ABOUT "ELEMENTARY" PARTICLES

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Abstract
In the article the general approach to the theory of fundamental particles is described

The consideration of details being apparent consequents of set up views would withdraw us far in the side from an main aim - to show way out from dock, where the development of a modern physics has gone and to give a new impulse to this development, remember what even the small step to true causes an avalanche of the practical appendices. If it is possible to doubt that the author sets up true, it is possible to be assured, that he sets up an alternate path to true in those circumstances, when the official path seem alone. Therefore there is no sense to fall for a temptation to explain the entire one after another to not multiply errors and to not discredit new physics. Earlier naturalists were more scrupulous in this problem, than now. Let's recollect famous a Newton: "hypotheses I do not devise" or expression of F. Engels about "of thermal death" by the Universe: "The heat, radiated in global space, should have a capability by any way, - way, the installation which one will be at one time in the future a problem of natural sciences, - to be turn intoed other form of motion, in which one it again can be massed and to begin is active to operate". In the chapter "Problems of a cosmology" the depleting answer to this problem is given.

In connection with finding - out of features of motion of particles and reasons of appearance of their "wave" properties, there is a sense from a wave quantum mechanics to return to "beads" and to attempt to construct the theory of "elementary" particles on the basis of visual notions from which one, in due time, irresponsibly have refused, i.e. on the basis neoclassical necessarian of notions. Orthodox physics basically is not capable to esteem a constitution of atoms, atomic nuclei and elementary particles because of an indeterminacy relation of the Heisenberg. Only rehabilitation of determinism in science is capable it to move further, that with all evidence is shown in this book.

Despite of a considerable experimental material accumulated recently on elementary particles, the theory of elementary particles prolongs to remain in dock that is a consequent of error notions still for a level of atom.

Here some words are necessary for telling about a methodology of knowledge of true in modern science. If at the beginning of an advancement of science main reference points in knowledge of true were common sense and clear figurative notions on it grounded, now it is necessary to state, that dominates simplified, faster technical, than scientific approach. Take model, in an abstract kind reflecting not object, but only its some characteristic properties, model process by the mathematical apparatus and almost always receive rather good quality, and sometimes and quantitative consent with experiment, if the model (as a matter of fact is a mathematical model) more or is less successful is selected (is as a matter of fact customized with the necessary answer initially). The fallaciousness of such method of knowledge of true is obvious, thus we come nearer to not so much by it, how many we put ourselves depending on own fallacies, this method guarantees only against appreciable errors, though also they are possible. Reaches to the point of irrationality, when physicist puts by the main problem the solution not physical and mathematical problems. Thus it is necessary to hold back about appearing inconsistencies to keep in our theory visibility of scientific achievement, as a matter of fact it represents a mathematical exercise, useful only for the technical appendices. The authors of such theories it is easy to drive in dock by additional problems. On the other hand, if the theory is grounded on common sense and clear notions, additional problems, as a rule, do not arise, there is no necessity even in the mathematical apparatus, which one in this case plays a supplementary role, appropriate to it, only updating our notions, instead of creating them. The science is invoked to understand, to explain and to forecast. The divine function of creation stands before the engineers. Mathematics is the tool of creation, instead of knowledge. The modern physics abounds examples of a faulty method of knowledge. Here it is possible to point only some. We have elaborated a quantum physics, having not disassembled, what such a wave-corpuscle dualism of particles, we have invented a Schrodinger equation "correctly"

reflecting only wave quality of particles and we are tormented with its solution, by believing, that in it the answers to all problems. We have created the theory of an exchange interaction, not having notion neither about a constitution of interacting particles nor about the detail mechanism of this interplay. "The Interplays of particles with each other, exhibited in their attraction or repulsing, are described as a virtual exchange of particles by field quantums, applicable to the given kind interplay. The precise mechanism of interplays of particles now is obscure". B.M. Javorsky and A.A. Detlaph "The reference Book on physics", "Science", M., 1964, page 786.

We develop drip, optical etc. model of a nucleus not knowing, that by itself introduce nuclear forces; we use a Pauli exclusion principle, not confess to ourselves that by it we as a matter of fact clandestinely pull the new type of interplay, and it is necessary in this case to speak and about "force Pauli" and about "energy Pauli". We continue to take pains in combinations of quantum numbers to explain properties of atoms disregard on own initial suppositions about "simple" quantizing; using successes in practical development of a nuclear power, we are ready to shake out pockets of the taxpayers to construct monsters of particles accelerator - perhaps something we shall find out from predictions of authorities instead of previously receiving a legible picture, sitting for a desk - the examples can be prolonged.

Is especially insulting that the description of experiments in accessible to the broad audience of the readers to the literature (which one is considerably more relevant than their interpretation) is made not objective, and prejudicedly, not giving capabilities to the reader to make independent conclusions. The orthodoxes chew outcomes of experiment during their description, instead later, constraining the reader to use already second-hand. Therefore for youth the impression is piled, that all for a long time is invented both is opened and the desire disappears to go in science.

We already have received a universal function of potential repulse energy [1], formula (4). Potential energy of attraction will be gravidynamic attraction, and close arranged particles revolving around of a gravidynamic interplay center, is additional to own aiming to center, will experience attraction at the expense of analogue of force of the Lorentz who is operational on each particle at motion in a gravidynamic field of other particle, and this attraction considerably exceeds own. Thus it is necessary to note, that the gravitational charges are always attracted, is similar to interplay opposite of charged electric charges, therefore interplay is opposite directional "of gravitational currents" will be similar to magnetic interplay of conductors with an electric current, in which one the electric currents flow in one direction. All this is fair for interplay of two particles of matter (for example, neutrino) or antimatter (antineutrino). Will below be shown, that at motion of matter and antimatter comparatively each other, for example, in a photon, gravidynamic attraction very gentle, but, in this case, the particles are attracted on greater spacing interval by electrostatic, since they are charged by opposite electric charges. The gravidynamic interplay on a close range exhibits itself as strong or nuclear interaction, and it is generic in any particles with a rest-mass nonzero, rotated around of a own axis. Here it is necessary to note, that, as it will be visible from further, the particles with a zero rest-mass do not exist and in general concept of "rest-mass" conditionally. In scales of nuclei of atoms and the more so "elementary" particles the gravidynamic interplay much more exceeds electrostatic interplay, therefore last is very gentle influences on energetic of these particles (concerning a neutron having particular features in this respect, the explanations will follow later).

From the point of view of new physics the principle of construction of "elementary" particles is simple. They represent of a gravidynamic system, the stability which one is determined by that the component particles are in a potential well instituted by gravidynamic "attraction" and universal repulsing, thus the component particles moving on circular orbits with light speed (are more valid with speed, very close to limiting, about which one is lower). In these conditions the considerable relativistic increase of mass of component "elementary" particles is watched. Naturally, that the moment of momentum of each component "elementary" particle on orbit is peer to a moment of momentum in free condition. Orthodox physics does not know, how the elementary particles are arranged. The suppositions of orthodoxes concerning their constitution are absurd from the point of view of new physics. Besides the indeterminacy relations of the Heisenberg superimpose the

prohibition of capability of consideration of any structure in the field of space compared with dimensions of a particle.

"Already first acquaintance to properties of elementary particles demonstrates, as far as these properties are miscellaneous and as far as the principles and laws, lying in their basis, are diverse. At closer acquaintance to a world of elementary particles such situation even more is aggravated and there is an impression not of chaos. There are no even two particles, the weights would be connected which one by a simple numerical ratio. The life times of particles arbitrarily vary from most short (~10^{-23} sec) up to most lengthy (stable particles). It is impossible to explain, why the particles have those or diverse quantum numbers. The properties of many particles are in general connected to the fundamental laws of the nature, the sense which one is not even clear to the explorers. Each characteristic of particles, very probably, serves a small masked going into the whole maze of unknowns of phenomena, unexpectedness, and discoveries. In such situation any simplified approach to a solution of a problem of systematization of elementary particles, certainly, is doomed on full failure (time will show! - V.K.). The truth, some empirical facts are marked, which one, probably, suggest us the solution which has been yet not retrieved. So, the formula of the Japanese physicist Nambu, reflecting feature of a spectrum of weights of particles is known. It appears, the weights of large number of particles are aliquot to value 137 m_e or half of this value. Let's remark, that the value, return fine structure constant, also is peer 137. (Is faster we shall find out physical sense of this concurrence - V.K.). A subject of main efforts of the physicists-theorists is the research of approaches to a problem of systematization of the particles grounded on already reached knowledge of the fundamental laws of the nature, affirmed all experience naturalists". "About a systematization of particles", "Atom publishing house", M., 1969, page 121-122.

To my regret, new physics can not compare it's the notions about the constitution of elementary particles to notions of official physics, since last miss. "If the particle is disintegrated on any particles, it is impossible to tell, that the products of decay were contained in it as the constituents. Really, frequently it happens that the same particle is disintegrated by several different ways. On the other hand, the electron, for example, at transition in atom from one level of energy on another releases a photon, wavelength which one, and, therefore, and sizes many times over any more only of electron, but also atom. (This statement is fair not to the photon, and to its screw trajectory - V.K.). Therefore it is impossible to speak, that the photon was inside an electron, as its constituent. Thus, till now it is not yet absolutely clear that to understand structure of elementary particles". (Underline mine - V.K.). G.E. Pustovalov, "Atomic and nuclear physics", publishing House of the Moscow University, 1968, page 22-23.

Now it is possible to figure all known and conceivable "elementary" particles consisting from three fundamental particles (with their antiparticles): a neutrino, electron and proton. By a base particle of which one consist everything, including fundamental particles is the electronic neutrino ν_e (and antineutrino $\widetilde{\nu}_e$). The same principles are fair and for all resonances, therefore about them speech of a message we shall be slightly to not overload presentation.

At analysis of elementary particles it is necessary permanently to mean that circumstance that the fixed experimental fact of transformation of energy in mass and on the contrary results in large variety of particles, arising in a microcosmos. The high power saturation of processes with elementary particles allows to not limit only by generation of photons (as it makes atom at electronic transitions), but results in originating practically of any known particles, which one, however, in overwhelming majority are exited states, therefore are unstable. This circumstance hampers detection of a true structure of unstable "elementary" particles.

The formula will be useful to us, on which one it is possible to count up a magnetic moment of a particle. Is known, that the magnetic moment of a contour with an electric current:

$$P_m = \frac{1}{C} I \cdot S \qquad (1),$$

where C - electrodynamics' constant (numerically equal speed of light), I - current, and S - area of a contour.

$$I = \frac{e}{T} \quad (2),$$

and

$$T = \frac{2\pi r}{V} \quad (3),$$

where T - period of revolution of an electron, e - charge of an electron, r - radius of its orbit. By substituting (3) in (2) and all in (1) and allowing, as will be shown later, that component of elementary particles moving with light speed, i.e. $V \sim C$, we shall discover:

$$P_m = \frac{er}{2} \quad (4).$$

For a nonrelativistic case ($V<C$), the equation (4) will look like:

$$P_m = \frac{V}{C} \cdot \frac{er}{2} \quad (5).$$

In (4) or (5) it is possible to enter an orbital mechanical moment of an electron, equal $\hbar$ and allowing, that $\hbar = \frac{h}{2\pi}$, where h - constant of the Planck, we shall have:

$$P_m = \frac{er}{2} = \frac{e\hbar}{2m_e C} = \frac{eh}{4\pi m_e C} = \mu_b \quad (6).$$

The expression (6) is a magneton of the Bohr μ_b, i.e. magnetic moment free or bound in atom of an electron. I shall remind to the reader, that the official science considers a mechanical moment of an electron equal $\hbar/2$ and for it just this value has principled value. If to accept a moment of an electron equal $\hbar$ (that is confirmed also by concurrence of the counted masses "elementary" of particles with experimentally retrieved below), i.e. $\hbar = mvr$, substituting here $\hbar = \frac{h}{2\pi}$, where h - constant of the Planck, and $\lambda = 2\pi \cdot r$, we shall receive a de Broglie formula: $\lambda = \frac{h}{mv}$, which one is affirmed experimentally, including for an electron. If to accept value of an angular momentum of an electron equal $\hbar/2$, we shall receive value of a wavelength of an electron twice less experimental: $\lambda = \frac{h}{2mv}$.

Unfortunately, we have not other equation, except for a law of conservation of angular momentum to count up the sizes of elementary particles, knowing their mass. However, as will be found out below, the situation salvages that circumstance, that the sizes of elementary particles appear almost identical, except for some. It is conditioned by a strong interaction, i.e. very abrupt walls of a potential well, in which one moves of particles. As the law of conservation of angular momentum is indestructible, and the speed of orbital motion of component elementary particles can not exceed speeds of light (later we shall find out a reason it), this circumstance constrains the nature to augment mass of component elementary particles with decreasing of radius of their orbital motion. A law of conservation of angular momentum for a nonrelativistic case ($V<C$):

$$S = m_0 V r = m_0 \alpha \quad (7),$$

where m_0 - nonrelativistic mass of a body, and α - constant dependent on an angular momentum of a body (for the moment $\hbar$, $\alpha = Vr = 1.15756$ cm^2/sec). For a relativistic case ($V \approx C$):

$$S = mCr \quad (8),$$

where m - relativistic mass of a body, C - speed of light.

While the equation (7) is fair increases of mass of a body with increase of speed it is impossible (if any component given the body is not gone with light speed, see is lower). When the equation (8) is fair, the increase of its speed is impossible, and mass is inversely proportional to radius of orbit of a body. Equating (7) and (8), we shall discover, than mass is determined of any body having a rest-mass (which one can have zero forward speed):

$$m = \frac{m_0 \alpha}{Cr} \qquad (9).$$

The equation (9) demonstrates that mass of a body is determined by the moment of its impulse and radius of a trajectory; therefore, gravitational and inert mass same. Nay, relativistic increment of mass is so valuable mass, as well as "immobile", as last also is relativistic. "In a system of three bodies - Sun, Earth and moon, rotated around of it - any difference between inert mass and gravitational charge will be exhibited in their relative movement... The obtained outcome (with the help of a laser beam, reflected from a mirror on moon - V.K.) has marked by itself one more full celebration of the theory of the Einstein: inert mass and gravitational charge taking into account of gravitational bond energy coincide accurate within 10^{-11}. This impressive success of the theory of the Einstein underlines highest quantitative accuracy of his interpretation of a gravitational charge as development of a space-time curvature". "Fundamental structure of a matter", "World", M., 1984, page 196. Leaving in the side bragging style of this quotation, I pay attention of the reader that the equaling of inert and gravitational masses is not outcome of the theory of the Einstein, and initial hypothesis of this theory. At what here space-time curvature I can not explain, as myself I do not realize.

For bodies, in notion of official science of a not having rest-mass (driving always with speed of light) mass is determined as a matter of fact by same equation:

$$m = \frac{S}{Cr} \qquad (10),$$

where S - angular momentum of a body.

By imposing on (9) condition $m=m_0$, it is possible to find maximum radius of motion of a particle, is less than which all energy of a particle one will be transformed into mass (at greater radius a particle mass is invariable):

$$r = \frac{\alpha}{C} \qquad (11).$$

By substituting in (11) α = 1.15756 and value of speed of light, we shall receive minimum radius of invariable electronic mass on a screw trajectory or circular orbit in a bound condition equal $386.12 \cdot 10^{-13}$ cm (386.12 fm). On this radius the motion speed of an electron practically is peer to speed of light. Apparently, that thus the electron should move as a solid, i.e. for one revolution on orbit it should make one revolution about the own axis. Thus, the particle mass or does not grow at all with increase of its speed, or, at achievement of speed of light, grows in inverse proportion to radius of orbit. It seemed, this conclusion contradicts the known formula (3) [1] relativistic increases of a body mass with increase of its speed, affirmed it is experimentally. However this inconsistency apparent and in further we shall receive the formula (3) [1] and simultaneously we shall find out its physical sense.

Whether the electric charge of particles similarly to mass varies? "One of most surprising and yet not realized while properties of electric charge - its quantum, discrete nature...". Physics of a microcosmos, "Soviet encyclopedia", M., 1980, page 466-467.

Formally from (4) and (5) with replacement in (4) e on q, and in (5) on q_0, we shall discover for a "relativistic" case:

$$q = \frac{2P_m}{r} \qquad (12)$$

and for a "nonrelativistic" case:

$$q = \frac{2P_m}{r} \cdot \frac{C}{V} = \frac{2P_m C}{\alpha} \qquad (13).$$

Equating (12) and (13), is similar (9) we shall receive:

$$q = \frac{q_0 \alpha}{Cr} \qquad (14).$$

It is possible to make of the above-stated equations an insecure conclusion that both gravitational, and electric charge can change only at relativistic velocities of motion of these charges. The above-stated calculations (12), (13) and (14) and conclusions from them are incorrect, since will below be shown, that the charge a neutrino is always peer $e/2$ and does not vary depending on radius of its motion. There we find out, than the electric charge of

particles is conditioned. This example once again demonstrates the fallaciousness of formal - mathematical approaches to natural sciences.

The relation of mass of particles to their energy not only satisfies demands of a law of conservation of angular momentum in conditions of impossibility of increase of a moving speed, but also opens in essence new path of deleting from a system of exuberant mechanical energy, which one does not allow to form a stable system. If at formation of atom the electron falls in a potential well at the expense of radiation of exuberant energy as photons, in gravidynamic systems (elementary particles) enough exuberant energy to turn into mass to be saved of necessity something to beam. If there is a necessity something to beam, the energetic of elementary particles allows it to make in broad assortment of radiated particles. If we of any component elementary particle impart such energy, that its radius of a screw trajectory will become in accuracy is peer to radius of orbit a particle (thus mass component is augmented) and precisely half of this energy (which one is connected to a translational motion component) we shall convert into mass, we shall receive a elementary particle, interesting for us.

By indirect indication on that our notions about a microcosmos suffers latent, principled lacks, is the more and more diffused picture of a microcosmos in process of recess in it. For example, at a atomic-molecular level the science abounds large theoretical achievements adequately reflecting behavior of particles of this level. At a level of a constitution of atoms we any more can not brag of so considerable achievements, and we begin to stumble about mismatch between our notions and substantial constitution of this level. At a nuclear level the experimenters already considerably advance the theorists and it is not visible of real perspectives them "to catch up". At a level of elementary particles the theory is in general marks time, and the experimenters are advanced literally by seven-mile steps.

RELATIVISM in NEW PHYSICS

Area of relativism

The particle moved on a screw trajectory with speed V is not relativistic object, but its components always relativistic objects, as move on orbit of this particle with speed of light.

On known expression of new physics for an electron:

$$\alpha = Vr \qquad (15),$$

where α = 1.1576 cm^2/sec. From (15) we shall determine radius of a screw trajectory of an electron, which one is gone with speed of light:

$$r_0 = \frac{\alpha}{c} = \frac{1.1576}{2.997924 \cdot 10^{10}} = 386.134 \cdot 10^{-13} \text{ cm} = 386.134 \text{ fm.} \qquad (16).$$

From (16) completely clear there is a physical sense of value, which one official physics calls "a Compton wavelength of an electron":

$$\lambda\!\!\!^{-}_0 = \frac{\hbar}{mc} = 1.0545727 \cdot 10^{-27} / 9.109390 \cdot 10^{-28} \cdot 2.997924 \cdot 10^{10} = 386.1594 \text{ fm} = r_0 \qquad (17).$$

It appears is that minimum radius of a screw trajectory of an electron, on which one it gains speed of light and becomes relativistic, i.e. instead of Vr=const, will follow mr=const for satisfaction of a law of conservation of angular momentum.

From (17) it is possible to update value α = 1.1576765 cm^2/sec for an electron. As any microparticles have an identical angular momentum on a screw trajectory $\hbar$, for them:

$$\alpha_i = Vr = \frac{\hbar}{m_{0i}} \qquad (18),$$

Therefore for them minimum nonrelativistic radius of a screw trajectory (Compton "a wavelength" for the given particle):

$$r_{0i} = \frac{\alpha_i}{c} = \frac{\hbar}{m_{0i}c} \qquad (19).$$

From (19) it is visible, that "wavelength" will be received only at multiplying both parts of equality on 2π, thus we shall receive a wavelength de Broglie for a particle driving with speed of light. Thus, official physics does not understand, that such $\lambda\!\!\!^{-}_0$.

Official physics considers that the relativism starts there, where the energy of a particle becomes more "rest energy". New physics agrees with this statement:

$$E_i = m_{0i}c^2 \quad (20).$$

Famous expression (20) anything diverse, as the sum of kinetic energy of a particle of translational and tangential motion with speed of light on a screw trajectory. I shall remind to the reader, that the actual speed of a particle, for which one forward speed is peer to speed of light, makes $c\sqrt{2}$, but it is impossible experimentally to determine this speed, while. If to take into account, that $\hbar = m_{0i}cr_{0i}$, (20) will be copied as:

$$E_{0i} = \frac{\hbar c}{r_{0i}} \quad (21).$$

From (21) it is visible, that at radius of a screw trajectory the particle is less r0i is in relativistic area, and radius of its screw trajectory is inversely proportional of energy. To achieve zero radius, it is necessary to impart a particle indefinitely large energy, mass of such particle too will be indefinitely large. In this connection it is possible to guess, that with increase of power of particle accelerators will open all new and new particles with increasing masses, therefore it is better to not spend for satisfaction of this curiosity money all for nothing, while the present particle accelerators and cosmic rays will suffice.

Apparently, that (20) does not approach for nonrelativistic area, since the additional energy is spent for increase of speed, instead of on increase of a particle mass. Let's show, that one more expression of official physics:

$$\Delta E = \Delta m c^2 \quad (22)$$

Correctly for relativistic area. If the energy of a particle $E_2 > E_1$, is possible to record, allowing, that $\hbar = mcr = \frac{Er}{c}$:

$$\Delta E = E_2 - E_1 = \hbar c\left(\frac{1}{r_2} - \frac{1}{r_1}\right) \quad (23).$$

Under the same conditions:

$$\Delta m = m_2 - m_1 = \frac{\hbar}{c}\left(\frac{1}{r_2} - \frac{1}{r_1}\right) \quad (24).$$

By multiplying both parts (24) on c^2, we shall receive (22).

Let's put without the evidence still pair of useful ratio:

$\frac{V_1}{V_2} = \frac{r_2}{r_1}$ (nonrelativistic area) and $\frac{m_1}{m_2} = \frac{r_2}{r_1}$ (relativistic area) (25).

Apparently, that these ratio to equate each other it is impossible.

What energy corresponds to the formula $E=mc^2$

Earlier we have shown, that the famous formula:

$$E = mc^2 \quad (26)$$

is reflection of the greatest possible kinetic energy, which one has the body moving with speed of light. It is the sum of kinetic energy of a body, moving on a screw trajectory, in a longitudinal and tangential direction. Any relation to «rest energy» it has not, therefore it is necessary always to understand mass in this formula relativistic mass, which one at low speeds can practically coincide a rest-mass. In this book is clear shown, that mass of any particle is determined by its components, moving with light speed, therefore even for a «fixed» particle mass always relativistic, not relativistic mass does not exist. For orthodoxes it is considered, that the formula (26) expresses the greatest possible total energy of a body. New physics asserts, that it is the greatest possible kinetic energy of a body, but the potential energy of a body can be significant more.

Let's consider potential energy of electrostatic interplay of a proton with a nucleus of atom.

$$E_e = \frac{Ze^2}{r} \quad (27),$$

where e - elementary charge, Z - nuclear charge, r - spacing interval from a proton up to center of a nucleus.

Both nuclear charge, and spacing interval from a proton up to center of a nucleus we shall express through nuclear mass.

In chapter 12 [2] is shown, that the internal part of any nucleus represents a similarity of crystal lattice in clusters by which one there are α- particles, therefore nuclear mass expressed through its charge will be approximately (without the registration of a defect of mass) is peer:

$$m = \frac{Z}{4}(m_p + m_n) \quad (28),$$

where mp - mass of a proton, mn - mass of a neutron.

The connection of nuclear mass with r is obvious:

$$m = \frac{4}{3}\pi r^3 \gamma \quad (29),$$

where γ - nuclear density of matter (10^{14} g/cm^3).

Substituting (28) and (29) in (27), we shall discover:

$$E_e = m^{2/3} \frac{4e^2}{(m_p + m_n)} \cdot \left(\frac{3}{4\pi\gamma}\right)^{-1/3} \quad (30).$$

Let's substitute numerical values of constants in a system CGS in the formulas (26) and (30).

$$E = 8.9875 \cdot 10^{20} \cdot m \quad (31),$$

$$E_e = 2.06265 \cdot 1010 \cdot m^{2/3} \quad (32).$$

Let's substitute in (31) mass of a proton $m_p = 1.6726 \cdot 10^{-24}$ g, then its «rest energy» will make $1.5032 \cdot 10^{-3}$ ergs. By substituting this value in (32) we shall discover, what there should be a mass of a supernucleus, that the proton on its surface had potential energy of equal its «rest energy»:

$$m_Z = 1.7447 \cdot 10^{-9} \text{ g} \quad (33).$$

New physics guesses a capability of formation of supernuclei of mass up to 6.63·1034 g (chapter 29.7.1 [2]), therefore «the rest energy» under the formula (26) can make only insignificant part of a total energy of a particle. Here we once again can be convinced that official physics manipulates some concepts, not having clear representation that substantially is contained in these concepts. Now become clear those grandiose power phenomena on periphery by the Universe, it is impossible to explain which one outgoing from official representations, bound with the formula 26.

Here too it is necessary to open physical sense of «rest-mass» and «rest energy»:

$$E = m_0 c^2 \quad (34).$$

In the theory of elementary particles is shown, that all they consist in the final accounting of an electronic neutrino and antineutrino having in a free condition minor mass. At formation of a particle half of obtained energy goes on increase of mass (it becomes equal «to a rest-mass»), and half on bond energy. Energy of connection on a virial theorem numerically will be peer to energy of universal repulsing:

$$Erep = m0c2/2 \quad (35),$$

therefore general energy will be peer (34). The formulas (34) and (35) are valid only for particles having a potential well of gravidynamic interplay. This potential well will be formed at interplay of components from homomatter (matter or antimatter). At formation of a particle from heteromatter (matter - antimatter) the potential well misses (photon), therefore their energy is determined by the formula (26) and they always movements in vacuum with speed of light.

Energy under the formula (34) is a latent energy of a particle, which one in any way herself does not exhibit so long as we save its integrity. Similarly intranuclear energy also is latent so long as a nucleus invariably.

Relativistic growth of a particle mass

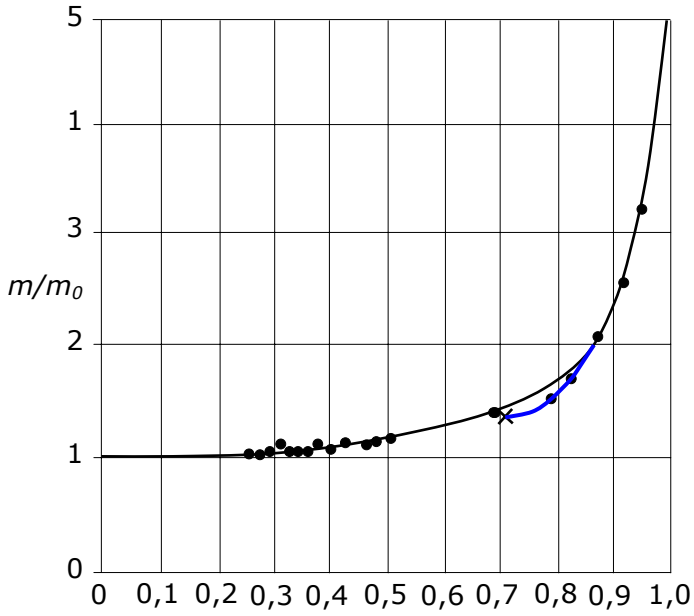


Fig. 1

On a figure 1 the relation of relativistic mass to a rest-mass of an electron is shown depending on its speed in fractions from speed of light. The full curve corresponds to the known formula of a relativity theory:

$$m = \frac{m_0}{\sqrt{1-\left(\frac{V}{C}\right)^2}} \qquad (36),$$

the experimental points are obtained in 1901-1909. The graph is borrowed from the book J.B. Marion "Physics and physical world", "World", M., 1975, page 30.

Now we shall show that the real situation with relativistic growth of a particle mass is much more complex, than it is represented on a figure 1. The formula (36) is easy for receiving from the following scheme of impulses (figure 2).

This scheme is suitable for a immobile electron, which one only we are be about to move

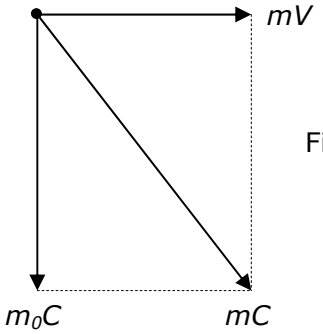


Fig. 2

to the right on a figure. Two neutrinos on orbit of an electron everyone in mass $m_0/2$ already move with speed of light (as on orbit of any elementary particles), therefore any attempts to displace an electron result in relativistic increase m0. Thus the motion of an electron as whole on a screw trajectory of any contribution in relativistic increase of mass does not give so long as radius of this trajectory will not become equal r_0 under the formula (16). Therefore on an initial segment of the graph of a figure 1 up to forward speed of an electron $V = C/\sqrt{2}$ the formula (36) will be valid. At the indicated speed the electron becomes relativistic, since the vectorial sum to its translational and tangential velocity on a screw trajectory is peer of speed of light. This moment is indicated by a dagger on a figure 1.

Here there is an interesting collision arises. By the formula (36) to use already it is impossible, the concept any of an alteration of speed also is unsuitable in relativistic area. Therefore we shall take advantage of a ratio (22). The change of energy will formally was equally: $\Delta E=mV^2$ since is necessary to expend identical energy $mV^2/2$ on a translational motion and tangential. Change of mass: $\Delta m=m-m_0$. Then (22) will give:

$$m = \frac{m_0}{1-\left(\frac{V}{C}\right)^2} \quad (37).$$

The obtained formula demonstrates, that when the electron on a screw trajectory becomes relativistic, the relativistic increase of mass takes place much faster that an angular momentum of an electron on a screw trajectory in 137 times more its own moment. All would be just so, if value m0 on precisely to the same law simultaneously did not decrease, which one assigns expression (36), i.e.:

$$m_{0r} = m_0\sqrt{1-\left(\frac{V}{C}\right)^2} \quad (38),$$

where m_0r - relativistic "rest-mass" of an electron in this area. From (38) it is visible, that in a limit, when the speed of an electron on a screw trajectory will reach speed of light, "rest-mass" of an electron will become zero. Physically it means, that at one revolution of an electron on a coil of a screw trajectory a neutrino inside an electron commit too one revolution, i.e. an electron always rotated to an axis of a screw trajectory by one side, as moon to the Earth. It provides a condition, that the speed of particles on orbit did not exceed speed of light. As the rest-mass of components of a relativistic particle becomes to equal zero point to find bond energy of a particle, it is necessary from its rest-mass to subtract rest-masses of all components. To take into account above set up, the formula (38) should be substituted in numerator (37). Thus with increase of speed numerator will decrease, and the denominator decreases faster. After formal transformation in the total again we shall receive the formula (36), but now motion picture of a relativistic electron has become clear and the arisen collision has vanished.

When the speed of an electron becomes of equal speed of light, radius of a screw trajectory of an electron is peer on (16) 386.1594 fm. Thus the formula (36) becomes completely unsuitable for the description of motion of an electron. Really, from expression for an angular momentum of an electron in relativistic area: $\hbar = mcr$ let's discover m and we shall substitute in (36). After transformations V/c=0 or V=0, that is dispossessed of physical sense.

Here it is necessary to mark, that the formula (36) by us is obtained from only classic summation of electron impulses on a figure 2 and any relations to the so-called factor of the Lorentz $f = \frac{1}{\sqrt{1-\frac{V^2}{C^2}}}$ has not. Has not relation and to a special relativity theory. Besides, in this chapter is clear shown, that the formula (36) has a restricted field of application up to a forward speed of an electron $\frac{C}{\sqrt{2}}$ and further becomes inapplicable. Nevertheless, official physics applies the factor of the Lorentz, where it is necessary and it is not necessary, not understanding true physical phenomena latent behind this factor. The true reason of increase of mass of a driving particle is, that component this particle (for an electron it is a neutrino, see chapter 7.2 [2]) always moves with speed of light, therefore for fulfilment of a law of conservation of angular momentum mass grows in inverse proportion to radius of orbit of components of a particle.

Again we are addressed to a figure 1. With increase of forward speed of an electron its tangential speed on coils of a screw trajectory was augmented also. When both speeds have reached value $\frac{C}{\sqrt{2}}$, the total trajectory speed has become of equal speed of light. At increase of mass radius of the electron has decreased and here all clear. In a considered

point of a figure 1 m=1.41m_0, V=C/1.41 is multiplied: $\hbar = m_0\sqrt{2}\cdot\frac{C}{\sqrt{2}}r_0 = m_0 C r_0$ Where r_0 – 386.134 fm. At further increase of forward speed (up to 0.866·C) radius of a screw trajectory decreases in 2 times, from this value $\sqrt{2}$ goes on increase of a tangential velocity and it becomes of equal speed of light, and still $\sqrt{2}$ goes on increase of electronic mass and it becomes $2m_0$. From this moment the increase of forward speed of an electron results in decreasing radius of a screw trajectory («wavelengths» of an electron) and applicable increase of mass mr=const. The equation (36) connections of mass of a body with its speed becomes unsuitable, and electron completely relativistic. Further more correctly to link electronic mass to its «wavelength» (energy or radius of a screw trajectory) instead of with forward speed. Thus, the area of increase of electronic mass from $m_0\sqrt{2}$ Up to 2m0 is transition region from Vr=const to mr=const and it is indicated on a figure by 1. cyan colour.

At forward speed of a particle V = 0.866C it, as whole, is gone on a screw trajectory with a tangential velocity, equal speed of light, therefore its own angular momentum becomes to an equal angular momentum on a screw trajectory in not relativistic area, and the former own angular momentum becomes to equal zero point and together with it will become to equal zero point and former «rest-mass» m_0. Here we as though have recreated a particle from components with zero «rest-mass» therefore «new» rest-mass again will be peer m0 and the formula (36) again will become valid.

Light speeds in new physics

In new physics of notions about light speeds differ from official.

In chapter 7.3 [2] the concept of maximum speed is entered, which one exceeds speed of light slightly in vacuum, therefore sometimes it is more useful to mean just maximum speed.

In chapters 4-10 [2] is shown, what the components of elementary particles move on circular orbits with light limiting speed, therefore principle of conservation of moment of momentum requires increase of a component mass with decreasing of radius of its orbit so that product $m \cdot r$ remained to a constant. Therefore on a circular orbit the particle can move with maximum speed. As all free bodies in the nature move on a screw trajectory, with increase of a running speed radius of this trajectory decreases, that is a reason of increase of a body mass. Apparently, that if the body could achieve limiting forward speed, radius of a screw trajectory would become peer to zero point, and mass of a body infinite. From here follows, that is impossible to achieve maximum speed at translational motion. At the same time speed of a body on a coil of a screw trajectory is the vectorial sum translational and tangential velocity and easily can overcome a boundary of maximum speed, coming nearer to value $C\sqrt{2}$, where C - speed of light.

Relativistic growth of electronic mass on atomic orbit

Official physics considers the formula of relativistic growth of mass suitable for all cases. New physics has shown, that at orbital motion of an electron its speed can reach speed of light at radius of orbit around of a nucleus r_0 = 386 fm (see chapter 5.1). At further decreasing of orbit radius the speed of an electron remains invariable, and mass grows under the formula:

$$m = m_e \frac{r_0}{r} \qquad (39),$$

where: m - relativistic electronic mass, m_e - mass of a not relativistic electron, r - orbit radius.

The graph of relativistic growth of electronic mass on orbit is shown on a figure 3 (compare to a figure1).

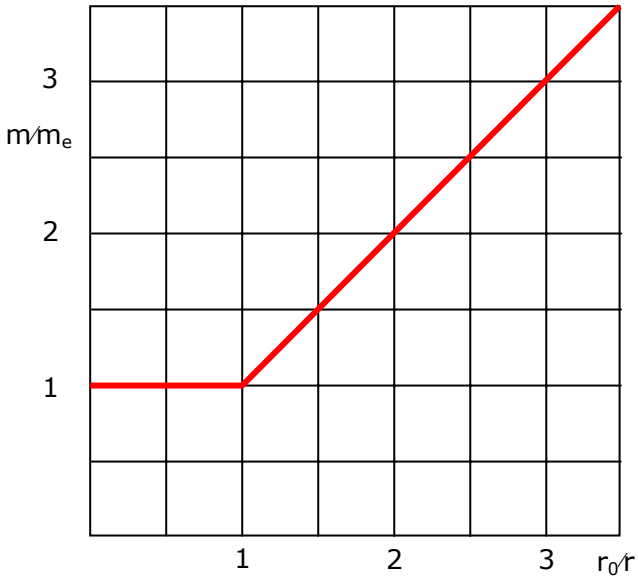


Fig. 3

Now it is interesting to look, what should be nuclear charge of a hydrogen-like atom, that the electron had orbit of radius 386 fm. For this purpose we shall take advantage of the formula (2.3) for radius of orbit in a ground state from [1]: $r = \frac{m_e \alpha^2}{Ze^2}$. Though it is unduly from the point of view of physical sense, we shall multiply numerator and denominator on m_e. Then in numerator there will be a square of angular momentum of an electron, but against mathematics we thus shall not sin:

$$r = \frac{\hbar^2}{m_e Z e^2} \qquad (40).$$

From (40) we shall discover Z:

$$Z = \frac{\hbar^2}{m_e r e^2} \qquad (41).$$

But $r_a = \frac{\hbar^2}{m_e e^2}$, where r_a - radius of first Bohr orbit, therefore:

$$Z = \frac{r_a}{r_0} \qquad (42).$$

By substituting in (42) numerical values, we shall discover Z = 137.

Thus, the relativistic growth of electronic mass on orbit of any conceivable atoms is impossible, therefore official physics makes the next error, when takes into account this growth.

Numerical concurrence of the found nuclear charge with reverse value of a fine structure constant not incidentally. The business that a running speed of an electron on orbit of the Bohr in 137 times is less than speed of light. To achieve speed of light, it is necessary radius of orbit of an electron to reduce in 137 times, then pursuant to the formula (40) nuclear charges need to be increased in 137 times.

Ultra relativistic area

Let's suspect, that we imparted to electron such large energy, that radius of a screw trajectory it has decreased that has coincided with classic radius of the electron. In this case speed of an electron, starting from radius instituted by expression (16) does not vary any more and is peer C, and for fulfilment of a law of conservation of angular momentum the product mr should remain a constant:

$$mr_e c = \hbar \qquad (43),$$

whence:

$$m = \frac{\hbar}{r_e c} = 1.0545727 \cdot 10^{-27} / 2.81794092 \cdot 10^{-13} \cdot 2.997924 \cdot 10^{10} = 1248.314 \cdot 10^{-28} \text{ g} \quad (44).$$

Rest-mass of an electron $m_0 = 9.109390 \cdot 10^{-28}$ g. Therefore, electronic mass on such orbit applicable orbit of elementary particles will be increased in:

$$m/m_0 = 137.03596 \text{ times} \quad (45),$$

i.e. corresponds to value, return fine structure constant (137.0359895). If (5.3.2) to translate in power units ($5.609586 \cdot 10^{26}$ MeV/g), we shall receive value of unit of a main quantum number (MQN, see elementary particles) in power expression:

$$12.48314 \cdot 10^{-26} \cdot 5.609586 \cdot 10^{26} = 70.02525 \text{ MeV}. \quad (46).$$

It is possible to count up electronic mass at reduction of radius of a screw trajectory up to r_e:

$$m = 0.5109991 \cdot 386.1594 / 2.81794092 = 70.025281 \text{ MeV} \quad (47).$$

The most precise power value of unit MQN can be received, by multiplying a rest energy of an electron on reverse value of a fine structure constant 1 MQN = 70.0252673 MeV.

As the particles in a free condition have an angular momentum $\hbar$, apparently, that the "exited" quantum conditions of the given particle will be aliquot to this value. Therefore, the energy levels of elementary particles will be aliquot 70.025 MeV or half of this value, if the orbital angular momentum any of a component is peer $\hbar/2$.

Technique of calculation of radiuses of orbit, bond energy, magnetic moment and masses of elementary particles

How to find bond energy of a elementary particle, was set up in section Relativistic growth of a particle mass, here only it is necessary to add, that in bond energy it is necessary to allow also for electrostatic interplay of components of a particle, though it by an essential image does not influence on bond energy.

The common angular momentum of a particle as a whole (main quantum number MQN) N is peer to the sum of moments of components on orbit of this particle:

$$N = \frac{1}{\hbar} \sum_i \hbar_i \quad (48),$$

therefore computational mass of any particle on orbit to equal radius of an electron is peer:

$$m_{cal} = N \cdot 70.0252673 \text{ MeV} \quad (49).$$

If the value m_{cal} differs from a substantial particle mass more, than on 35 MeV, it means, that our suppositions about a constitution of a elementary particle require elaboration or insecurely is determined MQN.

Comparing a calculating value of mass with experimental value, it is possible to make conclusions about additional repulsing or attraction of components, which one augments or reduces radius of orbit and results in decreasing or increase of a real particle mass.

Radius of any elementary particle

$$r = \frac{N\hbar}{mc} \quad (50),$$

where m - experimental particle mass. If it is a rest-mass of a particle, (50) will give updated value of radius of orbit of components of a particle, on which one it is possible to judge interplay of these components or return substitution in (50) to find precise value of a particle mass.

Apparently, that the majority of elementary particles will have radius, close classic radius of an electron. For calculations in a microcosmos it is convenient to use unit of spacing interval: 1 fm = 10^{-13} cm and mass unit expressed in MeV: $5.609586 \cdot 10^{26}$ MeV/g. 1 MeV = $1.60206 \cdot 10^{-6}$ ergs.

Let's substitute these values in (50) and we shall receive expression, where mass is expressed in MeV, and radius in fm, is convenient to use which one for any component of a particle or particle as a whole:

$$r_{fm} = 197.3271 \frac{N}{m_{Мэв}} \quad (51).$$

Magnetic moment of particles calculate under the formula:

$$\mu = \frac{e\hbar}{2mc} \quad (52),$$

where μ - magnetic moment in an erg·gauss^{-1}, e - electric charge in units of CGSE, m - particle mass, c - speed of light. By substituting in (52) $\hbar = mcr$ for relativistic area and $\hbar = m\alpha$ for not relativistic area, after transformation, we shall discover expressions, which one do not depend on masses of particles:

$$\mu_{nr} = \frac{e\alpha}{2c} \quad (53),$$

for not of relativistic particles and:

$$\mu_r = \frac{er}{2} \quad (54)$$

for relativistic particles.

For example, for an electron in not relativistic area on (54) μ_0 = 0.9274015·10^{-20} ergs·gauss^{-1}. To this value still it is necessary to add an own magnetic moment of an electron, but as the neutrino which is formed an electron relativistic, is necessary to use (5.4.7) substituting in it classic radius of an electron: μ_{own} = 0.006767576·10^{-20} ergs·gauss^{-1}. Piling both values, we shall receive: μ_e = 0.934169·10^{-20} ergs·gauss^{-1}. The relation of a magnetic moment of a mobile electron to a magneton of the Bohr will be: μ_e/μ_0 = 1.007297271. In process of increase of speed of an electron radius of a screw trajectory decreases, the own rotation a neutrino in an electron also is slowed down. At achievement of minimum not relativistic radius of a screw trajectory 386.1594·10^{-13} cm for one revolution of an electron on a trajectory a neutrino it also makes one revolution, i.e. the electron is gone as a solid and the additional contribution to a magnetic moment does not introduce. Then from (54): μ_{er} = 0.9274017·10^{-20} ergs·gauss^{-1}. In this case relation of a magnetic moment of an electron to a magneton of the Bohr will be: μ_{er}/μ_0 = 1.0000002. Thus, the magnetic moment of an electron with increase of its speed drops and when it becomes relativistic, its magnetic moment coincides a magneton of the Bohr. At further increase of energy of an electron its radius of a screw trajectory is inversely proportional of energy, accordingly and the magnetic moment will decrease sharply. For example, at energy of an electron 70.0252673 MeV (radius of a screw trajectory is peer to classic radius of an electron), its magnetic moment on (54) will be: μ_{er} = 0.006767576·10^{-20} ergs·gauss^{-1}, i.e. to coincide an own magnetic moment of a mobile electron. Then the relation of a magnetic moment of such electron to a magneton of the Bohr will make: μ_{er}/μ_0 = 0.00729735. Thus, the magnetic moment of particles is not a constant, and varies depending on radius of a screw trajectory of a particle or radius of orbit in a structure of other particles.

The experimentally retrieved magnetic moment of an electron μ_e is a little more magneton of the Bohr μ_0 in 1.0011616 times. Official physics considers a magnetic moment of an electron as abnormal (it should be peer to a magneton of the Bohr) and attracts for its explanation of notions about interplay of an electron with virtual particles of vacuum: "Abnormal magnetic moment of an electron. The radiospectroscopic researches have shown, that the magnetic moment of an electron is not peer accuracy to one magneton, and it is few more. The quantum electrodynamics has shown, that the increase of a magnetic moment of an electron is obliged to interplay of an electron with vacuum (physical space)". N.I. Kariakin etc., "Brief reference book on physics", "Higher School", M., 1962, page 354.

For new physics is apparent, that the electron, moved on a screw trajectory, with an angular momentum $\hbar$ will create a magnetic moment, equal magneton of the Bohr a plus a part of an own magnetic moment of an electron (with an angular momentum $\frac{\hbar}{137.0391}$). If the electron moved on a screw trajectory with light speed (as a photon), it would be turned to an axis of this trajectory always by one side, i.e. would move as a solid. In this case own magnetic moment of an electron would give the zero contribution to the common moment, since blade-swept by charges a neutrino the area is peer to zero point. In this case magnetic moment of an electron would be in accuracy peer to a magneton of the Bohr. As a neutrino in an electron moves with light speed, and electron on a screw trajectory with significant by smaller speed, a trajectory separate the neutrino will represent a variety of an epicycloid with blade-swept area of "electric current" $r_0^2/2$, instead of πr_0^2, and common

magnetic moment to correspond experimentally retrieved. This value coincides the correction of J. Schwinger to a magnetic moment of an electron: $(\alpha/2\pi)\mu_0$.

If we mechanically have added up a magnetic moment of an electron on a screw trajectory with an own magnetic moment, equal $\mu_0/137.0391=0.0072971\cdot\mu_0$, in the total would receive the overstated common moment $\mu_e=1.0072971\cdot\mu_0$. By the way to tell, the magnetic moments of the majority of particles "are anomalous", for example, for a neutron and proton. And irregularity last is not stacked in theoretical notions of orthodox physics, designed for an electron, that serves endorsement of an inaccuracy them.

With a magnetic moment of an electron it is necessary to be disassembled more in detail, since the notions of new physics differ from official physics in this problem sharply. Let's consider in the beginning nonrelativistic electron. For this case we shall use the formula (5) on which one a magnetic moment of an electron driving on a screw line, will be:

$$\mu_{nr}=\frac{V}{C}\cdot\frac{eR}{2} \qquad (55),$$

where V - tangential velocity of an electron (equal translational), C - speed of light, e - elementary charge, R - radius of a screw trajectory. An angular momentum of an electron on a screw trajectory:

$$\hbar = m_0 VR \qquad (56),$$

where m_0 - rest-mass of an electron. By substituting (56) in (55), we shall discover, that the magnetic moment of an electron in this case is peer to a magneton of the Bohr:

$$\mu_{nr}=\mu_0=\frac{e\hbar}{2m_0C} \qquad (57).$$

Now we shall consider a relativistic electron. For this case we shall use the formula (4). The similar calculations, allowing, that thus

$$\hbar = mCR \qquad (58)$$

will give:

$$\mu_r=\frac{e\hbar}{2mC} \qquad (59),$$

i.e. the magnetic moment of a relativistic electron μ_r already will depend on its mass and to decrease with increase of energy of an electron. The formula (59) can be received differently. The relativistic electron is gyrated on a screw line as a solid, making one revolution about the own axis for one revolution on a screw trajectory, because of impossibility component it a neutrino to move with superlight speed. Therefore it is possible to record for the first (outside) neutrino, allowing, that the charge a neutrino is peer $e/2$: $\mu_{1\nu}=\frac{e(R+r)}{4}$, where r - radius of an electron. For the second (internal) neutrino: $\mu_{2\nu}=\frac{e(R-r)}{4}$. The sum of the moments will be $\mu_\nu=\mu_{1\nu}+\mu_{2\nu}=\frac{eR}{2}$, whence, expressing R through an angular momentum of an electron (58) we shall receive (59). It is necessary to mean, that in a relativistic electron not only the wavelength de Broglie (radius and step of a screw trajectory) decreases, but the sizes of the electron decrease also, therefore magnetic moment of a relativistic electron is not fixed value, as it is represented to official physics. Now we shall discover an own magnetic moment of a nonrelativistic electron, allowing, that a neutrino in an electron moves with speed of light:

$$\mu_{own}=\frac{er_0}{4}+\frac{er_0}{4}=\frac{er_0}{2} \qquad (60).$$

Substituting in (60) values

$$\alpha=\frac{e^2}{\hbar C} \qquad (61)$$

- fine structure constant and classic radius of an electron

$$r_0=\frac{e^2}{m_0C^2} \qquad (62),$$

let's discover $\mu_{own} = \frac{e\hbar}{2m_0C}\alpha = \mu_0\alpha$, i.e. the own magnetic moment of an electron in 137 times is less than a magnetic moment on coils of a screw trajectory. The own mechanical moment of an electron, apparently, is peer:

$$S_{own} = m_0 C r_0 \quad (63).$$

The ratio of a magnetic moment (60) to mechanical (63) will make:

$$\frac{\mu_{own}}{S_{own}} = \frac{e}{2m_0C} \quad (64).$$

By substituting (62) in (60) and obtained expression for μ_{own} in (64), we shall discover:

$$S_{own} = \frac{e^2}{C} \quad (65).$$

The ratio of an own mechanical moment (65) to a mechanical moment on a screw trajectory $\hbar$ gives expression (61), that is natural. The formula (65) gives the answer to a riddle of a genesis of electric charge $e = \pm\sqrt{S_{own}C}$ - electric charge directly is connected to presence of an angular momentum neutrino in an electron or positron, at the end, with presence of an angular momentum the itself neutrino. Thus, the common magnetic moment of a "thermal" mobile electron equal $\mu_0(1+\alpha)$ = 1.007297μ_0 is more, than officially recognized 1.0011616μ_0 and obtained from the spectroscopic data (the almost relativistic electron) and decreases in inverse proportion to energy of an electron. The experimental endorsement it will deliver a modern quantum mechanics in an inconvenient situation.

Electron (positron) and neutrino

The constitution of an electron (positron) is already reviewed enough in detail. If the electron is on orbit of any particle, it saves value of an angular momentum of a mobile electron $\hbar$ and if an electron one on orbit, together with it on this orbit there is an antineutrino or neutrino for a positron (for example, neutron, muons). If radius of orbit is peer to classic radius of an electron, its mass increases up to 70.025 MeV. Thus the size of the electron on such orbit decreases in 70.0252673 / 0.5109991 = 137.0359895 times and becomes equal 2.81794092 / 137.0359895 = 0.02056351 fm. Electronic neutrino which is formed an electron exact as decrease in the sizes, and mass everyone a neutrino becomes equal 35.01263365 MeV ($\hbar$/2). In comparison with a mobile electron and free neutrino (ground state) their condition on orbit with radius to equal classic radius of an electron is their first exited state *N*=1. At *N*=2,3,4… the electronic mass will be augmented in a number of times, aliquot 70.0252673 MeV, and mass a neutrino will be increased in a number of times, aliquot 35.01263365 MeV. As the law of conservation of angular momentum requires that the product *mr* should remain to a constant, the radiuses of orbits depending on MQN will be determined by expression:

$$r_N = \frac{r_e}{70.0252673 \cdot \mathrm{N}} \quad (66).$$

From (66) it is visible, that at *N*=0 (ground states) radius of motion of a particle indefinitely large, but at preservation of an angular momentum is (customary $\hbar$), the running speed will be peer to zero point. At indefinitely large *N* (indefinitely large mass and energy of a particle) $r_N \to 0$.

The formal value MQN is easy for finding, by sectioning mass of a particle, interesting for us, (in MeV) on the power contents of unit MQN (70.0252673 MeV). If is received close to the whole value *N*, quantity a neutrino in a particle even, if close to half-integer value - is odd. However, actually energy levels of particles almost never obey in accuracy to expression (66). The differences will small and be conditioned by electrostatic interplay and miscellaneous interplay homomatter (matter - matter, antimatter - antimatter) and heteromatter (matter - antimatter). Thus, the indicated interplays sliver levels of energy instituted by expression (66) on series of sublevels depending on a concrete constitution of a particle and the value *N*, as at miscellaneous *N* the components are on miscellaneous spacing interval from each other, and their interplay is not proportional to spacing interval.

As for orbital motion of a particle with speed of light:

$$\frac{m}{m_0} = \frac{r_0}{r} \quad (67),$$

that:

$$r = r_0 \frac{m_0}{m} \quad (68),$$

where m - particle mass on orbit of radius r, and m_0 and r_0, accordingly, particle mass and radius of orbit of comparison, on which one these values are known or formally are determined, for example, under the formula (19). Using (68) always it is possible to introduce the indispensable corrections taking into account of a precise position of a power sublevel. For example, mass of a muon 105.658387 MeV. Through $2.19703 \cdot 10^{-6}$ sec it is disintegrated with probability about 100 % on an electron, electronic antineutrino and muonic neutrino. By sectioning mass of a muon on 70.0252673 MeV, we shall discover formal value N_f=1.508861. Computational mass of a muon from table 66 will be:

m_m = 70.0252673 + 0.25549955 + 35.01263365 = 105.2934005 MeV.

Whence calculating value MQN: N_m = 1.503649. In (68) it is possible to use ratio formal and calculating value MQN:

r = 2.81794092 · 1.503649 /1.508861 = 2.80820702 fm.

We have received updated radius of a muon. It slightly less than classic radius of an electron, that indicates some attraction between components of a muon. The increase of radius would indicate some repulsing. With accounting of obtained radius of orbit (68) will give value of mass of a muon precisely conterminous with experimental value. In the same way find radiuses of any other elementary particles in a state of rest. At motion of a particle, as whole radius it decreases and easily to count up it for relativistic and ultra relativistic particles.

The characteristics of an electron (positron) and neutrino are shown in table 1.

Table 1.

Particle	Electron	Electronic neutrino	Muonic neutrino
Angular momentum of a free particle	$\hbar$	$\hbar$ /2·137.035989	$\hbar$ /2
Mass of a free particle, MeV	0.5109991	4.828558 eV	661.68623 eV
Mass in a structure of an electron, MeV	-	0.25549955	-
Mass at orbital motion with radius of an electron N=1, MeV	70.0252673	0.25549955	35.01263365
Mass at N=2, MeV	140.0505346	0.5109991	70.0252673
Radius of a free particle, fm	2.81794092	depends on energy	depends on energy
Radius of a bound particle	Is inversely proportional to mass	Is inversely proportional to mass	Is inversely proportional to mass

The notice to table 5.5.1. To find mass a free neutrino, it is necessary to take into account that they move with speed of light in a free condition then, for example, mass the electronic neutrino will be:

0.25549955 / 137.035989 · 386.134 = $4.828558 \cdot 10^{-6}$ MeV,

and mass a muonic neutrino:

35.01263365 / 137.035989 · 386.134 = $661{,}686230 \cdot 10^{-6}$ MeV.

Earlier was retrieved, that radius a free electronic neutrino is peer to half of radius of a screw trajectory it.

On a figure 4 the energy levels of an electron (a), muonic neutrino (b) and electronic neutrino (c) are figured depending on *N*.

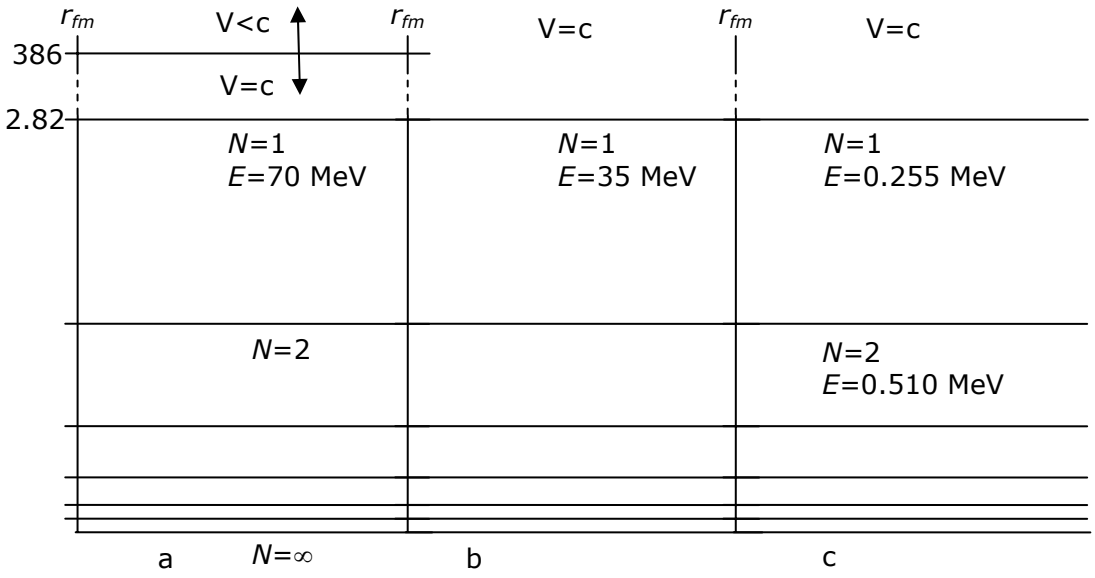


Fig. 4

Superfluidity and superconductivity

As the angular momentum of an electron on coils of a screw trajectory can not vary - it or is, or it is not present, at super-low temperatures (or in requirements of forfeiting of an electron of its angular momentum) we should watch discontinuous jump of properties of substances one way or another bound with presence of mobile electrons. At standard temperatures of such effects it is possible to reach, depriving electrons of an opportunity to move on a circular helix, for example, in hyperfine conductors, radius which one is significant less of wave length de Broglie of an electron at given temperature. The example of such superconducting framework with a current is served a molecule of a benzol.

Superfluidity and superconductivity from a point of view of new physics have the same reason - forfeit by particles of a moment of momentum on coils of a screw trajectory.

In first case is losses of the moment atoms of helium, and in second - electrons ($\hbar$ =0). The question is who to transmit this moment.

The atoms of helium transmit to its atoms of walls of a vessel, in which one there is a fluid helium, phase change of the second kind therefore is watched and in fluid helium there are as though two fluids, for which one the motion of atoms is basic variously. In helium I they move on segments of screw lines, and in helium II - on direct. Thus, not contradicting the double-fluid model superfluidity of a modern physics, most adequate to experiments, the new physics makes the same deductions, not attracting an official quantum mechanics. The transition of fluid helium in a superfluidity state is not accompanied by heat effect (phase change of the second kind or λ-transition), since at losses by atom of helium of an angular momentum on a screw trajectory the given atom becomes "cold", but its energy is transmitted to adjacent atoms and in the whole heat effect is not watched because of the law of conservation of energy. However, as the helium in a state of superfluidity represents an intermixture "cold" (with absence for atoms of an angular momentum) and "hot" (with an angular momentum, maintained for atoms) fluid, the mechanocaloric effect is watched. At flowing out *HeII* from a vessel through a narrow capillary tube in a vessel temperature is increased and, on the contrary, in a place of an inflowing *HeII* from a capillary tube in other vessel there is a cooling. At transition of helium in a superfluidity state, its thermal conduction is incremented, approximately, in 10^6 times and the mechanism of a thermal conduction differs from customary to many indications. This effect also is obvious: the atoms dispossessed of an angular momentum are look-alike to electrons of superconductivity.

The enunciated reason of a superfluidity of helium enables to influence this effect by the additives in fluid helium of molecules, which one as a whole or their parts would like hook a moment of momentum of atoms of helium. Apparently, what to receive effect of superfluidity at standard temperatures it is impossible, since the potential receivers of an angular momentum take it for not so much atoms, how many award with it. Apparently, only by gear transmission of atoms through channels, the diameter which one certainly is less than diameter of a screw trajectory it is possible to achieve any successes. That concerns also superconductivity in case of a motion of charged particles. In this connection there is a sense to put forward a hypothesis, according to which one in biological objects for a durable memory the insular electric currents of a superconductivity implemented at standard temperatures in molecular channels are responsible. For ^3He the connection between atoms is stronger, than the connection between atoms ^4He at the expense of a uncompensated of magnet moment of atoms, therefore losses of an angular momentum by atoms ^3He is impeded, since they should interact at once with many neighbors with major effective mass (on measuring a heat capacity $m_{eff}=3.1m$). Therefore transition temperature ^3He in a superfluidity state is lower (0.01^0K), than for ^4He (2.1^0K). For explanation of a superfluidity ^3He the official physics resorts to formation of superconducting pairs already from atoms ^3He, considering their fermions. Apparently, that at formation of superconducting pairs the system as a whole transfers in a more profitable energy state and this process should be accompanied by a heat liberation, i.e. the phase change of the first kind should be watched, that does not correspond to experimental data.

The electrons transmit it's the moment $\hbar$ to crystal defects or atoms of "impurity", and also the atoms of the basic crystal lattice, if do not have anything applicable more. Therefore transition temperature in a superconducting state of monocrystals of pure elements is very small. Physics of a microcosm, "Soviet encyclopedia", M., 1980, page 335.

From a point of view of orthodox physics the requalification of electrons from individualist-fermions ($\hbar=1/2$) in the collective farmers-bosons ($\hbar=0$) is completely impossible while the new physics considers, that the electrons, indiscernible on an angular momentum, (for all $\hbar=1$) are distinctive (part have $\hbar=1$, and part $\hbar=0$), i.e. state "of electronic gas" at a superconductivity similarly to double-fluid model of a superfluidity.

The effect of the Josephson on notions of new physics directly confirms losses by electrons of a moment of momentum in an appearance of superconductivity. The effect is watched at passage of a superconducting current through a layer of a dielectric or layer of metal in a normal state or in superconductors with waist (point contacts). If the current exceeds some critical value, there is a voltage drop U and the photons with energy $h\nu=2eU$ are radiated. The official physics considers, that the photons are radiated by superconducting pairs of electrons, which one are excited, and then radiate, transferring in a normal state. Such notion calls severe declaiming: 1. On a segment of a voltage drop the superconductivity misses, therefore superconducting pairs on this segment miss. 2. It is vague, how two electrons of a superconducting pair simultaneously can radiate one photon with summary exuberant energy of both electrons. 3. Allowing, that distance between electrons of a superconducting pair makes 10^{-4} cm, between them there is a huge amount of other electrons belonging to other pairs. In this case radiation by a given superconducting pair of a photon with energy $2eU$ seems even more improbable. 4. As the superconducting pairs all time fade and occur again, is not clear, how again born pair perceives an exited state previous, that in the total to accumulate exuberant energy $2eU$. The new physics explains a Josephson effect simply and without inconsistencies.

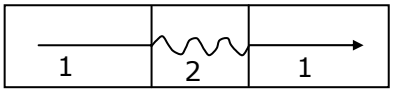


Fig. 5

The plan of effect is given in a figure 5, where 1 - superconductor, 2 - segment of normal conductance with a voltage drop on ends U. The electron in a superconducting state has not a moment of momentum $\hbar$ (is gone rectilinearly) radius of its trajectory is peer to classic radius of an electron $2.8\cdot10^{-13}$ cm, therefore crystal lattice of a

superconductor for it is practically blank space. Let's term such electron "cold". When this electron hits on a segment of normal conductance, it gains an angular momentum $\hbar$ from ions of a crystal lattice and its trajectory becomes screw with radius $2.3 \cdot 10^{-8}$ cm (average speed of heat motion of an electron at temperature by close to absolute zero about 500 kms/sec). Such electron we shall term "hot". Though the electrons because of minor mass practically do not import the contribution to a heat capacity of a solid body, nevertheless, on a segment of occurrence of "hot" electrons a little heat should be immersed at the expense of diminution of energy of ions. On a segment of normal conductance the electron gains energy at the expense of increase of a forward speed $\frac{mV^2}{2} = eU$. But the same energy it will gain and at the expense of increase of a tangential velocity on coils of a screw line. The total increase of energy at a motion in an electric field will make $mV^2 = 2eU$. Hitting again on a segment of superconductivity the "hot" electron again becomes "cold" at the expense of losses of an angular momentum on ions of a crystal lattice. Thus is heat stand out. Besides its exuberant energy or is radiated by a photon with energy $2eU$ or is diffused on ions without radiation. At transition in a superconducting state there is a paradoxical situation: than more electrical resistance of a conductor, is the more its inhomogeneity, the is more lighter to an electron to lose an angular momentum and to become "cold", therefore well conductive metals (argentum etc.) have not superconductivity. Besides the so-called isotope effect of a superconductivity is watched: $T_k \sqrt{M} = const$, where T_k - critical transition temperature in a superconducting state, and M - mass of an isotope. With other things being equal (in samples of isotopes of the same element) it is easier to more light ions to accept an angular momentum of an electron, than heavy, therefore formation of "cold" electrons is easier.

As the mechanism of formation of superconducting pairs contradicts bases of a quantum mechanics in a part touched of a constitution of atom, we shall analyze notions of official physics on superconducting pairs little bit more in detail. The superconducting pairs of electrons at superconductivity are stipulated by an exchange of two electrons by phonons (it is quasi-particles - as a matter of fact sound waves). Thus, the official physics separates lattice vibrations from the lattice and this fiction, any more not having physical sense, bonds electrons among themselves. How the sound waves can result in to an attraction of electrons moreover superior a long-range Coulomb repulsion? Why the exchange of phonons gives in an attraction, instead of to repulsion? The total impulse of a superconducting pair is peer to zero point. In pairs the electrons to an opposite impulse are related. How the electrons by means of phonons can be linked, if their velocity of heat motion approximately on two orders exceeds velocity of phonons - speed of sound in metal, and moves they in the counter sides? As the superconducting pairs of electrons become on notions of official physics bosons, all of them can be in an identical ground state. On this the logic a pair of *S*-electrons in atom too boson, therefore all electrons in atom should pairwise take a ground state that actually does not happen.

The losses by electrons of an angular momentum are accompanied also by other effects, for example, by effect Meissner - the superconductor becomes an ideal diamagnetic and the exterior magnetic field inside it misses. It is bound that the "cold" electrons ideally follow to a Lenz law and at the expense of activity of force of the Lorentz moves on a circle, compensating an external field. The "hot" electrons moves on a screw trajectory also can not completely to compensate an exterior magnetic field. At losses of an angular momentum the electrons lose at once seven degrees of freedom from 10 (see chapter "Birth and death of a photon" [2]), therefore to return them in a normal state the energy $3.5kT_c$ is indispensable. "Existence of such slot (power in a superconductor), having at $T \to 0$ breadth about $3.5kT_c$ (where T_c - the transition temperature in a superconducting state) gradually shrinking at temperature rise and disappearing at $T \to T_c$, was set on sudden change of absorption far infrared (or microwave) radiation in a superconductor at that moment, when the energy of quantums of this radiation hv became to equal breadth of a slot". R. Sproul, Modern Physics, M., 1974, page 313.

The exterior magnetic field instigates acquisition by electrons of an angular momentum at the expense of force of the Lorentz and at a sufficient intensity field the superconductivity fades. Apparently, that the energy impart by an external field should

make, for example: $E = 3.5kT_c\left(1-\frac{T^2}{T_c^2}\right)$, that the superconductivity has vanished. The dependence of a critical exterior magnetic field on temperature varies the same as also energy *E* (see, for example, Physics of a microcosm, M., 1980, page 335 and 347). It is known, that without an external field the appearance of superconductivity is not accompanied by heat effect. From a point of view of new physics it is understandable, since the electrons lost an angular momentum, transmit energy to a crystal lattice and the system as a whole does not lose and does not gain energy. The official physics here has problem, since at formation of superconducting pairs all system as a whole transfers in a more energy profitable state, that should be accompanied by a heat liberation. At presence of an exterior magnetic field the heat effect already will and should in precision correspond to additional energy *E*.

Here it is necessary to convert the special attention of the reader, that the current in a superconducting ring is watched without changes during a very long time. On a classic electrodynamics charge, uniformly moving on a circle should radiate electromagnetic waves and the current will be promptly stopped. Thus, the classic electrodynamics in a problem of radiation of electromagnetic waves is erroneous. The modern physics, iterating this error, negated the theory of atom of the Bohr also has gone on a way of a bedding of errors against each other.

Proton and photons

The proton has three particles: the positron and two photons (or, that is equivalent, two positrons and electron), therefore, for a proton *N*=3, since on orbit each particle has an angular momentum $\hbar$. The constitution of particles will be shown separately. Substituting in (51) values of mass of a proton *m*=938.2723 MeV, we shall discover its radius: r_p = 0.6308 fm. As radius of orbit of components of a proton was reduced as contrasted to "normal", equal classic radius of an electron at the expense of gravidynamic interplay in: 2.81794092 / 0.6308 = 4.46725 times, mass of these components has increased in as much times to satisfy a law of conservation of angular momentum:

$$70.025 \cdot 4.46725 = 312.819 \text{ MeV} \quad (69),$$

and mass of a proton as a whole will be 312.819 · 3 = 938.4575 MeV, that means, that inside a proton the minor additional repulsing acts. It is conditioned by that positively charged antineutrino in photons and in a positron look to rotation axis, i.e. spacing interval between positive electric charges it is a little less. Now we can find radiuses of a positron and photon (or electron) inside a proton and, thus to update its constitution under the formulas (67) and (68).

Substituting in (67) r_0= 2.81794092 fm, m_0= 0.5109991 MeV, *m*= 312.819 MeV, we shall discover: *r*= 0.0046032 fm. Thus, radius of a positron or photon in a proton decreases in 612.17 times. In the same ratio the radiuses a neutrino which is formed a positron and a photon decrease. Thus, proton same "empty", as the Universe, galaxy, atom or we with you. At the same time huge the gravidynamic moment of a proton organizes motion of particles around (baryons) in one plane, is similar, how the gravidynamic core will forms a spiral galaxy or rotated star a flat satellite system. The ratio computational to real mass of a proton makes:

m_p/m=1.000198, updated radius of a proton: 1.000198·0,6308 = 0.630925 fm.

The characteristics of a proton are shown in table 2.

Table 2.

Particle	Angular momentum of a free particle	Mass of a free particle, MeV	Mass in a structure of a proton, MeV (N=1)	Mass at N=2, MeV	Radius of a free particle, fm	Radius of a bound particle, fm
Proton	$\hbar$	938.2723	-	1876.5446	0.630925	-
Positron	$\hbar$	0.5109991	312.819	625.638	2.81794092	0.0046032

Photon	$\hbar$	Depends on energy	312.819	625.638	Depends on energy	0.0046032

The energy levels of a proton are shown on a figure 6.

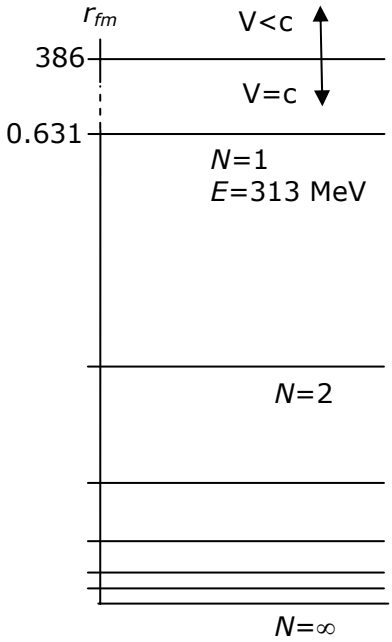


Fig. 6

Stability of microparticles

The microparticles (atoms, atomic nuclei and elementary particles) are stable only in the ground equilibrium condition. From any exited condition they spontaneously pass in the ground nonexcited condition. And, the stronger is the excitation, the further particle is from a ground state, the faster loses this excitation. Near to a ground state of a microparticle can be rather long time (metastable state). An exited state variously for miscellaneous microparticles. The atoms "expands" at excitation - electrons leave from a nucleus, the elementary particles on the contrary "contracts" - their constituent's moves on orbit of smaller radius and augment mass, therefore ground state corresponds to decay of a elementary particle on stable component. In atomic nuclei the ground state corresponds to a thermodynamic equilibrium between number of protons and neutrons, and the degree of excitation is determined by deviation from equilibrium composition of a nucleus, both in that, and in other side.

The exited conditions of atoms enough in detail are studied, therefore here on them to stop we shall not be.

Neutron and nuclei of atoms

Neutron. From all known elementary particles only neutron is in a minimum exited state, therefore metastable. The difference of masses of a neutron and proton, which one falls on an electron makes 1.29344 MeV (Physics of a microcosmos. "The Soviet encyclopedia", M., 1980, page 292). Under these data it is easy to find radius of orbit of an electron around of a proton in a neutron, i.e. radius of the neutron under the formula (68):

$$r_n = 2.81794092 \cdot 0.5109991 / 1.29344 = 1.113283 \text{ fm} \qquad (70).$$

Any other unstable elementary particles, as a minimum, contain an electron with mass not less than 70.0252673 MeV.

In the literature result a mean time of half-decay for a neutron from 624 sec up to 1040 sec. Such dispersion is clear, since the gentle exited condition of a neutron is removed by any gentle effect on it with transition in a ground state: $n^0 \rightarrow p^+ + e^- + \tilde{\nu}$. Therefore is more preferential to trust to a large half-life. If the mechanism of transition in a ground state for atoms more or is less clear, the mechanism of transition in a ground state of elementary particles - their decay, requires the special analysis.

That the neutron has dissolved to stable particles, apparently, that it should be imparted such energy, that the electron has gained an angular momentum $\hbar$ instead of the moment $\hbar \cdot \alpha$, where α - fine structure constant. As $\hbar = m_0 c r_0$, where m_0 - mass of a mobile electron, r_0 - minimum radius of a screw trajectory of a nonrelativistic electron, for decay of a neutron is necessary to reduce electronic mass on:

$$1.29344 - 0.5109991 = 0.7824409 \text{ MeV} \quad (71),$$

equal electron-binding energy with a proton. This energy is contained in the itself electron of a neutron, therefore spontaneous decay of a neutron is possible and for this purpose it is not required energy consumptions from the outside.

The found correlations for a neutron are easy for confirming by following calculation. Electrostatic energy obtained at approach of an electron with a positive proton up to spacing interval r_n = 1.113 fm (70) according to the formula:

$$E = e^2/r_n \quad (72)$$

is peer $2.073 \cdot 10^{-6}$ ergs, that correspond 1.294 MeV and coincides a difference of weights of a neutron and positive proton expressed in MeV.

Nuclei of atoms. In deuterium the electron is retains with two protons, therefore energy 0.7824409 MeV already has not enough for decay of deuterium and this isotope of hydrogen appears stable. For tritium two electrons are retained by three protons. Time of half-decay 12.33 years. Let's compare bond energy ${}_1H^3$ = 8.48215 MeV and ${}_2He^3$ = 7.71739 Мэв and we shall look at a constitution of these isotopes on a figure 7.

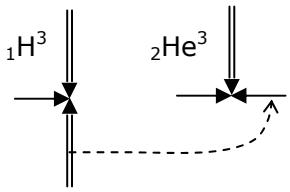


Fig. 7

At a radioactive decay the nucleus of tritium will reject an electron and antineutrino and will formed a stable nucleus ${}_2He^3$ in which one electron is retained by three protons. Is received, that in compared nuclei three protons do not change the position and the connection between them remains to a constant. Therefore difference in energies of connection of these nuclei is conditioned only by bond energy of one electron with a proton:

$$8.48215 - 7.71739 = 0.76476 \text{ MeV} \quad (73).$$

Compares (71) and (73) it is possible to make three important conclusions. 1. Energy of an electron in tritium slightly does not suffice to become free (0.7824409 – 0.76476 = 17.6809 keV), therefore time of half-decay of tritium is very great as contrasted to by decay of a neutron, and decay is possible only as a result of fluctuations of heat motion of nucleones of a tritium nucleus. 2. Energy of connection of electrons with protons in a nucleus practically is identical to any nuclei and is poor for free decay of neutrons of a nucleus. Thus, the nuclei of atoms introduce some similarity of metal inclusive "free" electrons, some of them do not belong to a particular proton. 3. Any nucleus can be esteemed as a system of protons, which one is contained definite quantity of electrons with energy close 0,78 MeV everyone. The similar consideration is convenient for analytical investigation of a nuclear interaction.

At excess of protons concerning equilibrium composition of a nucleus in it there should be electronic - positron pairs. They arise at motion of an electron near to a proton and the energy not less than 1.022 MeV is indispensable for this purpose. To an electron inside a nucleus does not suffice for this purpose 0.24 MeV, therefore transformation of protons in neutrons inside a nucleus is cumbered. In this connection, β^+-decay frequently is substituted by radiation of protons or electron-capture on orbit of atom, proximate to a nucleus. Thus, on stability of nuclei to a radioactive decay big effect is rendered by an electrons and positrons concentration in a nucleus, which one, in turn, is determined by a ratio of protons and neutrons.

Life time in inverse proportion to deviation from an optimal structure for nuclei:

$$\frac{n}{p} = 0,836 + 0,0473\sqrt{A} \quad (74).$$

If we shall plot relation of time of half-decay to number of exuberant or missing neutrons in a nucleus of the relatively most widespread isotope of the given element, the nucleus which one usually is steady with rare exception, we shall receive sharply decreasing time of half-decay depending on this number. But our relation will not be the smooth curve, and polyline, since at an even number of exuberant or missing neutrons the strength of a nucleus considerably increases, and at odd - drops.

Looking on the constitution of nuclei in the applicable chapters, we can at once point the most gentle place of a nucleus, i.e. the strength of nuclei concerning a radioactive decay is determined not in the whole nucleus, and dot "dislocation" on a surface of a nucleus. If the nucleus is symmetric, such place is impossible to point, therefore similar nuclei are stable. Last problem, is necessary to answer which one here, concerns isotopes with huge time of half-decay reaching billions of years. Official physics explains such decays by "tunnel effect". If to use the official theory of a tunnel effect for a considered case, it is necessary to operate with such digits, which one are not stacked in frameworks of common sense, therefore there is a necessity to give the single mechanism of a radioactive decay for any nuclei. If the small additional energy is necessary for decay, the decay goes no problem. But in rather strong nuclei of those isotopes, the structure which one is almost peer optimal, the considerable energy is necessary for spontaneous decay. An alone way "to collect" it for all nucleones of a nucleus and to concentrate on "dislocation". Naturally, that it should take place in stochastic process and for very short time, that the fluctuation was not dispersed again. Besides for a small number of nucleones in a nucleus the multiple repetition of this process can be demanded, with a condition that during repetitions the exuberant energy of "dislocation" is not lost. It reduces even stronger probability of decay, since "time of half-decay" of an exited condition of dislocation it is not enough. The probability of such event is insignificant, that it is possible to show by simple calculations; therefore time of half-decay very sharply is augmented with increase of missing energy. Schematic in an ideal the considered event is figured on a figure 6.1.2, where "dislocation" is indicated by a black point, and the transmitting direction of impulses by nucleones is indicated by arrows. From a figure it is visible, that it images practically improbable event.

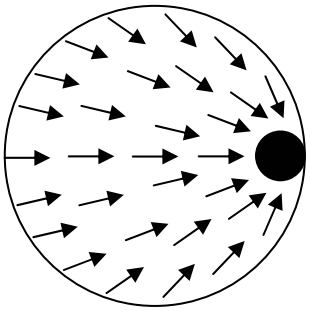


Fig. 8

Elementary particles

Life time of elementary particles in inverse proportion to their main quantum number (MQN), which one determines their exited condition. The decay of elementary particles takes place as a result of transition in a ground state (decay up to stable particles) at once or step-by-step, through intermediate conditions with smaller MQN (smaller excitation). The spontaneous decay is always ensured with internal large exuberant energy of components of a particle and does not require external energy for the implementation.

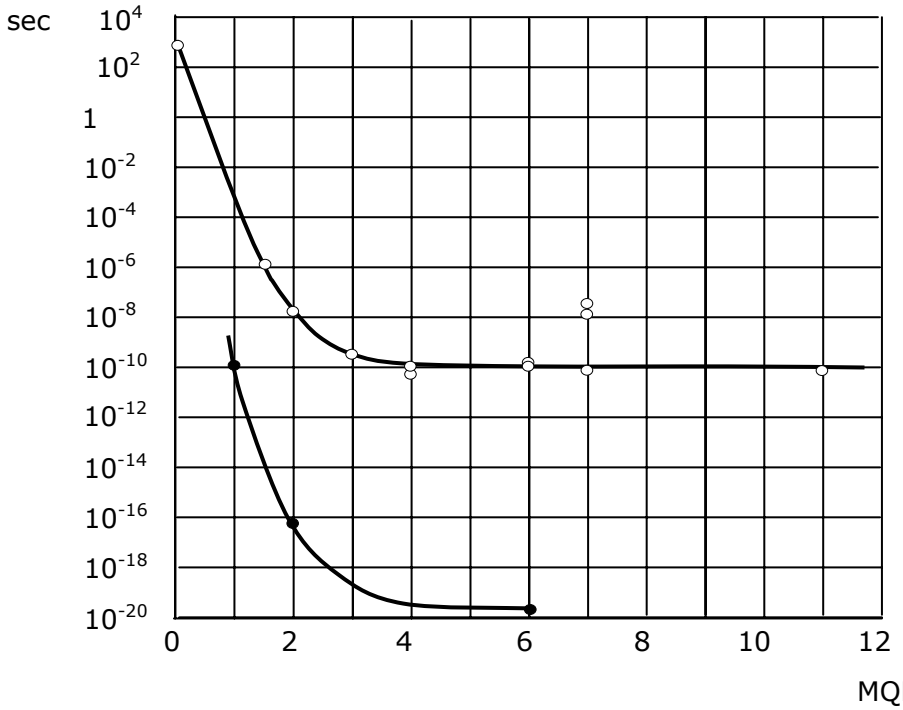


Fig. 9

Таким образом, представления новой физики о причинах распада ядер и элементарных частиц нашли свое подтверждение. On a figure 9 the relations of a life time of elementary particles to value MQN are shown for particles inclusive simultaneously an electron and a positron (black points) and remaining particles (white points). The first black point concerns to a para-positronium MQN which one equally 1, since orbits of an electron and positron will not formes one orbit. In baryons was allowed only MQN of particles on orbit around of a proton, as proton does not influence a life time of particles practically. For not quite clear reasons of a point for kaons $K^{\pm}$ and K_L^0 lies above intended to them by curve of white points. The white points correspond to particles (in brackets is indicated the value MQN): a neutron (1/137), $\mu^{\pm}$ (1,5), $\pi^{\pm}$ (2), Λ^0 (3), Σ^+ (4), Σ^- (4), Ξ^0 (6), Ξ^- (6), K_S^0 (7), Ω^- (11). The black points correspond to particles: a para-positronium (1), π^0 (2), Σ^0 (6). Here there is no sense to esteem a life time of "resonances" since they have time to be fall to pieces by not making and one revolution on orbit. Thus, the notions of new physics about reasons of decay of nuclei and elementary particles have found the endorsement.

FUNDAMENTAL PARTICLES

The electron, proton, photon, muonic and tau-neutrino is represented by complex particles consisting, finally, from an electronic neutrino.

Concerning the sizes of particles official physics has tangled finally. It martyred of an extremes - zero points («singularities») both perpetuities. The zero points and perpetuities are connected mathematically, for example, at the zero size of an electron the energy of its electrostatic field is indefinitely great. However, physically they of any connection among themselves have not since anywhere in the Nature do not exist. The originating of zero point or perpetuity means originating an irresolvable paradox and demonstrates an inaccuracy of those notions on the basis of which one there was this paradox. The good illustration said can be served with a well known religious paradox: «If the God all-powerful and almighty, he can create such rock, which one to raise can not». If not can create such rock, therefore, not almighty, and if will create, but can not raise - means not all-powerful. Apparently, that to a paradox result two perpetuities: «all-powerful» and «almighty», therefore they are erratic, but such God to nobody is necessary. Here it is interesting to mark, that as against the virtual God, the substantial man is capable easily to permit a described paradox, by creating a huge concrete rock, which one cannot be raised by arms, but it is easy to raise with the help of mechanisms. Nevertheless, conclusion from here does

not follow, that the man all-powerful and almighty, though he in many respects and has outmarched the God, fictionaled by him. The man can see atoms and far galaxies, has created a wheel, which one is not known in the Nature, can be moved in water, on water, on ground and by air is much faster than any other living creature, can see and to talk apart of thousand kilometers from each other and much, much another, all to not enumerate, but always there will be something, that the man can not.

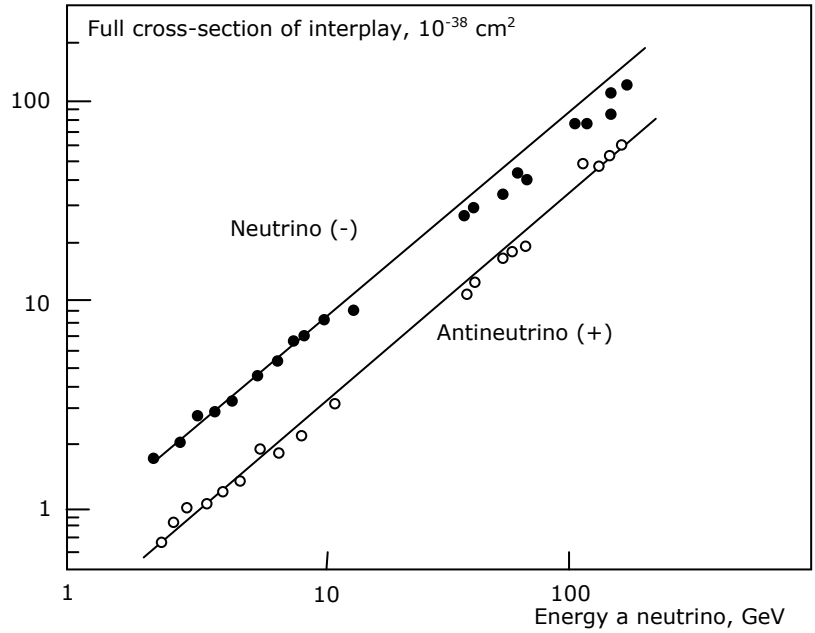
Thus, any mentions in the scientific literature on zero points (singularities) and perpetuities demonstrate falsehood of initial positions of a in question problem.

ELECTRONIC NEUTRINO and ANTINEUTRINO

From set up we shall see, that by electronic neutrino was exhausted not only electron, but also in general matter. Nay, how it will be clear from further, matter does not exist as substance and field, but only as a field, the most convincing evidence that is served capacity to interpenetration of particles brightly shown in smoothly varying transition from corpuscular to wave properties of photons with decreasing of their frequency. To the interchange mechanism of interplay in the set up theory was not found places. As the consequent it is necessary to reject and "virtual" particles and "vacuum, boiling by virtual particles," and quantum physics as a whole, grounded on a mathematical model as a Schrodinger equation being anything to diverse, as "by adjustment under the answer", especially successful, that enables only some individual solutions, i.e. does not enable substantial check.

In our world the energy of Big Bang is step-by-step transformed into substance and, similar, that it is enough of reserves for this purpose in the Universe still, since the number of photons in 10^9 times exceeds number of nucleons and accounts to the scientists, the free neutrino still as much, and range of their energies is very great.

"This particle can pass through all strata of the Earth, having zero-access small chances to impact with something on a path. At all events, it correctly for energies, with which one the neutrino is released at β-decay. ...Subsequently has appeared, that at high energies interplay the neutrino with substance strongly increases, therefore neutrino... It is possible to watch comparatively easily". Fundamental structure of a matter, "World", M., 1984, page 82.



In a figure borrowed from that of a source (page 146) the experimental data of interplay a neutrino with substance are shown, from which one it is visible, that this interplay grows linearly with increase of energy a neutrino. Just such increase of mass the neutrino guesses new physics. I have afforded in a figure to add values of electric charges a neutrino to point out, that the neutrino, having negative electric charge, interacts with positively charged nuclei of elements of substance rather stronger, than positively charged antineutrino.

Apparently, that at very large energies a neutrino both straight lines in a figure should to merge in one, since the charge a neutrino any more will not be essential to influence cross-section of interplay is directly it is visible on arrangement of experimental points, though the scientists have conducted straight lines parallel each other.

The neutrino has gravitational and electric charge, the gravitational charge grows synchrony with increase of energy a neutrino, thus the size the neutrino decreases, its density is augmented. If to take into account and that circumstance, that the neutrino has not any more components, it suggests that a neutrino and antineutrino represent formations, in which one the field form of a matter "passes" in substantial. In them gravitational and electrical field are indissoluble, and in ambient space the operating electrostatic and gravitational field, as different substances is provided. Mechanism of a long-range action remains by a riddle (see chapter "Charges and fields" [2]), a key to which one can be appearance gravidynamic and magnetic field at motion of charges and appearance of force of the Lorentz. At all events, any distortings of space can not arouse appearance of the operational force, and the figurative matchings as sagging of a sheet on which one are arranged massive bodies though are obvious, but can not by an adequate image mirror an actuality, since guess original presence of forces. As in old kind times it is better to consider space as container of things.

Carrier of energy of exited states in a world of microparticles is the photon, simultaneously being and mysterious graviton. Basically, it is interesting to observe destiny of a photon having ever less and less energy (further we find out, how the photon can "to grow old"). Thus a neutrino and antineutrino component a photon, are augmented in the sizes, radius of a photon is augmented, mass a neutrino and antineutrino decreases (in the whole photon electro neutral), radius and step of screw motion of a photon is augmented. More in detail about properties of a photon we look below.

The change of a magnetic field causes not change of an electrical field, and the displacement of electric charges and gravitational charges, inextricably related with them, under operating of force of the Lorentz exhibited, as an electrical field of induction, but actually those misses. Therefore change of a magnetic field causes as a matter of fact change of a gravidynamic field and on the contrary. It does not mean, that now in Maxwell equations for an electromagnetic field we should substitute parameters of a gravidynamic field (by the way, thus the equations will become symmetrical). That we consider with an electromagnetic field represents photons, about motion and properties which one later we shall talk more in detail. The modified Maxwell equations are indispensable for "photons" with a wavelength more than 1 mm and about it too still we shall conduct speech.

Now we can understand, than the electronic neutrino differs from an antineutrino. Esteeming operating of force of the Lorentz on electric charge a neutrino and antineutrino, we see (figure 10), that it acts in such a manner that the neutrino and antineutrino results in the extension.

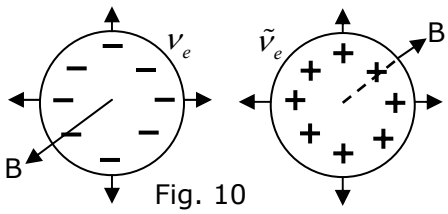


Fig. 10

For the coordination with the observed facts, it is necessary to admit, that the antineutrino has greater density, than the neutrino and pursuant to it, at the same parameters of motion, creates a gravidynamic field with the greater value of induction, that results in strengthening of gravidynamic interplay. Therefore positron should have radius of a little bit smaller electron and to be little bit stronger than it, then the proton should be much stronger than antiproton, than and the skew in the side of preferential formation of protons is conditioned, and preferential formation of electrons (since an antiproton "to create" it does not pay because of impossibility of coexisting with protons) is by a consequent of this process for maintenance of a common electro neutrality in view of identical quantity the neutrino and antineutrino. It provides a minimum of potential energy of the Universe as a whole.

For the answer to a problem: why so the neutrino differs from an antineutrino, we shall consider in the beginning abstract image of a centrally symmetric gravitation - electrical field without gravitational and electric charge, which one should be in center. Let's begin to gyrate this field around of an axis passing through center. On some spacing interval from rotation axis we always shall find out area, in which one field should move with light speed. It is uneasy to show, that this area will represent the thin-wall barrel, the axis which one coincides rotation axis. In this barrel all also will be massed gravitational and electric charge, and the surface density of charges will be inversely proportional to the sum $X^2 + R^2$, where X - spacing interval on generatrix of the barrel from a normal to center, and R - radius of the barrel. 90 % of value of charges will be massed apart $X \approx R$, thus density of charges on this segment is almost constant so, that the speech goes, practically, about a cylindrical ring of width $2R$. This barrel also will be a visual image a neutrino and antineutrino. Naturally, that at increase of energy of rotation, radius of the barrel decreases the same as also its effective length, that completely corresponds to earlier described properties a neutrino. The frequency of proper rotation a neutrino in an electron makes $6.08 \cdot 10^{24}$ sec^{-1}. In all figures relating to the image a neutrino in particles, the circumferences correspond to cross section a neutrino. On a figure 11 the neutrino and antineutrino is figured.

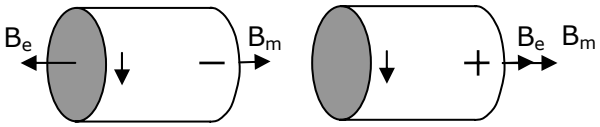


Fig. 11

They differ from each other by that the magnetic induction vectors B_e and of gravidynamic induction B_m for a neutrino are directed to the counter sides, and for an antineutrino - in one side. Thus, these particles are asymmetric also any transformations can not one of particles turn into another, except for a reverse sign of a charge, which one too is impossible. Therefore these particles can not be converted each other but only to be born by twos and annihilations that, in effect, is the basis of an energy conservation law.

The concept about antiparticles is entered formally and goes from an equation of the Dirac. The relativistic formula for connection of energy with a impulse of a free particle:

$$E^2 = p^2c^2 + m_0^2c^4 \qquad (75)$$

is outcome of two expressions: $p = mV = \dfrac{m_0 V}{\sqrt{1-\left(\dfrac{V}{c}\right)^2}}$ and $E=mc^2$. From (75) extract the root to find energy. Thus two values of energy are formally received: positive and negative, on the basis of that enter at the end concept about a positron. Here again by way jugglery by mathematics receive that is necessary, not caring about physical sense it jugglery: at a conclusion (75) to square expression for energy, and then extract from it square root. Let's take a certain value A. We shall it in to square and then we shall extract square root - formally we shall receive two values $\pm A$ and both they are valid. As under A it is possible to imply everything, reading this strings can not doubt, that he necessarily has double with opposite sign. The fallaciousness such the logic is obvious. For new physics the existence of antiparticles is apparent - at symmetrical replacement all a neutrino on an antineutrino and on the contrary we shall receive "antiparticle" from "particle" or on the contrary. If at such replacement of a new particle it is impossible, this particle has not an antipode.

Returning to a problem of "anti substance" and "anti-world" now it is possible to assert, that the substance always only one and anti substance does not exist; there is only miscellaneous sign of electric charge of this substance. The balance of a world and anti-world is as a matter of fact balance of electric charges and it is possible to reason only about electronic - proton or energetically less expedient positron - antiproton a world. Apparently, that electronic - positron, proton - antiproton a world to exist can not, since the minimum of potential energy in such world cannot be reached because of an annihilation of particles. By it the problem on "anti-world" is depleted.

As in our reasons. the substantial matter was depleted a neutrino, and the neutrino - rotated electro-gravitational field, will which one as a result of rotation forms mass and electric charge and, simultaneously, a magneto-gravidynamic field, there is a sense to assert, that this by four kinds of fields deplete all universe, and attempt to aggregate them in one field is absurd, while we do not learn an essence of fields.

As it will be visible from the subsequent analysis of properties and features of motion of photons, in any equations, the similar Maxwell equations in general do not have any necessity for photons with a wavelength shorter 1 mm. Allowing an intercoupling magnetic and gravidynamic of magnetic and gravidynamic fields on carriers of a field, we can reach a conclusion, esteeming a figure 11, that for an antineutrino the vector B_m is a little more, than same vector for a neutrino, therefore antineutrino will forms more strong a gravidynamic field.

Now, having before eyes an image a "living" neutrino, we can answer one of major problems - about the mechanism quantumness of an own moment of momentum a neutrino. From a figure 11 it is visible, that nothing hinders a free neutrino (or antineutrino) to merge with each other provided that the small barrier of electrostatic and magnetic repulsing between them will be overcome and the sizes of barrels will be strictly identical (the energy and mechanical moment is identical). In other words, the neutrino with double energy and double mechanical moment will be formed only from a completely identical initial neutrino. The sense quantumness of an own mechanical moment a neutrino consists of it. By addressing now in the applicable chapters to quantum conditions of a building material of planets of a solar System determining the same conditions and planets, we can make a common conclusion that the bodies to identical lengths of de Broglie waves stick together among themselves, that it is possible to interpret, as an interference of these waves. It is time to make one more world outlook conclusion: the neutrino, and, therefore, and any particles is absolute interpenetrative, "substance" in them is not present, but only the field form of a matter, and the fields are capable to dive each other unrestrictedly (principle of superposition of fields), all problem only in, whether the energy suffices to overcome a long-range action of fields. If the energy has enough, the passing of particles is through each other ensured, if energy does not suffice, we feel "bead", which one actually is not present. This conclusion is useful to us for exact comprehension of photons properties.

The famous formula of the Einstein $E=mC^2$ from the point of view of above-stated does not mirror a total energy of a body, and demonstrates only energy of motion of a body on a screw line. To receive a total energy, in it is necessary to add energy of proper rotation the neutrino (body), energy of orbital motion a neutrino in "elementary" particles, and also energy on formation electrical, gravitational, magnetic and of a gravidynamic field a neutrino. Therefore the formula $\Delta E=\Delta mC^2$ fair for processes which are not encompassing change of proper rotation a neutrino about the its axis will be more precise. In a record $E=mC^2$ the formula of the Einstein has simple physical sense of the sum of kinetic energy on coils of a screw line $mC^2/2$ and translational motion $mC^2/2$.

For a photon the formula $E=mC^2$ will be most exact, since component a photon a neutrino and antineutrino interact only electrostatic. From it is easy to receive the known formula for a photon $E=h\nu$, where h - the constant of the Planck, and ν - frequency of a photon. For this purpose we shall record an angular momentum of a photon:

$$\hbar = S = m_{ph} c r \qquad (76),$$

where m_{ph} - mass of a photon.

The wavelength of a photon is peer to a circumference of cross section of a screw trajectory:

$$\lambda = 2\pi \cdot r \qquad (77).$$

By multiplying and by sectioning a right part (76) on 2π, with the registration (77) and known ratio $\hbar = h/2\pi$ and $\lambda = c/\nu$, we shall receive $E=h\nu$.

If to take into account, that the angular momentum a free neutrino in $2 \cdot 137.0391$ times is less than an angular momentum of a photon, that, by conducting the similar calculations for a neutrino, we shall receive:

$$E_\nu = h\nu/274.0782 \qquad (78),$$

i.e. at the same energy the frequency a neutrino should be, approximately, in 270 times more frequency of a photon, accordingly, and mass a neutrino in as much time is less than mass of a photon of the same frequency. The following useful rule is simultaneously received - product of a particle mass on its "wavelength" there is a value a constant: $m\lambda =$

const. For a neutrino *const* = $8.0627 \cdot 10^{-40}$ g·cm. For particles moved with speeds of light and having a moment $\hbar$ from the de Broglie formula *const* = *h/c* = $2.21022 \cdot 10^{-42}$ g·cm.

Here will pertinent find some useful ratio for a neutrino. An angular momentum a neutrino in an electron $S = \hbar\alpha/2$ (1), where α - fine structure constant. Same this moment will be and for a free neutrino: *S=mcr* (2), where *m* - mass a neutrino, *c* - speed of light, and *r* - radius of a screw trajectory. On the other hand, apparently, that energy a neutrino $W=mc^2$, whence $m=W/c^2$ (3). By substituting (1) and (3) in (2), we shall discover: $r = \frac{\hbar\alpha c}{2W}$ (4). It is known (B.M. Javorsky, A.A. Detlaph, Course of physics, v.3, "Higher School", M., 1967, page 333), that $\alpha = \frac{e^2}{\hbar c}$ (5), where *e* - elementary charge. By substituting (5) in (4), we shall discover $r = \frac{e^2}{2W}$ (6), accordingly "wavelength" a neutrino: $\lambda = 2\pi r = \frac{\pi e^2}{W}$ (7). Radius the neutrino is possible to find similarly, how find classic radius of an electron: $r_0 = \frac{e^2}{m_e c^2}$ (8). Allowing, that a charge the neutrino is peer *e*/2 and substituting in (8): $r_\nu = \frac{e^2}{4mc^2}$ (9). As mc^2 is an energy a neutrino *W*, comparing (9) with (6) we shall discover, that radius the free neutrino makes half of radius of a screw trajectory it.

All described features of motion and the interplays of charges give us clear outlooks for hooking up of the mathematical apparatus so that the common sense again has not appeared in a captivity of this powerful tool. Some delicacies we have missed out from consideration. For example, it is possible to show, that for a neutrino driving on orbit, the rotating axis is inclined to orbital plane similarly, how we it is observed for planets. This slope is "remainder" of motion a free neutrino on a screw line. We nor esteemed bound with this slope of precessional movements, this problem will be reviewed at arguing polarization of light.

Detection a neutrino with low energy

In section ELECTRONIC NEUTRINO and ANTINEUTRINO the parameters a neutrino are found. In particular is shown, that radius the free neutrino makes half of radius of its screw trajectory. The free neutrino with energy 1 eV and cross-section of its screw trajectory is shown on a figure 12 (under the formula (78). Alongside for matching shown by a red point atom of hydrogen in a ground state which one in 13.6 times less neutrino. At energy a neutrino 13.6 eV its size is peer to the size of atom of hydrogen.

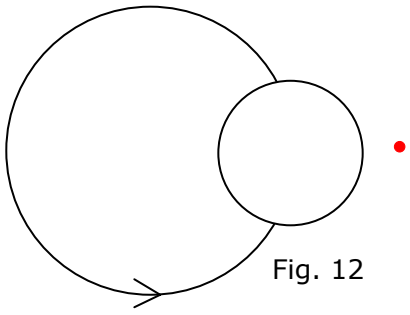


Fig. 12

Thus, neutrino (and the photons) with low energy can be largest on the sizes elementary particles in a microcosmos. That the size a neutrino has become to the equal size of an electron, its energy should make half of rest energy of an electron (0.255 MeV). If to take into account and that circumstance, that the neutrino has only half of elementary electric charge, becomes apparent, that it cannot be found out. At passing through matter the neutrino is not capable it to ionize since electrostatic intensity on its boundary is minute, and inside neutrino of a field misses. The neutrino is not capable to leave at all after itself a polarization track, as it is made by photons, therefore it has an extremely high penetrating

power. It seems, that by an alone capability of detection the neutrino with low energy is usage of rydberg atoms (see chapter 13.5 [2]).

The occurrence of lasers has made possible multiphoton radiation absorption by atoms. Thus the atom has no time to remove the previous exited state, as again absorbs a photon. In outcome the electron of atom accumulatives aliquot value of a moment $n\hbar$, radius of its orbit is augmented proportionally n^2, as a consequent, the energy levels of atom are inspissated far from a ground state and the electron-binding energy with atom at n = 1000 becomes equal 10^{-5} eV (N.B. Delone. Rydberg atoms. Soros Educational Journal, № 4, 1998, page 64). For matching, mean energy of atoms of gas at room temperature in one thousand times more. Therefore rydberg atoms are ionized at slightest effect on them (even by long wave radiation). Allowing, that rydberg atoms are metastable also have a mean time of life about 10 sec before spontaneously to pass into a ground state, their usage for detection a neutrino with low energy is represented ideal. A neutrino, despite of minor electrostatic interplay, are capable to ionize rydberg atoms. For detection a neutrino with minimum energy, apparently, the extreme low temperatures and extreme high vacuum in a system are indispensable. That circumstance is very convenient, that by multiphoton occluding it is easy to receive atom in a desirable degree of excitation (at definite n). Therefore there is a principled capability to find out a neutrino not only on ionization of rydberg atoms, but also to locate position tracks a neutrino and photons even in an expansion chamber. Naturally, that thus the electron-binding energy in atom should be comparable to energy of heat motion of molecules of gas or liquid in an expansion chamber or more it. Thus, with the help of rydberg atoms the detection a neutrino in a broad band of their energies is possible.

ELECTRON

Own mechanical moment of an electron it is a lot of less its orbital moment or equal to it of the moment of a mobile electron on coils of a screw line. From an experimental data it is possible to suspect, that the own mechanical moment of an electron is less than its orbital moment $\hbar$ in $1/\alpha$ = 137.0391 times, where α - fine structure constant. Almost same value (137.05) we shall receive, by sectioning a magneton of the Bohr on a magnetic moment obtained from (4), by substituting in it classic radius of an electron, since the magnetic moment is a consequent of a mechanical moment electrically charged particle (elaborations will follow below).

The same own mechanical moment («informal» spin) electron we shall receive, allowing, that at any level in atom of Hydrogenium including in a ground state the electron is gone with «by the first solar escape velocity» concerning a nucleus, the ratio of this speed to speed of light is equal to a fine structure constant 1⁄137,0371. The interplay of the own moment of an electron with the orbital moment also is exhibited as thin structure of spectral lines.

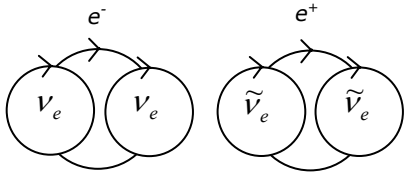


Fig. 13

Already it is possible to anticipate (in further it will be confirmed), that an electron (the figure 13) represents an electronic neutrinos, rotated around of common center, and the positron, accordingly, antineutrinos, that is determined by gravidynamic interplay and is confirmed by presence of an own moment of momentum.

Mass ν_e in an electron we shall consider to an equal half of electronic mass in the supposition, that mass a free neutrino is very small $m_\nu = m_e/2$. The mechanical moment, coming on one a neutrino, will be twice less own moment of an electron: $S_\nu = \dfrac{\hbar}{137.0391 \cdot 2}$. By substituting these values in (8), we shall discover radius of an electron and positron (concerning a positron of elaborations will follow below):

$$r_{e^\pm} = 2.81785 \text{ fm} \qquad (79),$$

which one coincides classic radius of an electron:

r_0= 2.81785±0.00004 fm.

Thus, we have confirmed, that radius of an electron and positron in a free condition is peer to classic radius, and it was made by a completely independent way.

Classic radius of an electron can be found and analytically, outgoing from a moment of momentum of a mobile electron equal $\hbar$ (but not $\hbar/2$). Apparently, that an angular momentum of a mobile electron at motion on a screw line in $1/\alpha$ ($\alpha = \frac{e^2}{\hbar C}$ - fine structure constant) times more own angular momentum of an electron: $S=m_0Cr_0$, where m_0 - rest-mass of an electron, C - speed of light, r_0 - classic radius of an electron. Thus, it is possible to record: $\frac{\hbar}{S} = \frac{1}{\alpha} = \frac{\hbar C}{e^2}$, whence $r_0 = \frac{e^2}{mC^2}$, where e - elementary charge.

In connection with all previous presentation it is possible completely unhesitatingly to assert, that mass a free neutrino is different from zero point, though it can and not have "rest-mass", i.e. always is gone with speed of light. Otherwise any of a gravidynamic field it to create can not, therefore, can not go into a structure of particles that contradicts to the experimental facts, for example, the decay of a neutron. "If the neutron originally was in rest, its impulse should be peer to zero point; however measured impulses formed at its decay of a proton and electron in the sum does not give zero point". R. Sproul, "Modern Physics", "Science", M., 1974, page 490. This fact indicates that formed at decay of a neutron the antineutrino has an impulse, i.e. mass and speed.

"The experimental curves demonstrate, that m_ν/m_0 (where m_ν - mass a neutrino, and m_0 - electronic mass - V.K.) is close zero point, but is not equal to it". N.I. Kariakin etc., "Brief reference book on physics", Higher School ", M., 1962, page 462. "The experiment gives, that $m_\nu/m_0 < 1/2000$". Ibidem, page 463.

"We do not know, for what reason of masses neutrinos should strictly equal to zero point and our today's notions speak faster that they are different from zero point". And at the end of the same paragraph: "The modern theories of Great association for fundamental interplays go further away, guessing, that the masses a neutrinos can have values of the order 1 eV". Fundamental structure of the matter, "World", M., 1984, page 216.

Mechanical moment a free neutrino, as it is visible from a constitution of an electron is peer $\frac{\hbar}{2\cdot 137.0391}$. From the formula (11) is easy to find "rest-mass" the free electronic neutrino. As for a relativistic case the particle mass is inversely proportional to radius of its orbit: $m_\nu = \frac{m_e r_e}{2r}$, where r - radius of a screw trajectory a free neutrino. For a spectral line of hydrogen H_α= 6562.784·10^{-8} cm $r = \frac{\lambda}{2\pi}$ = 1044.499·10^{-8} cm.

Then m_ν= 0.510999·10^{6}· 2.81785·10^{-13}/2·1044.499·10^{-8} = 6.893·10^{-3} eV.

For the free neutrino can be any energy and, accordingly, mass. It is possible to be convinced of it, by reading below about teleportation of a photon.

Let's consider two experiments, which one orthodox physics considers as the evidence of rightness of the views concerning a spin and magnetic moment of an electron, and new physics sees in these experiments endorsement its of the notions.

Experiment Stern and Gerlach. The bundle of atoms of hydrogen in vacuum in an inhomogeneous magnetic field created across a traffic route of atoms is slivered on two bundles. The calculation demonstrates that the value of cleavage corresponds to a magnetic moment of atom, equal magneton of the Bohr.

The magnetic moment of atom of hydrogen will be peer to a magneton of the Bohr (formula 6), as the mechanical angular momentum both free, and bound in atom of hydrogen of an electron is peer $\hbar$. Therefore in an inhomogeneous magnetic field the bundle of atoms of hydrogen will be slivered on two: one with a magnetic moment, directional on a field, and another - against a field. Orthodox physics makes opposite conclusions of this experiment. "As for atoms of hydrogen in a ground state at n=1 orbital quantum number l=0, the orbital magnetic moment in this case misses. Therefore, the cleavage is explained to that the magnetic moment of atom as a whole is conditioned by an

own magnetic moment of an electron. It is confirmed as well by that pursuant to two possible projections of a spin to a direction of intensity magnetic field the cleavage on two bundles is received. If the cleavage was caused by an orbital magnetic moment, the bundle should be splitted on odd number of bundles pursuant to possible number of projections of an orbital moment of momentum on a direction of intensity magnetic field, equal 2*l*+1". G.E. Pustovalov, "Atomic and nuclear physics". Publishing House of the Moscow University, 1968, page 79.

The magnetic moment should be peer to half of magneton of the Bohr, since official physics receives an own angular momentum of an electron (spin) equal $\hbar/2$. Nevertheless, for explanation of the experimental facts official physics considers (hypothesis of Goudsmit and Uhlenbeck), that the value of an own magnetic moment of an electron μ_s is peer to a magneton of the Bohr. Ratio it to a spin they tender to make twice more, than it should be under the formula $\frac{\mu}{M} = \frac{e}{2mc}$ for a charge *e* in mass *m* driving on any orbit, i.e. $\frac{\mu_s}{M_s} = \frac{e}{mc}$, where M_S - an own mechanical moment of an electron. Thus, the hypothesis of Goudsmit and Uhlenbeck is apparent outrage of common sense in a name of saving of a half-integer spin and quantum mechanics as a whole.

In experiments Stern and Gerlach the magnetic moment of an electron would need to be determined directly, skipping an electron beam through an inhomogeneous magnetic field and to indemnify arising force of the Lorentz by electrostatic field declinatory electrons in other side. Thus it would be possible to watch also bifurcation of an electronic beam pursuant to a magnetic moment of an electron, equal magneton of the Bohr, more precisely, equal 1.0072971 μ_0, since the electron "thermal" and its magnetic moment on a screw trajectory is completely sum up with an own magnetic moment. Radius and step of a screw trajectory of such electron considerably exceed radius of orbit of an electron in atom, therefore deviation in an inhomogeneous magnetic field should be more, than for atoms. From the point of view of official physics any the deviation of an electron beam should not originate (if the force of the Lorentz is precisely balanced electrostatic) as the sizes of an electron are very small also discontinuity of a field compared on the sizes to an electron is impossible to create. The positive outcome of such experiment will be to straight lines endorsement of motion of microparticles on a screw line.

Experiment of the Einstein and de Haas. These explorers watched twisting at magnetization reversal of an iron rod hanged on a thin thread. The official explanation of experiment is those: "At magnetization reversal elementary magnet in a rod change direction the magnetic moments on opposite. Thus change the direction and their moments of momentum. As the full moment of momentum of a rod thus should remain a constant, the rod comes in rotation. The outcomes of experiment demonstrate, at first, presence of a moment of momentum for elementary magnet and, secondly, that the ratio of their magnetic moments to moments of momentum is determined by the formula: $\frac{\mu_s}{M_s} = \frac{e}{mc}$ i.e. same, as for electrons. Thus, from this experiment follows, that the ferromagnetism is conditioned not by orbital motion of electrons ("by molecular currents" of Ampere), and presence for electrons of an own magnetic moment". (G.E. Pustovalov, "Atomic and nuclear physics", Publishing House of the Moscow university, 1968, page 79-80).

Unfortunately, in the literature the end results of experiment of the Einstein and de Haas are described, instead of, how they have received them. Apparently, that the selection of an iron rod as an studied system in this experiment is extremely unsuccessful, since does not allow uniquely to interpret outcomes. It is known, that the ferromagnetics (iron) have separate microscopical ($\sim 10^{-4}$ cm) areas (domains), which one are magnetized before saturation and at magnetization reversal on a field will be oriented not magnetic moments of separate atoms, and whole areas of spontaneous magnetizing. Besides in an electro conductive material at magnetization reversal there are ring-type eddy currents of a compensatory direction, the large number of electrons participates simultaneously in which one. These currents result in a considerable dissipation of energy. Here it is possible to add and that atom iron is complex is arranged and in its constitution there is no full clearness even for orthodoxes. Is not clear, how in such conditions it was possible to receive any concrete outcome, and if it is obtained, is vaguely, that it means. It would be better to investigate a rod from a diamagnetic material, for example, water as ice, you see on official

notions the rod from any material should be twisted, since in any matter there are electrons and all with an own magnetic moment. It is necessary to the reader also legibly to imagine, that though the hypothesis of Goudsmit and Uhlenbeck about a spin of an electron contradicts notions of itself official physics (that it was valid it is necessary, that or the charge of a driving electron has become somehow twice more, or the electronic mass has decreased twice). At the same time it is a corner stone of a modern physics, though from figurative notion of a spin for many reasons, including on considered, it was necessary to refuse. If will appear, that the own moment of an electron is not peer $\hbar/2$ (at an own magnetic moment to an equal magneton of the Bohr), the destruction up to the basis of all building of a modern physics is inevitable.

If to substitute official value of an angular momentum of an electron in (11), we shall receive, that the electron will be gyrated with light speed, having incredibly huge radius in 193.6 fm, which one exceeds the sizes of nuclei of high-gravity atoms. Its any decreasing should result in to relativistic increase of a rest-mass of an electron that too does not correspond to experimental data.

Recording an own mechanical moment of an electron: $\frac{\hbar}{137.0391} = m_e V r$ and substituting electronic mass and its radius, we shall discover, that a neutrino in an electron moves with light speed. It is possible to make from this some conclusions. At first, the electron is gyrated as a solid, i.e. for one revolution on orbit a neutrino makes one revolution about the axis (are turned to rotation axis of an electron always by one side). Secondly, all constituents of "elementary" particles moves or with speed of light, differently total mass of a particle will be peer to the sum of masses of parts, component it, that contradicts experiment. Thirdly, any movement of a fixed electron will be caused to relativistic increase of its mass, since by a neutrino in an electron already moves with light speed.

As a neutrino in an electron is gyrated as a solid, the formula (36) in this sense will be exact, since proper rotation the neutrino is possible to leave out. However pay attention that we begun to move a "fixed" electron for which one there is absent a mechanical moment $\hbar$, i.e. the electron as a whole is gone not on a screw line, and linearly. But such motion of an electron is impossible, since at motion of an electron on a screw trajectory its forward speed is peer tangential, therefore real relation of electronic mass to speed will be complicated, since to a impulse m_0C the impulse mV will be added. Thus, the experimental curve of relation of electronic mass from speed consists as though of two curves. One (at $m_0C>mV$), at relatively small speeds, is described by the formula (36). Second (at $m_0C<mV$) is described by other relation. Apparently, that by a transition point (in a figure 1 I have designated it by a dagger) from one relation to another there will be a condition: $m_0C=mV$. By substituting instead of m in this condition the formula (36), we shall receive: $V = C/\sqrt{2}$ =0.707·C, $m = m_0\sqrt{2}$ =1.414· m_0. Twist a figure 1 and look along branches of a curve to be convinced that the curve consists of two parts.

If bundle of atoms of hydrogen driving with speed close to speed of light to skip through a homogeneous powerful magnetic field, the planes of orbits of electrons will lie perpendicularly to field. Thus the electron, moving on orbit in a direction of atom motion, is compelled to augment mass, since can not move more speed of light, but in the second half of orbit a running speed the neutrino in an electron is subtracted from a running speed of atom, that will cause to decreasing electronic mass. In outcome orbit of an electron in a strong degree is distorted, that it is easy to determine by spectroscopic methods. Simultaneously such experiment will confirm also other conclusions of new physics distinguished from orthodox.

Summing up reason about mass it is possible quite definitely to state, that mass arises only there, where a particle as a whole or its constituent moves with speed of light. Thus mass will be inversely proportional to radius of orbit of a particle at the same mechanical moment it. If the constituents of a particle moves with speed are less than speed of light, it can not have any mass, therefore, can not exist in general. Then is apparent, that the particles having a rest-mass necessarily have components, not possessing a rest-mass in the sense that they always moves with speed of light (as much as small, but mass nonzero they should have, therefore their speed is less limit). Therefore, for example, the motion of an electron on a screw line causes increase of electronic mass only at the expense of motion a neutrino in an electron with light speed. In itself motion on coils of a screw line can not

add mass to an electron as whole, as it takes place to speed less light. Therefore motion of free particles adds mass to not particles as such, but only to their constituents already driving with speed of light. On this basis the running speed of particles can not exceed speed of light. The speed of light limits not by environment (vacuum) or space, and driving body - relativistic increase of mass, bound with its absolute speed in space.

Substituting (10) in (36) and allowing, that $r_0 = \frac{S}{Cm_0}$, where r_0 - classic radius of an electron, S - own mechanical moment of an electron, C - speed of light and m_0 - rest-mass of an electron, we shall discover relation of radius of an electron to its forward speed (with the same limitations, what we made for relation of mass to speed):

$$r = r_0\sqrt{1-\left(\frac{V}{C}\right)^2} \qquad (80).$$

Now there is a understandable futility of attempts of orthodox physics to determine radius of an electron. Being in a captivity of an indeterminacy relation of the Heisenberg, official physics requires increasing energy of an electron to determine its size. Thus radius of an electron "escapes" to zero point faster, than the explorers come nearer to definition of the size of an electron. The relativity theory requires dotty of elementary particles, but the experiments indicate all more persistently presence of an inner structure them, therefore official physics in a problem of the sizes of particles is in a condition of a full bewilderment.

Apparently, that the concept stippling of particles is dispossessed of physical sense, since such particles have not the sizes, therefore to get each other in essence can not.

To this it is possible to add, that as the attempts to break an electron or proton on the constituents are vain, imparting huge drop energy by it before impact. The strength them "crowds" is much faster (at the expense of decreasing radius and sharp increase of gravidynamic interplay of the constituents), than shattering capacity. Even the unstable particle considerably augments a life time with increase of speed, though orthodox physics is inclined to consider, that this fact confirms deceleration time in driving bodies. Therefore all particles driving with speed of light are certainly stable (electronic, muonic and other kinds a neutrino, photon). "One of methods of experimental check of deceleration of time is the research of relation of a life time μ-mesons from their energy, i.e. speed. The experiment has shown, that the life time driving μ-mesons grows with increase of their speed (energy) pursuant to the law of deceleration of time". N.I. Kariakin etc., "Brief reference book on physics", "Higher School", M., 1962, page 313. This law of deceleration time on the theory of the Einstein: $\tau = \frac{\tau_0}{\sqrt{1-\frac{V^2}{C^2}}}$, where τ - time on fixed hours, and τ_0 - the time on hours, is hard by bound with a body. New physics interprets this formula as follows. As mass of a driving body (formula 36) grows precisely on the same relation, also increase of gravidynamic interplay of a components elementary particle, i.e. its strength will correspond to this formula. Then τ_0 - life time of a fixed particle, and τ - driving particle. Thus, neither these experiments, nor similar it, ostensibly verifying change in course of time, can not serve unconditional endorsement of a special relativity theory. With that by success they confirm views of new physics.

For bound particles driving on circular orbits in one plane in a structure more of composite particles a situation essential diverse. Here impulse of two neutrinos in an electron equal m_0C is directed to the same side, as the impulse of motion of an electron as a whole on a circular orbit mV and summary impulse a neutrino will be mC. From here relativistic increase of mass of a components particle on a circular orbit will be:

$$m = \frac{m_0}{1-\frac{V}{C}} \qquad (81),$$

i.e. the relativistic increase of a particle mass on a circular orbit takes place much more quick, than at translational motion of a particle. Multiplying V and C on r and allowing, that

$Vr=\alpha$, where α value a constant, equal $\alpha=\frac{S}{m_0}$, we shall receive the formula of connection of relativistic mass of a compound particle with radius of its orbit for radiuses more critical, instituted by the formula (11):

$$m=\frac{m_0}{1-\frac{\alpha}{Cr}} \quad (82),$$

where m_0 - rest-mass of a particle, r - radius of orbit, C - speed of light. The formula (82) formally enables negative value of mass at radiuses of orbit of a particle less critical, therefore large request to mathematical-physical perverts to not use this fact contrary to common sense.

Connection of electron classic radius with radius of the Bohr first orbit

On notions of new physics the angular momentum free and bound in atom of an electron is identical owing to a law of conservation of angular momentum and is peer $\hbar$:

$$\hbar=mv_0r_0 \quad (83),$$

where: m - electronic mass, v_0 - speed of an electron on first orbit of the Bohr, r_0 - radius of first orbit of the Bohr.

On the other hand, is shown, that the own moment of an electron («spin») is peer not $\hbar/2$, as official physics considers, in 137 times there is less angular momentum free or orbital electron:

$$\hbar\alpha=mcr_e \quad (84),$$

where: α - fine structure constant, c - speed of light, r_e - classic radius of an electron.

(83) we shall substitute in (84):

$$\alpha=\frac{cr_e}{v_0r_0} \quad (85).$$

Orbital velocity of an electron v_0 we shall discover by an only classic way from equalling of electrostatic attractive force to a nucleus and centrifugal force operational on an electron, i.e. the electron is gone with «by the first solar escape velocity» concerning a nucleus on a circular orbit:

$$v_0=\sqrt{\frac{e^2}{mr_0}} \quad (86).$$

The ratio of this speed to speed of light will be:

$$\alpha=\frac{e}{c\sqrt{mr_0}} \quad (87).$$

Substituting in (87) tabulared values, we shall discover: α = 0,00729735, that coincides tabulared value of a fine structure constant. By substituting (87) in (85) we shall discover required connection between classic radius of an electron and radius of first orbit of the Bohr:

$$r_e=r_0\alpha^2 \quad (88).$$

Apparently, that if radius of first orbit of the Bohr to multiply on a fine structure constant in the first degree, we shall receive critical radius of orbit of an electron r_c. Thus its speed reaches speed of light, and at further decreasing of this radius the electronic mass will grow in inverse proportion to radius of orbit at preservation of angular momentum of an electron equal $\hbar$ (see section Area of relativism):

$$r_c=r_0\alpha \quad (89).$$

If the electron has only orbital motion and translational motion is absence, the relativistic growth of mass of this electron will begin only from that moment, when it will reach speed of light on orbit, therefore registration of relativistic mass of electrons at the analysis of properties of atoms in official physics is error.

Formation of «minihydrogen» (neutron)

Let's consider a problem of interplay of a «cold» electron with a proton. In this problem it is necessary to esteem not the gyration of an electron around of a proton, and gyration around of proton a neutrino, which one are components of an electron since at loss by an electron of a moment $\hbar$, only they provide a moment of an electron $\hbar\alpha$, where α - fine structure constant. Thus electron is gone rectilinearly, and screw motion commit included in its structure a neutrino. Radius of an electron is peer to classic radius, and the orbital velocity a neutrino is peer to speed of light. Under condition of, if radius of an electron remained invariable, when such electron «puts on» on a proton, the energy of an electrostatic attraction will make:

$$E_{att} = -\frac{e^2}{r_0} \quad (90),$$

where: e - elementary charge, r_0 - classic radius of an electron (spacing interval up to a proton).

By substituting in (90) expressions for classic radius of an electron:

$$r_0 = \frac{e^2}{mc^2} \quad (91)$$

received in this case energy of attraction equal energy of formation of an electron $E_{tie} = -mc^2 = -0.511$ MeV.

It is understandable, that by it the business does not limit and now it is necessary to consider further «dip» a neutrino on a proton. In this case speed the neutrino is impossible to change, therefore for preservation of a moment $\hbar\alpha$ at reduction radius of orbit the electronic mass will be augmented:

$$\hbar\alpha = cmr \quad (92).$$

Now it is possible to find electron-binding energy with a proton, receiving for a reset state classic radius of an electron, inside which one there is a proton. This energy will be the algebraic sum of energy of an electrostatic attraction and energy of universal repulsing:

$$E_{tie} = -\frac{e^2}{r} + \frac{mc^2}{2} = -\frac{e^2}{r} + \frac{\hbar\alpha \cdot c}{2r} \quad (93).$$

Function (93) hasnt of an extremum. In it the energy of attraction always twice exceeds energy of universal repulsing, they change synchro, therefore bond energy is always negative. The equation (93) in view of expression for $\alpha = \frac{e^2}{\hbar c}$ wll be converted to a kind:

$$E_{tie} = -\frac{e^2}{2r} \quad (94).$$

If in (94) to substitute (91) that we shall discover here again endorsement of a virial theorem, on which one the energy of attraction twice is more than bond energy or energy of repulsing.

In the theory of elementary particles of new physics is shown, that at orbital motion with speed of light of any component in a structure of any «elementary» particle, weight of this component:

$$m_i = 70.03 \cdot s \text{ MeV} \quad (95),$$

where s - angular momentum of a component in free (or bound) condition.

Each neutrino in an electron has an angular momentum:

$$s = \frac{\hbar\alpha}{2} \quad (96).$$

By substituting this value in (95) we shall discover, that weight a neutrino in an electron in power units 0.2555 MeV, and electronic mass as a whole will be 0.511 MeV.

The expression (94) demonstrates, that there are no encumbrances to «dip» an electronic neutrino on a proton. The encumbrance is served with proton, limiting minimum radius of a neutrino trajectory.

On a figure 14 the mobile electron (see chapter 11 [2]) radius which one is peer 2.8179 fm is to scale figured, the red colour figures to scale proton (radius of a proton is counted up on a magnetic moment it and makes 0.587 fm, see chapter 7.5 [2]).

The generated neutron is shown inside a dashed square.

In a final kind radius of orbit the neutrino decreases in 2.53 times and becomes equal 1.11 fm (radius of a neutron). In as much time the sizes a neutrino decrease and the electronic mass is augmented.

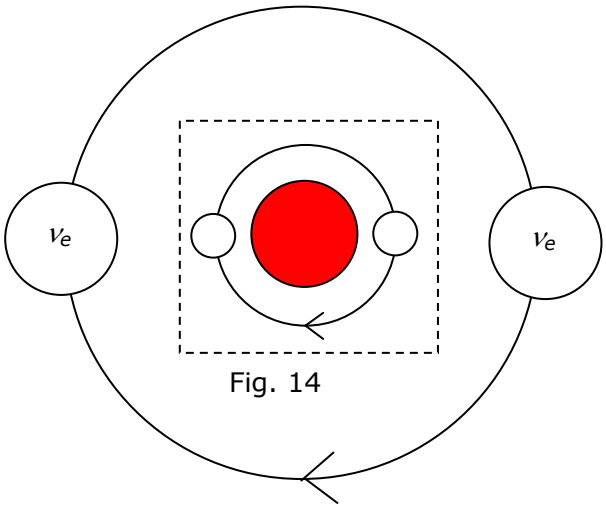


Fig. 14

Apparently, it is most simple a neutron to make of atom of hydrogen. For this purpose it is necessary to stop orbital motion of an electron. It is possible at once to guess, that for this purpose the ionization energy of hydrogen 13.6 eV will suffice. Really, the electron in a ground state of atom of hydrogen is gone with speed $V = c\alpha$, where c - speed of light, α - fine structure constant. Therefore kinetic energy of an electron on orbit of the Bohr: $E = mV^2/2 = mc^2\alpha^2/2$. By substituting in this expression numerical values of constants, we shall discover E = 13.6 eV. Then is received, that production of neutrons from hydrogen energetically is very expedient: by expending 13.6 eV, we receive 1.29 MeV. There is a sense to try to catch in a space radiation photons, which one waft away exuberant energy at formation of neutrons from hydrogen, if such process takes place in space. As at formation of a neutron of exuberant energy suffices for originating pairs the electron - positron, which one then can annihilate, the applicable space radiation also is possible for finding out.

Abnormal magnetic moment of an electron and radiation corrections

Magnetic moment of a contour with a current (in a system CGS):

$$P_m = \frac{1}{c} IS \qquad (97),$$

where: a current of a contour $I = \frac{e}{T}$, e - charge, T - cycle time of a charge, S - area of a contour.

Magnetic moment for a mobile electron:

$$P_F = \frac{eV\pi R^2}{c\lambda} \qquad (98),$$

where a wavelength of an electron:

$$\lambda = 2\pi R \qquad (99).$$

By substituting (99) in (98), we shall discover:

$$P_F = \frac{eVR}{2c} \qquad (100).$$

In (100) we shall take into account, that the moment of a mobile electron is peer $\hbar = mVR$. Then we shall receive expression for a magneton of the Bohr conterminous with official:

$$P_F = \frac{e\hbar}{2mc} \qquad (101).$$

Magnetic moment for an electron on orbit of the Bohr:

$$P_B = \frac{eVa}{2c} \qquad (102),$$

where a - radius of orbit. It is known, that the running speed of an electron on orbit of the Bohr in α of time is less than speed of light, where α - the fine structure constant, therefore (102) start a kind:

$$P_B = \frac{\alpha\, e\, a}{2} \qquad (103).$$

The formula (103) too magneton of the Bohr, i.e. (103) = (101), that is foolproof to demonstrate.

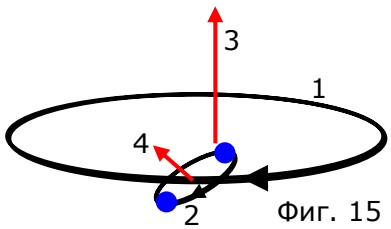
Thus, the mobile electron has angular momentum on a screw trajectory $\hbar$ and magnetic moment, to an equal magneton of the Bohr and on orbit of the Bohr the electron has the same parameters.

The experimental value of a magnetic moment of an electron is more than a magneton of the Bohr and equally $\mu_B + \sigma$, where σ - correction, which one the orthodoxes call radiation and connect to interplay of an electron with vacuum. In the Physical encyclopedia under edition A.M. Prohorov, v.1, page 91, M., 1988 the experimentally definite correction σ = $1.159652193 \cdot 10^{-3}$ is adduced and theoretically obtained σ = $1.159652460 \cdot 10^{-3}$. The fine concurrence of the orthodox theory with experiment is a subject of the special pride of official physics and is one of its most precise outcomes. However, if to analyze process of obtaining of this outcome, it very much resembles frank adjustment under the beforehand known answer. For similar «solution» of a problem at school put twains.

In view of that a neutrino in an electron move with speed of light, the formula (97) for an own magnetic moment of an electron start a kind:

$$P_e = \frac{er_0}{2} \qquad (104),$$

where r_0 - classic radius of an electron. Apparently, that the own magnetic moment of an electron is vectorly piled with the orbital moment, equal magneton of the Bohr. If the orbital plane a neutrino in an electron coincides a plane of orbital motion of an electron, the correction, bound with an own magnetic moment of an electron on (7.2.3.8) will be: σ = $7.29636 \cdot 10^{-3}$. From here it is possible to draw a conclusion, that the rotation axis of an electron is inclined under a definite angle to orbital plane, as it is visible for planets of a solar System. As for free macrobodies, moved on a screw line, and for an electron the rotation axis is inclined to a trajectory bevel way 45^0. At capture of a space body or electron into nuclear orbit the angle of lean changes, as shown in chapter 22.1. In the total this angle step-by-step receives an equilibrium value, as shown in a figure 15.



Фиг. 15

1 - orbit of the Bohr, 2 - orbit a neutrino in an electron, 3 - magnetic orbital moment (magneton of the Bohr), 4 - magnetic own moment of an electron.

The writer does not have explanatory idea how to count up angle between vectors 3 and 4 to find their sum. Therefore it is necessary too to be taken by adjustment. A angle between vectors 3 and 4 we shall consider equal β. This angle is peer to angle of lean of

orbital plane a neutrino to an orbital plane of an electron. To satisfy experimental value of an abnormal magnetic moment of an electron an angle $\beta \sim 81^0$. Thus, the electron is gone on orbit almost «liing edgewise» similarly to Uranus in a solar System. This angle of lean arise from of the compromise between aiming to line magnetic moments in orthoposition (parallel) at the expense of gravidynamic interplay of an orbital and own mechanical moment of an electron and aiming to line magnetic moments in paraposition (counter) at the expense of magnetic interplay of magnetic moments.

Here will pertinent show to the reader, as official physics creates to itself difficulties and then «overcomes» them, creating there are more difficulties.

Official physics does not know the sizes of an electron, though sometimes will use classic radius of an electron, but does not consider as its true. For example, in the Physical encyclopedia under edition A.M. Prohorov, 1994, v.4, page 243 is said, that in limit of accuracys of experiments ($< 10^{-16}$ cm) the leptons do not find out the final sizes and probably, that their size is close to Planck length 10^{-38} cm. The problem is, that the indeterminacy relation of the Heisenberg assigns to give an electron a huge impulse to define the sizes. But at increase of an impulse the electronic mass is augmented and its radius decreases not therefore it follows from a relativity theory, and because of operation of law of preservation of an angular momentum at invariable speed close to speed of light. Try to count up an angular momentum of a body, if I shall call to you its weight and running speed, but nothing I shall tell about radius of this motion. Apparently, that in such case it is impossible to count up a mechanical moment of an electron, accordingly it is impossible to count and its own magnetic moment. This fact demonstrates apparent fraud in act in ideally concurrence of computational and experimental value of a magnetic moment of an electron. Therefore orthodoxes without explanations receive a mechanical moment of an electron equal $\hbar/2$, that it has become «fermion» and corresponded to a Pauli's exclusion principle, but then there is a problem with a magnetic moment of an electron to agree experimental data a magnetic moment of an electron receive to an equal magneton of the Bohr. To bypass a problem, arising at it, with ratio of a mechanical moment to magnetic, contrary to sensibly physical sense have invented a hypothesis Goudsmit and Uhlenbeck, on which one this ratio for an electron in 2 times more trusted to. On it the problems do not terminate, but only start. Отодоксы have met with a unexpected situation: the magnetic moment of a mobile electron is peer to a magnetic moment of an electron atom of Hydrogenium. From here is received, that the electron is not gyrated around of a nucleus, differently there will be a double magnetic moment. Therefore such electron have called as a S-electron and have assigned to it surprising properties. The S-electron appears that till one, till other side from a nucleus (race past and through a nucleus, since the wave function here is different from zero point). Thus the orthodoxes automatically are make a bird into fire by own critics of the theory of atom of the Bohr, since the orbital electron should lose energy on radiation. Whether is similar thus an orbital electron to a dipole still it is necessary to demonstrate, and moved backwards - forward precisely is a classic dipole. To leave from this problem consider, that a cloud of a S-electron spherically symmetric, but then the electron should have an angular momentum to appear in any point of this cloud and will be the owner of a double magneton of the Bohr. Was soon found out, that the magnetic moment of an electron in atom has abnormal value not in accuracy to an equal magneton of the Bohr and the "radiation corrections" are required. To permit the arisen next problem it was necessary to gaze on «physical» vacuum, i.e. emptiness, which one the orthodoxes have allotted by properties of a bag with gifts of Santa Claus from which one it is possible to get everything, that will wish and have elaborated mass of ways, as it is better for making. Here I want to add, that I do not believe in «the experimental evidences», and I believe in experimental outcomes. For example, the experimental outcome is, that at observation of a Compton recoil photons and the electrons interact similarly to to billiards spheres. But this outcome is not «the experimental evidence» existences of virtual particles. In opinion of orthodoxes at interplay of a photon and electron there is a virtual electron, which one is disintegrated again on a photon and electron, but having other current of traffic.

References:

1. NEOCLASSICAL PHYSICS - CORPUSCULAR QUANTUM MECHANICS, http://vixra.org/abs/0907.0017