18 different models of the hydrogen atom and all have their experimental confirmation…

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Report of a nuclear physicist - F.A.Gareev -

18 different models of the hydrogen atom and all have their experimental confirmation -

18 различных моделей атома водорода и все подтверждаются: Гареев Фангиль Ахматгареевич / 05.10.2008 - https://www.youtube.com/watch?v=ocZuzdXuzu0

2 minutes 38 seconds - Gareev says -

“Since I still don’t know what a mass defect is, how it is calculated, due to what it occurs, and after I defended my doctoral dissertation, I decided to deal with“ different things ”... I realized that physics is an“ interesting thing ”. sense that it is completely differentiated and different branches of physics have their own language, terminology and so on ... And as a nuclear physicist, I realized that I absolutely have no idea what an electron is ... And therefore I set myself an even simpler task - let's figure it out - WHAT IS a hydrogen atom. I set myself such a task.

I currently have about 18 models of the hydrogen atom. And what is most surprising - they all describe well all the existing experimental data. And moreover, these are models that are based on different principles, on different equations and different assumptions. There are also Newton's equations, there are Schrödinger, Dirac equations, the evolutionary principle is considered there, there is even a model that considers the hydrogen atom as a kind of capacitor - a completely amazing thing, since it completely reproduces the results of Schrödinger. The results are completely consistent, but the underlying assumptions are completely different.

The most interesting, apparently, work of Gryzinsky - he took Newton's formula, added Coulomb and spin ...

(Remark of A.I. Cherepanov - Polish physicist Mikhail Gryzinsky presented in 2001-2004 his model of the hydrogen atom - "On the physical essence of Planck's constant, electron and proton" - http://www.newkvant.narod.ru/doc/MGryzinski.pdf

Gryzinsky writes - "The first step towards answering the question of why the atom is built this way and not otherwise was the discovery of quantum conditions, which are set by the Planck constant h. Since physicists were unable to find a corresponding position for this constant within the framework of classical dynamics, they declared it to be a quantity belonging to a completely different world, a quantity that cannot be reduced to the known concepts of the macroscopic world. Quantum mechanics textbooks say that classical physics is physics in which h is zero. In fact, Planck's constant h is nothing more than a quantity that actually defines the concept of a gyroscope, well-known in classical physics. Interpreting to adepts studying physics that $h \neq 0$ is a purely quantum phenomenon that has no analogue in classical physics, was one of the main elements aimed at strengthening the idea of the singularity of quantum mechanics, while Planck's constant is a reflection of the fact that vortex motion is an immanent feature of the microworld, and it is impossible to get around it in discussions about the structure of the atom. To demystify the views on the constant h and to just delve into the understanding of the gyroscopic properties of the electron, let's say a few words about the properties of an object called a gyroscope. "

And further -

"On the basis of this type of observation, it was determined that the electron and proton have the same angular momentum and it is equal to half of Planck's constant ħ (h / 2π).

According to Descartes's vision, which the whole world perceived as sets of vortices, Planck's constant represents the vortex nature of the microworld. To display the torsional moments acting on an electron or proton, it was necessary to introduce the concept of the magnetic moment μ, which creates a magnetic field *H* (Fig. 4),

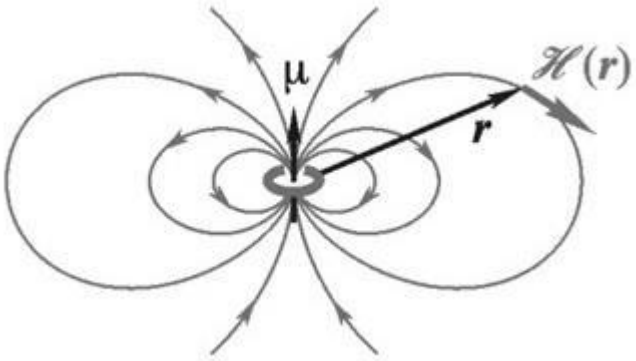
$$\mathscr{H} = -\frac{\mu}{r^3}\left(\hat{\mathbf{s}} - 3\hat{\mathbf{r}}(\hat{\mathbf{s}} \cdot \hat{\mathbf{r}})\right),$$

$H = -\mu / r^3 (\hat{s} - 3\hat{r}(\hat{s} \cdot \hat{r}))$,

which is the source of the torsional moment

$$\mathcal{M} = \mu \times \mathcal{H}.$$

$M = \mu \times H$.



Rice. 4. Magnetic field *H*.

Experience has shown that the magnetic moment of both the electron and the proton is proportional to Planck's constant ħ:

μ = ˆs · għ. Moreover, the proportionality coefficient g, called the gyromagnetic ratio, accordingly has the value:

for electron

$g_e = e/2m_e c$, m_e is the electron mass,

for proton

$g_p = 2,79 \cdot e/2m_p c$, m_p is the proton mass,

(e - elementary electric charge, c - speed of light in vacuum). »

Of course, in 2001 Mikhail Gryzinsky could not suppose that in 20 years I would finally prove that there was no "electric charge" in nature and there is no - that was Sir Maxwell's mistake.
Next ... Gryzinsky writes - "the magnetic field *H* ..., which is the source of the torsional moment" I strongly disagree with him ... Gryzinsky does not understand the cause-and-effect relationship in these phenomena ...

My opinion is the following - the reason for the rotation of both the proton and the electron (and, accordingly, the appearance of a torsional moment in them) is the rotation of the neutron before the decay of the neutron, i.e. both a proton and an electron are always born from a neutron ... Two fundamental laws of physics are involved in this phenomenon - the Law of Conservation of Momentum and the Law of Conservation of Mass ... According to the first law, the rotation of a neutron is transferred to a proton and an electron ... According to the second law, a part of the mass of a neutron " goes into the ether "- this is the surrounding space of an electron and a proton at their birth ...
m_n - (ether mass equal to 1,531 m_e mass) = m_p + m_e
A neutron decays into a proton and an electron - while in each act of this decay, the same mass of "neutron substance" is always separated from the neutron - 1/1836 of the mass of the proton that gave birth to this act of decay. Apparently, as the electron "expands" to its size from a size of ~ 10^{-15} meters, it loses mass, i.e. an electron is born heavier ..., i.e. at birth it has a mass of 2,531 m_e.
Knowing that both the proton and the electron have their own magnetic moment, physicists concluded that both the proton and the electron are rotating structures.
As an example, I will cite a publication in 1960 - this is a book by M.A. Bak and Yu.F. Romanov "Neutron" -http://elib.biblioatom.ru/text/bak_neytron_1960/go,2/
The authors write in their book -
“The presence of spin in the electron and proton determines the existence of magnetic moments in them. This can be explained on the basis of conventional electromagnetic concepts. Since each of these particles is charged and rotates around its own axis, there must be a kind of circular current. It is well known that the current flowing through a closed metal frame creates a magnetic field around it, in which the frame behaves like an ordinary magnet. If the strength of the external magnetic field is equal to unity, then the frame with the current is acted upon by a pair of forces with a moment that depends only on the area of the frame and on the magnitude of the current flowing through it. This current frame is characterized by a magnetic moment, which is numerically equal to the moment of forces. "

Don't misunderstand me ... I, sorting out all these collisions in physics, feel like a person who has been dumped with a pile of garbage that has been collected for 148 years and who wants to get out from under this giant pile of garbage ... I'm doing one more little thing. " digression "from my presentation and, looking ahead, I ask myself a simple and sacramental question -" Do we have any good reason to draw an analogy between the behavior of such particles as a proton and an electron and the behavior of a frame with a current? " After all, the reasoning of Buck and Romanov they are based precisely on this ... Agree with me - such a free transition from the behavior of a macro-object - a

frame with a current, to the behavior of microparticles, the size of which is 11-14 orders of magnitude smaller than the size of a frame with a current, is strictly speaking not admissible .. In this free likeness lies a huge trap for physicists, which can lead us all into the jungle and lead us on the wrong path. The digression is completed and, in order not to complicate the analysis of "this rubbish", I propose for the time being to consider the arguments of the authors of the book correct ...

What conclusion have I come to? Following the principle of "cause-and-effect relationship", in 2018 I made the following conclusion - before its decay, the neutron must rotate ... In this decay act, the Law of Conservation of Angular Momentum must operate. Following this logic and understanding that the neutron rotates before decay, and also understanding that, according to the Law of Conservation of Momentum, the rotation of the neutron is transferred to the electron and the proton, I come to the conclusion that at the moment of its birth the substance of the electron and the substance of the proton rotate into the same the same side ... The second reasoning - at the moment of birth, the size of the electron - the radius of the electron, is equal to the radius of the proton ~ 10^{-15} meters ... If an "electric charge" was immediately generated on the electron and proton, they would instantly generate a neutron. .. But this does not happen ... Further, the size of the electron, according to Kanarev's estimate, is ~ 10^{-12} meters ... Thus, I conclude that the small mass of the substance of the electron - the rotating substance of the electron, does not allow it to hold the electron in " compressed state "with a size of ~ 10^{-15} meters, and therefore the electron expands to such a size that the forces of compression of the electron are balanced with the forces that expand it to a size of ~ 10^{-12} meters.

A critical moment comes ... Follow my reasoning in 2018 ... If in nature there was an "electric charge" on the proton and on the electron, which, as is known from modern physics, has the same value "e", i.e. equal in modulus, both on the proton and on the electron - see the above formulas from Gryzinsky's article, then I have a legitimate question for physicists - "How does it happen in nature that we are dealing with particles that have the same substance - and for a proton , electron and neutron logically it is the same, in which this substance has the same direction of rotation, but at the same time the mass of the electron is 1836 times less than the mass of the proton and the size of the electron is 1000 times larger than the size of the proton, but somehow miraculous and do they magically have the same "electric charge"?»

Do you understand the absurdity of the situation? Thanks to such simple logical reasoning in 2018, even then I understood that there should not be an "electric charge" in nature ... It only remained to find "this hero" who introduced this absurd "electric charge" into physics.

And that "bad hero" turned out to be Maxwell. It should be emphasized once again that Maxwell distorted the teachings of Charles Coulomb, he distorted the teachings of Charles Coulomb, and how he mockingly called his fake law "Coulomb's Law" ... If you refer to the tracts of Charles Coulomb, you will independently figure out that Charles Coulomb categorically does not coincide with what James Clerk Maxwell received as a result of his blunder. I give links -

Links to the website of the Association of French Physicists

First thesis. - Creation and use of electrical scales based on the property that metal wires have a torsional force proportional to the torsion angle (1785). (p. 107) -

http://cnum.cnam.fr/CGI/fpage.cgi?8CA121-1/117/100/416/0079/0316

Second thesis. - Where is it determined in accordance with what laws a magnetic fluid, as well as an electric fluid, act by repulsion or attraction (1785). (p. 116) - http://cnum.cnam.fr/CGI/fpage.cgi?8CA121-1/126/90/416/0079/0316

Third thesis. - The amount of electricity that an insulated body loses in a given time, either on contact with more or less humid air, or along more or less idioelectric supports (1785). (p. 147) -

http://cnum.cnam.fr/CGI/fpage.cgi?8CA121-1/157/100/416/0079/0316

Fourth thesis. - Here we demonstrate two main properties of an electric fluid: first, that this fluid does not spread in any body due to chemical affinity or selective attraction, but is distributed between different bodies in contact, only due to its repulsive action; secondly, in conducting bodies, a liquid that has reached a state of stability spreads over the surface of the body and does not penetrate inside (1786). (p. 173) -

http://cnum.cnam.fr/CGI/fpage.cgi?8CA121-1/183/100/416/0079/0316

Fifth memory. - About how an electric fluid is distributed between two contacting conducting bodies, and about the distribution of this fluid over different parts of the surface of these bodies (1787). (p. 183) -

ADDITION. On the distribution on the surface of two electrified conducting spheres and the attraction of these spheres, according to Poisson and Sir W. Thomson (p. 379):

http://cnum.cnam.fr/CGI/fpage.cgi?8CA121-1/380/100/416/0079/0316

My translation and analysis of these treatises is here -

DEUXIÈME MÉMOIRE. - "The Second Memo of the Pendant", 1785
-https://drive.google.com/file/d/1dyFOHCGL5Oyz1wF2REMBUNeXWBiu0I_k/view?usp=sharing

DEUXIÈME MÉMOIRE. - "The Second Memo of the Pendant", 1785 - https://cloud.mail.ru/public/5BjX/53n16KZqW

"3rd Memo" Pendant - "TROISIEME MEMOIRE", 1785 - https://cloud.mail.ru/public/2PQR/ZmiskSvXh

"3rd Memo" Pendant - "TROISIEME MEMOIRE", 1785 -
https://drive.google.com/file/d/1f1of_Pth97A3WLdlmfJUt0DFPQAcr0IV/view?usp=sharing

SURFACE OF TWO ELECTRIC CONDUCTING SPHERES
-https://drive.google.com/file/d/1LVdV5oSFwrPxFCq5zG7qCMdaLa-Nz2Gj/view?usp=sharing

SURFACE OF TWO ELECTRIC CONDUCTING SPHERES - https://cloud.mail.ru/public/36jS/5fWpDQ6Ta

Coulomb and Cavendish, 15 September 2020 - https://cloud.mail.ru/public/2bHu/3Kpzhj1W4

Coulomb and Cavendish, 15 September 2020 -
https://drive.google.com/file/d/1I1pGEOmtUvojUlUj5GM5ahphWSYynOIy/view?usp=sharing

Physchemistry of microworld 2021 15 - https://youtu.be/GFkVgIngg2g

Henry Cavendish Electricity Research - https://cloud.mail.ru/public/fwaW/Pt4xJr29Q

Henry Cavendish Electricity Research
-https://drive.google.com/file/d/1xJrcSh1PIUQSWkNToy0L9dplrkONUwRe/view?usp=sharing

Correspondence with Igor Nikolaevich Stepanov dated June 22, 2020 – https://cloud.mail.ru/public/1mSx/2ti91GWkP

Correspondence with Igor Nikolaevich Stepanov dated June 22, 2020 –
https://drive.google.com/file/d/1g2vLhzFADkW1Va1AqE24SLrq5ADwlehP/view?usp=sharing

Earnshaw - On the nature of molecular forces regulating the composition of the luminiferous ether -
https://cloud.mail.ru/public/46A6/4YmWtdfox

Earnshaw - On the nature of molecular forces regulating the composition of the luminiferous ether -
https://drive.google.com/file/d/1KyQgIeDUll3o8IYZVzfZvIcOk3OcyjJU/view?usp=sharing

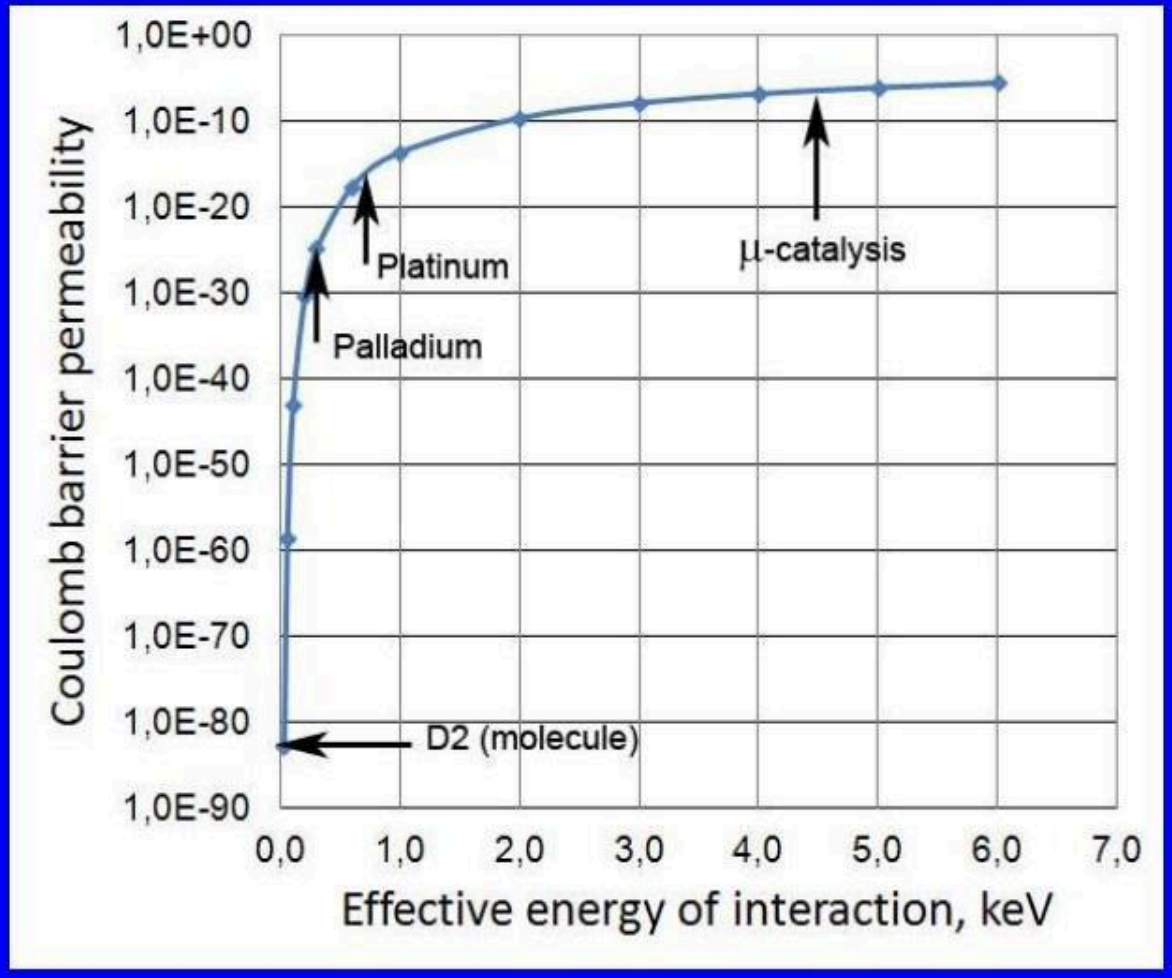
What is the reason for this decay? My analysis showed that the cause of this decay can only be photons - they somehow spin the electron ... This will be an exciting part of nuclear physics and particle physics in the future ... We need a good model of this process ...! What else is important to note ...? Over and over again, during the decay of a neutron, the same mass is separated from it, which becomes an electron. I draw the following conclusion - a FORCE is generated in the neutron, which each time has strictly the same magnitude, which counteracts the internal forces of the neutron, which ensure its shape and size ... I introduced the following concept - "secondary magnetic" ... What is it is that? Let's analyze one more circumstance ... In a stable hydrogen atom there are two particles - a proton and an electron ... Think about the following circumstance ... A small proton, having a size of 10^{-15} meters, keeps an electron at a distance that is a million times greater than the proton's own size ... On the one hand, there is a giant force that puts a free electron into the proton cell - this is how a stable hydrogen atom is born, and on the other hand, another giant force does not allow the given electron to "fall" onto the proton - it counteracts this fall , it prevents an electron from approaching a proton ... That is why I introduced the concept of a "secondary magnetic field" - this force is generated by this "secondary magnetic field". It is the generation of this secondary magnetic field and FORCE that leads to the rupture of the neutron body - to its disintegration ... Of course, this is a kind of "frame of my reasoning", which requires careful reflection and careful study ... In the meantime, this allows me, as it were, to preliminarily

explain all the data processes ... "Secondary magnetic field" should today be called the "Cherepanov barrier" by analogy with the well-known "Coulomb barrier" ...
One more important note ... Modern physics, from my point of view, is developing incorrectly for the simple reason that it adopted the so-called "energy approach" in physics from physicists of the 19th century. This is a dead-end path ... You should look for the sources of FORCE generation and analyze from these positions ... Of course, you need to remember Newton's laws ... I note the following - any "Newtonian force" is what we are used to applying to macro-objects, generated by inertial rotation and electrons and protons, and the inertial rotation of the magnetic fields of photons. And delving deeper into the microcosm, I come to the conclusion that, in the proton, in the electron, and in the photon, the rotation of the same substance occurs - we call it "ether" ... And I, analyzing the information that is presented in Kanarev's textbooks, he deduced the approximate parameters of the ether element, which I called "yoktomagnitik".
Its approximate mass is equal to m_{yocto} - 5,000 • 10^{-69} kg. This figure is correct for a "yoctomagnet" in the form of a cylinder with a height of h_{yocto} = 71.7 x 10^{-30} m and a radius of r_{yocto} = 3.907 x 10^{-30} m

Thus, today we should look for a mathematical model of the "Cherepanov barrier" - this barrier creates "something", which for now I call the "secondary magnetic field". There is no "Coulomb barrier" in nature ...
As an illustration, I will give you a slide, which reflects the results of Japanese researchers in 2013.

Проницаемость кулоновского барьера для DD синтеза

$$P = e^{-2\pi\eta} \quad (2\pi\eta = 31.41/E_{eff}^{1/2},\ E_{eff} = E + U_e)$$



Для холодного синтеза $E \cong 0.040$ эВ

Researchers don't know what to do with the Coulomb barrier ... but it just doesn't exist in nature!
https://www.lenr-forum.com/search-result/66623/?highlight=Coulomb+barrier

About the Coulomb barrier at LENR
Dr. Richard October 15, 2021
“In real life, there is no Coulomb barrier. Just a limitation imposed by quantum physics. When will you understand the new RELATIVITY that supplanted the STANDARD MODEL at the turn of the last century? It is useful to explain only CHEMICAL reactions, NOT THE PHYSICS OF LOW ENERGY NUCLEAR FUSION !!! Please read the articles from @Wyttenbach and also from Leif Holmlid to understand what I'm talking about.»

Here is such a digression ... In 2008, pointing to the work of Gryzinsky, Gareev did not suspect that there was no "electric charge" in nature. Once again I will return to the reasoning of Gryzinsky ... My conclusion refutes Gryzinsky's statement - "the magnetic field H ..., which is the source of the torsional moment" - it turns out the opposite - the torsional moment or the rotation of the proton and electron are the sources of their own magnetic field and their own magnetic moment ...
As for the Planck constant h, here too we have a divergence of views - I support the ideas of Kanarev Philip Mikhailovich and, by the way, they confirm my hypothesis about the existence of a secondary magnetic field and the cause of neutron decay -
« Analyzing relations (11) and (14), we see that:

$$E_f = mC^2 = h\nu = m\lambda^2\nu^2 \quad ; (18)$$

$$h = m\lambda^2\nu \rightarrow кг \cdot м^2 \cdot c^{-1} = const \qquad (19)$$

Let us pay attention to the dimension of Planck's constant (19). Strictly speaking, this dimension does not contain a clear physical meaning. If it were like that $h = m\lambda^2\nu \rightarrow кг \cdot м^2 \cdot рад. \cdot c^{-1} = const$, then in classical mechanics it has names: angular momentum and kinetic moment. In classical physics, this dimension is called the moment pulse or angular momentum. Further we will see that in the dimension of formula (19) there is also a radian, but it is hidden very deeply. It automatically follows from this that

Planck's constant describes rotational processes, but the presence of the wavelength λ in its expression (19) indicates that it describes a wave process. This fundamental contradiction is the main source of misconceptions about the structures of elementary particles in the twentieth century physicists.

This contradiction has formed the idea that the laws of classical physics do not work in the microworld. It is dominated by the so-called quantum theory, the foundations of which were laid by Max Planck at the beginning of the twentieth century, when he introduced the famous constant h (19) into the description of the radiation of an absolutely black body, which was named after him. Since then, it has entered all mathematical models describing the behavior of all inhabitants of the microworld.

Since at that time the wave concepts of radiation prevailed, Max Planck, fearing accusations of mechanism, called his constant the quantum of least action. The absence of the physical essence of dimension (19) in the name "quantum of least action" held back the understanding of the physics of processes and phenomena that are described using Planck's constant.

The presence of the radiation wavelength λ in formula (19) saved the idea of its wave nature, but clearly contradicted the dimension of Planck's constant, from which it followed that it describes a rotational process. To get rid of this contradiction, it was enough to pose an elementary question: what law governs the constancy of Planck's constant? It can't be constant without a reason, can it? The answer to this question can be obtained only under one condition: the wavelengths λ of all elementary formations of the microworld, described by Planck's constant, are equal to the radii r of their rotation. This hypothesis, as we shall see, is rapidly gaining the status of a scientific postulate.

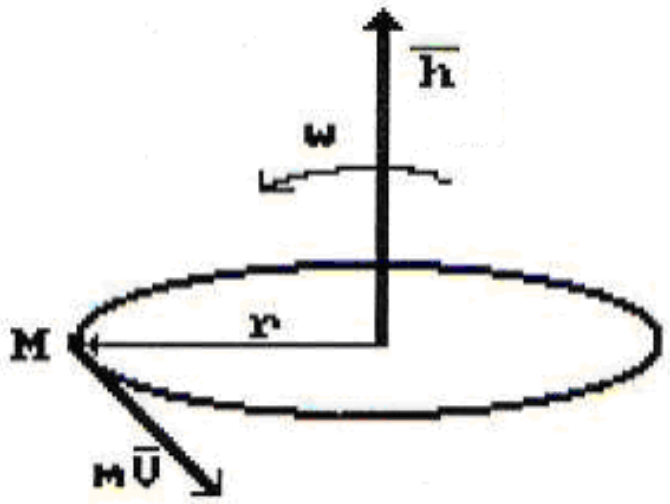
$$\lambda = r \qquad (20)$$

At the same time, the law that governs the constancy of Planck's constant in its new entry is immediately revealed

$$\bar{h} = mr^2\bar{\nu} = const \rightarrow кг \cdot м^2 \cdot рад./с \qquad (21)$$

First of all, mr^2 is the moment of inertia of the ring. We have already agreed to call it the base ring of elementary particles. Since the moment of inertia of the base ring is multiplied not by the angular frequency ω, but by the linear frequency ν, this means that the ring performs such impulsive rotations in the interval of each wavelength λ, at which the sum of the moments of forces acting on it is equal to zero. Therefore, the angular momentum of the base ring remains constant. This is the law governing the constancy of Planck's constant. It says: **if the sum of the moments of external forces acting on a rotating body is equal to**

zero, then its Kinetic moment (angular momentum) remains constant in magnitude and direction. It automatically follows from this that



Rice. 10. Scheme for the definition of the concept of angular momentum $\bar{h}$ of the ring

Planck's constant $\bar{h}$ is a vector quantity. Further we will see that this fundamental consequence reveals almost all the mysteries of the microworld and, most importantly, allows one to describe the processes of formation of structures of photons of the entire radiation scale, the processes of formation of an electron, proton and neutron, as well as the processes of formation of nuclei, atoms, molecules and clusters.

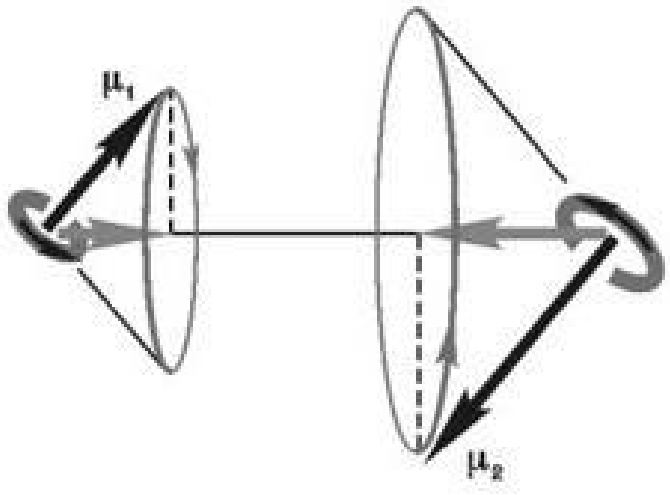
The vector $\bar{h}$ is directed along the axis of rotation of the base ring so that when viewed from its tip, the rotation will be counterclockwise (Fig. 10).

If Planck's constant $\bar{h}$ has the dimension of angular momentum and if it is used to describe the behavior of elementary particles, then they must necessarily rotate around their axes. The Planck constant vector $\bar{h}$ in this case is called the spin.

Further we will see that most of the mathematical models describing the behavior of photons are derived from the laws of classical physics, or rather, from the laws of classical mechanics. Therefore, in what follows, the dimension of Planck's constant will be called "**angular momentum**".

Returning to Gareev's report and his admiration for Gryzinsky's model of the hydrogen atom ... I quote Gryzinsky -

“And in conclusion of these considerations there is a remark of great importance for understanding the structure of the atomic nucleus. Thus, the electrostatic attraction of an electron and a proton is compensated for with the corresponding mutual orientation of their spin axes by magnetic repulsion; in this case, the axes of both particles will rotate with the same angular velocity around the straight line connecting their centers (Fig. 6).



Rice. 6. Compensation of the electrostatic attraction of an electron and a proton by magnetic repulsion. "

Gryzinsky made absolutely the same mistake that Kanarev made - this is my single opinion ... Having their own magnetic fields and having an external magnetic field, a proton and an electron cannot have the direction of magnetic moments directed towards each other - this is conditional, as it is shown in the figure - shows the precession of both the proton and the electron, i.e. the upper end of the magnetic moment vector describes a circle for them ... From my

point of view, they must precess in the same direction ... And of course there is no "electrostatic attraction of an electron and a proton", since they do not have "electric charges", in nature there is "Electrostatic fields" and no "electrical or electrostatic forces". At the moment of synthesis of a hydrogen atom due to magnetic forces, a free electron passes into the state "bound" with its proton. I don't know if Gryzinsky was aware of Kanarev's publication of 1996, which rejected the rotation of electrons around the nucleus of an atom and which led precisely to their coaxial rotation, which is schematically shown in Figure 6. Who knows, maybe Figure 6 is a plagiarism of Gryzinsky ... the mistake of Gryzinsky and Kanarev - here is an excerpt from my article dated September 25, 2018 -
The Old Physicists' Fallacy Story, September 25, 2018 - https://cloud.mail.ru/public/5qJP/4fbhw5k8M

The Old Physicists' Fallacy Story, September 25, 2018 -
https://drive.google.com/file/d/1-GgdNbgCjniq1iXKXZEO4NU8y2a-SJX8/view?usp=sharing
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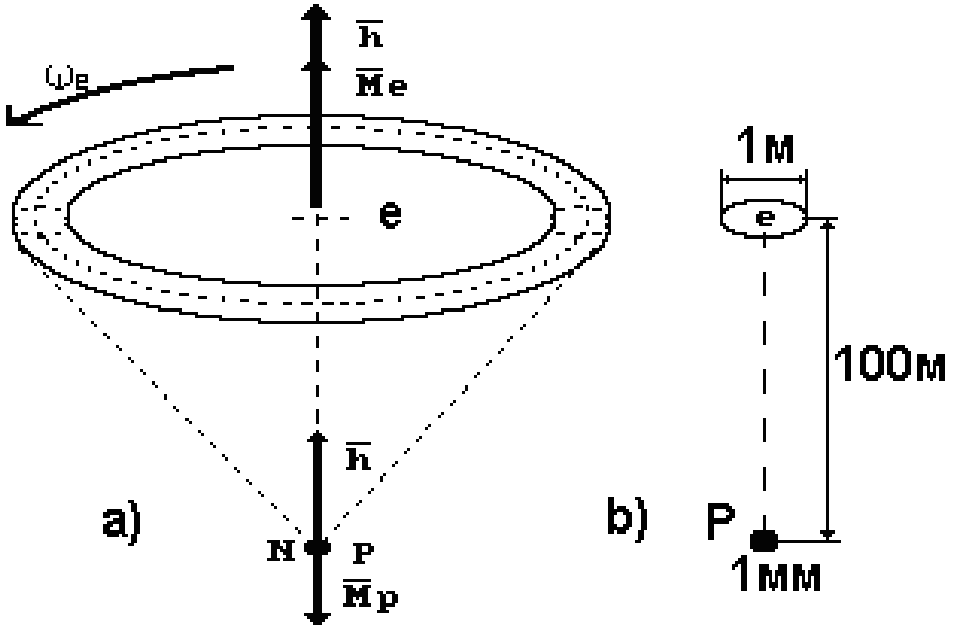
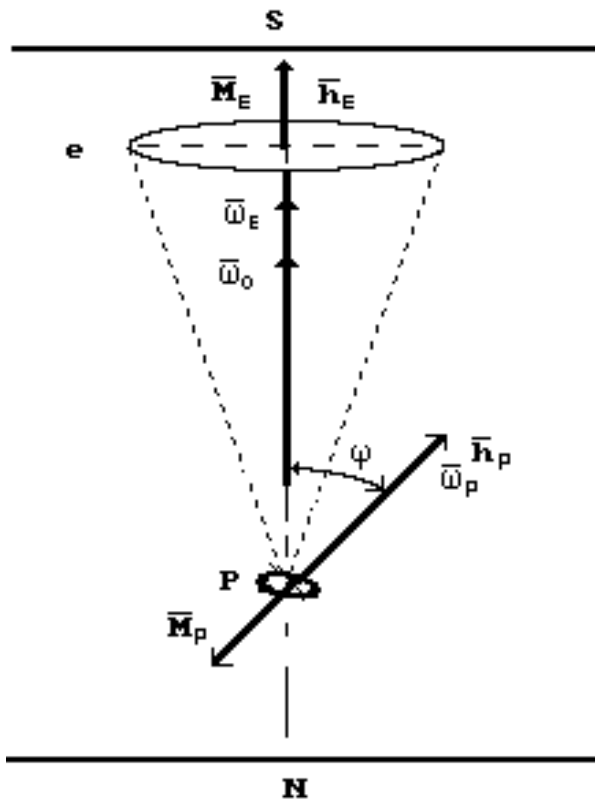


Rice. 7. Diagram of the model of the hydrogen atom: *e* - electron, *P* - proton

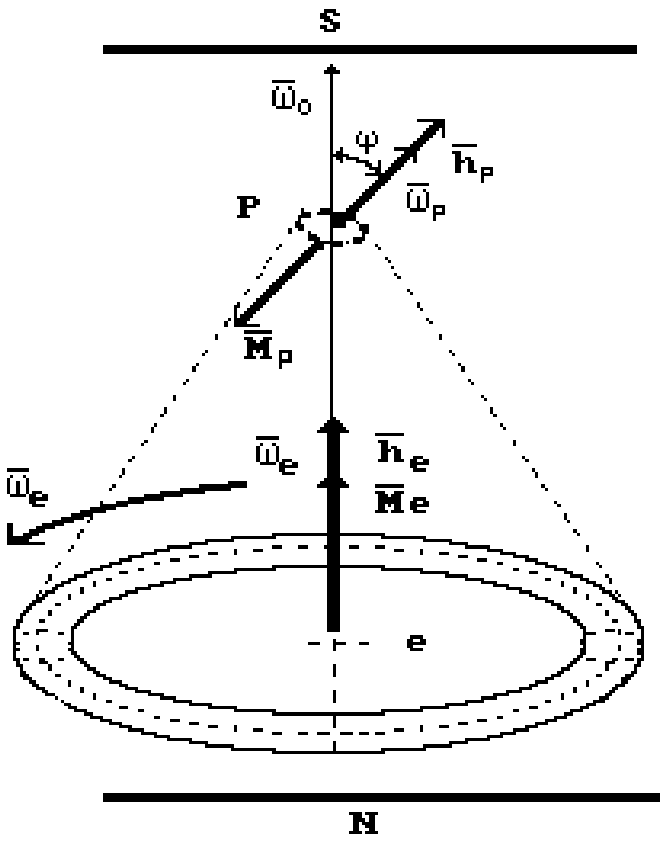
“It is believed that the negative charge of an electron makes the directions of the vectors of its spin $\overline{h}$ and magnetic moment $\overline{M}_e$ opposite [1]. Since the electron received a negative charge, and the proton was positive not as a result of some experiment, but as a result of an agreement between scientists, the question of the true mutual direction of the vectors of spins and magnetic moments of these particles remains open. "

The correct reasoning of Philip Mikhailovich, thanks to which he naturally has the opportunity to retreat ... to my "positions" ...

“Further we will see that the option when the directions of these vectors coincide for the electron, and that for the proton are opposite, is the most preferable.” I disagree with that! “Therefore, at this stage of the search, we take the directions of the vectors $\overline{h}$ and $\overline{M}_e$ for the electron coinciding, and for the proton - opposite. Then the model of the hydrogen atom will be as shown in Fig. 7 [3].



Rice. 8. The first scheme of the precessional interaction of a proton *P* with an electron e in a magnetic field



Rice. 9. The second scheme of the precessional interaction of a proton *P* with an electron e in a magnetic field at the moment of the formation of a hydrogen atom

Since the magnetic moment of the electron is almost two orders of magnitude greater than the magnetic moment of the proton (my remark - above I showed that this is not so), the external magnetic field acts more strongly on the electron than on the proton. As a result, a free electron gets a more stable orientation in a magnetic field, and a free proton - a less stable one. "

My analysis says so far that the proton has a magnetic moment or more or is the same as that of an electron ... in a hydrogen atom ... Which, by and large, in my model has a quantitative meaning, but not a qualitative one, since the qualitative meaning is that their magnetic moments are directed in one direction ... This quality, I believe, will be

decisive in the analysis of the reaction of e-capture by a proton - this is a very important reaction today for understanding the reactions of cold nuclear fusion, and which physicists love to argue ...
"Therefore, we have reason to assume that at the moment of the formation of the hydrogen atom, the proton changes its orientation, approaching the electron (Fig. 8, and 9)."
There is no dispute - to create a model in which a "non-existent" electric field is involved, such an assumption is forced ... But, I draw your attention to this - it is this phrase "changes its orientation" that makes us not believe Kanarev and everyone who believes that the electric field exists in nature ... I have a natural question - "What such mystical force makes the proton change its orientation?"

Judge for yourself - the Earth's magnetic field or an artificial field at a given point in space easily turns both particles so that their magnetic moments are directed in one direction ... And what makes the proton turn around? Kanarev's erroneous opinion that the magnetic moment of the electron is 658 times greater than the magnetic moment of the proton ... and Kanarev's erroneous opinion that the electric field exists in nature and "must" bring the proton and the electron closer together ... As you have already guessed in my model, there is no mysticism there is no need for a proton to change its orientation ... This position of mine today is further strengthened by the fact that in January 2021 I finally proved that there are no "electric charges" and there are no "electric fields".

"If the vectors of the magnetic moments of the electron $\overline{M}_e$ and proton $\overline{M}_P$ coincide in direction at the moment of the formation of the hydrogen atom, then the vectors of their spins $\overline{h}$ turn out to be oppositely directed. The directions of rotation of an electron and a proton will also be opposite, as a result, the proton absorbs such electrons and turns into a neutron [3]. "

По вышеуказанным причинам это также спорный механизм е-захвата – для моей модели эта реакция протекает без противоречий… Упреждаю Ваш вопрос – «Как же так… При такой модели реакция е-захвата будет доминировать в природе»… Это абсолютно неверный вывод… Для прохождения этой реакции необходимо участие фотона… Как оно на самом деле происходит в парадигме моей модели я пока не анализировал, так как ошибочно считал ещё год назад то, что электрическое поле существует…

«Таким образом, электрон и протон – вращающиеся волчки и если нет силы, ограничивающей направления их спинов $\overline{h}$, то ротационные поля, которые неизбежно формируются в окрестностях их поверхностей, легко приводят их

оси вращения в соосное состояние и разноименные электрические потенциалы сближают их, а одноименные магнитные полюса ограничивают это сближение.

For the above reasons, this is also a controversial mechanism of e-capture - for my model, this reaction proceeds without contradictions ... I am anticipating your question - "How is it ... With such a model, the e-capture reaction will dominate in nature" ... This is an absolutely wrong conclusion ... reaction requires the participation of a photon ... How it actually occurs in the paradigm of my model, I have not yet analyzed, because I mistakenly believed a year ago that the electric field exists ...

"Thus, an electron and a proton are spinning tops, and if there is no force limiting the directions of their spins $\overline{h}$, then the rotational fields, which inevitably form in the vicinity of their surfaces, easily bring their axes of rotation into a coaxial state and unlike electric potentials bring them together, and the same magnetic the poles limit this convergence.

At the moment of connection of an electron with a proton, different speeds of their rotation form the conditions for the emission of a photon. After the emission of one photon, the electron approaches the proton stepwise and re-emits the photon. The steps at which the electron is retained are called by us energy levels. We have already shown that the process of the formation of a hydrogen atom starts from about 108 energy levels, and the process of combining two atoms into a hydrogen **molecule** occurs at the moment when the electrons of two atoms are approximately at the fourth or third energy levels [3].

Now imagine that free electrons and protons are in a magnetic field. It immediately orients the vectors of their magnetic moments along the field and there are restrictions on the process of the formation of a hydrogen atom. Since the magnetic moment of the electron $\overline{M}_e$ is greater than the magnetic moment of the proton $\overline{M}_P$, it occupies a more stable position in the magnetic field, and the proton is less stable. Therefore, the orientation of the vector of its magnetic moment $\overline{M}_P$ will be influenced not only by the external magnetic field, but also by the rotational field in the vicinity of the electron. As a result, at the moment of connection of a proton with an electron, the proton appears precession, which affects the process of emission of photons. The angle of this precession begins to quantize and the former single spectral line, which forms in the absence of a magnetic field, begins to split. "

The idea with precession seems to me very fruitful ... Therefore, I return to what I wrote above - "This leads to the fact that the plane of rotation of yoctomagnets constantly changes its position in space and thus the magnetic moment and spin of the electron and the proton constantly change their direction in space, i.e. they precess ... " And

here he is the main point in these arguments ... The ends of the vectors of the magnetic moments of the proton and the electron describe a circle as a result of this precession ... But since the direction of movement of these ends along their circles occurs in opposite directions due to the opposite rotation of their bodies tori around the axes of torus bodies, then it is the electron, and not the proton, that precession appears, which affects the process of emission of photons by the electron - the precession angle begins to quantize ... Doubtful reasoning ... for me ...

"It is known that the energy of the indicated precession characterizes the gyroscopic moment of a proton M_G acting on it at the moment when it brings the orientation of its spin closer to the spin of an electron (Fig. 8, 9). The magnitude of the vector of the gyroscopic moment of the proton is determined by the formula

$$\overline{M}_G = m_P r_P^2 \cdot \overline{\omega}_P \times \overline{\omega}_0 \cdot \sin\psi = \frac{кг \cdot м^2}{c^2} = Джоуль \quad J, \qquad (38)$$

здесь m_P - масса протона; r_P - радиус протона; $\overline{\omega}_P$ - угловая частота вращения протона; $\overline{\omega}_0$ - угловая частота прецессии протона, она совпадает с направлением вектора угловой частоты вращения электрона $\overline{\omega}_e$; ψ - угол между направлениями векторов $\overline{\omega}_0$ и $\overline{\omega}_P$.»

Гироскопический момент электрона – $M_{eG} = m_e \cdot r_e^2 \cdot \omega_e \times \omega_{0e} \cdot \sin\psi = кг \cdot м^2/c^2 =$ Джоуль,
где m_e - масса электрона, r_e - радиус электрона, ω_e - вектор угловой частоты вращения электрона, ω_{0e} - вектор угловой частоты прецессии электрона, он совпадает с направлением вектора угловой частоты вращения протона ω_{0P} или ω_0 ; ψ - угол между направлениями векторов ω_0 и ω_{0e} ~ равен нулю. sin 0° = 0, $M_{eG} = 0$…

«Обратим внимание читателя на то, что соотношение (38) – векторное произведение векторов $\overline{\omega}_P$ - вращения протона относительно своей оси и вектора $\overline{\omega}_0$ прецессии протона.
Так как внешнее магнитное поле более устойчиво ориентирует электрон, то в момент формирования атома водорода прецессирует в основном протон.

На рис. 8 и 9 показаны схемы их прецессии. Для ясности обозначим $\overline{h}_e$ - спин электрона, $\overline{h}_P$ - спин протона. Вполне естественно, что они равны постоянной Планка $\overline{h} = \overline{h}_e = \overline{h}_P$.»

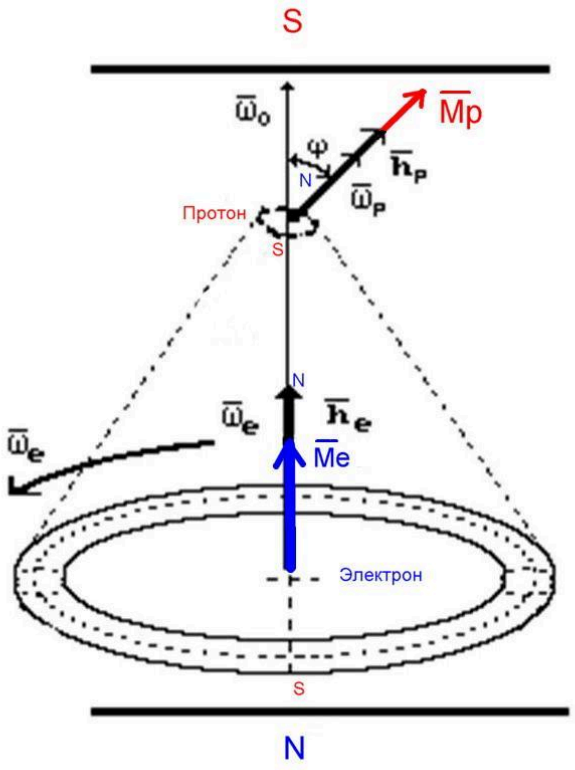
Since the external magnetic field orients the electron and its spin more stably, then at the moment of the formation of the hydrogen atom, the proton precesses mainly ...

$h_e = h_P$ or $m_e \cdot r_e^2 \cdot \omega_e = m_P \cdot r_P^2 \cdot \omega_P$

$\omega_e / \omega_P = m_e \cdot r_e^2 / m_P \cdot r_P^2 = 9.109 \cdot 10^{-31} \cdot (2.426 \cdot 10^{-12})^2 / 1.6726485 \cdot 10^{-27} \cdot (1.3214 \cdot 10^{-15})^2 = 1835.6$

This is in line with what I counted above -
$\mu_B / M_P = 9.274078 \cdot 10^{-24}$ J / T / $0.505009 \cdot 10^{-26}$ J / T = 1836.31

As can be seen (38) and (Fig. 8 and 9), the gyroscopic moment acting on the proton depends mainly on the angle ψ . When $\psi = 0^0$ the gyroscopic moment of the proton $\overline{M}_G$ becomes zero. This means the completion of the proton precession process and the transition of the hydrogen atom (electron + proton) to a stably oriented position. "



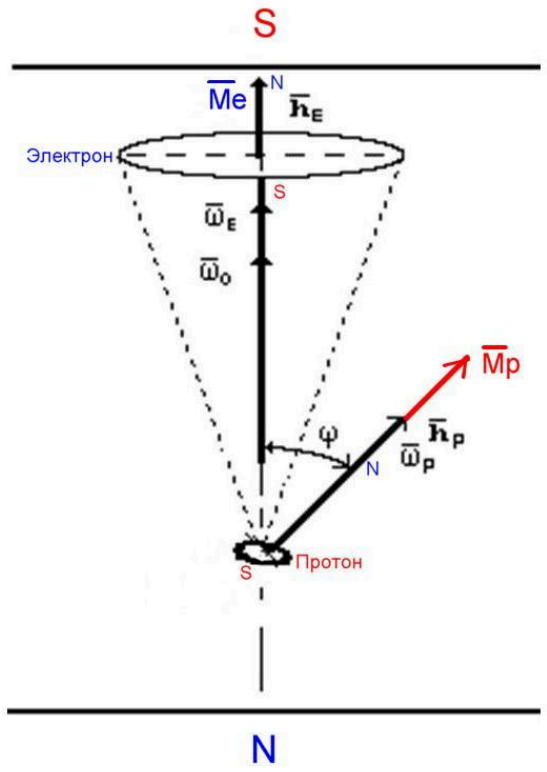
Rice. 9.2 The second scheme of the precessional interaction of a proton P with an electron e in a magnetic field at the moment of the formation of a hydrogen atom

Figure 9.2. and 8.2 my model of the hydrogen atom and the diagram of the precessional interaction of a proton and an electron in a magnetic field at the time of the formation of a hydrogen atom.

"The gyroscopic moment vector (38) characterizes the precession process only qualitatively. The modulus of this vector will be equal to the scalar product of vectors $\overline{\omega}_P$, $\overline{\omega}_0$.

$$M_{GP} = m_P \cdot r_P^2 \cdot \omega_P \cdot \omega_0 \cdot \cos(\pi \pm \psi) \Rightarrow M_{GP} = -m_P \cdot r_P^2 \cdot \omega_P \cdot \omega_0 \cdot \cos\psi \quad (39)$$

It is easy to understand that the gyroscopic moment of the proton in my model does not have a negative value.



Rice. 8.2. The first scheme of the precessional interaction of a proton *P* with an electron e in a magnetic field

"There is reason to believe that the process of emission of photons by an electron begins at certain values of the angle ψ and we can calculate these values. Table 28 shows the wavelengths of excitation photons emitted by an electron of a hydrogen atom in the presence of an external magnetic field.

When $\psi = 0^0$ the gyroscopic moment vector $\overline{M}_G$ (38) is also zero. There is no precession and a photon with the lowest energy is emitted $E_{Ph} = 10{,}198895eV$ (Table 28).

When $\psi \neq 0^0$, then two options for the interaction of a proton with an electron are possible: the first - the proton and the electron interact with the south magnetic poles (Fig. 7) and the second - when the proton and the electron interact with the north magnetic poles (Fig. 9). It can be assumed that in the first case a photon with energy is emitted $E_{Ph} = 10{,}198938eV$, and in the second - with energy $E_{Ph} = 10{,}198926eV$.

It is quite natural that this is only a hypothesis, but it explains no worse than the previous one the reason for the splitting of the spectral lines of the hydrogen atom at the energy levels n = 2, n = 3 and n = 4 (Table 28). "

I agree with F.M. Kanarev is that this is only a hypothesis ... My two options differ from his options - see figure 9.2. and 8.2. "

Gareev F.A. - 5 minutes 20 seconds - “And here my observations are interesting in the sense that when people move to relative coordinates, when they replace the radius vector of the proton minus the radius vector of the electron with one vector, they forget about the motion of the proton ... And when you go back, it is immediately clear that both the proton and the electron move synchronously with the same frequency. That is, to say that the electron rotates against the rotation of the proton is absolutely wrong.

My fascination with biophysical books and tracts led me to the statement that, in fact, physics is completely inexact science. In my opinion, it has been very much conserved over the last century, and especially this is quantum mechanics - this is a purely "axiomatic science" that can describe almost any experimental phenomenon, but this is physics for closed systems. And we know that there are no closed systems in nature! And this is one of the powerful shortcomings of quantum mechanics, and only the lazy one does not write about other shortcomings and the crisis in physics ... Second, physics does not recognize, does not recognize at all, elementary particle physics does not recognize the evolution of the world. When we look somewhere, we see what this evolution is. Everything is born, improved and the like. And it turns out that elementary particles, nuclei, consist of some kind of bricks that are invariable in time! I think this is not the case. "

Alexey Cherepanov

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Exposing Maxwell - A Treatise on Electricity and Magnetism, 19.01.2021 – https://cloud.mail.ru/public/pT8k/rWHqs5FsT

Exposing Maxwell - A Treatise on Electricity and Magnetism, 19.01.2021 – https://drive.google.com/file/d/1brS8FUw1gfvSZMvqVf3oR46Vsdj6pm6G/view?usp=sharing

18 different models of the hydrogen atom and all have their experimental confirmation - https://cloud.mail.ru/public/fzXC/4A1G5fdJT

18 different models of the hydrogen atom and all have their experimental confirmation - https://docs.google.com/document/d/12IhOZc3O-9NxFf73o5Ob7zr0bnJGHrdI/edit?usp=sharing

Холмлид пишет - "... The importance of this quantum material in space is accentuated by a few recent publications: The so called extended red emission (ERE) spectra in space agree well (L. Holmlid in Astrophys. J. 866:107, 2018a) with rotational spectra measured from H(0) in the laboratory, supporting the notion that H(0) is a major part of the dark matter in the Universe. The proton solar wind was shown to agree well with the protons ejected by Coulomb explosions in p(0), thus finally providing a convincing detailed energy mechanism for the solar wind protons ...."

Нет в природе этого явления - " Coulomb explosions ", так как нет в природе "электрических зарядов" и нет "Кулоноского барьера" - Максвелл ошибся... Более того - все кто пишет такие умозаключения присоединяются к Максвеллу и также как Максвелл извращают учение Шарля Кулона... Обратитесь к оригинальным трактатам Шарля Кулона - изучите их внимательным образом , и тогда Вы обнаружите подмену понятий, которую ввёл в физику Максвелл... Я раз за разом "разжевываю" Вам эти простые истины... Почему Вы так ленивы ? Почему не прислушиваетесь к моему голосу и к тому "здравому смыслу", который я пытаюсь донести до Вас ? Максвелл совершил "школьную ошибку", он добустил невнимательность - и все это фатальным образом

отразилось на развитие физики... Прочитайте трактат Томсона от 1872 года "Электростатика и Магнетизм" и прочитайте раздел "Электростатика" в трактате Максвелла "Электричество и Магнетизм" ... Сравние тексты... Сравните рассуждения... Это же просто сделать тем, кто имеет родной английский язык... Томсон, Кулон, Пуассон, Харрис рассуждают о заряде как о "количестве вещества", как о "массе вещества", как о "массе электричества", а Максвелл получил "заряд" как некое "непонятное физике "существо" или сущность", которая имеет непонятное для здравомыслящего физика размерность - ... СКолько можно заблуждаться и вводить в заблуждение остальных ? Это мракобесие ! Давайте закончим с этим ! Давайте бороться против этого "идиотизма", против этой фальши !

Holmlid writes - "... The importance of this quantum material in space is accentuated by a few recent publications: The so called extended red emission (ERE) spectra in space agree well (L. Holmlid in Astrophys. J. 866: 107, 2018a) with rotational spectra measured from H (0) in the laboratory, supporting the notion that H (0) is a major part of the dark matter in the Universe. The proton solar wind was shown to agree well with the protons ejected by Coulomb explosions in p (0), thus finally providing a convincing detailed energy mechanism for the solar wind protons .... "

There is no such phenomenon in nature - "Coulomb explosions ", since there are no "electric charges" in nature and there is no "Coulomb barrier" - Maxwell was mistaken ... Moreover, everyone who writes such conclusions joins Maxwell and, like Maxwell, distorts the teachings of Charles Coulomb. .. Refer to the original treatises by Charles Coulomb - study them carefully, and then you will discover the substitution of concepts that Maxwell introduced into physics ... I chew these simple truths over and over again for you ... Why are you so lazy? Why don't you listen to my voice and to the "common sense" that I am trying to convey to you? Maxwell made a "school mistake", he added inattention - and all this fatally affected the development of physics ... Read Thomson's 1872 treatise "Electrostatics and Magnetism" and read the section "Electrostatics" in Maxwell's treatise "Electricity and Magnetism" .. Compare the texts ... Compare the reasoning ... It's easy to do for those who have a native English ... Thomson, Coulomb, Poisson, Harris talk about a charge as a "quantity of matter", as a "mass of matter", as about the "mass of electricity", and Maxwell received the "charge" as a kind of "being" or essence "incomprehensible to physics, which has a dimension that is incomprehensible to a sane physicist - ... How much can one be mistaken and mislead the rest? This is obscurantism! Let's get it over with! Let's fight against this "idiocy", against this falsehood!

Dimensions of Electrical Quantities, Karl Schreber, 1899 - https://cloud.mail.ru/public/rZpb/fzFv6ttNv

Dimensions of Electrical Quantities, Karl Schreber, 1899 - https://docs.google.com/document/d/1zRAN9j6adD6Q9CYqq84E_mKQueQn-mTE/edit?usp=sharing