

solenoidal, herewith it is forgotten, that poles of the magnet can be oriented not only along the direction of motion, but across also.

From the electrodynamics textbook: "The vortex electric field differs from electrostatic field that it is not related with any electric charges and its lines of intensity are closed lines."

From theory and from experiments it follows, that under transverse motion of magnet the lines of disturbance of vortex electric field can be unclosed and, accordingly, the flow of induction through the closed surface is not a zero. Then there is a direct discrepancy to facts in modern electrodynamics. It is strange, but for the whole history of researches in magnetism the transverse magnet's motion was not considered. It leads to revising of electrodynamics' postulates, which plays such role in electrodynamics, as the Newton's laws plays in classical mechanics. The postulates, giving invalid belief about field processes, accordingly, do not allow to make some correct calculations. Fallaciousness of these postulates was one of the reasons, on which the electrodynamics could not to consider and to calculate the discrete electromagnetic waves (photons), where the magnetic field also is the transverse field (the field construction and calculation of photons are represented on the page <http://www.comail.ru/~alemanov>). **That is to say, not only particles has the charges, but areas of disturbance of field (without particles) are the charges also,** where the flow of electric induction through the closed surface is not a zero. Thereby, the vortex electric fields can be not only as closed flows of induction, but as well as inducted electric charges, accordingly, the laws for electric charges are valid for induced electric charges also. For instance, in the law of conservation of charge: if somewhere the area of disturbance with positive sign appears, that negative area appears also.

From the electrodynamics textbook: "The vortex electric field is generated by the variable magnetic field. Its force

lines are always closed, like force lines of magnetic field."

But before this fundamental postulate, confirming, that force lines of vortex electric field are always closed, it was necessary to consider all variants of change for the magnetic field, including the variant of the transverse motion of the magnet. That is to say, the consideration of physical processes could not be unilateral. Faraday considered the longitudinal motion of magnet and discovered the electromagnetic induction, but the transverse motion of magnet that have the principle importance for understanding of field processes in electrodynamics was not considered. Thereby, the longitudinal motion of magnet brings to arising a vortex electric field with closed force lines, but transverse motion of magnet brings to arising a vortex electric field, where the lines of forces are not closed. In this case it lead to induced electric charges. It is necessary to notice, that this is first mistake, detected in electrodynamics postulates for all time of existence of electrodynamics.

From the electrodynamics textbooks: "...Gauss' theorem is valid not only for electrostatics, but also for electrodynamics, which using a variable in time electromagnetic fields. We are not sure if this hypothesis is valid or it is not valid... Only the experiment can give the answer on this question. The whole collection of experimental facts speaks in favor of this hypothesis." But, unfortunately, the experiment with transverse motion of magnet was not considered seriously in this textbook.

(Editor's note: Well-known Searl's experiments and Godin & Roshchin's experiments are based on such transverse motion of magnets (rollers). In Alemanov's article it was demonstrated that in this case the experiment should lead to induced electric charges. Really it was detected in experiments. Hence this missed aspect of electrodynamics is very important for development of the new energy technologies.)

Gravito-Inert Mass

J.A. Asanbaeva

720000, Kyrgyzstan, Bishkek, Kadyrov's Scientific Center
+996 (312) 47-25-40, +996 (312) 65-02-83
bondarenko@nazaraliev-centre.com

Nature of mass is one of the important problems of modern physics. It is accepted to consider that the mass of elementary particle is determined by fields, which are connected with it (electromagnetic, nuclear and others). However, we didn't create any quantitative theory of mass. There is no theory to explain why masses of elementary particles form a discrete spectrum of values and to allow determining this spectrum.

Mass (m) is a physical value, one of characteristics of matter, which defines its inert and gravitational properties. Accordingly, we distinguish inert mass (m_i) and gravitational mass (m_g).

Inert mass (m_i) characterizes dynamical properties of a body, its property to accelerate under the action of the force (\vec{F}_i) and according to the second Newton's law is considered to be constant coefficient of proportionality for the given body between \vec{F} and acceleration \vec{a} .

$$\vec{F}_i = m_i \vec{a} \quad (1)$$

Gravitational mass (m_g) is a source of gravity field. Every body creates its gravity field, which is

proportional to the mass of the body. This field initiates an attraction of any other body to the given one with a force determined by Newton's law of gravity:

$$F_H = \sigma_H \frac{Mm_g}{r^2} \quad (2)$$

where r is the distance between bodies, δ_H the universal gravitational constant, M and m_g are the masses of attracting bodies.

In principle, it follows from nothing that the mass (m_g), which creates gravity field, defines inertia of the same body (m_i). However, the experiment made before the creation of relativity theory showed that inert and gravitational masses are equal to each other:

$$m_i = m_g \quad (3)$$

This law was considered to be fundamental law of nature called "the principle of mass equivalence" and was a basis for general theory of relativity (GTR) by A. Einstein.

According to general physical theory of a universal field (GPTUF) by Kadyrov [1] the mass usually observed (m_{obs}) consists of the mass immovable regarding to the selected inert frame (IF) of particle (m) and mass, which depends on rate of movement of particle (m_i):

$$m_{obs} = m + m_i \quad (4)$$

Kadyrov called the mass m_i «inert mass», but it is not the mass m_i in (1), which is called in the same way. That's why to prevent the mishmash with m_i in (4) further we will call "gravito-inert mass" and will indicate it as m_{gi} that will be a correct reflection of physical sense of this mass.

Mass m in (4) expresses the same mass as in (2), and then we will rewrite the formula (4) as

$$m_{obs} = m_g + m_{gi} \quad (5)$$

where
$$m_{gi} = m_g \cdot \frac{v^2}{c^2} \quad (6)$$

Developing these Kadyrov's laws we will show the change of mass m_{obs} with the change of speed of particle. Experiments made after the creation of GTR showed the dependence of acceleration of gravity on the chemical composition of bodies. The body, which weight is more, falls to the Earth slower then the body of smaller weight, since there are more protons and neutrons in atoms of heavy bodies. These protons and neutrons antigravitate with protons and neutrons of the Earth. According to Kadyrov a mutual repulsion appears between similar particles (i.e. antigravitation) and attraction appears between any two dissimilar particles. Such interaction takes place independently,

whether a particle has electrical charge or not. Every elementary particle has gravitational charge, which is proportional to its mass (m) according to Kadyrov's formula

$$q = \pm \sqrt{\sigma_H} \cdot m \quad (7)$$

where q is a gravitational charge of the particle.

In result we get that gravity acceleration depends on the speed of bodies according to Kadyrov's formula

$$g = g_H \left(1 + \frac{v^2}{c^2}\right) \quad (8)$$

where g_H is determined from (2) according to the following formula:

$$g_H = \frac{\sigma_H M}{r^2} \quad (9)$$

and we will call it "Newtonian gravity acceleration".

As a result the principle of equivalence is not true and the foundation of GTR is broken.

Let's rewrite (2) taking into account (9) as

$$F_H = m_g \cdot g_H \quad (10)$$

The mass m_i in (1) is the mass m_{obs} in (5), which is determined taking into account (6) as follows:

$$m_{obs} = m_g \cdot \left(1 + \frac{v^2}{c^2}\right) \quad (11)$$

Dependence of $m_{obs}(v)$ is presented on the Fig. 1 according to the Table 1:

Table 1

$\frac{m_{obs}}{m_g}$	$\frac{v}{c}$	$\frac{v^2}{c^2}$	$\frac{F_i}{F_H}$
1	0	0	a_i/g_H
1,04	0,2	0,04	$1,04 a_i/g_H$
1,16	0,4	0,16	$1,16 a_i/g_H$
1,36	0,6	0,36	$1,36 a_i/g_H$
1,64	0,8	0,64	$1,64 a_i/g_H$
2,0	1,0	1,0	$2 a_i/g_H$

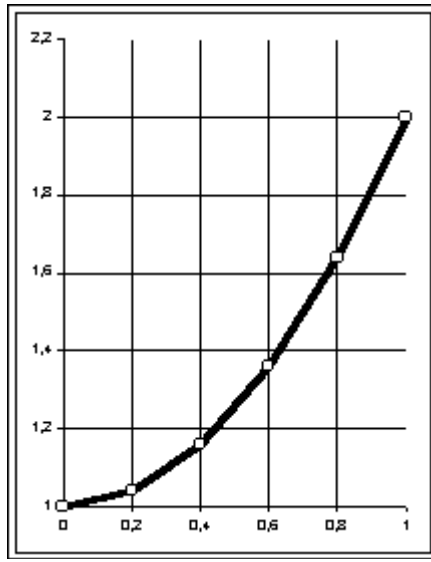


Fig. 1 Dependence of mass on speed

Note: $\frac{m_{obs}}{m_g}$ is laid off by OY axis and $\frac{v}{c}$ is laid off by OX axis.

The observed mass (m_{obs}) grows with the growth of speed of the particle until it will be double to its initial mass, which corresponds to rest mass state (m_g). With achieving of top speed ($v=c$) the particle gives birth to antiparticle. Antiparticle has the same mass as particle.

According to GPTUF by Kadyrov [1,2,3], the ravitational charge (7) does not differ from electrical charge on the boundary of quantum volume of the particle, i.e.

$$\pm q = \pm e = \pm \sqrt{\sigma_H} \cdot m_{obs}$$

and if we will take into account (11), then we will get

$$\pm e = \pm e_0 \mp \Delta e \quad (12)$$

and with $v=c$, then

$$\pm e = \pm 2e_0 \quad (13)$$

where e_0 is the charge of particle in immovable state,

$$\Delta e = e_0 \cdot \frac{v^2}{c^2}, \quad e_0 = \sqrt{\sigma_H} \cdot m_g$$

If we take into account (11), then the force F_i will be equal to:

$$F_i = m_g \left(1 + \frac{v^2}{c^2}\right) a \quad (14)$$

or
$$F_i = m_g a + m_{gi} a \quad (15)$$

If we will take a ratio of (14) to (10), then we will get that $F_i \neq F_H$, namely

$$\frac{F_i}{F_H} = \frac{a}{g_H} \cdot \left(1 + \frac{v^2}{c^2}\right) \quad (16)$$

this implies with $v=0$

$$\frac{F_{i1}}{F_H} = \frac{a_1}{g_H} \quad (17)$$

at the same time from (11) $m_{obs} = m_g$, and with $v=c$

$$\frac{F_{i2}}{F_H} = \frac{2a_1}{g_H} \quad (18)$$

in this case from (11) $m_{obs} = 2m_g$ (19)

According to (19) when speed of the particle is equal to the speed c , a new identical particle is formed from gravito-inertial field of the particle.

This particle has a spin opposite to the moving particle. Appearance of electron-positron pair is possible as a result of accelerated motion of electron. In general case the mass m_{obs} of the particle increases according to (11), i.e. the more the speed of the particle, the rapidly m_{gi} increases.

According to (17) and (18) with $v=c$ the force F_{i2} will be double in its value, and the force equal to F_{i1} will act on every particle. It means that two particles will fall back to the Earth.

Let's allow that electron (e) with the mass m_e accelerates from the Earth athwart to its surface. Its mass increases due to its gravito-inert mass, which will cover and compress the initial mass. Gravito-inert mass can be constantly emitted as photons. This fact explains the emanation by Vavilov-Cherenkov during the movement of charged particles. While reaching of $v=c$, the antiparticle of electron is born (positron) and they fall back to the Earth. Possibly, it explains the avalanche of electron-positron pairs, which regard to the secondary space beams. With the acceleration of proton up to $v=c$ an antiproton should appear, and with acceleration of neutron an antineutron should appear. **Thus, no particle can fly out of our Universal, i.e. it is a black hole.** An antiparticle appears from the field and when it meets with a correspondent particle, they turn to the field. This field is unified, it is a gravitational field, and electromagnetic and nuclear fields are various manifestations of it.

According to Kadyrov [1,2,3], particles (electron, proton, and photon) are self-rotating clots of gravitational field, they have a dense nucleus in the center, and layers move around this nucleus with de Broglie's frequency. With

this movement their masses increase according to (11). This increase takes place because the mass of the field of particle, which is called "gravito-inert mass", increases. With a top speed ($v=c$) an antiparticle appears from it. But antiparticle is the same formation as a common particle, but its spins are opposite to spines of common particles. Gravito-inert mass is a mass of magnetic field of particle. Kinetic energy of

magnetic field is equal to $m_{gi} \frac{v^2}{2}$ and when it becomes

equal to $m_g c^2$, then a new antiparticle will form from this magnetic field, i.e. with energy of $m_{gi} v^2 = 2m_g c^2$.

References

1. S. Kadyrov. Analysis of some fundamental questions of natural science in the light of theory of a single field. Bishkek: Ilim, 1996, p.89.
2. S. Kadyrov. Unified theory of field and questions of cosmology and elementary particles. Frunze: Ilim, 1989.
3. S. Kadyrov. General physical theory and solution of fundamental problems of natural science. Bishkek: Sham, 2000.

On the Eve of the Sixth Revolution in Physics

Dr. V.A. Atsukovsky

Dugina st., 6-14, Gukovsky town, Moscow region
140187, Russia

Condition of modern theoretical physics and the ways of its development

Methodological crisis in modern theoretical physics.

Modern physics achieved outstanding results in the field of cognition of laws of nature and in many applied fields. The twentieth century is characterized with such great achievements as splitting of nucleus and creation of atomic energy on this base, creation of quantum generators, discovery of astronomic objects with unexpected properties, research of properties of "elementary particles" of the matter and many others. Absolutely new directions of natural science appeared, which not only solved many theoretical problems, but also put them to serve the all mankind.

However, in spite of this, it becomes more evident, that in some fundamental fields of natural science, first of all in theoretical physics, some contradictions appeared and they keep on accumulating. They are nicely named as "divergences", which have the fundamental character and which are the serious hindrance of further development of fundamental and applied science.

The numerous attempts to combine the basic fundamental interactions on the base of conceptions existing in modern physics turned out to be practically unsuccessful. The amount of opened "elementary particles" of matter does not correlate with the full uncertainty of their structure. Energy of radiation of the stars including the Sun is not explained because its radiation shall wear out long ago taking into consideration the time. Even in such a developed field as electrodynamics we have the whole classes of problems, which cannot be solved in the frames of

existing theory. For example with the movement of two similar charges a paradox appears: quiet similar charges should repel from each other by the law of Coulomb, but they attract each other because they are the currents. If they are still immovable in relation to each other, then why do they attracting in the movement?

In spite of many public appearances, statements and popular and special articles having the aim to prove the greatness of modern physics and great possibilities, which are waiting for the mankind in relation with its achievements, we should state that there is no anything similar in reality. There are a series of contradictions, so called "paradoxes" in physics; some of its theses became discrepant with the theses of dialectical materialism. For example, the idea of "Big explosion" is in contradiction to the thesis of dialectical materialism about the absence of origin, birth or creation of the Universe. But some theorists suppose that dialectical materialism should be corrected because some parts of it are in contradiction with the universally recognized theories in physics, for example with the relativity theory.

In the applied physics different promises do not realize nevertheless. Many years passed from the moment when the "stable plasma" was created and existed for 0,01 second. Since then the numerous units were constructed to get a thermonuclear energy, which should provide the mankind with the energy. However the units exist, institutes and plants were built for this purpose, conferences and meetings are hold, awards and academic degrees are given... The only problem is: we have no thermonuclear energy itself, and nobody knows if it will ever appear.

We have spoken a lot and for a long time about STR – scientific and technical revolution, about achievements of science; the nuclear weapon and nuclear power were created, the flights into the close space were organized, the numerous materials were developed, computers of high complexity, robots and other things were created, and so on. However with all this we should state that the quantity of new discoveries decreases and development has a quantitative character, and even with the studying of "elementary particles" of the