

# Real magnetic charges as a negation of the electric magnetism Maxwell and electrified Dirac's monopole

## Abstract

The main reasons that real magnetic charges were “buried alive” in modern theories are physics of their confinement in atoms and substance which is radically different from the confinement of electrons, as well as the vicious electromagnetic theory of Maxwell. This theory which should be referred to as Maxwell’s electric magnetism is the result of superficial perception by the Great Physicist of the famous Oersted’s Experience when only external factors of Experience were taken into account: the electric current and the magnetic field around the conductor. It was with Maxwell’s “light hand” that electrons moving in the composition electric current were erroneously declared to be the direct sources of the magnetic field what on 145 years has “deprived” the magnetic charges, which make up about half of the spinor particles in real World of the opportunity to engage its professional activities. It is important to note that the real physical processes taking place in the body of a conductor with an electric current as in Maxwell’s time, so and until now, as this not paradoxically, remain outside beyond our detailed knowledge. Maxwell’s electric magnetism can be represented as the “cancerous tumor” in the “body” of physical science the metastases of which struck, virtually, all the directions of the fundamental physical theory. With taking into account the historical conditions of formation and the scales of the negative impact on civilization, the vicious electromagnetic concept of Maxwell is quite adequate with to such surface-primitive concepts as Flat Earth or near-Earth rotation of Sun. As a result of all these circumstances, many useful and effective technical projects that could improve the quality of people’s lives, as well as expand the technological capabilities of our civilization could not take place. So, for example, in the absence of magnetic charges in physical representations was impossible to find out the real physics of the gravitational field. Therefore it turned was not possible to implement such important project both the technical Gravitational Levitation in which can use the inexhaustible, stable and environmentally friendly energy of the gravitational field directly. It should be noted that the project of technical Gravitational Levitation is just one of many missed opportunities that were closed as a result of the negative exposure of Maxwell’s electric magnetism on the physical science. In 1931 P. Dirac proposed his the famous theory of magnetic monopole. But in order for this monopole to emit a magnetic field, this field must first be produced with the help of an electric current in the filamentary solenoids of Dirac. The Dirac monopole, given the all circumstances of its formation, can be called an electrified magnetic pole, based, implicitly, on the same vicious electromagnetic conception of Maxwell.

**Keywords:** magnetic charges, magneton and antimagneton, EM-concept Maxwell, Dirac’s monopole

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**Sizov RA**

Solid State Physics Institute, Moscow, Russia

**Correspondence:** Robert A Sizov, Solid State Physics Institute, Paustovskogo st. 3-566, Moscow, Russia, Tel +7 495 4226930, Email sizov.robert@gmail.com

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## Elementary introduction in physics of magnetic charged and spinor fields

Fundamental discoveries made by Ehrenhaft F,<sup>1</sup> and also experimental and theoretical studies the author of this article<sup>2-5</sup> are showed that magnetic charges (magnetic spinor particles) are real structural components of atoms and substance. Namely magnetic charges are immediate sources of all magnetic fields and magnetic manifestations in Nature. Magnetic charges together with electrical charges form of the atomic shells as well as exist in potential and real zones conductivity of solids. These magnetic charges got of author’s title the magnetons and antimagnetons (respectively, with magnetic charges  $g^+$  and  $g^-$  under fundamental condition  $g = e$ ). Individual magnetic charges emit only a polar magnetic field, determined by the polar vector  $\mathbf{C}$  that leads to the condition:  $\text{div} \mathbf{C} = 4\pi\rho_g$ , where

$\rho_g$  is density of magnetic charges. By passing electrical current in the conductor is implemented vortex (circular) motion of magnetic dipoles (dipole pair: magneton and antimagneton) around lines of electric current. This process is written in the form:  $k_1 \mathbf{J} = \text{rot} \mathbf{C}_e$  (1), where  $\mathbf{J}$  the vector of linear electric current and  $\text{rot} \mathbf{C}_e$  is the vector of vortex current of magnetic charges which is forming by a rotating magnetic dipole. Namely, the magnetic dipoles rotating around the electric current lines are the natural sources of the vortex magnetic field, which is described by of vortex vector  $\text{rot} \mathbf{C}_v$ . The equation of process formation of a vortex magnetic field by means of a rotating magnetic dipole has the form:  $k_2 \text{rot} \mathbf{C}_v = \text{rot} \mathbf{C}_e$  (2). The  $k_1$  and  $k_2$  in the above equations are proportionality coefficients. Here it is very important to emphasize once again that known vortex magnetic field is formed, exclusively, by rotating magnetic dipoles.

As for the electric current so it is only an intermediary which as a result of interaction with magnetic charges creates a rotational motion of magnetic dipoles in the lattice of conductor.

According to the generally accepted views which ingrained in physics over the past 145 years, the formation of vortex magnetic field in the passage of an electric current in a conductor is determined exclusively by Maxwell's electromagnetic theory, and the equation of formation process this field is presented in the form  $k_e \mathbf{J}_e = \text{rot} \mathbf{H}$  (3). It is important to note that equation (3) is a superficial mathematical photograph of the well-known Experience of Oersted and includes exclusively external and, practically, visual factors: electric current and magnetic field around the conductor.<sup>6</sup> The real processes that occur in the conductor during the passage of an electric current so remained unknown for Maxwell and, paradoxically, they remain as unknown remain to the present days.

The last equation, known as Maxwell's first equation, "buried alive" the true sources of the magnetic field, the real magnetic poles (magnetic charges), placing all responsibility for magnetic manifestations solely on electricity. The vicious electric magnetism of Maxwell with taking into account the historical conditions of its formation and the scales it of the negative impact on civilization is quite adequate with to such surface and primitive concepts as Flat Earth or near-Earth rotation of Sun.

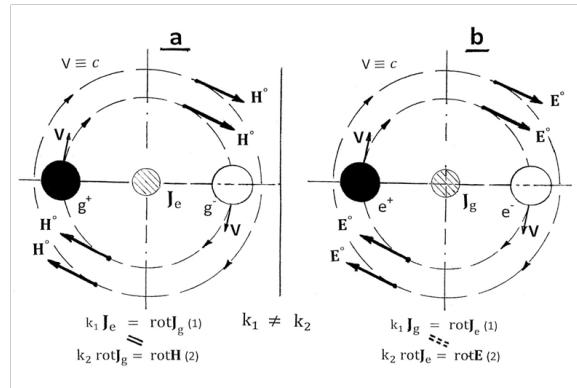
The above processes leading to the formation of the vortex fields: magnetic (a) and electric (b) around a conductor with electric and magnetic currents are shown in Figure 1. The equations (1) and (2) which are written in the Figure correspond to two mandatory processes in the conductor, without which vortex fields can't be formed.

In reality, a formation of magnetic field around the conductor with a constant electric current is realized as a result of not one (as at Maxwell) but two processes whose equations were written above (see Equations 1 and 2, both in the text so and in Figure 1A). The coefficients  $k_1$  and  $k_2$  in equations 1 and 2 are in principle not equal to each other, that is  $k_1 \neq k_2$ . Thus, Maxwell, who at a decisive moment was under the pressure of the superficial impression from the Oersted experience, exceptionally mistakenly put the equality between of the vector density electric current  $\mathbf{J}$  and the vortex vector  $\text{rot} \mathbf{C}$ , i.e. the left term of equation (1) with of coefficient  $k_1$  became equal to the right term of equation (2). This vicious equality sign, which, in the author's opinion, instead of "legs" have put the electromagnetic theory on "head" is shown in Figure 1A.

It is important to add to what was said above that as a result of the passage of current  $\mathbf{J}_g$  of magnetic charges around of the conductor a vortex electric field is formed, described by the vortex vector  $\text{rot} \mathbf{E}$  (see on Figure 1B). Like the vortex magnetic field  $\text{rot} \mathbf{C}$ , the field  $\text{rot} \mathbf{E}$  is formed as a result of two successive processes an equations of which are written in the form:  $k_1 \mathbf{J}_g = \text{rot} \mathbf{J}_g$  and  $k_2 \text{rot} \mathbf{E} = \text{rot} \mathbf{E}$ , where  $\text{rot} \mathbf{J}_g$  is the vortex current of magnetic charges which formed by electric dipoles  $e^+ + e^-$  rotating around the lines of the magnetic current. However, as shown by the author's experimental studies such a physical scenario can only take place in superconductors.<sup>4,7</sup>

It is interesting to note that in the arsenal of funds that Oersted had in 1820, the magnetic charges and, consequently, the magnetic currents were absent. Therefore Oersted, even with a strong desire, could not miss the current of magnetic charges through the conductor. In addition, the electric analog of the magnetic arrow in the experimental arsenal of Oersted was also absent. But even if Oersted had all the experimental possibilities outlined above, then around the current of magnetic charges he could receive an exclusively vortex electric field

$k_e \text{rot} \mathbf{H}$ . In this case, Maxwell would uniquely he should have produce another vicious equation  $k_e \text{rot} \mathbf{H}$ . Magnetoelectric concept in the basis of which could to be the last equation the descendants would be to call as the Maxwell's magnetic electricity. Fortunately, because of the conditions of the confinement magnetic charges in substance, which radically different from the conditions for confinement of electrons, such a vicious scenario, that is, another vicious concept of Maxwell did not take place. The act of Maxwell's hypothetically possible magnetic electricity is marked in Figure 1B in the form of a dashed equality.



**Figure 1** Schemes formation of vortex fields around a conductor with constant currents of electric (a) and magnetic (b) charges. The magnetic and electric charges in the compositions of corresponding dipoles and are indicated in the Figure using white and black circles. Under an influence of electrical ( $\mathbf{J}$ ) or magnetic ( $\text{rot} \mathbf{A}$ ) currents the rotation, respectively, of magnetic and electric dipoles around the streamlines is realized in the conductor. Namely, as result of these processes the vortex magnetic field  $\text{rot} \mathbf{C}$  and vortex electric field  $\text{rot} \mathbf{E}$  are realized around the conductor. The plane of rotation of the dipoles is normal to the lines of electric or magnetic current in the conductor, which is marked in the Figure as a dotted circle (in the center). For convenience of representation, the vortex vectors  $\text{rot} \mathbf{C}$  and  $\mathbf{C}$  have been replaced in the Figure, respectively, on  $\mathbf{C}$  and  $\mathbf{E}$ .

To the above, we should add that in the late 90-ies the author of this article succeeded in obtaining experimentally the potential difference of the magnetic charges and realizing their direct current in a solenoid from a superconducting lead wire. As an electrical analogue of the magnetic needle, the author used an arrow from a polarized ferroelectric (barium titanate,  $\text{BaTiO}_3$ ). The result of the experiments was the reaction of the ferroelectric arrow on a vortex electric field ( $\text{rot} \mathbf{E}$ ), which was formed around a superconductor with a current of magnetic charges. The deviation angles of such an arrow in two effective experiments amounted to  $25^\circ$  and  $8^\circ$  with an error of  $\pm 1^\circ$ . Significant difference in the behavior of the so-called of the ferroelectric arrow in the author's experience with the reaction of the magnetic needle in the Oersted experiment (the arrow were turned  $90^\circ$ ) is that the ferroelectric arrow used by the author is not electrical analog of the magnetic arrow. Details this experience and its discussion is given in the author's books<sup>4</sup> and are briefly presented in.<sup>5</sup>

In publications,<sup>7</sup> the author showed that the fundamental difference in the physics of the confinement of magnetic and electric charges in substance determines the possibility of the existence in the Universe of two physically different Worlds: the electric World and the magnetic World. Thus, in our (electric World), electrons are in the composition of the physical mass under relatively soft confinement conditions, and magnetic charges are in the conditions of rigid confinement. Namely, the last differences determine the anomalies described by the author related to with conductivity of electric and magnetic charges in conductors.

## The vicious electric magnetism of Maxwell and some problems of fundamental and technical physics

The vicious concept of Maxwell's electric magnetism, almost on 150 years, has closed all reasonable approaches of theory to physics of atoms and substance with real magnetic charges. It is the interpretations of numerous magnetic and electromagnetic effects that were performed without taking into account magnetic charges, have led to an incredible complication of modern physical theory, and also made it extremely difficult to elucidate the real physics of the numerous effects and manifestations which observed in practice. As a result of these circumstances, many useful and effective technical projects that could improve the quality of people's lives, as well as expand the technological capabilities of our civilization did not take place.

So, for example, in the absence of knowledge about the real physics of the gravitational field it was not possible to implement such important project, both the technical Gravitational levitation (GL) in which the energy of the gravitational field can be directly used.<sup>8</sup> The forces of GL are orders of magnitude higher than the forces of magnetic levitation and are capable to replace the used in technics the reactive traction. It should be noted that the project of TGL is just one of many missed opportunities that were closed as a result of the negative exposure of concept vicious electric magnetism on the physical science.

Of course, a vortex magnetic field around a conductor with an electric current is an undeniable experimental fact (Oersted's experiment). However, far from being a fact that true sources of this field are electrons which move in composition of electric current. Namely, with the "light hand" of Maxwell in the modern science were vicious conviction has been introduced that in a conductor under the influence of an electric voltage only electrons can move. Consequently, only electric current should be considered as source of the magnetic field.

But with the same "success" it is possible, for example, to conclude that the electric current coming from the electric network to hairdryer is pushes air out of its nozzle, provided, that the person does not know about the existence of the ventilator and electric motor in a hairdryer and is do not feel their noise and vibration. There is no doubt that if only the vortexes of magnetic charges that of formed in the conductor under the effect of moving electrons could create noise and vibration Maxwell would have arrived at an entirely different conclusion concerning the true source of magnetic field.

Now we can confidently state that, practically, none of the scientists who were active in physics after Maxwell, did not escape the infection by of Maxwell's vicious "virus" (the definition of Maxwell's electric magnetism that given by the author of this article). But most striking fact is that himself ideologist of magnetic monopolism P. Dirac did not doubt in justice of doctrine Maxwell's.<sup>9</sup> Viewpoint that he took as regards on issues associated with magnetic poles is represented more than strange. On the one hand, Dirac is proclaim that it would be surprising if Nature would not have utilized this possibility i.e. that of realizing magnetic poles in structures of substance, and he even showed that the quantum EM-theory quite allows them existence. But, on the other hand, he is filled his monopole with a magnetic field, which was produced in ultrathin filaments-solenoid fed by an electric current. Thus, if to remove the Dirac's solenoids, i.e. if disconnect monopole from the electric current source then there will be no and

famous monopole. In other words, despite the despite high goals, Dirac and his magnetic monopole failed to avoid infection by of Maxwell's vicious "virus". In addition, the magnetic field emitted by the Dirac monopole can only be a vortex field, which is described by the vortex vector  $\text{rot } \mathbf{C}$ , since only such a magnetic field can be formed around a conductor with a constant electric current. It is also important to note that Dirac did not associate his monopole with magnetic fields and manifestations which surround man, because he did not see any prospects for this.

The estimates of the contribution made by Dirac to the resolution of the problem of magnetic particles (magnetic charges) do not appear to be unambiguous. Of course, Dirac paid attention to this interesting problem from the height of his authority, and this gave rise to a wave of relevant investigations. On the other hand, since Dirac was influenced by Maxwell's vicious "virus", he received a very abstract result, which practically has nothing to do with real practice. This is the case when say "all this is very interesting, but it has nothing to do with the case." Note that dozens of theoretical and experimental studies were «spinning» around the Dirac monopole with its exotic parameters and incomprehensible attitude to reality. As for the author of this magnetic abstraction that he was the second, after Maxwell, the "switchman" who, 58 years later, sent the problem of real magnetic poles (charges) in on distant future.

A striking result of the development of Maxwell's perverse electromagnetic representations is, for example, the erroneous theoretical concept of the expansion of the Universe. In books of the author<sup>10</sup> it is shown that as a result of the vicious ignoring in the physical theory, by more than a hundred years, of real magnetic charges were closed all reasonable approaches of science to the real structure and the frequency physics photons. The forced, for this reason, reduction of photons to the quanta of Huygens fictitious wave field, has provoked the use of a purely kinematic approach in interpreting the observed cosmological redshift of the photon frequency. According to the author's research, the photon frequency is determined by the intra-photon physics, which embedded in the photon at its birth. Therefore, neither the effect of Doppler, nor the more so, the so-called the expansion of the "bare" space on the photon frequency offset does not affect. Use of fictitious concepts: the Doppler frequency offset of photons and the expansion of space, in the absence of knowledge of real photonic physics is the cause of manifestation of such grandiose errors as the global expansion of Universe and a big explosion.

However, the most harmful concept of the fundamental physical science, generated by Maxwell's EM-concept is the version of the purely electronic shell of atoms, which was formed in the works of E. Rutherford and N. Bohr. Namely, this vicious electronic circuit, introduced instead of the real electromagnetic shell of atoms, as a "tombstone" has closed all the possibilities of approaching, for example, to the real physics of the gravitational field.

For the same reason, the real physical nature of the Mass remains beyond the realm of real knowledge that, apparently, predetermined the appearance of the famous Higgs boson which is a fictitious (purely mathematical) source of mass in Nature.

The vicious concept of the electronic shell of atoms caused harm not only Physical Science. Extremely negative was its the impact of this concept on Physical Chemistry and Chemical Physics, as well as on Biophysics, since the theoretical approaches used in theoretical chemistry and biology were based on the achievements of fundamental Physics.

## Conclusion

The scale of the negative impact on the minds of concept Maxwell's electric magnetism amazes imagination. But the most striking thing is that the very process of formation of a magnetic field by means of a moving electric charge does not have any of the any reasonable model representation, since it is said that this is exclusively a relativistic effect. It is important to note that when magnetic charges are introduced into basic physical concepts, the process of formation of a magnetic field around a conductor with an electric current is very simply explained within in the framework of a simple physical model (see Figure 1A in Chapter 1 of this article). There are enough grounds to assume that the lack of the possibility to construct a model-shaped representation of the observed physical effects and manifestations is, most often, evidence of the lack of our knowledge in some very significant issues. In the author's opinion, it is the logical model-shaped representations based on experimental effects and observed natural manifestations should play a leading and even locomotive role in the development of physical science.

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In the end, the mathematical apparatus, even the most perfect, in the application to physical processes is just a language or a kind of "meat grinder", the way out of which is determined by the reliability or physical quality of the "product" (of model concept) that is put into it. The vivid example of the anti-positive exit from such a "meat grinder" can again be the erroneous EM-theory of Maxwell in which, at the stage of formation of its original concept, the magnetic charges, really existing in atoms and substance, were ignored. With the "light hand" of Maxwell the magnetic field, which in reality is fundamental spinor field, has turned into emanation, a kind the "miscarriage" of electricity. Paradoxically but this vicious EM - theory has for 145 years largely determined the development of world theoretical physics.

In his numerous publications, the author constantly stressed that recognition and introduction of natural magnetic poles (magnetic charges) into basic physical representations is a requirement of time. When they turn included in the physical basis is resolved many theoretical and practical questions, for example: the elucidation of the nature physical mass, physics of gravitational field, and many others. The use of magnetic charges and magnetic currents allows the development and application in practice of new highly efficient technologies, for example, the application of the effect of gravitational levitation, discovered by the author, or the technology of magneto electric induction.<sup>11</sup>

It is necessary, finally, to cut the vicious "knot" that Maxwell knotted on the "neck" of physical science and resolve the age-old question with the true source of the magnetic field, establishing in this role the natural magnetic poles. Since impossible, for another 150 years, to ignore of real magnetic charges and common sense and to remain faithful to the "great" teaching of Maxwell and vicious conviction that the mechanical motion of electrons is able to replace such natural source of magnetic fields as the magnetic pole or the magnetic charge.

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## Conflicts of interest

Author declares there is no conflict of interest.

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