lorentzian condition: $div\boldsymbol{m} = -\partial U / c^2 \partial t$, which implies (37) indirectly, since $div\boldsymbol{m} = T$, where $\boldsymbol{m}$ is the vector potential of the field, and U is the scalar potential of the field.

Discovery of electrostriction field has already made it possible to implement communication using longitudinal striction waves.

Subject to the striction field, the force of interaction between q_1 and q_2 charges moving at velocities $\boldsymbol{v}_1$ and $\boldsymbol{v}_2$ has been corrected

$$F = q_2 \left\{ [\boldsymbol{E}_0 - \boldsymbol{v}_2 \times (\boldsymbol{v}_1 \times \boldsymbol{E}_0) / c^2] - (\boldsymbol{v}_1 \cdot \boldsymbol{E}_0)\boldsymbol{v}_2 / c^2 \right\}, \qquad (39)$$

where the square brackets enclosure is Lorentz force (as in the previous case), $\boldsymbol{E}_0$ is static strength of the field of q_1 charge, and (39) as a whole compatible with (30*a*) reflective mechanical force.

That should be expected, since Lorentz force takes account of nothing but F component normal to $\boldsymbol{v}_2$, without any attention to F component parallel to $\boldsymbol{v}_2$, which has been done by striction force (the last summand in (39)), which decelerates the positive charges and accelerates the negative, if $T > 0$, and vice versa, if $T < 0$.

III-2. Non-uniformly moving charge reflection

Theoretically, non-uniform movement of a charge is concerned with radiation of electromagnetic and electrostrictive waves, described by (36) and (37) sets of equation. Therefore here we are to consider only some of the most interesting special situations.

If we are to consider electron mass origin as purely electric, then the density of total electromagnetic and electrostrictive energy must be equal to the density of gravitational energy, that, being far from electron and at velocities negligibly small in comparison with c, gives us $A_0^2 / 8\pi G = (B^2 + T^2)2\mu = \varepsilon E_0^2 v^2 / 2c^2$, from there

$$\boldsymbol{A}_0 = \boldsymbol{E}_0 v\sqrt{4\pi\varepsilon G} / c, \qquad (40)$$

where v is the module of velocity of movement of the charge of an electron, and

$$m_0 = ev / c\sqrt{4\pi\varepsilon G} \qquad (41)$$

subject to spherical symmetry of its fields.

Besides, taking into account (38*a*) and (41), the charge of an electron rather fluctuates with mean-square velocity $v = v_0$

$$v_0 = e\sqrt{G} / r_0\sqrt{4\pi\varepsilon} = \sqrt{Gm_0 / r_0}, \qquad (42)$$

order of magnitude of which, according to the parameters of an electron, is $v_0 \approx 10^{-12}$ m/s.

From this it follows that any electric charge q that has a radius r and fluctuates with an undefined velocity v, gives rise to mass (38*a*), which depends exclusively on the magnitude and geometry of the charge, and does not depend on its velocity, and at that (41) takes place only in the situation when the charge auto-fluctuates, and its velocity corresponds to (42).

This refers to any electric charges from elementary particles to globular discharges of ball lightning, and this indicates the possibility of creating artificial gravitation.

Whereas r size of a fireball is limited with the disruptive strength equaled to $E_{disr} = q/4\pi\varepsilon r^2 = 10^6$ V/m, from there, subject to (40), (41), (42) we have $r \approx 100\sqrt{q}$, $m \approx 10^{-9} q^{3/2}$ and $v \approx 10^{-14}\sqrt{10q}$, from there for $q \approx 10^{-4}$ C we have $r \approx 1$ m, $v \approx 10^{-13}$ m/s, $m \approx 10^{-15}$ kg, that takes place after usual lightning stroke into the

oceanic expanses, and for $q \approx 10^{-6}$ C we have $r = 0{,}1$ m, $v \approx 10^{-13}$ m/s and $m \approx 10^{-18}$ kg, that is typical of a continental globular discharge, yet sizes of elementary particles are determined by interaction of their electric and gravitational fields.

Meanwhile, if $q \approx 1$ C, then $r \approx 100$ m, $m \approx 10^{-9}$ kg, v $\approx 10^{-10}$ m/s, and so we deal with such a gigantic unidentified flying object (UFO), which soars above easily and noiselessly, which is freely permeated by any missiles and projectiles directed to it, but is able to perform strike onto the ground or any other object having sufficient capacity, accompanied with horrifying explosion, because its energy is $mc^2 = q\, E_{disr}\, r = 10^8$ J, and its potential is $E_{disr} = 10^8$ V.

Mass of each of these formations is negligibly small, and it makes them soaring easily in the atmosphere.

According to (40) and (41), gravitation is created by not only auto-fluctuations, but also any back-and-forth movement of a charge, including electric current. None the less, gravitation is negligibly small even when a tremendous UFO weights some micrograms, which allows the object to immediately change the direction of its movement when an air stream affects it.

UFO is twisted with atmospheric vortexes, making them disk–like in their form, of which we are usually told by theirs eyewitnesses. Corona discharge creates their glowing, corona wind and strong ionization of ambient air, and this ionization makes the oncoming observers feel headache and hallucinations. Probably, large UFO can be created right from strongly electrified thunderstorm cloud at the period it pours with rain while having not enough time to be discharged.

As to a small fireball, such an object often makes a person believe in illusion as if he or she would had been haunted by a something, and, while trying to escape or drive away from the thing, finds that the thing is carried along with himself or herself by means of the co-current airflows.

Although their energy store is about 0.1 J, they are really dangerous, inasmuch as their potential is not less than 10^5 V.

By the way, electron shell potential is also about 10^6 V, though its energy store is only 10^{-13} J.

It is worth emphasising that (38*a*) and (41) testifies to equivalence of mass and fluctuating charge, that is equivalence of mass and but electric energy.

Indeed, by equating $mv^2/2$ mechanical kinetic energy of moving ball having r_0 radius to $mv^2/2 = Gm^2v^2/2r_0c^2$ kinetic energy of its gravitational field we do not obtain any dependence of mass on velocity.

But it has been understood without that, inasmuch as (38*a*) by no means depends on whether the electron moves or does not move, though this mass is inertial by its origin.

Therefore, in general, the so-called universal relativistic equivalence of mass and energy, which allegedly leads to growing of moving mass, is nothing but nonsense.

Now, subject to stated above, we can state a problem regarding the conditions of self-stabilization of e electron charge.

It is a sufficiently obvious fact that electrostatic repulsion of a charge under the condition $r = r_0$ is balanced with gravitation that is produced by fluctuation of the same charge. However, one should consider the fact that, in contrast to (24), the place of $r_G = Gm/c^2$ gravitation radius must be occupied by such R radius, for which, under the condition $r = r_0$, $V^2 = -Gm/(r - R)$ and according to (38*a*), gravitational potential has to be equaled to $-c^2$, so for the electron radius we have $R = r_0 - Gm/c^2$, from there

$$V^2 = -Gmc^2/[(r - r_0)c^2 + Gm]. \qquad (43)$$

In that situation, when $r = r_0$, we have

$e^2/4\pi\varepsilon r_0 + mV^2 = mc^2 - mc^2 = 0$, so the charge of an electron is in dynamic equilibrium, while the amplitude of its fluctuation round R is $a = Gm/c^2$, and while the frequency of sinusoidal vibrations is

$$\gamma = v_G/4 = c^2/4\sqrt{Gmr_0} = c^3\sqrt{\pi\varepsilon}/2e\sqrt{G}. \qquad (44)$$

By (44), the frequency of fluctuations of a charge that form gravitation of the charge, that is the frequency of striction field of the charge is immense and amounts to about 10^{44} Hz.

It is clear that at the same time each electron goes round and precesses, that is it circles and swings, with both kinds of its rotation are summed up, and the precessions together with the swinging results to movement of all the points of the charged sphere along helixes parallel to each others.

If the helixes are right, then we deal with electrons, while if they are left, then we deal with positrons (or vise versa, inasmuch as the signs of the charges are chosen by chance).

At that the helixes, or, to put it more precisely, their magnetic fields, created by moving charges through cross-section of these helixes, enframe the sphere like hoops that prevents the sphere from breaking to pieces under transverse magnetic field formed by charge movement along the helixes while the sphere rotates, and this keeps the sphere safe and sound in spite of its rotation.

But if, by (42) the "static" equilibrium of the shell is possible for any magnitudes of m and r under the only necessary condition of $mr = e^2 / 4\pi\varepsilon c^2$, then the kinetic equilibrium is possible under the condition of $r = r_0$.

Inasmuch as the period of an electron rotation is $T_\mu = 2\pi r / v_\mu$ the helix makes $k = T_\mu / T_G$ convolutions, where $T_G = 2\pi r_G / v_0$, v_μ is the spin speed of rotation number of revolutions of the charge of an electron, v_0 is the speed of rotation of the charge alongside the helix round the parallel circles, at that v_μ and v_0 are reciprocally orthogonal, while k must be a whole number, then all these magnitudes are quantum-mechanical in their nature.

It should be kept in mind that k, that is the number of turns of a helix cast up with the same way in all parallel circles from an equator line to a pole terminal of an electron, though the lead of the helix is getting smaller towards the same direction in proportion to lessening the radius of a parallel circle and speed of its spin rotation.

Quantum mechanics expresses the moment of impulse of an electron by $h\sqrt{3} / 4\pi$, where h is Planck constant.

On the other hand, the moment of impulse of an electron for a revolving sphere is $2m_0 r_0 v_\mu / 3\sqrt{1 - v_\mu^2 / c^2}$, from there

$$r_0 = 3h\sqrt{3(1 - v_\mu^2 / c^2)} / 8\pi m_0 v_\mu, \qquad (45)$$

where, subject to (42)

$$v_\mu^2 = c^2 - 4e^4 / 27h^2\varepsilon^2. \qquad (45a)$$

At that the second summand in (45*a*) practically constitutes the average square of precession of an electron.

By subtracting Newtonian potential, expressed by $-Gm / r$, from (43) reflective gravitational potential of an electron, we have the remainder that naturally breaks up into the sum of two potentials:

$$V_s^2 = Gmr_0 c^2 / r[(r - r_0)c^2 + Gm] \cong Gmr_0 / r(r - r_0) \qquad (46)$$

potential of the strong coupling and

$$V_w^2 = -G^2 m^2 / r[(r - r_0)c^2 + Gm] \cong -G^2 m^2 / rc^2(r - r_0) \qquad (47)$$

potential of the weak coupling. These two potentials reveal themselves only so far as we single out the habitual Newtonian potential out of the reflective potential, which they all form as a single whole.

In addition, because mass origin is purely electro-kinetic, then it is naturally to reckon inertia, including centrifugal force, as being originated from electro-kinetics, that is the density of mechanical kinetic energy in moving substance, expressed by $\rho_m v^2 / 2$, where ρ_m is the density of a matter, constitutes the density of the energy of electric couplings of charged particles of the substance, that expressed by $\varepsilon E^2 v^2 / 2c^2$, under the condition that this energy has been liberated in consequence of loosing the particles at the expense of their movement, from where we have $\rho_m c^2 = \varepsilon E^2$ and $E \approx 10^{15}$ V/m.

Indeed, if $(r / r_0)^2 \approx 10^6$, where r is the average distance between particles, r_0 is the radius of an electron, and $E_0 = e / 4\pi\varepsilon r_0^2 \approx 10^{21}$ V/m, then $E = E_0 r_0^2 / r^2 \approx 10^{15}$ V/m by the order of its magnitude, is the average local electric field strength, which determines the inertia of electrically neutral substance.

Inasmuch as (42) maximum velocity of fluctuations of a charge cannot outnumber c, then subject to (38*a*), the maximum mass of an elementary particle (or the nucleus of an atom) cannot exceed $m_{\max} = e / \sqrt{4\pi\varepsilon G} \approx 10^{-9}$ kg under the condition of $r_{\min} = e\sqrt{G} / c^2\sqrt{4\pi\varepsilon} \approx 10^{-36}$ m.

If electric field of an electron attracts a positron, then the positron can slip mechanically into the electron and remain lodged there on such a sphere, which has the radius, expressed as $r_p = r_0 - 2Gm_0 / c^2$, where electric energy of repulsion of the positron off the center of gravity, expressed as W_{El}, is equaled to gravitational energy of attraction to the center of symmetry, expressed as W_G (Figure 2).

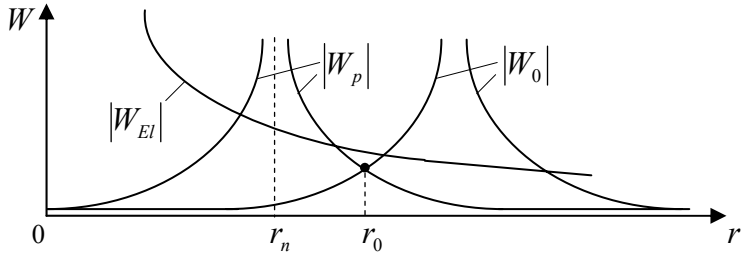

Figure 2

Where gravitational energy of repulsion of the electron equals to electric energy of attraction to the positron.

This situation takes place due to the following two factors. Firstly, it is a result of placing the positron into the domain of nothing but its own electric field, and the field repels the positron with the energy expressed as $e^2 / 4\pi\varepsilon r_p = m_p c^2$, while the electron attracts to the positron with energy expressed as $-e^2 / 4\pi\varepsilon r_0 = -m_0 c^2$.

Secondly, according to (23*a*) we have for shell of the electron (for the superior envelope) $V_\Sigma^2(r_{El}) = c^2$, т.е. $V_1^2 = c^2$, where $V_1^2 = -Gm_0 c^2 / [(r - r_0)c^2 - Gm_0]$, and $r_1 = r_0$, while for shell of the positron (for the inferior envelope) $V_\Sigma^2(r_p) = -c^2$, that is $V_2^2 = \infty$ when $V_1^2(r_p) = -Gm_0 c^2 / [(r_p - r_0)c^2 - Gm_0] = c^2 / 3$ и $r_n = r_0 - 2Gm_0 / c^2$, at that $V_2^2 = -Gm_p / (r - r_p)$.

Besides, subject to (42)

$$m_p = m_0 r_0 / r_p \cong m_0 (1 + Gm_0 / r_0 c^2).$$

As a result of the coupling, electric energy of the "electron-positron" system is

$$W = e^2 (r_0 - r_n) / 4\pi\varepsilon r_0 r_n = c^2 m_0 (r_0 - r_n) / r_n \cong 2Gm_0^2 / r_0 = m_N c^2,$$

and its mass is

$$m_N \cong m_p - m_0 \cong 2Gm_0^2 / r_0 c^2. \qquad (48)$$

The order of magnitude of mass expressed by (48) is $10^{-72} kg$. This mass belongs to either neutrino (in the event that the superior envelope rotates making a spin), or antineutrino (if the envelopes change places).

If both envelopes rotate with the same angular velocity in the opposite directions, then it is a photon having double spin, $r_p = r_0$ and $m = 0$ according to (48).

If both envelopes rotate in the same direction with a speed of c, then such a system has neither exterior gravitation field nor exterior magnetic field, and it turns into etheron (graviton) – that is en element of vacuum (ether) which cannot be detected by any device and does not couple with and pass through any substance.

However, etheron is polarized in exterior electric field due to counter displacement of shells (that is the envelopes), and this provides for special distribution of various waves, and, besides, it tries to shift towards the greatest field heterogeneity, hence either near point charges and masses must of the greatest density, though its ability to coupling with substance remains constant.

Etheron is a dielectric, hence its capability to polarization is described by ε_0, and its ability to set up spokes of the shells in the interior magnetic field is described by μ_0.

If a neutrino or an antineutrino captures a positron, two variants of a proton are possible (not counting a couple of antiprotons, which are similar to protons but have the other signs in their charge and spin) depending on the sign of charge of the exterior shell.

All of these are described by (23) sets of equation transformed in

$$V_\Sigma^2 = [(V_1^2 + V_2^2 + V_3^2)c^4 - 2(V_1^2V_2^2 + V_1^2V_3^2 + V_2^2V_3^2)c^2 + \qquad (23б)$$

$$+ 3V_1^2V_2^2V_3^2]c^2 /[c^6 - (V_1^2V_2^2 + V_1^2V_3^2 + V_2^2V_3^2)c^2 + 2V_1^2V_2^2V_3^2],$$

which are recorded for each shell, that is for $r = r_1$, $r = r_2$ и $r = r_3$, and V_Σ^2 for magnitude of each shell is devisable by $\pm c^2$ depending on their location and sign of the charge.

Collision of a proton with an antiproton can result to the formation of diverse variants of neutron and antineutron, steady or not depending on compatibility or incompatibility of corresponding (23) equations, unhandiness of which, unfortunately, is rising swiftly in proportion to the rise of the number of electron and positron shells in synthetic particles. In general, the scheme is applicable to particles of any kind.

It remains only to specify that, inasmuch as the charge of an electron fluctuating at a speed of $v_0 \cos \omega t$, holds though constant-signed but fluctuating kinetic energy $W_\varepsilon v^2 / c^2 = W_\varepsilon v_0^2 \cos^2 \omega t / c^2$, that gravitation energy also contains not only the constant one but also vibrating component of double radiant frequency 2ω.

In spite of sensational nature of the above given conclusion regarding instantaneity of propagation of gravitation, this thesis is corroborated by any approach.

In particular, by (35) for electric waves when $v = c$ the speed of transversal (electromagnetic) wave is $c = E / B$, while the speed of longitudinal (electrostriction) wave is $c = E / T$. But inasmuch as there are no analogues for B and T in gravitation under the condition $v=c$, that is $B_G = T_G = 0$, then again we arrive to the fact that the speed of gravitation propagation is $C_G = A / B_G = A / T_G = \infty$.

The other no less sensational fact is that the formation of mass is always accompanied by fluctuations of charges of elementary particles in atomic nuclei with the frequency of (44) that does not depend on mass.

IV. General field theory

Above it was shown using some important partial examples that all physical interactions including electrostatic, magnetic, strictional, gravitational, strong, and weak ones are of pure electric origin.

The objective of this chapter is to present systematically the theory of all these fields basing on one of them and deriving all the rest from this.

As a generating field, the electrostatic field of an immobile charge is taken, the rest field being distortions of this field caused either by movement of the medium around the charge or (that is the same) by movement of the charge in an immobile medium.

We will use the metrological approach [1] which discards the conception of a field as a special nonmaterial form of matter and proceeds from the conception of a field as a state or the environmental structure formed under the influence of the charge where physical nature of the environment does not matter, be it either physical vacuum or luciferous ether or any other substance having dielectric permittivity ε characterizing polarizability of the medium under the influence of the charge, i.e. generation of the induced density $\boldsymbol{D}$ (translation vector) of the bound charge q_c so that

$$D = dq_c / dS , \qquad (49)$$

where dS is an elementary area orthogonal to $\boldsymbol{D}$.

It is the field of the vector $\boldsymbol{D}$ which forms the structure of the medium formed under the influence of information of the free charge q playing the part of the source of the electrostatic field.

Thus, the task of generation of other fields by the electric field resolves itself into study of distortion of information about selected elementary areas $d\boldsymbol{S}$ in the medium because of movements of the medium.

If information about $d\boldsymbol{S}$ twists due to movement then, according to (49), information about $\boldsymbol{D}$ and electric field intensity $\boldsymbol{E} = \boldsymbol{D} / \varepsilon$ twists too.

IV-1. Genesis of linear fields like magnetic and strictional ones

When the electric charge q is moving at a rate of $\boldsymbol{v}$ in the environment «watching» its field $\boldsymbol{E}$ the former conceives this field not correctly according to III-I

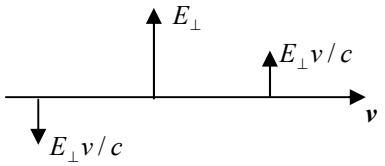

Fig. 3*a*

So, for an $\boldsymbol{E}$ component orthogonal to $\boldsymbol{v}$, i.e. for $\boldsymbol{E}_\perp$, anisotropy takes place (34 *a*, *b*) which does not influence the initial electrostatic field (Fig. 3*a*) but forms a torque of a pair of forces $E_\perp v/c = \boldsymbol{E} \times \boldsymbol{v} / c$, corresponding to the magnetic field induction

$$\boldsymbol{B} = \boldsymbol{E} \times \boldsymbol{v} / c^2 . \qquad (50)$$

In the same way, for an $\boldsymbol{E}$ component parallel to $\boldsymbol{v}$, i.e. $\boldsymbol{E}_\text{II}$, anisotropy (34 *c, d*) takes place which does not distort the initial field either (Fig. 3*b*) but makes the medium compress under the influence of the pair of forces $\boldsymbol{E}_\text{II} v/c = \boldsymbol{E} \cdot \boldsymbol{v} / c$, corresponding to the potential (tensor) of the strictional field

$$\boldsymbol{T} = \boldsymbol{E} \cdot \boldsymbol{v} / c^2 . \qquad (51)$$

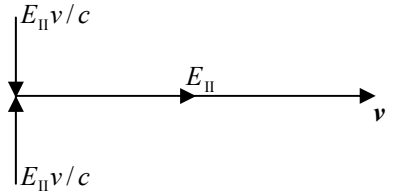

Fig. 3*б*

Thus, magnetic and strictional fields are produced by distortion of information about components (32) of the electrical field of the moving charge and do not have their own, specific for them, sources.

As a result, the moving charge seems to create these fields although in MT its own electric field $\boldsymbol{E}$ remains constant unlike deformations (decrease along the way and increase on sides) due to take place according to the relativistic theory which wrongfully applies Lorentz's nonlinear transformation to linear field.

If the part of an observer of q is played by a trial charge q' also moving at a rate of $\boldsymbol{v}'$ relative to the medium then the information about q already distorted by the medium because of its movement is distorted again due to the movement of q', so $\boldsymbol{E}_\perp v v'/c^2 = \boldsymbol{v}' \times (\boldsymbol{v} \times \boldsymbol{E}) /$ $/ c^2 = \boldsymbol{v}' \times \boldsymbol{B}$ and $\boldsymbol{E}_\text{II} v v'/c^2 = (\boldsymbol{v} \cdot \boldsymbol{E})\boldsymbol{v}'/c^2 = \boldsymbol{T}\boldsymbol{v}'$ form components of the ungraded Lorentz force (39).

This happens due to averaging of imposition of anisotropies of $\boldsymbol{E}$ caused by each movement in the form

$$\boldsymbol{E} = (\boldsymbol{E}_\perp + \boldsymbol{E}_\text{II})[(1 - v/c)(1 + v'/c) + (1 + v/c)(1 - v'/c)]/2 , \quad (52)$$

which corresponds to (39).

If a moving charge watches its field itself then it «sees» the field twice distorted, first by the medium and then by itself in reflection of the medium field. In other words, the moving charge interacts with its electric field and with its magnetic and strictional fields too and hence, according to (39), when $\boldsymbol{v}' = \boldsymbol{v}$ its self-repulsion decreases in $(1 - v^2 / c^2)$ times and if $v = c$ it stops completely.

If a moving trial charge «watches» external electric field in a stationary environment then, first, it will spin due to anisotropy $E_\perp$ and obtain a magnetic moment and second, due to anisotropy E_II it will become flattened along the way under the influence of T (let us remember Lorentz's collapse of electron).

There are no more linear physical field besides electric, magnetic, and strictional ones, that is why we are passing to nonlinear distortions of information about electrical field.

IV-2. Nonlinear distortions of information about electrical field as gravitation

So far, in formulae (33) and (34) generating linear fields despite apparent anisotropy of velocity (2*a*) and (2*b*), we used, in fact, their harmonic averaged, i.e. true, velocity value $v = v_0$.

Now it is high time to pay attention to apparent anisotropy of velocity and take it into account according to (2) in (33) and (34) in the form

$$\boldsymbol{E}_{\text{II}1} = \boldsymbol{E}_{\text{II}0}(1 - v_1 / c),\ \boldsymbol{E}_{\text{II}2} = \boldsymbol{E}_{\text{II}0}(1 + v_2 / c) \qquad (53)$$

and

$$\boldsymbol{E}_{\perp 1} = \boldsymbol{E}_{\perp 0}(1 - v_1 / c),\ \boldsymbol{E}_{\perp 2} = \boldsymbol{E}_{\perp 0}(1 + v_2 / c) \qquad (54)$$

If with regard to (2) arithmetically average anisotropy $\boldsymbol{E}_\text{II}$ (53), then we obtain

$$\boldsymbol{E}_\text{II} = \boldsymbol{E}_{\text{II}0}[1 - v^2 / c^2(1 - v^2 / c^2)]. \qquad (53a)$$

If we average anisotropy $\boldsymbol{E}_\perp$ (54), we will obtain

$$\boldsymbol{E}_\perp = \boldsymbol{E}_{\perp 0}[1 - v^2 / c^2(1 - v^2 / c^2)]. \qquad (54a)$$

(53*a*) and (54*a*) together with (32) give

$$\boldsymbol{E} = \boldsymbol{E}_0[1 - v^2 / c^2(1 - v^2 / c^2)], \qquad (55)$$

where the second summand, $\boldsymbol{E}_0 v^2 / c^2(1 - v^2 / c^2)$, which means self-pinching of the moving charge, can be well interpreted as gravity, the more so, as this self-pinching depends on neither the sign of velocity v nor the sign of the charge, because q and E are always of the same sign, so gravi-electric field

$$\boldsymbol{E}_G = -\boldsymbol{E}_0 v^2 / c^2(1 - v^2 / c^2) < 0. \qquad (56)$$

It it is so then on the shell of the charge

$$qE_G = mA, \qquad (57)$$

from which, with regard to (25) and (56), for any field

$$m = qv\sqrt{1 + V_{r0}^2 / c^2}\ / c\sqrt{(1 - v^2 / c^2)4\pi\varepsilon G}, \qquad (57a)$$

where V_{r0}^2 is a Newtonian charge shell potential, mass sign depending neither on the sign of the charge nor the sign of the velocity.

Generally, (57*a*) is true for any constrained motion of a charge but only when $v^2 = -V_{r0}^2$ (as in case of electron) it turns to (41) which corresponds to auto-oscillation of the shell.

In case of spherical symmetry of the charge when $V_{r0}^2 = -Gm / r_0$, which at low velocities in case of artificial mass-formation maximum mass can be equal to $m = 10^{-27} q / r_0$ kg.

Vice a versa, if $v \cong c$ then $m = r_0 c^2 / G$, which is maximum achievable in experiments value of *m* whatever *q* value is.

To evaluate actual possibilities of simulation of gravitation (a mass), let us imagine a charged ring revolving round its axis. It its dimensions are of the order of 1 *m* and the charge is about 10^{-5} *coulomb* then, according to (57*a*), when the linear velocity of the ring is of the order of 10 m*/sec* then additional mass can be of the order of 10^{-3} *kg*.

We can, of course, instead of revolving the ring make its excess charge move along the ring to and fro due to induction, for example, but in such case velocity of the charge will be lower by about two orders of magnitude.

But if we create superconductivity environment in the ring then it will be possible to approach mass values of the order of $r_0 c^2 / G$, which, with the same ring dimensions, promises fantastic mass increment (of the order of 10^{27} *kg)* and not less fantastic gravitation $A = Gm / r^2 = r_0 c^2 / r^2$ which is by about three orders more than that of the Earth.

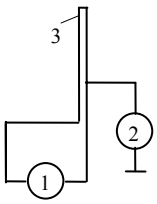

Fig. 4

However, generation of strong gravitational field it possible but rather problematic, whereas generation of gravitational communication signals is quite real, for example, according to the diagram of Fig. 4, where 1 is an electric signal generator, 2 is a high-voltage DC generator to produce excess charge of the aerial 3 whose bifilarity excludes electromagnetic emission.

It should be specially noticed that here *v* means the velocity of relative motion of the charge around the **stationary** mass formed by the charge, in order to avoid the temptation of attribution, for example, of growth of its mass or gravitational field to relativistic electron in the accelerator, for in this case a newly formed mass would move together with the charge, which (57*a*) does not allow because in such case $v = 0$.

Only those motions of the excess charge are mass-generating which do not lead to change of its average position in space, i.e. only reciprocating movement with the mean-square velocity *v*, including pulsation of charged surfaces and alternating current of the **excess** charge in the wires.

The (57*a*) equation implies for the Newtonian gravity field intensity $\boldsymbol{A}_0$:

$$\boldsymbol{A}_0 = -Gm\boldsymbol{r} / r^3 = -\boldsymbol{r}E_0 v\sqrt{4\pi\varepsilon G(1+V_{r0}^2/c^2)} / rc\sqrt{1-v^2/c^2}\ , \quad (58)$$

with regard to (25) we obtain

$$\boldsymbol{A} = -\boldsymbol{r}E_0 v\sqrt{4\pi\varepsilon G(1+V_{r0}^2/c^2)} / rc(1+V_0^2/c)\sqrt{1-v^2/c^2}\ . \quad (59)$$

In case of self-induced oscillation, i.e. when $v^2 = -V_{r0}^2$ we have

$$\boldsymbol{A} = -\boldsymbol{r}E_0 v\sqrt{4\pi\varepsilon G} / rc(1+V_0^2/c^2) \quad (59a)$$

and

$$\boldsymbol{A}_0 = -\boldsymbol{r}E_0 v\sqrt{4\pi\varepsilon G} / rc\ , \quad (58a)$$

where V_0^2 is Newtonian gravitation potential, for example, (21) of the given point of field, *r* is a radius-vector from the field source to the given point.

But (38*a*) is valid if only $v^2 = -V_{r0}^2 = -Gm / r_0$, for it is quite easy to reduce (57) into the form

$q^2 / 4\pi\varepsilon r_0 = Gm^2c^2(1 - v^2/c^2) / r_0 v^2(1 + V_{r0}^2/c)$, where the energy of a spherical charge (the right part) can take up any value despite (38*a*) because *v* and r_0 are independent.

But the condition $v^2 = -V_{r0}^2$ is realized automatically even in case of forced motions of a **free** charge at the cost of corresponding change of its geometry.

Comparison of (38*a*) and (41*a*) will give:

$$r_0 = q\sqrt{G} / vc\sqrt{4\pi\varepsilon}\ . \quad (60)$$

This means that mass-generating movement of the charge not merely produces a mass but shapes its geometry in its own image, so that a spherical mass, for example, always has radius (60) determined by mass-generating velocity of the charge and the value of the charge.

The (60) equation also implies (42) for an electron.

Thus, unlike (57a) and (59) which are always true, the equations (41) and (59a) are correct only under autostability of the charge and the mass produced by it, i.e. if $mc^2 = 2W_k = W_n$, where W_n is potential energy of the charge shell. For an electron $W_n = \dfrac{-Gm^2/(r-r_0)}{1-Gm/c^2(r-r_0)} = \dfrac{e^2}{4\pi\varepsilon r}$, which leads to $W_n = mc^2$ in case $r = r_0$.

It should be kept in mind, that if mass-building movements of the charge are forced, then *v* can have any value. But if these movements are self-oscillating, then their velocity is bound with relation (42).

Having multiplied together (57) and (59) in the case of masses of natural origin for interaction of test mass m' with field *A* we get

$$F = -Gmm'/r^2(1-Gm/rc^2) = -q'E_0vv'/c^2(1+V_0^2/c^2).$$

As in accordance with (2*a*) and (2*b*) some seeming acceleration of the moving scale takes place,

$$a = A = (v_2 - v_1)/t_0 = -2v^2/t_0c(1-v^2/c^2), \qquad (61)$$

then, comparing (61) and (59*a*) we get in week fields

$$\varsigma_0 = E_0t_0 \cong 2v/(1-v^2/c^2)\sqrt{4\pi\varepsilon G} = const, \qquad (62)$$

where ς_0 is the vector potential (specific impulse) of gravielectric field, which is the field's constant.

According to (62) gravitational waves, like waves of gravielectric field (which , in effect, is the same), cannot exist, for they need $\boldsymbol{m}$being dependant on coordinates and time, which is not allowed by (62).

This cannot in the least prevent propagation of electro magnetic waves, but it only should be said, that a wave, say, *E*, is always accompanied by a wave t_0 in gravitation, the latter wave being proportional to $1/E_0$, so ς_0 depends neither from *t*,

Nor from *r*.

It also should be added that from (36), (37) and (62) follows $div\boldsymbol{m}_0 = 0$, meaning absence of wave gravitational equations.

As a result, some seemingness of instantaneous gravity propagation appears, which is not surprising, for the very gravitation is seeming , which results from **seeming** accelerated **uniform** motion of a charge.

In spite of the fact that E_G has appeared in (55) as a result of arithmetic averaging of anisotropy of (53) and (54), it formally has the square of geometric averaging of velocities (2*a*) and (2*b*), that is $v^2/(1-v^2/c^2) = [v/(1-v/c)][v/(1+v/c)]$, which gave us some ground to think, even as early as in Chapter I, that it is the geometric averaging (9*b*) and also, particularly, (5*c*), which are immanent to gravitation, and from the latter one the infinite speed of gravity propagation follows, for the electric field, generating it, propagates with the speed $v = c$.

Geometric averaging of speeds as a result of arithmetic averaging of field anisotropy is merely mathematical occurrence, having nothing in common with mystical 'curvature' of physical space, which is reckoned with by the general relativity theory, though it should be understandable, that the very fact of any mathematical manipulations has no physical content.

In reality noting becomes curvilinear, of course, with the exception of, maybe, relativists' brains.

From this point of view mathematical physics, in which mathematical fantasy dictates 'laws' to physics, has no right for existence.

Only that physical mathematics is lawful and rightful, in which wild outburst of mathematical imagination, is limited with some boarders of physical reality, that is by those things that can be measured.

As for nonfinite velocity, its effect has direct experimental confirmation in annihilation of electron-positron pair, when an arisen pair of photon twins, when scattering, stay absolutely connected at any distance, and polarization of one of them causes instantaneous polarization of the other one.

This effect became the cause of a historic discussion, held by Einstein and Bohr (Paradox of Einstein, Podolski, and Rosen), in which (as we now can understand) Bohr, in defiance of relativist casuistry, defending, in fact, instantaneousness of interaction, proved to be absolutely right.

As gravitation has purely electric origin, its dependence on medium can be displayed only by means of electromagnetic parameters of the medium (environment) ε, μ, and $c^2 = 1/\varepsilon\mu$, but not by means of constant *G*, which acts not as a parameter of the medium, but only as some gravitational equivalent of electricity , similar to

mechanical equivalent of warmth or to the module of transfer from horse powers to kilowatts , which ones, of course do not depend on properties of the medium.

But nonlinear disturbances of the field of the moving charge bring into being not only some gravitational field, similar to the electric one, but also gravimagnetic and gravistrictive fields, correspondingly similar to electromagnetic and electrostrictive ones.

Indeed, half-difference of anisotropy (53) creates nonlinear compression of the moving charge, similar to the one, shown in Fig.3*b*, but being influenced by the pair of forces $E_{\text{II}}v/c(1-v^2/c^2)$.

If we subtract from this some linear compression of forces $E_{\text{II}}v/c$, corresponding to electrostriction, then we will то get, as a residue, $-\boldsymbol{E}_{\text{II}}v^3/c^3(1-v^2/c^2)=\boldsymbol{v}\cdot\boldsymbol{E}_G/c$, i.e. some nonlinear astrictive field, which, being interacted with by a moving electric charge, cause this charge to be influenced by a force,

which, according to the logic of the state of things, is identical with the force, influencing the moving mass in the field (28*a*), so that

$$qE_{\text{II}}v^3/mc^3(1-v^2/c^2)=qTv^2/mc^2(1-v^2/c^2)= \\ =(\boldsymbol{A}\cdot\boldsymbol{v})\sqrt{1-v^2/c^2}/c=T_Gc, \qquad (63a)$$

if $\boldsymbol{A}_{\text{II}}=\boldsymbol{a}_{\text{II}0}/(1-v^2/c^2)^{3/2}$ according to (18), and

$\boldsymbol{a}_{\text{II}0}=q(\boldsymbol{E}\cdot\boldsymbol{v})\boldsymbol{v}/mc^2$, which is the evidence of electostrictive origin of the gravistrictive field, for $m\boldsymbol{a}_{\text{II}0}=qT\boldsymbol{v}$.

In the same manner the half-difference of anisotropy (54) creates moment of couple $-\boldsymbol{E}_{\perp}v/c(1-v^2/c^2)$ just like in the Fig. 3*a*, from which we get (with the deduction of the linear (magnetic) constituent $E_{\perp}v/c$) in $(\boldsymbol{v}\times\boldsymbol{E})v^2/c^3(1-v^2/c^2)=\boldsymbol{B}v^2/c(1-v^2/c^2)$, whence

$$q(\boldsymbol{v}\times\boldsymbol{E})v^2/mc^3(1-v^2/c^2)=q\boldsymbol{B}v^2/mc(1-v^2/c^2)= \\ =(\boldsymbol{v}\times\boldsymbol{A})\sqrt{1-v^2/c^2}/c=\boldsymbol{B}_Gc, \qquad 63(b)$$

if $\boldsymbol{A}_{\perp}=\boldsymbol{a}_{\perp0}/(1-v^2/c^2)^{3/2}$ according to (18), and

$\boldsymbol{a}_{\perp0}=q\boldsymbol{v}\times(\boldsymbol{v}\times\boldsymbol{E})/mc^2=q(\boldsymbol{v}\times\boldsymbol{B})/m$, which corresponds to (28*b*).

As gravistatic field(59) and gravikinetic fields (63*a*) and (63*b*) have purely electric origin, and, electric energy, giving birth to them, propagates only with the velocity of light *c*, then these fields (were they linear) would be propagating with the same speed and not any other one.

However, as it was shown earlier, nonlinearity of these fields brings us to the fact that *c* turns into infinity, which makes us to dismiss the last hope to discover gravity field waves, or, at least, their "slow" variant.

Though fields (63), just as electro-kinetic fields, are defined by means of movement of not only excessive, but also all bound (inherent) charge (in electrically neutral bodies) , they are, first of all, usually weaker considerably than electrical ones, which, it is true, is quite compensated by their total permeability and instantaneousness of propagation, as well as, secondly, because of non-linear dependency on the charge speed they are able to make gravity signals with direct component and double frequency periodic component (at aerial excess charge) even from alternating (variable-polarity) periodic electric signals.

This complicates modulation of signals and their deciphering, but unlike the scheme in Fig.4, they are emitted by usual aerials, accompanying longitudinal (in bells) and transversal (in walkie-talkies) waves, but pass ahead of them.

Thus, tolling of bells is accompanied with gravistrictive waves (63*a*), which instantaneously reach listeners at any distance and seem to influence their minds long before the arrival of the sound signal, which also relates to the case of remote thunder. что относится и к дальним грозовым раскатам.

Thus, MRT theory, without any recourse to mystifications, being only based on sound rational footing, describes any high speed processes, as a result of which the need for pretentious, but incomprehensible relativity theory just falls away.

The more so as relativity theory, having lead physics up a blind alley, did not cope with the single field problem (which was Einstein's dream), while MRT theory, having big heuristic potential, solves this problem quite easily.

The Author has been publishing MRT theory basics in different forms for more than a half of a century, but even now stubbornness of bureaucratic coryphaeuses of the physical science keeps it in impassable dead end of fruitless relativism, which substitutes physical reality with abstract mathematical forms of the imperfect model, characterized with reduction of lengths, growth of mass, retardation of time, and curvilinear space, seemingly accompanying movement.

All this illusory paraphernalia seems to allow relativist scientific hypnotizers of different levels, interested in irresponsibility of science, to make a good living.

For, if science regains its mental health, no one will need those psychoanalysts.

And yet, unprejudiced scientist's attention will be immediately arrested by the fact, that relativity theory , having assumed as its basis the postulate of spherical light wave isotropy, that is identity of the speed of its front in any direction (in any coordinates) **does not support** this demand with its fundamental transformations of coordinates, from which ones it follows for the light wave front, that $v_x' \neq v_y' \neq v_z' \neq c$, as it has already been shown, for instead of a requirement, evident for the need to provide light wave isotropy, that for the front intersection coordinates at $x=y=z=ct$, there would be $x'/t_x' = y'/t_y' = z'/t_z' = c$, it regards mathematic invariance of square equation of the light wave, which is not a physical object, to its transformations, which also has no physical sense (as well as, consequently, all theory of relativity).

It is as difficult not to notice card-sharper's misrepresentation of facts, so characteristic of relativity theory, when it is alleged, for example, that Maxwell's electrodynamics set of equations is invariant to Lorentz-Einstein transformations, though it actually does not take place without arbitrary forced field parameters deformation, which is a mere tool to fit physical reality to mathematic models, just as in mechanics the unnatural growth of mass in motion, reduction of lengths, and retardation of time is not physical reality, but only a mere tool to compensate inadequacy of the mathematical model.

As a result, theory of relativity – in spite of ecstatic propaganda – managed to explain much less facts (and these ones are quite few) than to generate myths, while MRT theory can explain everything without giving birth to even one myth.

Thus, having not satisfied at least one of the postulates, which had supposedly laid its foundation, relativity theory appears to be a highly unsuccessful, self-contradictory and physically inadequate model, which was pretty well understood by Einstein, who said once that "the beauty of the mathematical theory and its considerable success hide from our glance the burden of those sacrifices that had to be offered for that sake."

Alas, no one has understood it, yet – with the only exception of Einstein.

Besides, all the above said proves that abstract science should not be a kind of experimental philosophy, like relativity theory, blindly following the experiment and justifying it. It should be, like MRT, a philosophy of experiment and practice, showing them effective direction for further activities.

Then all attempts to measure absolute movement, based on Galilean relativity principle, would be swept aside from the very beginning, as well as all present-day fruitless attempts to find gravity waves.

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