In memory of Anatoly Evgenievich Akimov

Torsion fields and information interactions - 2009

Proceedings of the international scientific conference

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From the editor

Research, the topic of which served as the title for this conference and collection, began with the creation of the first torsion generators in the early 1980s and the first initiative experiments with them, as well as experiments in the middle 1980s, conducted behind closed doors, with the attention and participation of security forces departments of the Soviet Union.

20 years ago, with the formation of the Center for Non-traditional Technologies under the leadership A.E. Akimova, the second stage of research began, which was initiated government, was supervised by the State Committee for Science and Technology of the USSR, and consisted of conducting a broad open experimental programs involving many academic institutions.

This stage was abruptly interrupted, on the one hand, by the collapse of the USSR, and with it the decline of Soviet science, and, on the other, by a scandal initiated by the leadership of the Academy of Scienc USSR (later implemented on a permanent basis in the form of the Commission on fight against pseudoscience). Meanwhile, it was at this stage that it became clear that the obtained the results have great potential for creating a whole range of technologies new generation. In essence, we were talking about the elements of a new sum of technologies that promised the technological primacy of the USSR in the coming decades. With anoth On the other hand, these results made us think about the need for significant revision of the generally accepted physical picture of the world. In many ways for the first time the results obtained then, at the turn of the 80-90s, and their significance are still not fully comprehended and awaiting interpretation and further development.

The third stage continued in Russia and Ukraine with virtually no government financing, under severe pressure from the people who controlled cash flows for science and leading Russian (former Soviet) scientific publications Often it was a struggle for survival, and a real collection between the lines reports contain stories of persecution and silencing of researchers results. Meanwhile, the research results obtained over these almost twenty years, are no less significant, and, given the conditions in which they were carried out, and even after what researchers sometimes had to go through to get them - these results priceless.

This collection contains mainly the results of research over the past 10 years. 15 years. On the one hand, he draws some line under this difficult stage, and, on the other hand, he allows us to hope that a new stage in the development of torsion research will strengthen the still fragile bridges between “alternative” science, to which these studies are now considered by “big” science, which is included in

crisis period. Now is a very favorable time for the integration of these two parts.

It is significant that in this collection the topic of torsion generators is firmly took its place in the "Technology" section, and the largest block of reports in terms of volume dedicated to the problem of detecting ultra-weak fields and radiation, action which, paradoxically, strongly manifests itself mainly in relation to complex and nonequilibrium systems, which include biological objects. Researchers call these fields differently, and I would like to point out that It is no coincidence that the word "torsion" was left in the title of the conference - a term that was actually banned in our science, just like genetics and cybernetics. Thus, the organizers would like not so much to emphasize the priority torsion hypothesis explaining the phenomena considered, how much to restore it equality in rights with all other hypotheses.

The conference is intended as a new independent "assembly point" for researchers, and planned as a regular integrating event, as a free initiative researchers. In 2009, at the proposal of the program committee, it was decided to dedicate the conference to the memory of Anatoly Evgenievich Akimov.

At the end of the conference an electronic, extended version will be released of this collection. It will be located at:

http://www.second-physics.ru/node/23

The beginning of a new stage of research will most likely carry trends modern times: free publication of research results on the Internet, democratization and further internationalization of science, "horizontal" unification of researchers into scientific communities, and, most importantly, the return of ethics as a necessary component of scientific research. I want to hope that all this will contribute to the integration of the acquired knowledge into a generally accepted scientific picture of the world in the face of serious global challenges facing humanity. It's only begining.

V.A.Zhigalov

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About a new round of the spiral of development of natural science

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True knowledge cannot contradict
Faith, because Faith is true.

Thomas Aquinas

Currently, it is becoming more and more obvious that science is developing unusual situation. An increasing number of phenomena and enthusiastic scientists are appearing who study them, which academic science does not recognize or notice or even vehemently denies it, declaring it pseudoscientists and pseudoscience.

To long-known phenomena of this kind, such as biological and therapeutic effects ultra-low concentrations of substances (the so-called "imaginary concentrations" - less than 10-23M) were joined by facts about the influence of thoughts on the potential of double electrical layer, transmutation of elements at low temperatures and pressure, memory phenomena of matter, incl. water. These and similar phenomena are not can be explained within the framework of generally accepted concepts of physics, and therefore, with the positions of most scientists cannot be, are artifacts or deliberate falsification.

But experiments stubbornly and more and more convincingly indicate that, for example, water and other substances have a memory that is not destroyed even by phase transitions, that human thought can influence physical sensors through any obstacles and distances, and that the transmutation of elements occurs without the emission of neutrons.

Now there is no longer any doubt about two facts that are most important for understanding the world:

1. **The global environment has a non-energetic effect on all processes from nuclear decay to gravitational waves and chemical reactions, changing the spectrum of their fluctuations (Shnol S.E. and colleagues 1958-2009). From these same experiments it follows that the world the environment has an informational nature, in particular, it is characterized "fractal structure" and the size of its spatial heterogeneity smaller than the diameter of atomic nuclei.**

2. In addition to electromagnetic radiation and fields, there are other fields and radiation with enormous penetrating power and propagating at a speed much greater than the speed of light (work Kozyreva N.A., Akimova A.E., Bobrova A.V. and many more etc.).

These two groups of facts are, in our opinion, key to the development science, understood as knowledge of the unknown, and not a smug assertion own know-it-all.

Acceptance of the information fundamental basis of the world environment, the phantom memory of this environment, phenomena of targeted information transmission at enormous speeds allow understand many observed phenomena. Even more fundamentally, what is acceptance? allows, within the framework of natural science, "step-by-step experimental-logical methodology" to include phenomena in the range of phenomena considered by science psychic nature (such as clairvoyance, telepathy, telekinesis). But the main thing is probably that if we accept the provision on information fundamental principles of the world environment, then the irreconcilability of the contradiction between religious views of the world, which are based on the fundamental idea of God - the Creator and Almighty of the World, and about the immortality of the soul, and naturally - scientific a picture according to which the world lives and develops according to the laws inherent in matter without the intervention of the Spiritual Principle of the World.

It is important to realize that the development of science within the framework of the atheistic paradigm in all main directions have reached an obvious dead end. The more detailed, detailed and it is reliably possible to find out the conditions and events that occurred at key stages development of the world, such as the emergence of the Earth and the Moon, the emergence of life on our planet, the appearance of man, the more difficult and even impossible it becomes explanation within the framework of atheistic ideas.

This is the case, for example, with the appearance of life on our planet in the light modern knowledge about the genetic code and its work. Yes, they could be, and most likely there were conditions when the basic ingredients of living things (nucleotides, amino acids) appeared. Appeared in sufficient local concentrations, if present appropriate catalysts. But the emergence of meaningful genetic texts capable of self-reproduction without introducing external information about such texts seems much less plausible than the idea of coacervates and "Oparinsky broth"! But now it is clear that no coacervates and no "broth according to Oparin" can give birth to life. Everything changes if we accept that the global environment can transport any volumes of information through the endless expanses of the Universe. It is obvious that knowledge of the genetic code has brought us enormously closer to revealing the mystery of the appearance of life on our planet, only if we accept this position.

The situation is similar with the problem of the emergence of man (for details, see "The Becoming of Man" Malenkov A.G. 2008) and the problem of the emergence of the system Earth-Moon (more details "The Noosphere and the Man of the Noosphere" Malenkov A.G. 2009).

These and other worldview problems of science receive effective ways to decisions, if we accept, I repeat, the informational origin of the world and the world environment, and understand that the further development of our knowledge of the world certainly requires constructive synthesis of theological and natural scientific pictures of the world. Such The situation is the same in many much more specific areas of science (structure and properties of water, phenomena after clinical death, properties of memory, etc.). For this synthesis, religion gives fundamental ideas about God and the immortality of the soul, about moral beginning of the world, and science has its own step-by-step experimental-logical a method of cognition that can significantly complement the method of insight.

Getting started this way means that:

1. **Humanity is entering a qualitatively new stage of its development, for which characterized by a deeper awareness of one's co-creation with God and one's responsibility for this co-creation. 2.**

Science acquires a moral principle.

It is from these positions, in our opinion, that modern stage of development of natural science, clearly aware that a new round is beginning development, and the previous one, actively begun at the turn of the 16th-17th centuries, is ending.

The future of physics – a new scientific paradigm

Shipov G.I.

A scientific paradigm is usually understood as a picture of the world based on the most general ideas of physics about the surrounding world for that period of time when this picture is accepted by the majority of the scientific community.

The crisis of the modern scientific paradigm (paradigms Newton)

It is safe to say that none of the modern physical theories (including Einstein's general theory of relativity) is not without the concept inertial reference system. For more than three hundred years, physics has been developing in within the framework of Newton's scientific paradigm, in which uniform motion and rest reference systems turns out to be isolated. In his famous Mechanics Ernst Mach sharply criticized Newton's paradigm, declaring the unreality of the absolute Newton's space and the equality of not only inertial, but all other (i.e. accelerated) reference systems. Mach's criticism turned out to be so fruitful that It was thanks to this criticism that physicists initially abandoned the absolute Newton's space, creating the special theory of relativity (Larmore, A. Poincaré, G. Lorentz, A. Einstein). Then A. Einstein built a relativistic theory of gravity in which the inertial frame of reference was replaced locally accelerated inertial system (free falling elevator Einstein). However, A. Einstein failed to achieve the final liberation from the concept of an inertial frame of reference and this is exactly what This circumstance is the reason for the deepening crisis of modern science.

Fundamental theories of physics

There is perhaps no more well-worn expression among physicists than *the fundamental physics.* Almost everyone claims to be doing fundamental physics, although this is just routine work. This fully applies to theoretical physics. I think it would be reasonable to define a fundamental theory like this:

> **a physical theory is fundamental if its equations do not contain *adjustable constants,* and the solutions to the equations of the theory *are absolutely exact* predict the results of an experiment in the area of phenomena where the equations and the principles of the theory turn out to be fair.**

In field theory, the fundamental theories are *Newton's theories of gravity and Einstein,* as well as Maxwell-Lorentz ***electrodynamics .*** **Both of these theories are called classical because their basic principles and equations allow imaginative thinking, so necessary for the successful work of a physicist. As for them quantum generalizations, then relativistic quantum theory does not exist at all (there are only separate approaches to solving this problem), and in quantum**

Maxwell-Dirac electrodynamics (as in any quantum theory) is lost creative thinking. According to most leading theorists (Gell-Mann, Feynman, etc.), the lack of imaginative thinking in quantum theories makes them incomprehensible and takes them beyond the framework of fundamental theories. It is for this reason reason, quantum theory cannot serve as a starting point for further development of fundamental physics (A. Einstein).

Phenomenological physical theories

Particle theory represents the cutting edge of modern physics. Since elementary particles participate in all known (and still unknown) interactions, we can confidently write down the symbolic equality:

Theory of elementary particles = Unified field theory.

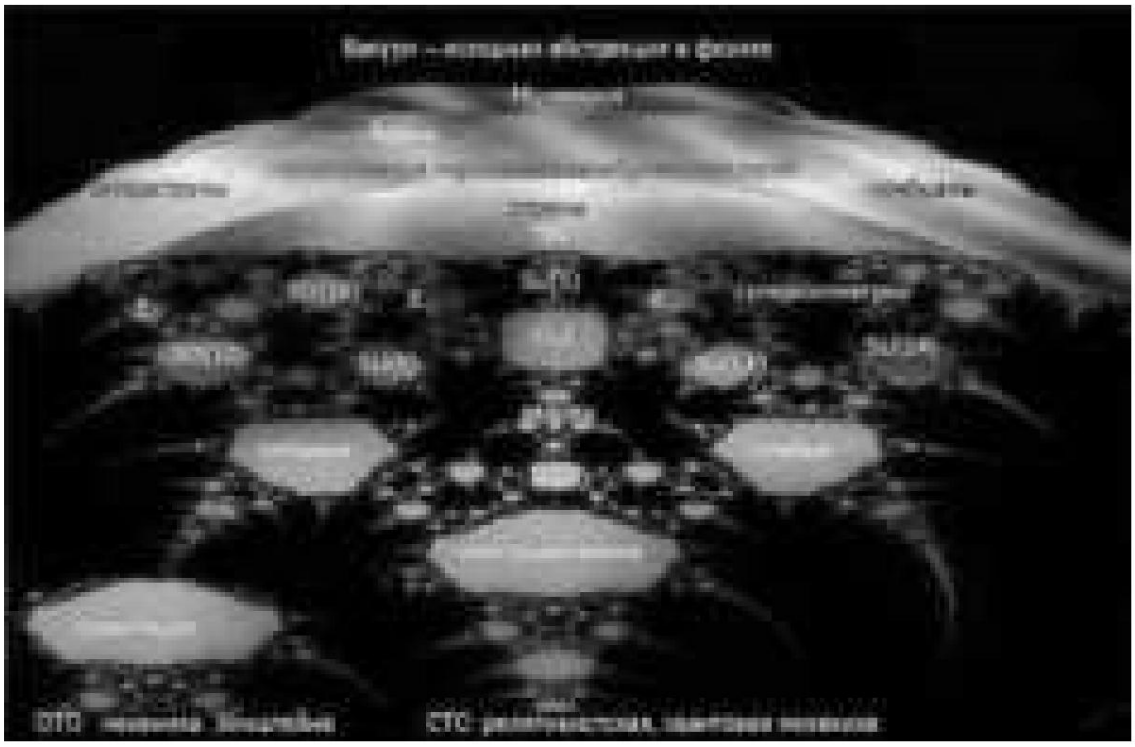


Fig.1. Scheme of modern physical theories and their associations.

Figure 1 schematically shows the main physical theories that are used to describe elementary particles. *Gravitational* properties of particles are described by Einstein's relativistic theory of gravity (Einstein's mechanics). This theory belongs to the category of classical fundamental theories and its "quantization" is not yet completed. The electromagnetic properties of particles are described classical and quantum electrodynamics (Maxwell-Lorentz-Dirac electrodynamics), while its classical part is fundamental in in the sense indicated above, and quantum is still awaiting its completion as fundamental theory.

For the first time, a deviation from the Maxwell-Lorentz laws of electrodynamics was discovered by E. Rutherford when he scattered ÿ-particles on gold nuclei. He discovered that on distances of the order 10^{-12} cm from the center of the nucleus the interaction between the ÿ-particle and of the nucleus are not described by Coulomb's law. To explain observed deviations you can move in two directions: either modernize the Maxwell-Lorentz equations so that solving new electrodynamic equations leads to interaction potential generalizing the Coulomb potential; or assume that There is a new type of field of non-electromagnetic nature. E. Rutherford went along the second way, assuming that at a short distance a new physical the object is a nuclear field for which there are no equations to describe it. From now on A phenomenological (since there are no equations) theory of nuclear forces arose, the interaction potentials of which physicists began to write "by hand." In written hand potentials typically include one or more fitting constants, which can vary depending on the type of potential chosen. We Let us define phenomenological theory as follows:

> **a physical theory is phenomenological if it does not have equations, the solution of which leads to the interaction potential, therefore the potential is introduced into the theory "by hand" and contains *adjustable constants.***

Solutions to Phenomenological Theory Equations Predict Outcomes experiment, as a rule, near those parameters that are included in the potential interaction (figuratively speaking, "at arm's length"). Of course, phenomenological theory is just the first attempt to systematize our ideas in a new area of physical knowledge and over time phenomenological theory must be replaced by fundamental theory.

Phenomenological theories include the theory of the strong and the weak (with the participation neutrino) interactions. Both of these theories arose as a result of the deviation observed phenomena from the laws of electrodynamics of Maxwell-Lorentz-Dirac.

Why is there no common sense in combining strong, weak and electromagnetic interactions in modern field theory

To describe the observed strong and weak interactions of charged (or neutral) elementary particles, physicists are trying to combine strong, weak and electromagnetic interactions by combining the equations available to them of these interactions. These equations turn out to be quantum equations of motion interacting particles in external fields, which are electromagnetic, strong and weak fields. For example, to describe electro-strong interactions of the nonrelativistic ÿ -particles with a nucleus, the equation is taken Schrödinger with the Coulomb potential describing the electromagnetic potential, the ÿ -particles and nuclei, and with the phenomenological nuclear interaction describing the nuclear interaction of -particles and nuclei. Over long distances from the nucleus, electromagnetic interactions predominate, since nuclear interactions on these distances are weak, and, conversely, at short distances nuclear

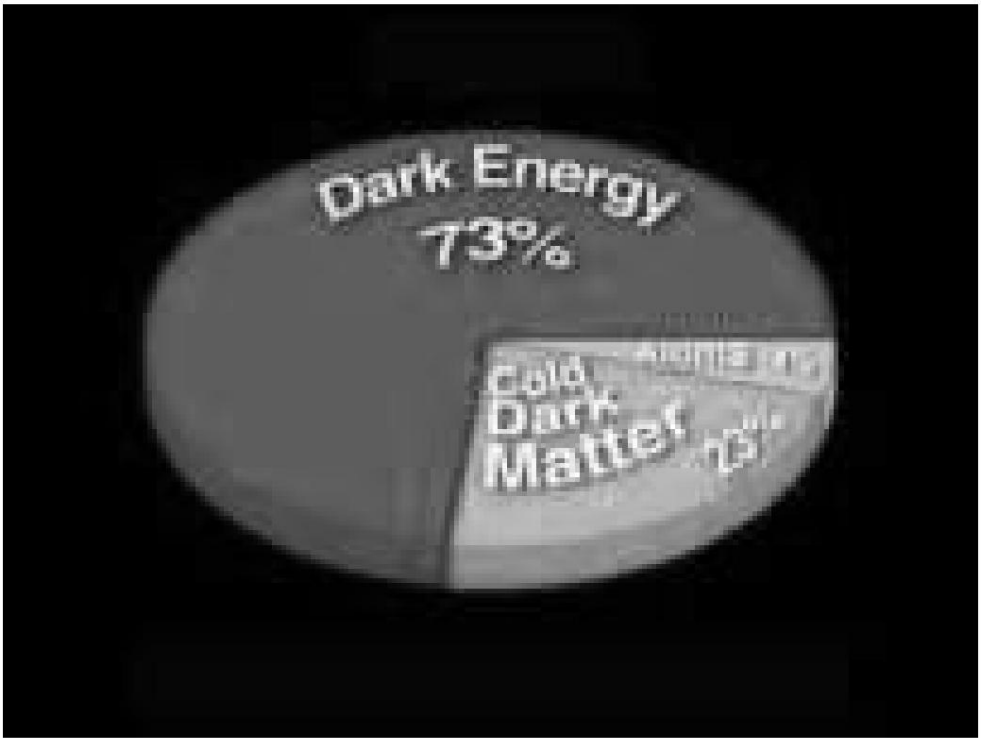
interactions. This approach is too simplistic and lacks any common sense meaning, since to "unite" the fundamental theory of electromagnetism with phenomenological theory of nuclear forces is the same as trying to "cross" a live horse with a motorcycle, based on the fact that both are means for movement.

The situation is exactly the same with the unification of electromagnetic and weak interactions - such a combination is contrary to common sense, since these theories, so to speak, have different genetics.

In Fig. 1 presents various phenomenological field models that involve the unification of all known types of interaction of elementary particles. These are quantum chromodynamics (QCD), gauge theories using wider groups of internal symmetries (SU(5), SU(8), SU(10), SU(11), etc., supersymmetric models combining fermions and bosons, Grand Theory Unifications, string theory, membranes, branes. Finally, M-theory, which is the pinnacle of constructing phenomenological theories. According to its authors, this theory unites Everything and Everything, describing all known fields (including gravity) and many what is still unknown. However, all of these models carry preliminary character. They form an intellectual mosaic, far from common sense, since they are phenomenological in nature and based on a huge number of disparate experimental facts that make phenomenological theory of the boundless. This state of affairs is nothing short of a crisis cannot be named in the theory of elementary particles.

Crisis in astrophysics

In recent years, in astrophysics, using *the WMAP (Wilkinson Microwave Anisotropy Probe)* space probe , **data have been obtained on the existence of two anomalous physical objects – "dark energy" and "dark matter". By Astrophysicists estimate that "dark energy" and "dark matter" make up 73% and 23% of the observed matter, and only 4% is known to modern science matter (see Fig. 2).**



Rice. 2. The relationship between dark matter, dark energy, and ordinary matter in the Universe.

"Dark matter" was needed to explain the stability of the huge rotating cloud of dust and hydrogen, which was first observed in the galaxy *HVC* **127-41-330 using the powerful Arecibo radio telescope. It is assumed that all galaxies contain "dark matter", an order of magnitude greater in mass than all stars of galaxies. "Dark matter" interacts with ordinary matter gravitationally and does not emit fields known to us (that's why it got the name "dark")**

"Dark energy" helps explain observed anomalous acceleration expansion of the Universe, which follows from an analysis of the brightness of distant supernovae stars The observed brightness corresponds to a redshift that can be explained by the existence in remote regions of the Universe of antimatter, born from the vacuum simultaneously with matter. It is the energy of the vacuum ("dark energy") causes anomalous expansion.

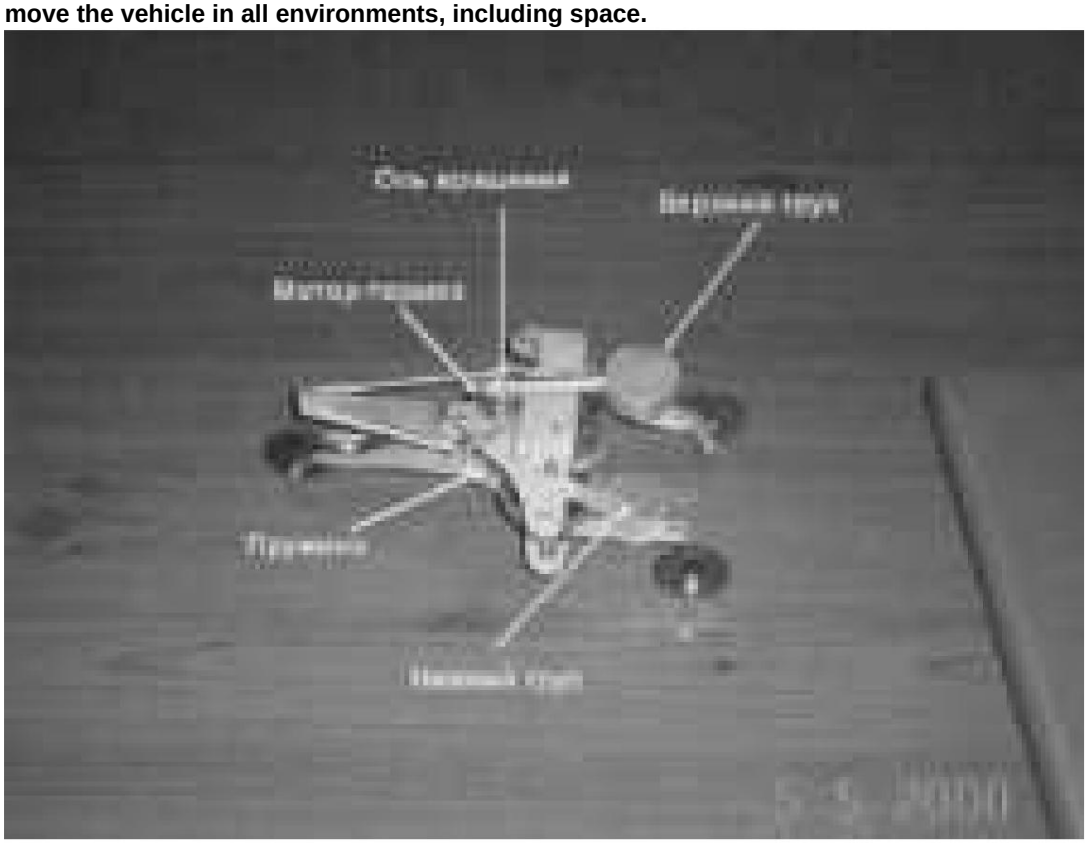
Currently, equations to describe "dark energy" and "dark matter" (even phenomenological ones) have not been found. This means that 96% of the substance is in Universe have an unknown nature, which determines the crisis situation in modern astrophysics.

Crisis in macrophysics

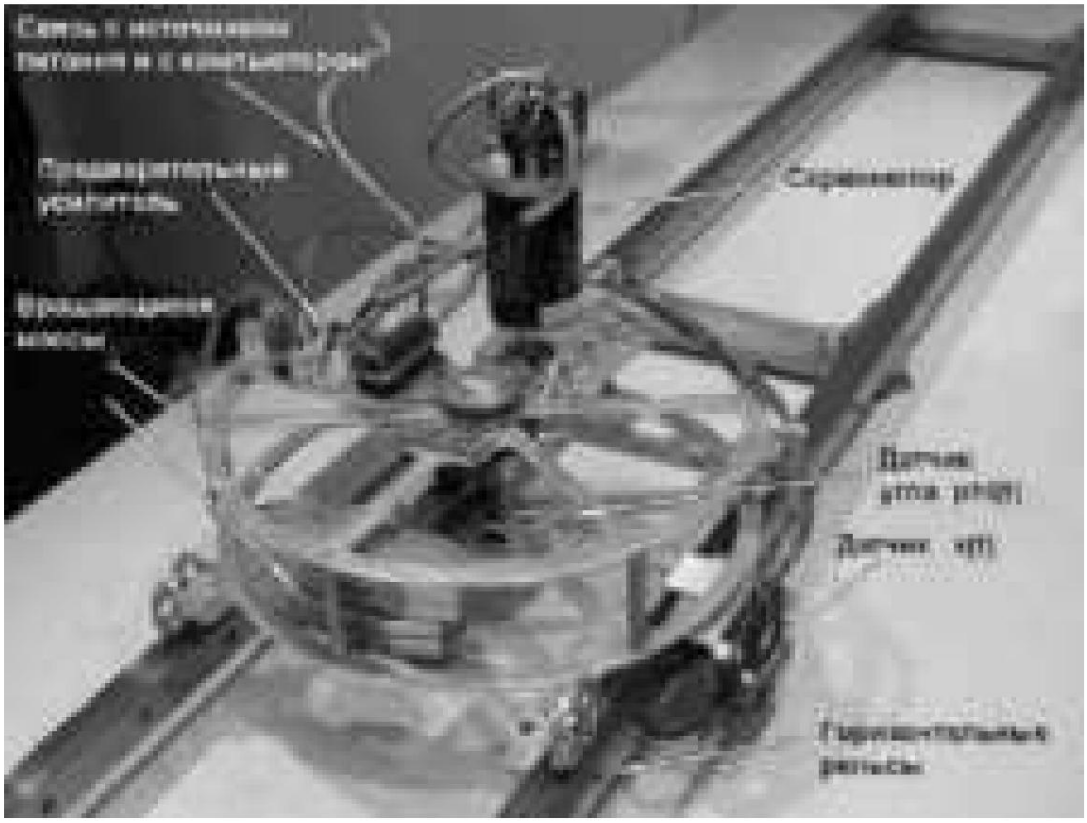
The crisis state of physics is observed not only in the micro- and mega-worlds (theory elementary particles, astrophysics), but also the macrocosm, and most authoritative researchers prefer not to notice this or attribute it observed facts to "pseudoscience".

Anomalous phenomena in mechanics

At the beginning of the 20th century, patents appeared in many countries for mechanisms demonstrating motion that cannot be explained by mechanical equations Newton. In our country, such a mechanism is the Tolchin inertioid (Fig. 3) or its improved version shown in Fig. 4. Inertioid Tolchina demonstrates the transformation of the angular momentum stored inside isolated from external forces of the mechanical system, into the linear impulse of the center wt. This impulse arises under the influence of artificially created inertial forces, which have a special status in mechanics and do not obey the theorems of mechanics Newton. An experimental study of the inertioid showed that its principle movement can be the basis of a universal propulsion device capable of move the vehicle in all environments, including space.



Rice. 3. Tolchin inertioid.



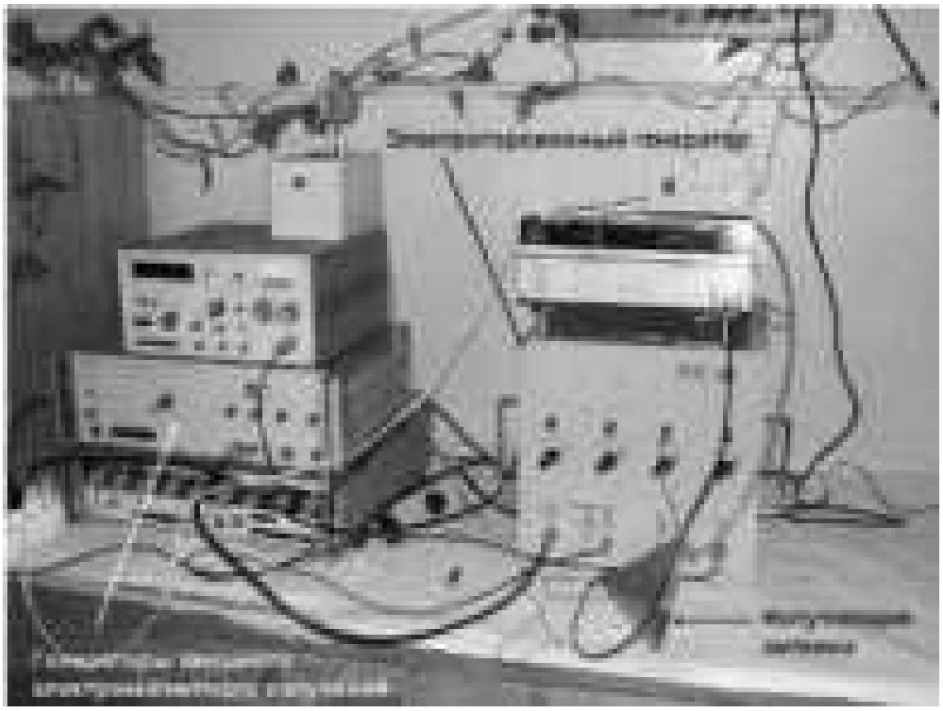
Rice. 4. Shipov inertioid.

Electric torsion generators

Despite the fact that the equations of classical Maxwell-Lorentz electrodynamics verified by experiments, there are on a huge quantity electrodynamic devices whose operation is not described by these equations. In Fig. 5 shows the appearance of the electric torsion generator Akimov, intended to study the influence of electric torsion radiation on molten metals. In Fig. 6 shows the internal structure electric torsion generator. Currently in Russia based on generators electrotorsion radiation, torsion technologies have been developed that allow obtain high-quality metals with increased strength and ductility.

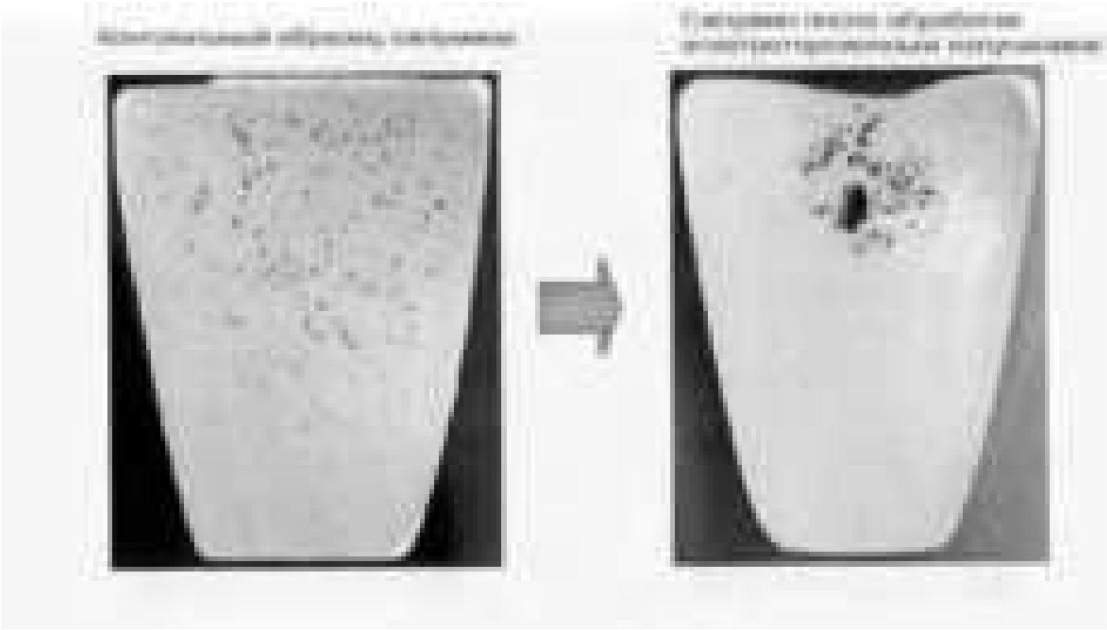
Figure 7 shows samples of silumin melted without impact (left) and after exposure (to the right) to electric torsion radiation. Silumin obtained in as a result of processing the molten metal, it has a homogeneous structure, increased ductility and strength compared to the control sample.

Numerous experiments have shown that electrotorsion radiation has high penetrating ability and affects the spin properties of the substance. The same properties are demonstrated by the generators of Rustam Roy from the University of Pennsylv university.



Rice. 5. Appearance of the electric torsion generator.

Rice. 6. Internal structure of the electric torsion generator.



Rice. 7. Structure of silumin melted under the influence of electric torsion radiation.

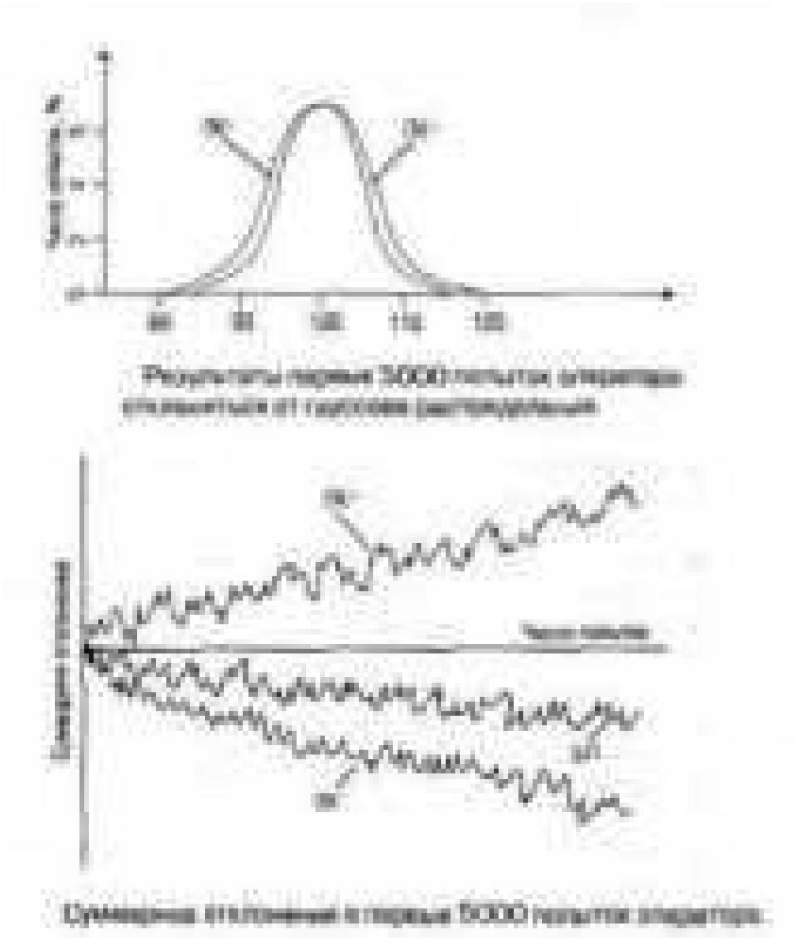
Even more amazing macroscopic effects are demonstrated by generators John Hutchinson. They allow you to change the structure of metals even at room temperature. temperature, with remote exposure (at a distance of about 1.5-2 meters from radiating antenna) cause small objects to move mechanically of various natures (metal, glass, wood, plastic, etc.) and even demonstrate weight reduction of objects, levitation and antigravity.

Psychophysical phenomena

In recent years, the area of phenomena has been growing like an avalanche, completely inexplicable from the standpoint of modern science. These phenomena show us the influence of human consciousness on physical processes, while the reliability experimental data in such studies (due to the causing anomaly happening) sometimes exceed the reliability of ordinary ones many times physical experiments.

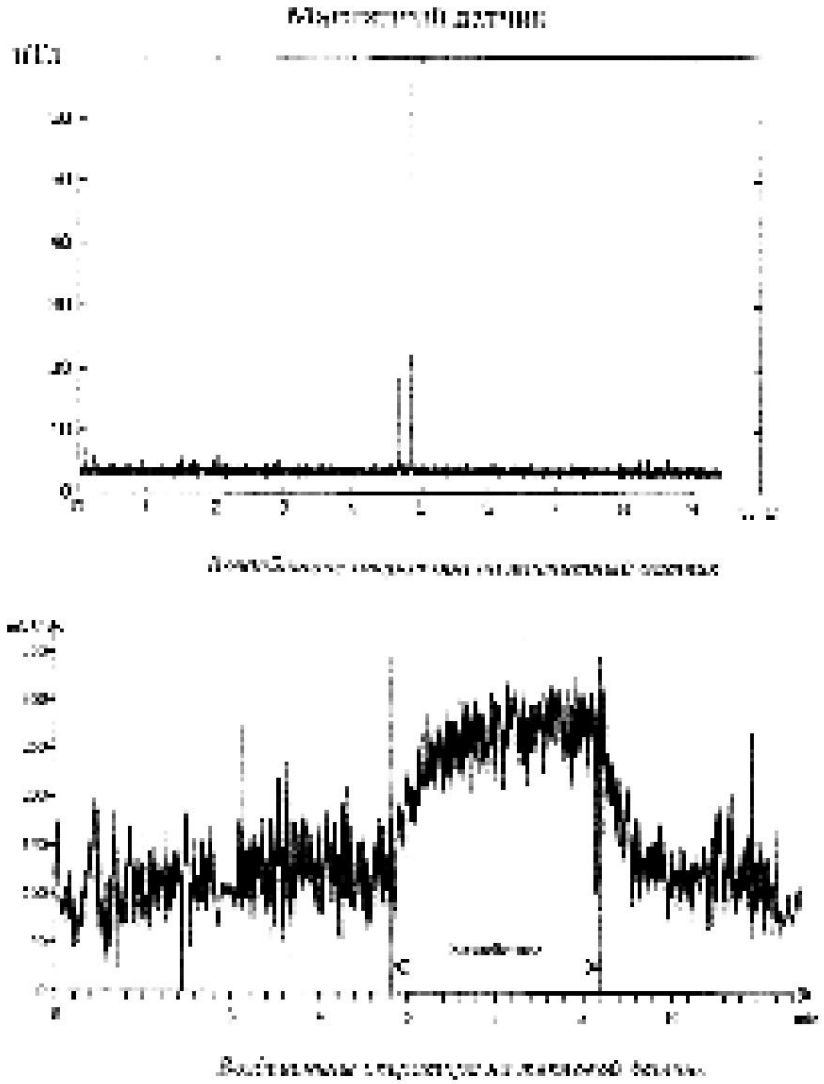
The program for the study of psychophysics phenomena was initiated by Professor Princeton University by R. Jan and officially approved by Princeton university in 1979. At Stanford University, psychophysical phenomena studied by physicists H. Puthoff and R. Targ.

In Fig. 8 presents the results of R. Jan's research on the impact of the operator to a random number generator. In the absence of operator influence, the generator random numbers produces numbers that obey a Gaussian distribution (curve BP). The operator's influence is manifested in deviation from the Gaussian distribution (curves - PC and PC). These results (and similar results in many other experiments) were tested by researchers repeatedly. Was found high reliability, excluding randomness of events.



Rice. 8. Results of the psychophysical influence of operators on the random generator numbers.

In Russia, a scientific approach to the study of psychophysics phenomena was organized a group of employees of the Leningrad Institute of Precision Mechanics and Optics (LITMO) headed by the rector of the institute G.N. Dulnev. For many years Russian scientists tried to figure out the physical nature of the interaction operator consciousness with various physical processes and devices (see, for example, Fig. 9). As a result of enormous work, researchers came to the conclusion that None of the fields known in modern physics has the same properties that are observed in psychophysical experiments.



Rice. 9. Results of the psychophysical influence of operators on physical sensors.

Conclusion

From the analysis of the current state of micro-, macro- and megaphysics it is clear that this science needs a profound revision of its foundations. We can, of course, only talk about the strategic expansion of our ideas about the surrounding world. Such an expansion is impossible without generalization fundamental concepts of physics, such as space-time, the principle relativity, principle of inertia, reference frame, mass, charge, quantization, etc. Only with such a fundamental revision of the fundamentals do we have hope for fundamental description of observable physical fields.

A special requirement for the new scientific paradigm is made by psychophysical phenomena. We must reconsider the usual materialistic understanding relationship between matter and consciousness. Psychophysics is quite convincing demonstrates to us the exclusive role of consciousness in the behavior of matter, therefore any new physical paradigm that assigns a secondary role to consciousness and does not containing this concept in its foundations is doomed to failure.

Torsion fields and information interactions – 2009

I foresee that in the coming years we will experience such upheavals in physics as compared to which the scientific revolution at the beginning of the 20th century will seem childish fun.

Crisis of the human population health system reasonable"

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The state and prospects of the health care system in the context of globalization processes. It is shown that the current development strategy of this systems based on priorities of economic profitability, forms threat to population viability compared to which the unfolding financial and economic crisis will seem simple a random event. One of the mechanisms by which this threat is formed is aggressive propaganda among the population of “pillomania” with simultaneous “suffocation” of competitive official, but much cheaper methods alternative medicine by declaring them “pseudoscience”. Considered some features of healing and it is shown that the existing level physical understanding of the problem is quite sufficient to formulate full-fledged scientific research. If there is a government (at least least!) neutrality and financing level of population viability may be increased. And vice versa, maintaining healthcare as a source profits will lead to the fact that the presence of patients will become a necessary condition the existence of a significant and prosperous social stratum of medical workers whose main goal is to eliminate symptoms rather than cure.

The fall of 2008 in the minds of many inhabitants of the planet is associated with the beginning a set of events that were called the “financial and economic crisis”. However, there is reason to believe that this perception is simplified. More identifying what is happening as an active phase can be considered evidential globalization. In turn, globalization is the next stage of progress civilization, the reaction of Society to the complex of contradictions that have accumulated in system of social relations and do not find resolution in the current system world order. The most acute contradictions at the moment are in areas of using money, which are the basis for building a system of social relations and the driver of its main instruments - the economy and the market. But it is not means that there are no other contradictions. These include, for example, the problems of preserving “health reserves” and the gene pool of the population. Back in 1992 at UN conference in Rio de Janeiro, heads of state and government of the world determined the mode of existence of the Homo sapiens population as not viable. That is, oriented towards extinction. As reasons For this conclusion, an unfavorable change in environmental quality was assumed habitat as a result of human economic activity. There are other sources threats to vitality caused by suboptimal social organization - smoking, drug addiction, alcoholism, obesity, the presence of stressful situations caused by the rhythm of life and overpopulation of the Planet.

This should also include the unnatural organization of the health care system. Today, the general strategy for the development of mass medicine is not based on priorities

health of the population, but on the postulates of economics, market, profit. It means that The more patients there are, the more profitable it is for medicine, the more reliable its future. An illustration of this thesis can be considered, for example, constant advertising pharmacological drugs in the media, aimed directly at patient. The "pill mania" syndrome is being aggressively introduced into the consciousness of the population. IN As a result, it often happens that the patient takes 8–10 tablets daily. No one can predict the overall impact of such a regime, but one thing can be said: to say for sure - the immune system is one of the most important in ensuring life functions - degrades. In addition, the doctor, who is personally responsible for the results, is being forced out of the healthcare system. Now the attending physician is responsible for eliminat symptoms rather than eliminating the disease. At the same time, the medical profession becomes one of the most expensive, and financial turnover in the system health care is already comparable to that in the field of military budgets. This implementation of profit priority.

Such an organization does not meet the current needs of the Company and requires reconstruction. Non-interference in this area of social relations threatens an increase in the level of "non-viability" of the population. What are the driving forces and mechanisms for implementing this threat? Everything is clear regarding the driving forces. This material interests of individual social strata. There are simply no other sources. Identifying the mechanisms through which these interests manifest themselves will make it possib methods of counteraction that are the least painful for society and the most effective. One of these mechanisms is exclusion from the sphere state financing of a complex of knowledge about a person, which concentrated in an area that has received the disparaging name "alternative medicine". This eliminates a competitor to the "official" medicine", providing much cheaper treatment methods. Exactly at This is the reason for the concentrated attacks on so-called "paranormal" phenomena and "pseudoscience". But there are also objective reasons. Official science so far has not yet proposed a viable concept of physical substantiation of methods, "healing". There can only be two reasons - either they can't, or they don't want to.

The problem is really not simple. Its fundamental difference is that paranormal phenomena are based on methods of remote, non-contact and intangible effects on homeostasis. Such features are inevitable involve the application of the energy field concept. However, still no one has been able to register this field using a validated metrological equipment and all information on this topic is generated by indirect signs. And the very concept of a field has not yet been explained within the framework of a single physical theory. There is no generally accepted definition. The most correct way is consider the following: *"The field* is an altered energy state of space, caused by the presence of a material object." *The gravitational field* is due presence of mass. *Electric field* - the presence of an uncompensated electric charge. These two types of fields are centrally symmetric and their energy characteristics decrease in proportion to the square of the distance from source. Any biological object, in particular a person, is always a source and receiver of gravitational and electric fields. But we will postpone the analysis problems of interaction between the human body and these fields and concentrate our

attention to the magnetic field. *"A magnetic field* is a changed energy state of space caused by the movement of an electric charge." Since movement always has a trajectory, the magnetic field also has preferential directions in space (vector and lines of force), and in this sense can, in principle, turn out to be "long-range".

The generator and receiver of the magnetic (and electric) field in the human body is its nervous system, which is of an electrophysical nature. The complex structure of the nerve channels operating in the human body suggests the possibility of manifesting the effect of a spatially oriented antenna. And accordingly, the possibility of enhancing the generated magnetic field signals in certain directions, or vice versa, increasing sensitivity when working to receive external signals. You can also find other sources of the electromagnetic field, for example, the movement of charged blood particles, muscle movements and other manifestations of vital activity, identified back in 1791 by L. Galvani. It is the magnetic field, for a complex of reasons, that is the basis for the external manifestations of the electrophysical component of life and can be identified as the main component of the biofield [1, 2, 3].

Analysis of the current characteristics of such a field can become a source of various diagnostic information. Conversely, the external field can become an effective tool for controlling life processes. Such possibilities are illustrated by the experiments of Academician Kaznacheev [4], helio- and geopathogenic activity regarding biological objects, healing, dowsing and much more. On the other hand, the continuing uncertainty of the evidence base forces some researchers to seek an explanation for the inexplicably high "amplification coefficients" of ultra-weak fields by the presence in their composition of a certain principle, which they define as "information". This is how the "energy-information field" and "energy-information interaction" appear in everyday life. Thus, the problem is finally driven to a dead end, since it is not clear what types of instruments are needed to register it. Let's try to clarify this issue and first define what information is.

***Information* is the result of generalization of the sum of signals in the human mind. The concept of information is inseparable from a specific person. Signals are transmitted to him through the senses - vision, hearing, smell, touch, taste. In addition, through sensations of temperature, pain, fatigue. Including through the field [5]. But none of the signals contain information as such. A person (or a device) determines energy intensity, frequency, sometimes the position of field lines and direction. And nothing more. And only then, knowing the dependence of the values of these parameters on the properties of the source and the transmitting medium, a person forms conclusions about the source in his mind - creates information. If the code is not known in advance, no conclusions will be drawn. A newspaper article and even a library will not tell an illiterate person anything and will remain for him a simple set of paper products. The image will not say anything to a person who has never seen the objects of the drawing or photograph before. A message about a fire in a house will not affect a person's behavior in any way if it is spoken in an unfamiliar language. Etc.: information does not exist outside of human co**

is energetic, but it is never informational. It is correct to talk about “information space”, that is, about the extent within which the decryption code is agreed upon; the cause-and-effect relationship between the parameters of the signal and the properties of the source is well known. The transmission of signals through a magnetic field has significant specificity - they are not perceived by consciousness and, in this sense, have nothing to do with information at all.

But that is not all. Information, as a result of the perception of a particular person, is always subjective. The same signals form different conclusions in the minds of different people. Lecturers who have experience communicating with large audiences know well that among the listeners there will always be individuals who interpret the same thesis in exactly the opposite way. These circumstances fit into the concepts of “intuition”, “self-hypnosis” - actions are not always or not completely controlled by consciousness. Indian yogis are especially famous for this skill, who demonstrated amazing examples of stopping and then starting their own heart. We will try to offer a physical justification for such events. It is obvious that any organ of the human body - heart, kidneys, muscles, etc., operates within the framework of a certain algorithm, for the implementation of which there is a system of sensors and receivers, communication channels and decision-making devices. The work of such a subsystem occurs outside of consciousness. But this does not mean that the brain does not register these events. At least signals about problems in the form of pain are sent to the brain. It follows that the return channels connections between consciousness and the control system of a separate organ exist, but in standard mode they are not activated. It is easy to imagine how much additional information the brain would have to process if a person consciously controlled the work of all subsystems of the body. Disabling consciousness from this information is a defensive reaction. The methodology of conscious attempts to “connect” communication channels in order to achieve a specific result is meditation. The mechanism of such activation has not been identified, but if it is found, then, subject to certain conditions, this method will be very effective in the processes of self-influence and self-healing. But most importantly - cheap. The solution to this problem through external influence - hypnosis - no longer causes denial. Suffice it to recall Kashpirovsky’s television sessions, the physical basis of which undoubtedly includes meditative techniques of self-hypnosis.

The fact of human sensitivity to electric and magnetic fields can be objectively defined as the “sixth sense” [5], characterized in that it does not pass through consciousness. As usual, the sensitivity of the receiving device for recording field signals lies in a certain range of its parameters - intensity, frequency range and direction of the field lines. To achieve maximum sensitivity, the direction of the power lines must be consistent with the location in space of the structured antenna - channels for transmitting nerve signals (just remember the change in the volume of the radio receiver when the position of the antenna changes). We do not know the operating features of this “live” antenna. However, its frequency range can be identified from the analysis of, for example, electroencephalograms, cardiograms, etc. Signals outside this range will not be perceived by the body, as is the case, for example, in the optical and sound ranges, where ultraviolet and

infrared radiation, ultra- and infrasound. And vice versa, the presence of resonance in frequency significantly increases sensitivity and range. All these the features are well known in the theory of radio reception and radio transmission.

Interval of maximum energy field susceptibility by intensity also has lower and upper limits. Numerous research results Yu.P. Kravchenko show that the maximum sensitivity of the body to electric and magnetic fields is located in the area corresponding the magnitude of fluctuations in the natural magnetic field of environmental components in time, over a period of the order of several minutes. The IGA-1 device allows register these vibrations, and thereby determine the parameters of the biofield a person and its inverse, the value of the energy intensity of the external field, relative to which the body has maximum susceptibility. IN In addition to what has been said, we note that in the interval of maximum sensitivity a person is exposed to a magnetic field formed by optical radiation due to reverse Faraday effect [6]. This can explain the high therapeutic effect of light and laser therapy techniques.

A person always heals himself. Of course, except in cases of surgery interventions. Sometimes your body just needs help. Let us take into account that gradual the development of pathology of a separate organ means that the control system, which previously easily compensated for changes in external parameters at the expense of internal ones resources, ceases to cope with the task of maintaining its equilibrium functioning. Among the various reasons, the following can be mentioned:

1. the tools for making management decisions, generating, detecting or transmitting signals - the nervous system - have failed, 2. “headquarters” does not allow the full use of the body’s reserves due to preferences for its strategic integrity.

And the result is that the control of this organ does not correspond to the optimal one necessary to restore balance. What should be the optimal management in pathological conditions? Obviously, it is necessary to use excess resources to return the organ to a stable regime. And only if this turns out to be the case It is not enough to use external help. Experts have long argued about how much of their potential a person spends in normal conditions and in pathology. They cite figures in the region of several percent, although there are no objective methods there is no measurement. At the same time, they mention a young woman who raised a truck weighing about a ton when her child ended up under the wheels. Quoted achievements of leading athletes, human behavior in a state of passion, as well as integral “power” of the brain. The human body can provide protection from extraordinary external influences if consciousness actively focused on this. It is known that soldiers who live for months in damp in the trenches they don’t get colds. But even in critical situations The body's capabilities are far from being fully utilized. This is the fee for amazing integral reliability of the organism, which once neglected, has been operating for many decades. Therefore, among others possible methods of struggle “for health”, one should adopt a method of complete or

partial disabling of restrictions on self-healing. The main and probably the only way to implement this approach is to influence the nervous system. In all cases the task is to change the content transmitted signals so as to activate and intensify processes self-healing.

Accordingly, methods of influencing the functioning of the nervous system, and This means that potential ways to protect health include:

1. **Chemical effects on individual elements of generation, transmission and reception signals - through pharmacological drugs.**
2. **Mechanical impact on these same elements - through acupuncture, su-jock therapy, massage, etc.**
3. **Impact by turning on an electric potential – physiotherapeutic techniques. 4. Meditation. 5. Impact through an energy (magnetic) field, the source of which is is a healer, or special equipment [7].**

Let us remind you once again that a person heals himself, and external influence is called upon, with necessary, activate this ability. Official medicine does not formulate the problem and does not study it from these positions.

The analysis carried out is intended to substantiate the possibility, feasibility and timeliness of organizing scientific research in the field of paranormal healing phenomena and techniques as tools for activating self-healing. IN addition to methods based on the use of pharmacological drugs, possibly acting on the same mechanism for disabling restrictions for self-healing. Methodology of such studies and general approaches to assessment the results do not cause any particular problems. Except for one thing - such opportunities by some modern scientific leaders classified as “pseudoscience” and are banned. In relation to the electrical activity of the brain in Electroencephalography quite legally uses the term “biocurrents”. However physical manifestations of current in the form of a field and the term “biofield” as a derivative biocurrent, for some reason in Russian science are considered criminal. All these features are the result of the work of the Russian Academy of Sciences commission on “pseudoscience”. I wanted I would like to express my opinion on this problem. First, what is pseudoscience? Obviously, the content of this concept can be revealed from the definition Sciences. Without going into details, it can be argued that in the broad sense of the word, science is the search for truth. For this search, the official methodology is sampling and errors. Based on this perception of science, “pseudoscience” as such does not exist at all. Maybe. It happens that the wrong direction is chosen for research. But a negative result is also a result. It can be argued that the commission on “pseudoscience” has nothing to do with science as such and is protector of the material interests of individuals and social strata. Them Moreover, those with whom this commission is fighting - psychics, dowsers, magicians, sorcerers, healers, shamans, etc., do not engage in science. They're just making money and if there were no result at all, they would disappear on their own. Certainly,

Among them there are also charlatans who deliberately mislead users into misconception about one's professional capabilities. Is it possible in The average clinic doesn't have these? And don't they sell it in pharmacies? fake drugs?

And one more note. Recently, the profession of a psychotherapist has become fashionable. Quite official. I have not had to use their services, however From general considerations, we can conclude that the instrument of their labor is the word. And some external surroundings, perhaps pharmacology, hypnosis, the result of which is suggestion. How then do they differ from sorcerers, shamans, magicians and others, basically whose work is also the word? Why is there such hostility towards them from the outside? the mentioned RAS commission on pseudoscience? There is only one answer: healing techniques potentially competitive with the methods of official medicine, but much cheaper. The author is aware of a situation where a specialist in the field of LED treatment emitters reported their results at the conference with great success. After why the sponsors approached the chairman of the organizing committee and warned: "If he's still Once he shows up here, you won't get any more money." Sponsors - representatives pharmaceutical companies. That's all. How much more decent does he look? the position of a physicist and a physician with high scientific degrees and titles, who, observing the fact that the cross-sectional shape of a laser beam is changing by a psychic's biofield, wrote: "We firmly know that this cannot be. But we saw it ourselves" [7].

The above comments regarding alternative medicine are intended to justify the assertion that its main provisions allow the beginning full-fledged scientific research. There is everything you need to form scientific and technical discipline, namely, the main hypothesis, fundamentals metrological system and mutually agreed (albeit insufficiently) terminology. And the results of such studies can become the basis for revolutionary discoveries in biology and medicine. And at least there will be A competitive pharmacology system has been created. To do this you need:

- Eliminate the shameful RAS commission on pseudoscience and direct its efforts members for the creation of control equipment and the development of scientific methods reasonable identification of charlatans from medicine and healing. •
- Ban advertising of pharmacological drugs in the media and move it to specialized scientific journals. Advertise clinics and doctors. • Open government funding for alternative medicine methods.

Such measures will create healthy competition among different conservation methods. population health, improve the quality of medical care, minimize the priority of profit in the healthcare system. Such a restructuring systems of social relations in a globalizing society, of course, are not will eliminate, but will allow to postpone the threat of a crisis in the health and gene pool of the population, according to compared to which the current "financial-economic" one will seem simple entertainment. Experts in the field of the effects of weak energy fields on the state of human health can and should contribute to the correction threatening situation.

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About Anatoly Evgenievich Akimov

Boldyreva L.B.

Alexander introduced me to Anatoly Evgenievich Akimov in 1986
Alexandrovich Leonov. Alexander Alexandrovich himself was (unfortunately, he was early
passed away) an extraordinary personality: an extremely gifted artist and
scientist, very handsome in appearance and charming in communication. There was always around him
a lot of interesting people.

Leonov knew that at that time I, together with my sister, Sotina Nina Borisovna, wrote an
article “Magic and Quantum Mechanics” for the magazine “Science and Religion”, and
said that he wanted to introduce me to a person who was interested in the same mysteries
existence, like my sister and I, and Akimov. He said that he had known Akimov for a very
long time: he was a school friend of his older brother and remembered how he and his brother
discussed the eternal question of graduates: “Who should I be?” Akimov entered Moscow State University for
Faculty of Physics, and, as a final year student in 1961
organized at the school where Leonov studied (Moscow school No. 43 in Sverchkovo
lane), physics club. At the very first lesson of the circle, its leader said that “physics” is a
screen, and they will study everything that is interesting, and can be done at any time.
moment to ask any questions. It was unusual and promising. Once every
for a week the circle members gathered in the classroom in the evenings, and Anatoly Evgenievich
told things that excited the imagination: physics, but completely different from
in lessons, biology, theology, philosophy, sometimes excursions into history. Reading circle
the guys had completely changed, Anatoly Evgenievich suggested what was worth reading, and
that no. Regular lessons became boring. Several regular visitors
circle under the influence of Akimov decided to connect their fate with physics and entered
Moscow Engineering Physics Institute, including Leonov himself.

I remember that at the first meeting Anatoly Evgenievich brought a large amount
photographs of various anomalous places in our country. They depicted
taiga hills, and a small, completely dug up Estonian courtyard in which
searching for a flying object (flying saucer) that once fell there, and
gullies near Moscow with luminous balls above them: It was assumed that these
the balls were clots of energy of an unknown nature.

He and I discussed a lot about the properties of physical vacuum. As a basis
accepted the model of the Dirac vacuum, i.e., consisting of pairs electrically
opposite particles, assuming that these particles have spin and that the total spin
pairs in an unperturbed state is zero. The most important question in these
discussions there was a question: what spin perturbations can exist in such
vacuum, and what natural phenomena they cause. The result of these discussions
was the jointly written work “PROTERIES OF SPIN SYSTEMS” (authors: Akimov A. E.,
Boldyreva L. B., Sotina N. B.). This work was one of the first works

Anatoly Evgenievich on the theory of physical vacuum and the latter, where not yet the term "torsion field" was used. In those years there was not one official journal that would dare to publish such an article. I'm with With great difficulty I managed to get it through the Academic Council of the institute where I work, and deposited in VINITI in 1987 under number No. 7466 B87.

At that time, Anatoly Evgenievich was strongly impressed by the works A.A. Deev, who created a generator emitting fields of an unknown nature. Research conducted at the Institute of Clinical and Experimental Medicine of the Siberian Branch of the Academy of Medical Sciences of the USSR (director V.P. Kaznacheev) in 1981 with Deev jointly with the staff of the Laboratory of Biophysics A.P. Mikhailova and N.B. Kartasheva showed that under the influence of this generator biophysical cell culture characteristics. During the experiment, double shielding cells from the effects of electromagnetic fields. In 1984 in Peoples' Friendship University named after P. Lumumba V.A. Sokolova, A.A. Deev and IN AND. Sukhanov conducted experiments that recorded a sharp change relative dispersion of electrical conductivity in plants at frequencies 1 ÷ 517 kHz when exposed to this generator (measurements were carried out by the device according to method V.V. Gorchakov and A.D. Kotamokhin). The generator was based on spin-polarized (SP) materials. It must be assumed that from this deep interest in work with SP generators and Akimov began his research on creating torsion generators. Subsequently, he devoted all his time and energy to working on torsion generators, and the article "PROPERTIES OF SPIN SYSTEMS" turned out to be our only joint article with Anatoly Evgenievich.

Once upon a time, when graduating from college, Anatoly Evgenievich Akimov himself dreamed and called for schoolchildren to devote their lives to understanding the most mysterious, unexplored natural phenomena. Until the end of his life he remained faithful to the ideals of his youth.

(April 24, 2007)

A scientist's ethics is a mirror of his consciousness

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The article presents the results of work carried out by A.E. Akimov in physics torsion fields, a direction of science that caused the appearance in Russia's Special Commission of the Russian Academy of Sciences to Combat Pseudoscience. According to the author, the physics of weak rotation fields today is especially important for the development of physics consciousness and subconscious. Pioneering works of A.E. Akimov, G.I. Shipov on torsion fields essentially became the basis of Russia's priority in the formation new direction of modern physics, vacuum physics, superweak physics natural electromagnetic fields.

Abstract

The results of AEAkimov's study of torsion fields are commented in the article. This article wrote as remember on Akimov. The works of Akimov A. and Shipov G. on torsion fields are base for priorities of Russian physical science.

Being human means not only have knowledge, but also do for future generations, those who preceded us did for us.

That, What

G. Lichtenberg

Introduction

The history of the development of man and society is the history of the development of science, the history of the development human consciousness. "Man developed to his present level thanks to qualitative changes in consciousness that have taken place throughout time existence of our species" [1].

Let us recall that man is the highest creation of Nature, endowed with physical body and consciousness, field, cosmic structure, which determine the action person. V.I. Vernadsky at the beginning of the twentieth century, at the birth of a new, quantum physicists, for the first time determined that "man is a miniature cosmos", rules in this world, not a person physically, but his consciousness, like the energy of the cosmos.

Torsion fields and information interactions – 2009

If we consider the history of the development of civilizations on Earth, then this is essentially the history of the development of human consciousness, society, society as a whole. This is good proven by D. Mishlav [1] using the example of studies of human consciousness. Each a century of development of civilization is a certain cycle of development of consciousness society, obtaining new knowledge, which becomes the basis for the development of society in new century. It is at the stage of paradigm shifts in the development of civilizations and crises between the new and the old appear, and a new period of development appears civilization.

This is especially evident at the stage of changing eras, the duration of which determined over thousands of years.

The period of development of civilization in the 20th and early 21st centuries is characterized by the stage the transition of humanity into a new era, the era of the third millennium. This is the most a critical period in the development of civilization: the "restructuring" of the entire cosmos for a new, more perfect period, which is evolutionarily built on all that positive for the very existence of life on the planet, which was achieved in past centuries and millennia.

Since physics is the science of nature itself, physics has always reflected in its development such critical stages that manifest themselves in periods spanning not one century, but several and even a millennium. An example of this is Newtonian mechanics and its replacement at the beginning of the twentieth century by quantum physics, which arose along with physics of atomic nucleus fission. Nowadays it seems difficult to imagine development of civilization without quantum physics, without ideas about dualism microparticles

Research into Nature's processes at the nanoscale raises new problems understanding of the micro and macro world. Perhaps the most important development problem civilization to which man has approached is Man himself, and above all his Consciousness as a structure that synchronizes all development, as well as existence itself The Universe, the Cosmos as a whole.

Among such directions in the development of physics, which was born in the period of the 19th – 21st centuries, one should include the study of the nature and properties of torsion fields or otherwise torsion fields. This direction met with particularly sharp opposition. traditional or orthodox physics in the former USSR. This, apparently, was the reason for the very development of the philosophy of materialism, the science of matter and energy.

The founder of the formation of the direction of torsion physics, after the work E. Cartan, A.E. Akimov should be considered [2]. Since the appearance of his first work on torsion fields and began a period of severe opposition from a certain part academic science of the USSR against torsion fields. The whole history of this struggle, or rather the persecution by the specially created Commission to Combat pseudoscience, objectively presented in a special investigation carried out V. Zhigalov in the project "Second Physics" [3], in the section "Destruction of torsion

research in Russia". Essentially, the entire fight against torsion fields has come down to the struggle of a small number of academicians against A. Akimov and G. Shipov.

In the project “Second Physics”, V. Zhigalov documented, objectively outlined all the history of the struggle against A. Akimov and G. Shipov.

Unfortunately, A.E. Akimov is no longer among us, he went to another world without ever being recognized by a number of academicians, a scientist who laid down, first of all, a new scientific direction that is a priority for Russia.

In the heat of the fight against so-called pseudoscience, all sorts of accusations were made A.E. Akimov, to which he largely did not consider it necessary to answer, since he considered such a discussion useless due to the bias of himself the commission's approach to torsion fields.

The author of these lines began collaborating with A.E. Akimov in 1989, since his coming to the Academy of Sciences of Ukraine for the purpose of scientific cooperation in materials science, because it was believed that in the Ukrainian Academy of Sciences, research in materials s the best in the world.

All the labels that were put on the name of Akimov A.E., Alexandrov E., Kruglyakov E. simply discredited the good name of a decent scientist who the moment this work began, I believed that Russian scientists were 10 years ahead of foreign ones scientists.

A tribute to maximum objectivity on work in the physics of the influence of superweaks physical fields, which include torsion fields, on processes in condensed media, performed in collaboration with A.E. Akimov and under the influence of his ideas is this article, which the author dedicates to his fond memory A.E. Akimov, as an honest and devoted scientist who is rightly considered the father of torsion physics in Russia and went down in the history of physics as the founder of this new direction.

Rotation fields

In this section, we presented the main experimental results, which relied on A.E. Akimov, defending and developing the physics of torsion fields of the physical vacuum.

In [7], an analytical review of the theory of torsion fields was carried out, which presents and today there is interest for this problem.

First of all, regarding the sources of the torsion field - torsion generators [4-6]. A system with spin ordering (nuclear, atomic or molecular), is the source of the torsion field. Any permanent magnet, in addition to a magnetic field, has a torsion field. Accordingly northern the pole of a permanent magnet creates a right-handed torsion field, and the south the pole of the magnet, respectively – the left torsion field. As will be shown below,

It is precisely this property of polarization of the torsion field that manifests itself experimentally in many studies.

Any electromagnetic field generates a torsion field, so almost all electrical and radio-electronic devices are sources of torsion radiation. It is believed that a convenient source of torsion radiation is Tesla transformer [6].

There are generators created on the basis of rotating material media. Different working media are used: electron flows, plasma, massless fields [6].

Various geometric and topological shapes are sources constant torsion fields [5-6]. Possibly spin polarization states of a topological nature manifest themselves as torsion fields generated only by shape (pyramids, honeycombs, cones, etc.).

Unlike sources of electromagnetic and gravitational fields, which create fields of central symmetry, torsion field sources create fields with axial and axial symmetry.

The spin object creates a polarization in two spatial cones, which in in one direction corresponds to the left orientation of the torsion field – SL, and in another - the right torsion field - SR. In addition, there is an area torsion field in the form of a disk perpendicular to the axis of spin rotation. Accordingly, axial and radial components of the rotation field arise spins In the experiment, the right and left fields in their effect on physical systems are not equivalent.

Unlike electric charges in physics, the classical spins of the same name attract, and opposite ones repel. This effect should appear in experiment.

A stationary spinning object creates a static spin or torsion field. For nonequilibrium spinning systems, a wave torsion occurs radiation.

A static torsion field has a finite range of action. Potential for such fields is identically equal to zero, which corresponds to the non-energy nature interactions.

The physical vacuum in which torsion radiation propagates behaves as a holographic medium, i.e. torsion waves propagate through the phase portrait of this hologram. This explains the informational, not the energetic signal transmission mechanism and any high speed of their transmission.

What else is important. Estimates of the value of the spin-torsion interaction constant in in the case of static fields with Cartan torsion, they give a value less than 10-50 , those.

for such fields it is impossible for the existence of currently measured physical effects. For wave fields with Cartan torsion (dynamic torsion), the spin-torsion interaction constant is theoretically unlimited. When there are also no restrictions on fields with Ricci or Weizenbeck torsion. Estimates are given values 10-3 – 10-4 , which can be determined experimentally. However, since the constant of electrotorsion interactions is less than the constant electromagnetic interactions (estimates give 7.3 ÿ 10-3) , then under normal conditions experiments, such torsion fields can only be observed in objects in which there are nonequilibrium states (for example, phase transitions), which observed in a number of cases.

Objects of living and inanimate nature consist of atoms with non-zero atomic or classical spins. Considering that all bodies are in Earth's magnetic field, the presence of magnetic moments of nuclei and atoms, which are As a consequence of the presence of the indicated spins and charges, precession occurs, which generates wave, torsion radiation. This means that all bodies have own, individual torsion fields, radiations, like objective reality given by nature.

If you can control torsion fields, then you can control inertial forces and on this basis it is possible to create universal propulsors that do not use jet thrust or friction. Torsion fields use Ricci geometry or torsion geometry. In the case of studies of systems with torsion instead of mechanics Newton should use torsion mechanics, the foundations of which have been created G.I. Shipov [8]. By analogy with quantum mechanics, it is impossible to describe observed phenomena based on the concepts of Newtonian mechanics, and in Torsion mechanics cannot describe some effects based on the same Newtonian mechanics. So it can be considered unusual to create systems that would moved due to the internal forces of the system, the so-called inertioid.

Such a mover, the work of which is carried out due to movement inside the apparatus working fluid along a trajectory reminiscent of a tornado in shape, were not only created, but also launched for testing into space on the Yubileiny satellite [9], according to ITAR-TASS reports.

An interesting area of work is related to experimental and practical research on changes in the properties of various materials when exposed to them in their various phase states, especially during phase transitions such as melt (solution) – solid phase. Really famous in physics condensed matter, that phase transitions are sensitive to the influence very weak physical fields, such as the physical fields of biological objects and sources of rotation fields.

In this way, for example, for the first time in 1990 it was experimentally confirmed influence of torsion radiation (stationary spinor field) on processes crystallization of micellar structures [10]. A technology has been developed for obtaining silumin using the influence of torsion radiation on the production of an alloy aluminum and silicon. Unlike standard silumin production technologies,

The new technology does not use alloying additives to increase the strength of this metal and special chemical additives to bind gases in silumin. Due to the action of torsion fields, it is possible to increase strength by 1.3 times and ductility by 2.5 times. Simultaneously increasing strength and ductility
impossible with standard technologies.

Many experimental works and patents have been published on the creation of various energy sources whose efficiency exceeds 100% [3]. However, in the classical course of thermodynamics it is strictly proven that for closed systems the efficiency cannot be more than 100%. However, if the system is open and can therefore receive energy from the external environment, then such a system can have any efficiency value. This applies, first of all, to torsion-vortex generators. If it is possible to increase the amount of energy extracted from the physical vacuum and used to provide the energy necessary to operate an electric motor, converting the resulting thermal energy into electrical energy, then such an installation will become an autonomous source of energy. This will be a revolution in energy.

Of particular importance are works on studying the impact of static torsion fields of living nature objects at different levels. This was made possible thanks to successes in the development of modern highly sensitive methods for recording torsion radiation, which make it possible to record the frequency spectra of these radiations. Research is being conducted to create a data bank of the spectrum of torsion radiation from different tissues for different diseases at different stages. Thanks to these works, it became possible to create equipment that allows diagnosing the state of human health by measuring the characteristic spectra of torsion frequencies of individual cells, any parts of human organs or tissues and comparing them with the corresponding spectra of healthy cells or organs, which are more or less pathological. Torsion diagnostic methods (TORDI) have been developed and are used.

There is an important corollary to Van Hoven's theory that in order to obtain complete information about any system it is necessary to destroy it. In this regard, the destruction of human tissue to obtain information about their condition is an unacceptable price to pay for obtaining information about human health. The Van Hoven criterion can be fulfilled using the minimum action procedure, when the cells are not destroyed, and the atoms of these cells are the primary sources of the recorded torsion spectra and are transferred to a nonequilibrium state using an external perturbing action. Work in this direction is
essentially at the beginning of their development and are very important, for example, in terms of studying the physics of human consciousness and subconscious.

Detection of static torsion fields

As already mentioned above, for the first time A.E. Akimov [4] pointed out the possibility of the appearance of torsion fields in special geometric or topological forms. Phenomenologically, he predicted that the ends of the “short” cylinder

(D ÿ ÿ/2, D is the diameter of the cylinder, and ÿ is its length) create zones of the torsion field dextrorotatory field, and the “long” cylinder (D < H/2) accordingly, the field left-handed. Thus, a hollow cylinder represents the most a simple device that creates a topological distortion of the physical space. Essentially, a hollow cylinder is a unique generator of torsion fields, in the sense that the end of the cylinder generates a right or left torsion field polarization (depending on the relationship between the length and diameter of the cylinder), and inside the cylinder, a field opposite to the one that appears on end of the cylinder.

Experimental confirmation of these provisions on static torsion fields, their symmetries were obtained [11].

Direct proof of the asymmetry of the field of physical space follows from studies of the structure of water obtained using membrane electrolysis [12]. In [13], the authors indicated that water obtained in the anode cavity electrolyzer, is left-handed water (L-symmetry of water), and water obtained in the cathode cavity of the electrolyzer has dextrorotatory symmetry (R–water). Both of these waters have different structural symmetry [12] and, very importantly, different biological activity - what is called “living” – R-water and “dead” - L-water.

A.E. Akimov was the first to show in [4, 5] that an ordinary permanent magnet is is a source of a stationary (constant) torsion field: N – the magnet pole is an R (right-handed) field, and S – the magnet pole is an L (left-handed) torsion field. This is confirmed experimentally using any physical studies of water activated by an R or L field, respectively permanent magnet.

Water (its physical characteristics) change their properties under the influence of the field pyramids, cones (both hollow structures and solid forms), which also confirms the predictions of A.E. Akimov, based on the idea of torsion fields.

Water is a truly universal medium, which itself (with its physical properties) reacts to the presence of torsion fields or fields rotation, and besides this, since water is the main component of any living structure, then precisely through changes in the properties of bound and free water organs of living things, any living systems react or “feel” torsion fields of any size and not only constant, but also variable.

Torsion fields and human consciousness

Almost all the outstanding physicists of the world have spoken about the connection between science and consciousness. For example, N. Bohr, in his scientific and spiritual essays, emphasized the ide physics includes consciousness. He wrote [14] “The problem is to find out how far physical experience can help us in explaining organic life, in its rich and varied manifestations."

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After N. Bohr with the analysis of this problem through the physics of torsion fields for the first time A.E. Akimov spoke in 1998 [4, 5]. In modern (new) physics, in addition to the usual the concept of matter is the concept of field matter, which includes torsion fields as an integral essence of consciousness. Torsion fields will be called what is in modern biology is usually called differently by different authors: some they call it a biofield, others call it a psi-field, others call it miotic rays and etc. All properties that are characteristic of torsion fields are identical coincide with those observed in the manifestation of consciousness [15].

Today, at the stage of the birth of a new era of human civilization, the era of the noosphere according to V.I. Vernadsky, we must take a significantly different approach to what is called the subtle world, consciousness, mind and their manifestation.

As the author of the article A. Sigachev notes [15] "The document signed at the end of the twentieth century, Academician of the National Academy of Sciences of Ukraine V.I. Trefilov, in the future he will probably fall to some museum of the history of science. It contains a small plate, which says that simple melting of metal, its pouring into molds and hardening when using torsion fields created using a torsion generator producing the same radiation as the human brain, led to the fact that the metal has certain characteristics (indicated: limit strength, toughness, corrosion resistance).

The second paragraph of the document states that when metal is exposed to fields torsion generator, which produces the same radiation as the human brain, metal becomes amorphous, corrosion-resistant, durable, plastic, etc.

The third paragraph of the document states that by the action of a sensitive (i.e. sensory influence) achieved that structural changes in the crystal lattice Exactly the same things happened, i.e. an amorphous metal was obtained, but all physical characteristics of strength, ductility and corrosion resistance turned out to be significantly higher than that of a device generating torsion fields.

All known physical Laws of Nature are not only in strict in accordance with the laws of the manifestation of reason, but are also derived from them."

The comprehensive Law of nature, the law of cyclicity, is fulfilled for both matter and consciousness. The physical law formulated for mechanics I. Newton's "Law of Action and Reaction" corresponds to spiritual, social, legal, psychological and other relationships between people.

The energy of consciousness and spiritual energy are indestructible.

Today, the world faces a catastrophically difficult environmental situation, the consequences of which are almost impossible to predict. The main reason for this the situation lies in the moral degradation of people's consciousness.

The time has come to raise human consciousness, given that thought is very closely connected with matter, science with spirituality, man with nature and the basis for this

is the physics of torsion fields. The development of this new direction of modern science is associated with Russian scientists A.E. Akimov and G.I. Shipov [8].

Conclusion

The title of the article was determined by the story that befell a scientific career A.E. Akimova, objectively and fully presented on the “Second Physics” website, thanks to the work of V. Zhigalov. The article makes an attempt to further confirm that everything that predicted and confirmed by the works of A.E. Akimov and his followers, not only has nothing to do with pseudoscience, on the contrary, it confirms that truth is always born in severe pain. Sometimes or most often due to conscious or unconscious attitude of both the creators of science and society not so much to science as much as to their creators. An example of this is the whole story with the activities of the commission RAS for the fight against pseudoscience.

A.E. Akimov passed away, remaining undeservedly slandered. Essentially, the work of the academic commission was reduced to the destruction of the development of scientific directions in physics and technology of torsion fields in Russia.

The truth will always triumph and over time the scientific world will remember torsion fields, as we now remember the history of the development of cybernetics and genetics in the Soviet Union.

In fact, the priority of studying torsion fields laid down by A.E. Akimov is the basis for the direction of development of the science of the future, the science and physics of consciousness and human subconscious, science, which can and should prevent moral degradation of society and preserve civilization on planet Earth.

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FIELDS. DETECTION. HYPOTHESES

Energy of solar vortex radiation and its interaction with matter

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Studies of direct connections between changes in energy fluxes of solar radiation (with changing solar activity in cycles No. 21, 22 and 23) with temporary variations in optical and synoptic weather were carried out at the mountain stations "Cheget" (3.1 km) and "Solnechnaya" (2 ,1 km) in the North Caucasus. Subsequent comprehension of the entire volume of results obtained and research involved in areas related to atmospheric physics: meteorology, solar-terrestrial physics and astrophysics made it possible to detect in solar flows the presence of spiral-vortex radiation (SVR) with a background energy level of approximately 104 erg/s cm reaching values ~ 105 – 106 in the case of high solar activity.

The source of hard quanta of the vortex field (spirons), according to the accepted concept, are the nuclei of isotopes of C and Fe atoms excited in the solar core to high energy levels. The SVI quantum - spiron, as we believe, has energy (Eo~10-8 erg) and rest mass (~1.2@10-29 g), spin (+/-1), momentum (~10-19 g@cm/ c), significant angular momentum and has no charge. In the upper chromosphere E ~ 3@10-12 erg, speed ~ 6@108 cm/s, momentum ~ 6@10-21 g@@cm/ s. Spiron emission rate is ~1044 quanta/s, luminosity is ~1032 erg/s at a quanta frequency of 6@1014 Hz. SVI flows effectively interact with corona electrons, easily accelerating them to supersonic speed.

The presence of each emitted vortex quantum of finite mass and energy and a pulse directed along the radius determines the all-round direction of their propagation, that is, in essence, their quasi-antigravity, acting as a universal expanding factor. But, since the energy given to spiron at birth is finite and is consumed during each of its even elementary interactions with the elements of matter, therefore, contrary to the currently widespread hypothesis, the expansion of the Universe continues, but without any excessive acceleration, and rather even with some deceleration .

Having used up the entire supply of momentum energy and angular momentum, spirons turn into the primary elements of dark matter, filling the entire Universe. "Cold" spirons (2.73 K) interact only with galactic gravitational fields, collecting them into clouds and further into spiral formations. In a similar way, stellar matter is converted into dark matter, which can subsequently participate in the process of creating the next generation of stars, galaxies, their clusters and groups. Due to the fact that the data proposed above on the emission rate and parameters of spiron, if adequate, can be of significant importance for the development of cosmological theories, it is obviously necessary to evaluate the possible limits of mass loss by the Sun and changes in the contribution of vortex energy to the radiation balance of solar system bodies and objects passing near the Sun.

According to the accepted concept, to the known value of the Sun's luminosity Lÿ=3.826x1033 erg·s-1, is necessary to add Lsÿ =1x1032 erg·s-1 then Lÿÿ = 3.93x1033 erg·s-1. At present, the mass of the Sun is estimated as Mÿ = 2x1033 g. Nuclear reactor "eats" 1.55x1023 g per year , and over 5x109 years: 0.775x1033 g. The solar wind carries away 0.0666x1033 g within 5x109 years. The SVI will take away within 5x109 years the MSVI = 1044 x 1.2x10-29 x 5x109 x 3.1x107 = 0.187x1033 g.

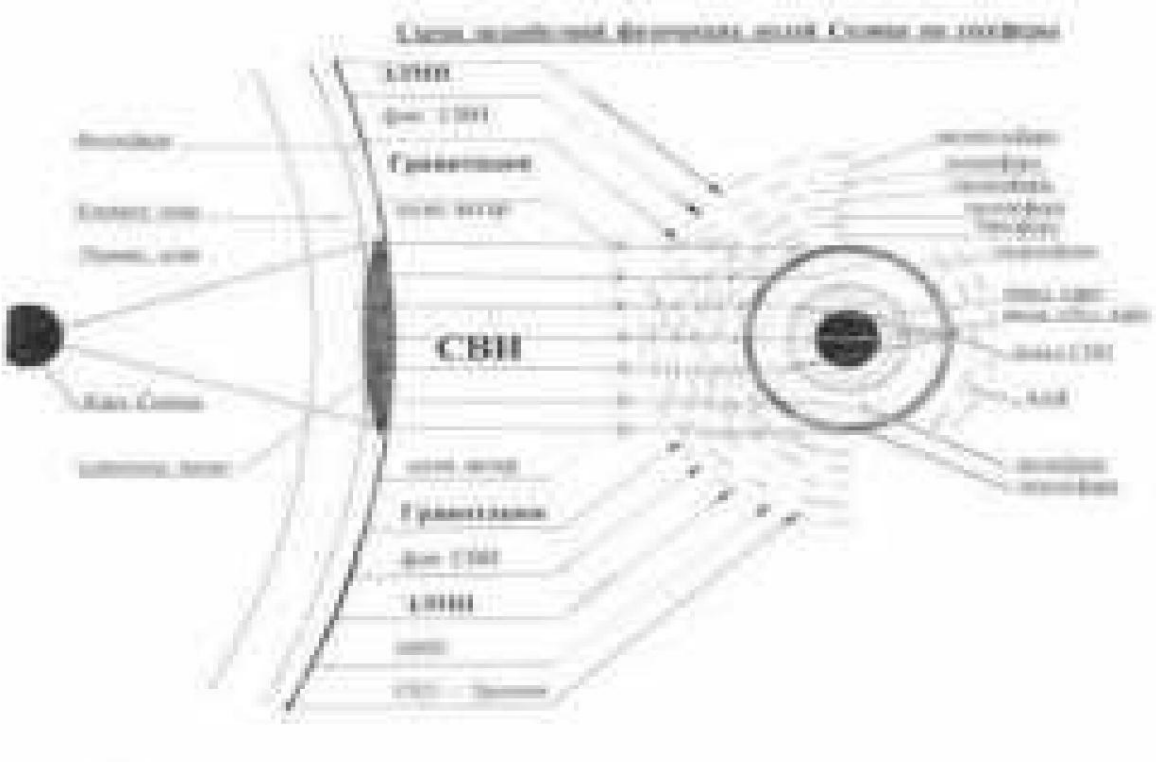
Thus, the change in the mass of the Sun during its lifetime will be:

Time:	**0**	**5 109 years 1010 years**
Weight:	**years 3.029·1033 g**	**2 1033 g 0.971 1033 g**

From these relations it follows that within ~1010 years the Sun can lose about 68% of its original mass. However, according to model studies by R. Kippenhan (1990) [1], the upper limit of mass loss for stars such as the Sun can be acceptable up to 80%, but such mass losses cannot be attributed to the Sun, even if our accepted estimates of the solar mass carried away by spirons , are not entirely sufficient. Thus, from this side, arguments against the existence of SVI and its main role in the formation of the bulk of dark matter in the Universe are not expected.

Now let's move on to the earthly macro level. But first, apparently, it is necessary to formulate, at least in general terms, an idea of the mechanism of interaction of SVI with geospheres that we support. To do this, let us turn to the diagram (Fig. 1), which gives an idea of the nature of the propagation of background and quasi-collimated SVI (and other solar radiation, for example, electromagnetic radiation - ELM) from the source to the Earth and the interaction of the collimated SVI with the internal structures of the Earth (focusing). On the night side, the emerging concentrated spiral-vortex field (SVP) collapses into a spherical or elliptical spiral-vortex soliton - SSV, which appears in printed publications as a UFO.

Effects upon contact with similar solitons (also commonly known as anomalous atmospheric phenomena - AAP) and accompanying AAP physical manifestations were systematized in the work of Platov and Rubtsov (1991) [2].



Rice. 1. Schematic representation of the process of forming a directed flow spiral vortex radiation (SVR), irradiating the Earth from the large solar spots. The following are also simulated from the solar photosphere: electromagnetic radiation (ELMR), SVI background radiation, magnetic field (IMF), solar cosmic rays (SCR) and emissions of solar matter (eruption). A gravitational field emanates from the body of the Sun (gravity). Radial ray streams are ejected from the solar corona solar matter (solar wind). The Earth's environment is schematically represented in in the form of a series of spherical shells (layers) consisting of various physical substances: magnetosphere, ionosphere, troposphere, hydrosphere, biosphere and technosphere. SVI easily penetrates into the bowels of the earth, but only to the solid core. Liquid the core shell refracts SIR well, collecting collimated radiation at the boundary geoid. The SVI focal spot, estimated from the crater sizes, is within several tens of meters. Focused SVI has high energy flux density. These flows serve as sources of formation of numerous atmospheric anomalous phenomena (AAP, and in ufology UFO), various sizes, shapes and glow intensity. The outputs of toroidal SVI solitons from water depths, observed from orbit in the form of huge water wheels and pillars. The high volume concentration of energy in solitons leads in some cases to natural and man-made disasters.

In order to concretize the pattern of propagation of longitudinal waves in the bowels of the Earth [3], we carried out (during the period of the full moon and partial eclipse of the Moon on August 17, 2008) measurements of the intensity of vortex radiation emerging from the depths of the Earth. Penetrating high-frequency radiation was recorded wi

IGA-11 , from the output of which is a dedicated low-frequency modulating signal with at intervals of 5-15 minutes he was sent to the registrar.

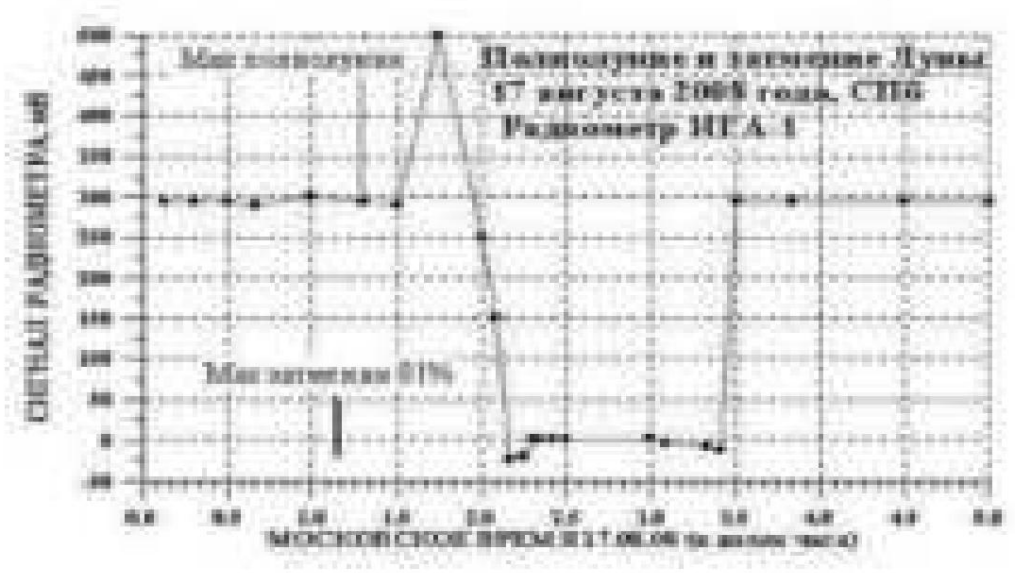


Fig.2. Changes in the IGA-1 radiometer signal during the full moon on 08/17/08. Maximum partial lunar eclipse (up to 81%) was 9 minutes ahead of the full moon maximum.

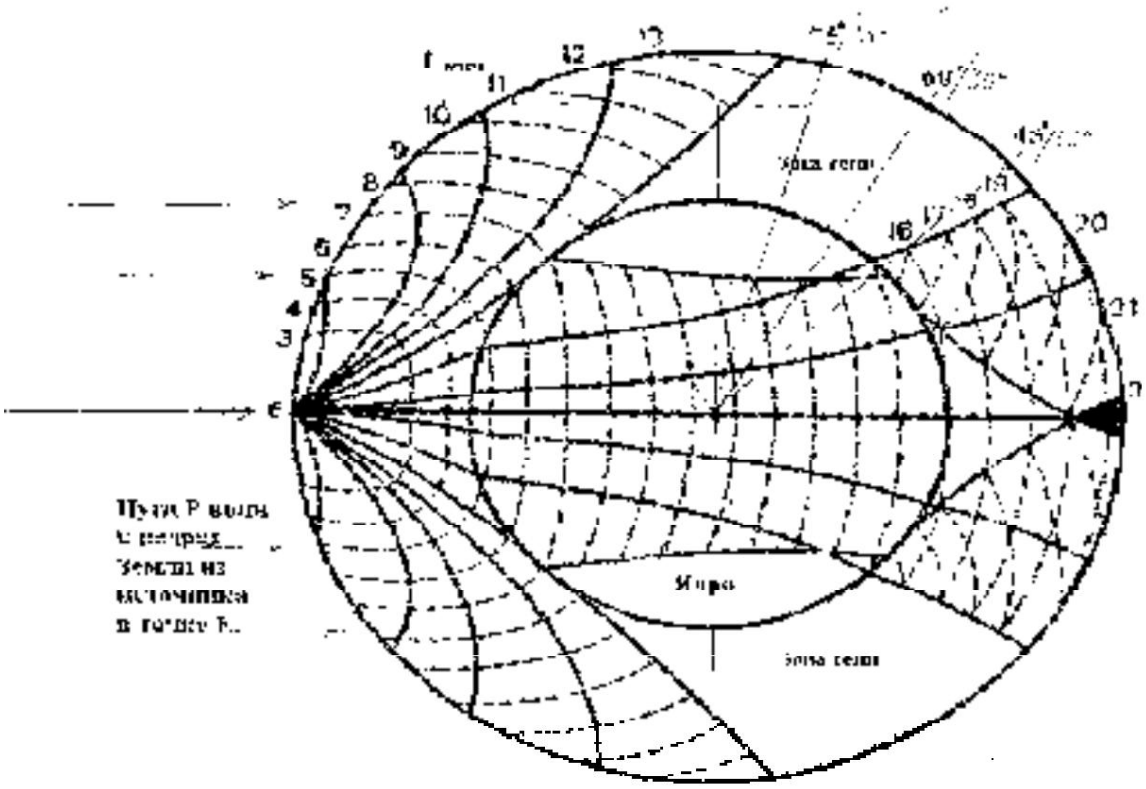
In Fig. Figure 2 shows changes in the signal received by the radiometer from 00:05 to 05: 00m August 17, 2008 Spike at 01:45 and about zero signal values in the period from 02h 10m to 03h 27m 30s can be explained by the peculiarities of the reflection processes and refraction of penetrating radiation at the outer boundary of the Earth's core. According to [3], this boundary is the sharpest interface in the interior of the Earth, on which reflection and refraction of longitudinal waves occurs very intensely. At refraction and subsequent penetration into the core, the speed of the seismic wave changes abruptly from 13.6 km/s to 8.1 km/s [3]. Reflected wave component maintains the same speed, but smoothly turns towards the earth's surface, since the Earth behaves in relation to seismic waves like a refractive lens (see Fig. 3).

The speed of solar longitudinal vortex radiation (SLR), at least at order higher than the speed of seismic waves, however, due to the longitudinal nature vibrations, the interaction with the matter of the Earth's shells in SVI turns out to be similar as for the case of seismic waves. In this case, we can assume that trajectories in Fig. 3 may be fully consistent with the nature of the distribution SVI, with the exception of travel time, which for SVI will decrease to units of minutes.

In Fig. 3 shows the calculated paths in the plane of the meridional section of the geoid the passage of longitudinal seismic waves through the modeled subsoil Earth. After reaching the tangent point at the core boundary, the reflected ray is directed towards the earth's surface, and the refracted ray goes into the core and, thus in this way they form a shadow zone, that is, an area free from longitudinal

[1] **IGA-1 was developed by the company "Light-2", Ufa, to detect zones of exit of terrestrial penetrating radiation and measurements of fields of biological objects.**

seismic waves and, by analogy, from penetrating vortex radiation both inside the geoid and outside the earth's surface. It is obvious that the observer located first, outside the boundaries of the shadow zone, for example, in the zone designated as 20, a signal was received from the 20-minute zone of the region of refracted rays (see Fig. 3), but after the burst (see Fig. 2) he was already at 45o and did not receive any signals until ended up below the 75o mark, beyond the upper boundary of the shadow zone (13th minute in the area reflections). Thus, the shadow zone is 08/17/08. blankets for 1h 17.5m not less than 0.25% of the Earth's interior, depriving this part of the interior of the influx of vortex energy. But maximum effects should occur during periods of entry and exit into the shadow zone and near the earth's surface. At greater depths the consequences should appear in a day or more.



Rice. 3. Meridional section of the geoid with trajectories of distribution of longitudinal seismic waves from the subsurface region of their generation (E). Numbers along the circles correspond to the time periods (in minutes) required by the seismic waves to reach specified points on the geoid surface. Dark triangle on the right shows the area of concentration of seismic wave energy and/or SVI field.

Particularly noteworthy is the signal surge up to 66% (at 01:45) 15 minutes before arrival of the shadow zone at the observation point (St. Petersburg). There is no doubt that this is an effect the refracted component of the beam, and not the sliding one at the point of contact at the border with the core. It is likely that subsequent analysis of the dynamics of similar experiments will reveal interesting structural features of the boundary region between the mantle and the core of the Earth.

In order to verify at a specific event the impact of eddy flows on atmosphere, and then evaluate the vortex power applied to it radiation, let us turn to the event of October 2003 (Fig. 4). Registered by us in

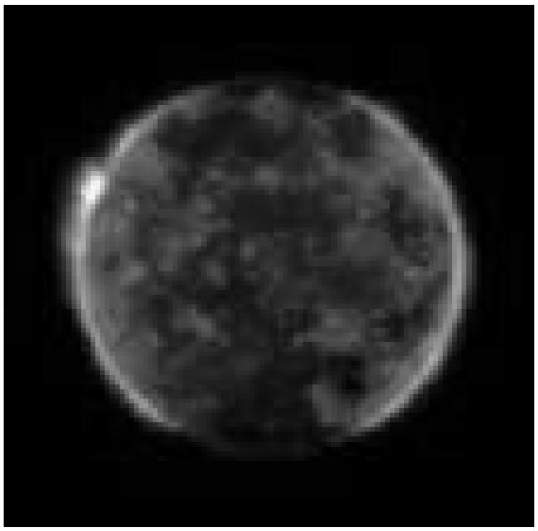
high altitude data indicates direct impacts of SVI on the main weather meteorological parameters - surface temperature (T), air pressure (P), general water vapor and ozone content over the Shajatmaz plateau, where our high-mountain station "Solnechnaya-2", Mountain Astronomical Station of the GAO RAS and Kislovodsk high-mountain scientific station IAP RAS.

The in-phase decrease in pressure and temperature in the surface layer that we discovered atmosphere is, in fact, an anomalous phenomenon for ordinary synoptic processes, but receives a satisfactory explanation if attached to the corresponding lifting force for the air column above the station area. Similar phenomena with the course of pressure and temperature occurred not only at closely located, but also at sufficiently distant weather stations that indicates the synoptic scale of solar influence, the specificity of which indicates its non-trivial nature, not corresponding to electromagnetic or gravitational interaction. Based on measured data, estimates of the energy density required for implementation of the observed anomalies led to values close to those obtained J. Weber (104 erg/cm ^{2}c) in his famous experiments in Maryland University and at the Argonne Laboratory [4].

Rice. 4. Changes in surface pressure P and air temperature T are presented according to three-hour data from the Shadzhatmas weather station for October 2003 together with changes in the solar constant on an inverted scale of its values. “Calm” move synoptic variations in the first half of the month are disrupted in subsequent weeks, obviously under the influence of an external force factor.
The second half of the average “statistical” October in the North Caucasus characterized by the establishment of a deep anticyclone with a pressure of approximately shown by the Trend curve. Analysis of the current synoptic process shows that already from October 16, under the influence of solar activity, destruction begins natural thermobaric ratio in the air mass above the station. Should pay special attention to the course of the solar constant in its reversed version -

"SC", which carries generalized information about the contribution (negative) to the ELM flow radiation (reaching the Earth) of four active regions (AO) No. 249, 250, 251 and 252, of which the first and last are decisive, moreover, the power the latter increased continuously. The helmet-like shape of the "SC" curve with a peak indicates a balance 29.10 of the contribution of AO No. 249 and No. 252 to the ELM radiation, which the extreme is only 0.32%. It is also important to take into account that this energy contribution (negative) is algebraically summed up with the flow energy of the force factor, which has a maximum value of exactly 29.10, since both important AOs are located in the most geoeffective position relative to the central solar meridian disk (on both sides). It follows that the "SC" curve represents not only the position of the force factor radiation pattern, but is also relative an indicator of variation in its intensity. It is in this regard that the fact concentrations of extreme values of parameters ÿ, ÿ and "SC" (SC) near 00 UT on October 29, 2003.

For a reliable comparison of the processes occurring in the photosphere and in atmosphere above Solnechnaya-2, precision measurement data were used solar constant (SP), carried out in monitoring mode on space SOHO platform. These data make it possible to obtain an objective idea of the start time and the pace of direct the impact of SVI on the thermodynamic state (P, T) of the lower troposphere, which clearly responds to solar force effects (ideally described curve "SP", see fig. 4). Indeed, radiation from the surface of the photosphere usually varies only within 0.25% of the level of radiation from the quiet Sun and, only in cases of appearance in the central sector of the solar disk highly active areas, the decrease in SP goes beyond the specified limit, reaching in some cases 0.5-0.6%. But shielding of photosphere radiation by spots in In fact, it is partially compensated by the brightening of the flare fields accompanying groups of sunspots. The maximum flare contribution does not appear to be exceeds 0.35% of the radiation of the quiet photosphere from the same area. Consequently, the screening of photosphere radiation by spots is proportional to the ratio of the total area of sunspots to the area of the solar disk can reach 0.8-0.9%. The flux of vortex radiation from spots at maximum solar activity, reaching maximum values flux density on the earth's surface (on the sunlit side): ~106 erg/cm^2·With.



Rice. 5. Digital mosaic image of the Sun 11/17/2008. at 02h 39m18s at length waves 171A (in Fe IX, X lines). Only in the TRACE experiment was it possible to restore image of the Sun during a period of prolonged blocking of detectors on the platform SOHO.

Large coronal holes, for 1-1.5 weeks, clearing up to half the surface solar disk (for example, November 15-23, 2008) from coronal weakening substance.

Reliable confirmation of the strong increase in the flux of SVI during this period is a blocking feature on SOHO of most hard ultraviolet detectors radiation from EIT (Extreme ultraviolet Imaging Telescope) equipment. It turns out that in SOHO detectors contain residual water vapor, which in cases of sudden increasing the flow, SVI is sublimated from the walls of internal cavities and deposited on colder surface of the detector window. In Fig. Figure 5 shows an image of the Sun obtained using the TRACE equipment during the blocking period of the EIT detectors. The dark region, which occupies approximately half the area of the solar disk, is a giant (in area) SVI source with a quasi-collimated the structure of the radiation field covering the entire Earth.

Due to the fact that SVI has a relatively high penetrating ability (only ~15% of energy is lost when passing through the Earth) and unique property of using the liquid shell of the Earth's core as a focusing lens (due to the longitudinal type of waves of the spiral-vortex radiation field), focal spot SVI (with a high volumetric concentration of vortex energy) is localized near the earth's surface and in some cases generates catastrophic events. For example, 11/18/08, that is, one day after the above situation with coronal hole, an ejection and explosion occurred at a coal mine in Donetsk firedamp, causing the death of 100 people. Daily delay tectonic manifestations after the maximum external impact on the earth's crust is a characteristic phenomenon.

In the atmosphere above the exit points of a vortex soliton with a high concentration kinetic energy, luminous columns of ionized air are formed with The duration of the effect is from 100 to 1000 seconds. In case of transverse rupture of the soliton body, its individual sections will collapse into spherical, elliptical or toroidal formations, acquiring relative freedom movement and long period of existence due to constant replenishment through background vortex fields. SVI solitons penetrating the Earth, emerging in atmosphere, retain weak divergence and, in this regard, represent a real hazard for night aircraft flights, especially in crossing areas mid-latitude Eurasian tectonic belt with faults meridional extent.

There is no doubt that in the energy of atmospheric processes the decisive role should be allocated to water not only from the point of view of its activity in phase and

thermodynamic processes, but also from the point of view of its active interaction with vortex fields.

The participation of water throughout the hydrosphere in global energy processes (such as a specific solar energy battery), which is largely determined by the abnormality of its properties and is direct evidence of constant influence of an external factor, continuously supporting all earthly water in an energetically elevated state.

Due to the high dynamism of associates and the constancy present in nature of the abnormal properties of water, it should be stated that the abnormality water is not associated with molecular associativity, but with deeper dynamic processes occurring at the level of each individual molecules. It is known [5] that the time of translational-rotational movements water molecules is 1.5 picoseconds (6.66@1011 Hz). Stay time molecules in the composition of one or another associate is estimated already in femtoseconds (10^{-15} With). Apparently, the openwork structure, so necessary for the mobility of molecules, and short-range order in the arrangement of molecules was a consequence primary influence of high-frequency vortex radiation from the Sun on formation of molecular structures adapted for collective movement molecules in liquids and especially in water. Thus, it turns out that water has an extremely highly dynamic structure for continuous energy support of which there must be a torsion force field in the geosphere with frequencies ~1016 Hz. The functions of such a field can and should be performed by the discovered and the spiral-vortex field identified by us, the quanta of which (spirons) are emitted at a speed of 1044 s^{-1} highly excited nuclei of isotope atoms carbon and iron found in the core of the Sun.

Here we have to limit ourselves only to stating what we have received and have already known observational results, supplemented by logically necessary connecting elements, with the hope of being included in subsequent publications results of model constructions and calculations. This explanation will probably not be superfluous due to the unusual structure of the proposed spiral-vortex field.

Conclusion

The existence of a spiral-vortex field on the Sun is beyond doubt modern solar astrophysicists, but they imply that the SVP, having originated on the Sun, does not go beyond the corona. To clarify the temporary and They have not yet begun to study the spatial parameters of the solar hovercraft. Obviously, the level of immersion in the physical processes in the atmospheres of stars and in t convective zones is limited by the impossibility of at least partial reproduction of such processes in terrestrial conditions. Penetration into secrets thermonuclear fusion and the peculiarities of its occurrence can begin only after mastering the conditions for its maintenance in terrestrial conditions for more or less long time. But even in this case they will remain outside experiment, the vast majority of phenomena and processes, including spiral-vortex, occurring on a large scale in the solar atmosphere. Exactly

the gigantic scale of vortex processes on the Sun does not allow theorists understand, feel and simulate the characteristics of the spiral-vortex field, assess the possibility and parameters of its propagation in the heliosphere and space.

However, as it turned out, there are clear traces of the impact of SVI on Earth on the biosphere and inorganic matter. According to numerous traces on different At the structural levels of the substance, estimates of the parameters of the SVI were made. It can be argued that the fifth interaction - vortex - is real, biologically and energetically significant.

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About the fifth interaction

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Introduction

In the article “In Search of the Fifth Force,” academician E.B. Aleksandrov, discussing the “baryonic” hypothesis of the “Fifth Force,” believes that for its implementation it is necessary particles with a mass 15 orders of magnitude less than the rest mass of an electron (me = 9.109534@10-28 g), but such particles have not yet been discovered and the search for them is not a primar high energy physics. As for the “baryonic” hypothesis itself, then the efficiency of interactions between particles of matter assumed within its framework (not yet clear - when attraction and when repulsion) does not exceed 1% of Newtonian attraction. However, even in terrestrial conditions at the macro level there are influence on matter of some physical field not electromagnetic and not gravitational nature, with efficiency many orders of magnitude higher than considered in the “baryon fifth force”.

An example would be moving a large freight truck at high speed. train on a route of several tens of kilometers with the diesel engines turned off, in As a result, about 300 kg of diesel fuel was saved (02/14/1985, area of Novye Peski station near Petrozavodsk, Karelia) [1, p.211]. Instead of diesel engines, traction force was created vortex soliton moving along a tectonic fault that lay under this section of the railway tracks. Incidents of this kind show that theoretical physicists are searching for agents of new influence on matter without rising above level of microphysical processes, that is, they subconsciously limit their event horizon and, therefore, abstract from powerful manifestations of external strength

In agreement with this position, they sound quite minor in the performances E.B. Aleksandrova’s assumptions about the physical significance of the “baryonic” hypothesis: “... with the advent of a new force, practically nothing changes either in the earthly or more in celestial mechanics, and in physics in general. Except physics elementary particles, or, as they now more often say, high-energy physicists, for in which the discovery of the “fifth force” would be the discovery of the century. In this area the most profound knowledge about matter continues a period of remarkable successes and great hopes. The new hypothesis does not directly fit into existing ones outlines of a future unified theory. Therefore, the experimental discovery fifth force would lead to a significant revision of the directions of the search for a unified theory and, perhaps, would give these searches a new decisive impetus. Theoretical physicists putting together a mosaic of experimental facts into a single picture the universe, with hope they are waiting for the missing fragments, which, perhaps, will turn out to be key. But these hopes are combined with natural mistrust,

because big discoveries are rare. The near future will show what attracted the attention of researchers - a random shadow on the monolithic foundation of physics or a trace of a secret passage deeper."

In 2005-2006 We have published the results of many years of research [2-4] on the direct effects of solar emissions on weather-forming processes. Based on numerous manifestations of solar disturbing factors in the natural synoptic course of the main weather meteorological elements, the presence in the flux of solar radiation of a vortex component carrying an energetically significant impulse and an even more energetically significant angular momentum was identified. It turned out that the vortex component is in no way connected with the electromagnetic radiation of the Sun, except for the location of their emission sources - the nuclear boiler of our star. As will become obvious from what follows, the proposed concept of a vortex fifth force, contrary to the "baryon" hypothesis, should make significant changes in the understanding and interpretation of a significant part of physical postulates, in ideas about the structure and dynamics of the present, past and future Universe.

Results of solar emissions studies

Monitoring of variations in solar emissions in the ultraviolet, visible and near-infrared regions of the spectrum (at the high-altitude base of the Research Institute of Physics of St. Petersburg State University) continued from 1978 to 2002. Years of long-term study of solar electromagnetic radiation (EMIS) have paved the way for the discovery of the ray induced spectral optical radiation from numerous open flocculent magnetic formations [5]. The impact of spectral EMIS bursts on the total influx of solar radiant energy into the atmosphere and onto the underlying surface was only a few percent in cases of high solar activity. Due to the fact that the additional burst energy is supplied immediately to the entire illuminated part of the globe, but in short-term portions (within 1.5 - 2 hours)[6], the introduced changes in the latitudinal gradient of air mass temperature will not have a dramatic effect on the meridional circulation , but will create wave disturbances in air flows.

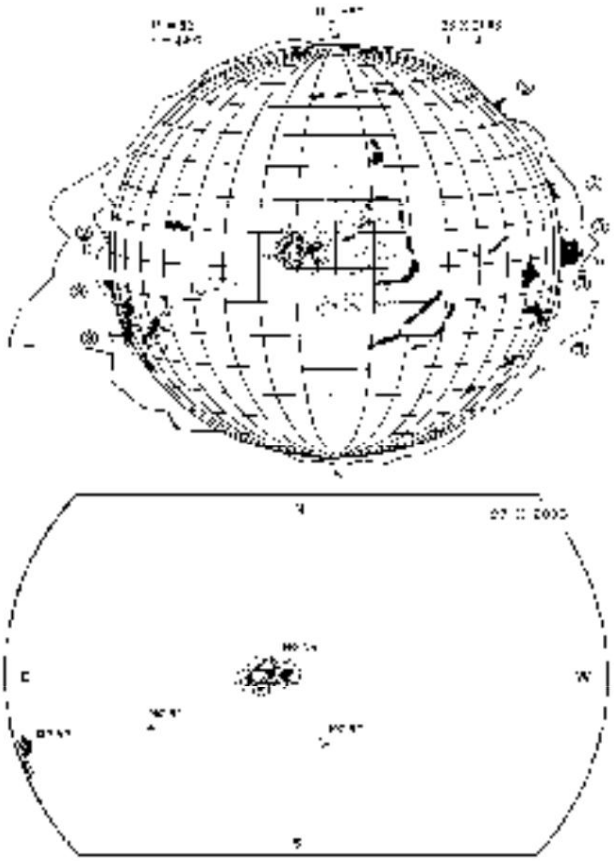
Since 2001, in parallel with spectral measurements, increasing interest in field research has been shown in meteorological responses to the activity of processes in the photosphere, chromosphere and solar corona. The obvious effects of solar emissions on the meteorological, weather and climatic parameters of the atmosphere-underlying surface system have drawn our attention to direct energy contributions associated, as it turned out, not with EMIS, but with solar spiral-vortex radiation (SVIR) from active regions of the photosphere, coronal holes and magnetic grid.

According to observations in 2002 - 2003. and the results of the analysis of a number of studies in various fields of physics, the direct force effects of SVIS on the atmosphere, hydrosphere, lithosphere and biosphere of the Earth were discovered and identified. Only to reduce barometric pressure by 5-7 hPa in local areas

energy flow was consumed (3-5)·105 erg/cm^2 With. Features of the effects of influences on geospheres indicated the specific vortex nature of this radiation, and directionality of angular momentum and orbital and angular impulses SVIS moments indicated reverse (negative) energy pressure the field of this radiation on particles of matter compared to the gravitational field. Obviously, this energy is not the binding energy of gravitating bodies, which has positive sign, and is directly the energy of the spiral-vortex radiation from the Sun, directed radially from its core [7].

Increased solar activity, which began in the second half of October 2003 and which took place at the beginning of November, exceeded all forecasts. In 20 days through the disk of the Sun three most powerful active regions (AO) passed at geoeffective latitudes No. 249, 252 and 257 (see Fig. 1), the areas of the spots in which reached 4000-6000 ppm (parts per million of the disk).

The most accentuated atmospheric effects were recorded in the period 23-October 28, 2003, when the direct effects of powerful solar events on the course of daily cycle of the main weather elements (P, T) appeared exceptionally clearly. Unfortunately, the spectral radiation of the Sun at this period was not recorded due to the presence of upper clouds. Received with high-mountain experiment, observational data were analyzed in comparison with data from simultaneous precision observations of the solar constant at SOHO platform. Decrease in the value of the solar constant in the period from October 17 to October 29 (see Fig. 2), specified by the sequential passage of powerful groups of spots through the central sector of the solar disk, made it possible to determine the diagram directionality of collimated radiation from the shadows of spots of active regions of the AO No. 249, No. 252 and No. 257 and determine the position in time and space a generalized equivalent source of specific vortex (see below) radiation responsible for in-phase changes in temperature and pressure at a point observations. Numerical estimates show that the energy level recorded changes in the solar constant are not sufficient to create observed thermobaric effect (see Fig. 2).



Rice. 1. Heliographic map of magnetic fields and active regions of the Sun for October 23, 2003: a – near the center (a little to the left) there is a powerful and compact active area No. 249. The main spot AO No. 249 had an area of S = 2190 MDP the maximum was exactly 10/23/2003. JSC No. 252 is just emerging from the eastern edge disk of the Sun, in which 23.10. an outbreak of X5.4/1B has already occurred, and on October 24. – flash point M7.6/1N, followed by powerful flares on October 26-27. and to end this series – super-powerful flash X17.2/4B (28.10). Hidden behind the edge of the disk is an equally powerful JSC No. 257. These three JSCs, starting from October 18, 2003, precisely determined the obvious variations solar constant (SP) values until the end of October. Dark oblong formations - relatively cold fibers that hold the cooling solar plasma in magnetic traps. The wavy lines around the Sun show equal corona brightness values. At the top left are the total parameters of all sunspots located on the disk: Wolf number W = 82 and their area S = 4407 ms (millionths of a hemisphere); b – central part of the solar disk c designations of active areas.

The in-phase decrease in pressure and temperature in the surface layer that we established atmosphere is, in fact, an anomalous phenomenon for ordinary synoptic processes, but receives a satisfactory explanation if attached to the corresponding lifting force for the air column above the station area. Similar phenomena with the course of pressure and temperature occurred not only at closely located, but also at sufficiently distant weather stations that indicates the synoptic scale of solar influence, the specificity of which indicates its non-trivial nature, not corresponding to electromagnetic or gravitational interaction. Based on measured data, estimates of the energy density required for

implementation of the observed anomalies led to values close to those obtained J. Weber (104 erg/cm ^{2}c) in his famous experiments in Maryland University ("Evidence for discovery of gravitational radiation", Physical Review Letters, v.22, No.24, 1969, p.1320-1324).

Rice. 2. Changes in surface pressure P and air temperature T are presented according to three-hour data from the Shadzhatmas weather station for October 2003 together with changes in the solar constant on an inverted scale of its values. "Calm" move synoptic variations in the first half of the month are disrupted in subsequent weeks, apparently under the influence of an external force factor. Second half of the average "statistical" October in the North Caucasus is characterized by the establishment deep anticyclone with pressure approximately shown by the Trend curve. Analysis the current synoptic process shows that already from October 16 under the influence solar activity begins the destruction of natural thermobaric ratios in the air mass above the station. Particular attention should be paid to the progress solar constant in its reversed version – "SC", which carries the generalized information about the contribution (negative) to the flux of ELM radiation (reaching the Earth) of four active regions (AO) Nos. 249, 250, 251 and 252, of which the determining ones are the first and the last, moreover, the power of the latter has continuously increased. The helmet-like shape of the "SC" curve with a peak indicates a balance of the AO contribution 29.1 No. 249 and No. 252 in ELM radiation, which at the extreme is only 0.32%. Important also take into account that this energy contribution (negative) is algebraically summed with the flow energy of the force factor having a maximum value of exactly 29.10, since both important AOs are in the most geoeffective position relative to the central meridian of the solar disk (on both sides). From here it follows that the "SC" curve represents not only the position of the diagram direction of the force factor, but is also a relative indicator of variation its intensity. It is in this regard that the fact of concentration of extrema is indicative parameters P, T and "SC" (SC) near 00 UT October 29, 2003

Estimation of changes in the weight of the atmospheric air column on October 23-25, 2003

The specific energy density required to reduce by 6 hPa (on the night of October 24 to 25) the specific column pressure of atmospheric air located above the level P = 796 hPa was estimated using the barometric formula (for T and g varying with height) presented in final increments: BP / P = - g BZ / Ra Tmd , where BZ is the change in the height of the H0 level , Ra is the gas constant of the air, Tmd is the average temperature in the air layer above the station to the height H0 (the height of the homogeneous atmosphere); Rmd = 796 hPa - average pressure level in October 2003 on the Shadzhatmas plateau.

Initial dimensions for calculation: Pmd = 796 hPa; BP = 6 hPa; g = 9.8 m/s^2; H0= 7995.8 m;
Ra = 287.05 J/kg K; Tmd =250 K; BP/P = 7.54 · 10-3 ; Rmd = 796 hPa = 796 g/ ^{2} = m (weight cm column).

A change in pressure B p will correspond to a change in BZ = BP · Tmd · Ra / P · g = 5520 cm (when performing certain work: A = m · g · BZ = 796 · 980 · 5520 = 4.3 · 109 erg/ cm ^{2}).

Due to the fact that the fastest process of pressure decrease (from October 24 to October 25 at BP = 6 hPa) lasted 3 hours, the specific power of the vortex field operating during this period reaches: W = A / 3 3600 = 4 105 erg/cm^2 s (due to astronomical conditions, focusing was possible). If we take into account the likely trend of pressure growth in the second half of October, BZ will reach 205 m, and average for 9 days (from October 19 to October 28) W = 2 104 erg/cm ^{2} s.

During the period of maximum specific radiation flux (October 28-29), the pressure decrease could reach 23 hPa - as a result of the influence of the emerging fluxes from two active regions No. 252 and No. 257. For this case W = 6.2 104 erg/cm ^{2} s.

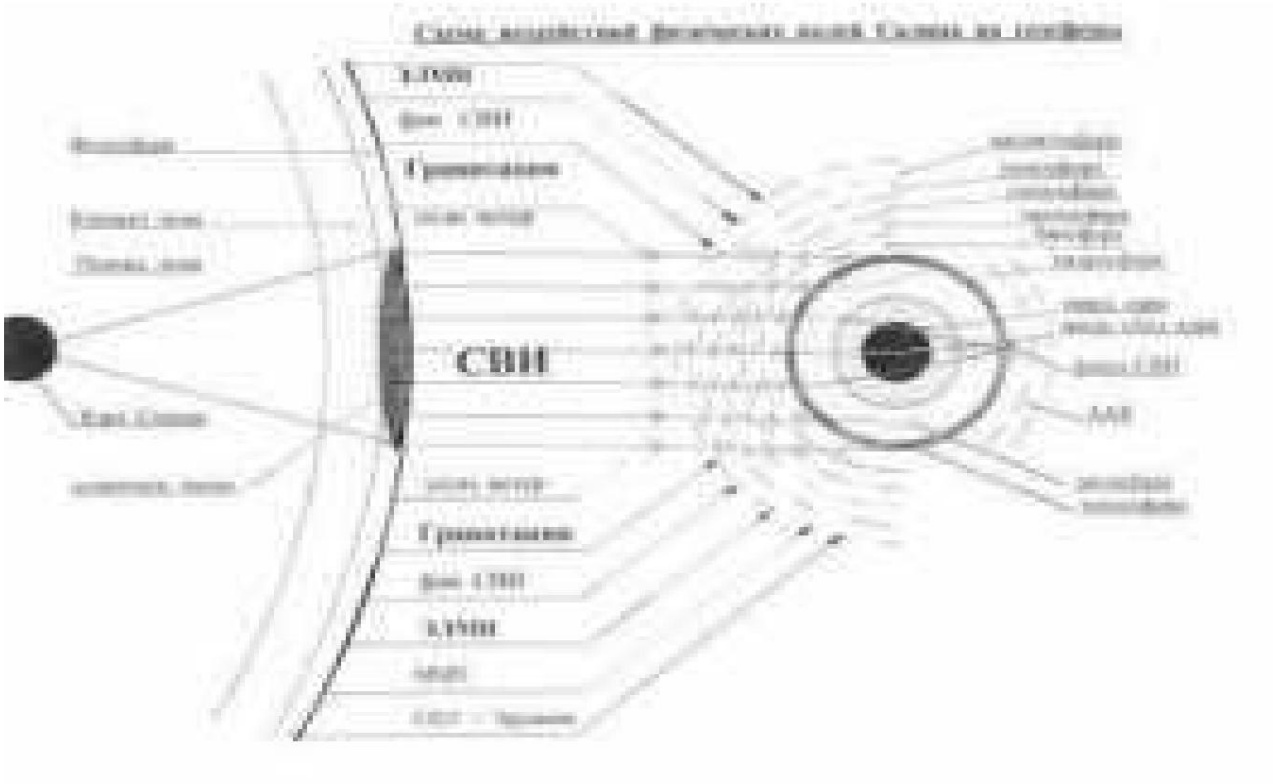
For the extreme values of the calculated values of the power of the vortex radiation flux (2 104 and 4 105), taken as background and burst, we obtain the following ratios to the solar constant: 1.4% and 30%. The last value, obviously, is realized very rarely and for a short time, but the background vortex flow is constantly present and, therefore, requires careful attention!

On the effects and mechanism of interaction of SVIS with geospheres

It turns out that the directed flux of SVIS, passing through the globe, is not only attenuated due to absorption and scattering, but is also refracted in such a way that the focus of the radiation flux is realized on the night surface of the globe, in particular, in the form of a crater with a central hill. It would seem that the typical focusing factor (FF) can be determined by the ratio of the cross-sectional areas of the globe and the crater (for example, Sasovo, Ryazan region, 1992 [8]). This crater was formed due to the ejection of a circular section of topsoil, 3.5 m thick and 28 m in diameter. Due to the fact that vortex radiation in the geophysical interpretation is a longitudinal oscillation, which can

propagate in the outer superviscous shell of the Earth's core and weaken significantly in the solid core, the formation of a central hill in craters associated with the release of a focused beam (in the form of a soliton) of highly powerful spiral-vortex radiation becomes clear. Now you can get an idea of the initial shape of the ejected volume of soil (a somewhat flattened toroid or, in common parlance, a donut) and the cross-sectional geometry of the focused SVIS beam (solenoid with radii R = 14m and r ~ 4m). Thus, it is obvious that when determining the CF necessary for calculating the volumetric specific density of the vortex energy of the SVIS flow emerging from the Earth, it should be taken into account that only 1/2 of the cross-sectional area of the Earth should have taken part in focusing. An estimate of the energy of the SVIS flow can be obtained from the glow of the volume of air above the exit site of the soliton, noticed by a number of witnesses. They estimated the diameter of the luminous volume to be ~15 m. The color of the luminous volume of air was similar to the glow during welding, which indicates the excitation of atoms to high levels close to the ionization threshold. The volume of the luminous formation will be 1.8 × 109 cm. The number of molecules in this volume is 2.68675 1019 1.8 109 = 4.75 1028 . The ionization energy of these molecules will be 4.75 1028 33 eV = 1.57 1030 eV = 2.5 1011 J = 2.5 1018 erg. Thus, the estimate of the specific energy concentration (maximum) in the luminous volume is 140 J/cm. In real conditions, the specific energy was at least an order of magnitud

To explain the proposed mechanism of the influence of SVIS on the geosphere, a diagram is given that gives an idea of the nature of the propagation of background and quasi-collimated SVIS (and other solar radiation, for example, electromagnetic radiation - ELMIS; see Fig. 3) from the source to the Earth and the interaction of collimated SVIS with matter its core (focus). On the night side, the emerging concentrated spiral-vortex field (SVP), when separated from the channel connecting the SSVF with the source, collapses into a spherical or elliptical soliton, “traveling” for hours along the “waves” of the background SVP. Effects upon contact with such solitons (known as anomalous atmospheric phenomena - AAP - UFOs) were certified as purely physical manifestations accompanying AAP and were systematized by Yu. Platov and V. Rubtsov back in 1991. [9].



Rice. 3. Schematic representation of the process of forming a directed flow spiral vortex radiation (SVR), irradiating the Earth from the large solar spots. The following are also simulated from the solar photosphere: electromagnetic radiation (ELMR), SVI background radiation, magnetic field (IMF), solar cosmic rays (SCR) and emissions of solar matter (eruption). A gravitational field emanates from the body of the Sun (gravity). Radial ray streams are ejected from the solar corona solar matter (solar wind). The Earth's environment is schematically represented in in the form of a series of spherical shells (layers): magnetosphere, ionosphere, troposphere, hydrosphere, biosphere and technosphere, consisting of various physical substances. SVI easily penetrates into the bowels of the earth, but only to the solid core, where ab increases by 30-40% relative to the substance of the liquid shell. Liquid shell the nucleus refracts the SIR well, collecting collimated radiation at the geoid boundary. The SVI focal spot, estimated from the crater sizes, is within several tens of meters. Focused SVI has high energy flux density. These flows serve as sources of formation of numerous atmospheric anomalous phenomena (AAP), of various sizes, shapes and intensities glow. The exits of toroidal SVI solitons from the water depths, observed from orbit in the form of huge water wheels and pillars, are peculiar. High volume the concentration of energy in solitons leads in some cases to natural and man-made disasters.

About the spiral-vortex field

Solar spiral-vortex radiation (field) is one of the forms of matter, and, at the same time, a new physical object. It conveys interaction, having energy, momentum, angular and orbital momentum. Spiral-vortex field (SVP), like an electromagnetic field, can exist on its own, but in the difference from ELMI should initially be perceived as a spectrum different-scale solitons that easily penetrate other bodies and effectively interacting with their structural elements.

On Earth, when separated from the source, SVP can form large-scale spherical or toroidal solitons and in these forms move under influence of background SVP with variable speeds and according to variables directions, and not just progressively, in the direction of distribution collimated SVP beam. SVP begins to interact with the substance with micro levels (nuclear, atomic and molecular) regardless of the presence of particles of matter of charge or charge sign, since the SVP quantum - spiron - is neutral, it is described by vector wave functions.

Note that, according to our estimates, the mass of spiron (1.2@10-29 g) is approximately 76 times less electron rest mass (9.10956@10-28 g), spiron spin is 1, and initial energy spiron during its emission by highly excited nuclei of atoms of iron and isotopes carbon (at a temperature of 1.6@107K) is E0s ÿ 1.1@10-8 erg. At the level photosphere, the spiron energy is much lower: ~ 3@10-12 erg. Consequently, the luminosity of the Sun by vortex energy is ~ 3 @ 1032 erg/s, with a quanta frequency of ~ 6 @ 1014 Hz. Spiron emission rate ~ 10^{44} s^{-1}

SVP propagates at a finite speed, depending on density, structure and overcome mass of matter (from 3@1010 in the solar core to 2@107 cm/s in the system Sun-Earth).

On the effects of interaction of spiral-vortex radiation with matter

Eight levels of interaction of spiral-vortex radiation with matter were taken into consideration (see below), but, naturally, with varying degrees depth of analysis due to the huge variety and novelty of aspects and, of course, in connection with the complexity of the phenomena and processes covered.

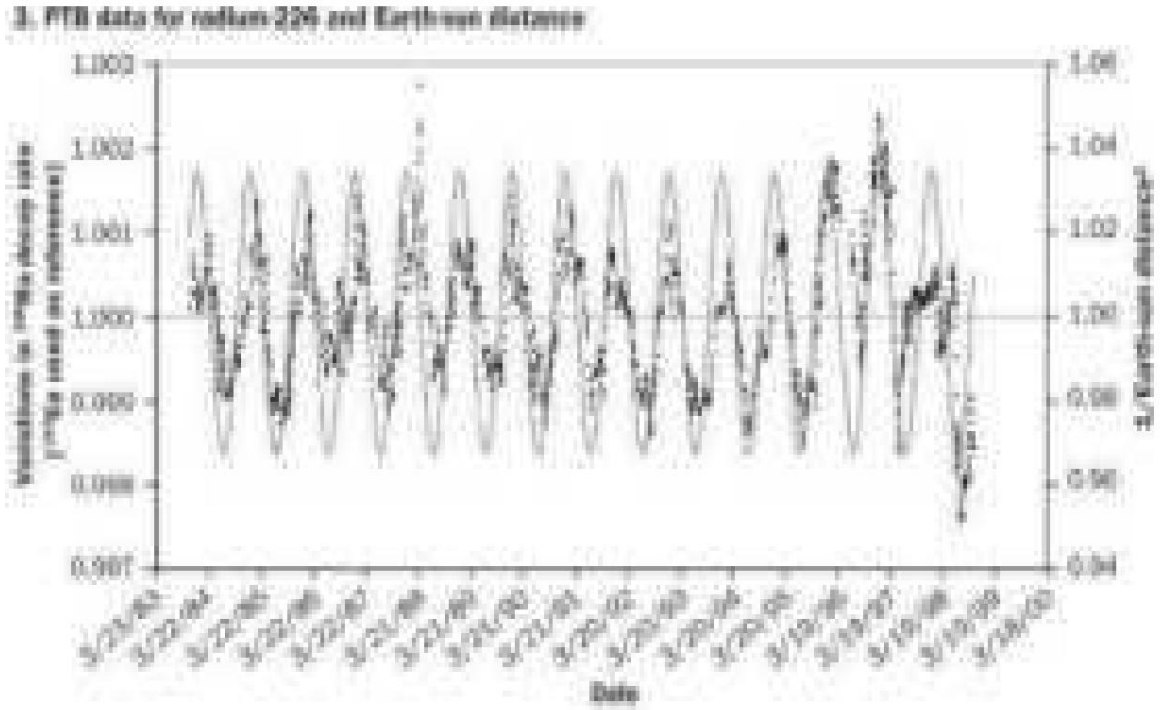
Table 1. Levels of interaction of spiral-vortex radiation with matter. Effects

Structural levels substances	
1. Nuclear (inside the nucleus)	Change in the decay rate of p/a isotope nuclei.
2. Electron-atomic	Spontaneous emission of
3. Free electrons 4.	atoms. Flicker effect in conducting
Molecular level	media. Increasing the frequency of vibrational-rotational movements of molecules in liquids and gases. Change diffusion rates.
5. Meso-molecular	Formation of Brownian motion, pressure level and temperature of gases.
6. Macro level	Formation of vortices of various scales, turbulence, equipment failures, earthquakes, gas emissions in mines, explosions, industrial disasters. Heating of
7. Geophysical level	the earth's core and mantle, resonances in geoid.
8. Astro level	Formation of "anti-gravity" rotation. galaxies, Dark matter and dark energy
9. Universe level	Expansion of the Universe (slowing down)

Apparently, vortex effects should manifest themselves at astro levels most large-scale and visible, since radiation quanta (spirons) are emitted most stars in the Universe with speeds of ~ 1044 quanta/s and, filling The Universe is predetermined by the prevalence of antigravity-gravitational processes over others, which manifests itself in the form of ubiquitous spiral-vortex formations, their clusters and groups.

Indeed, the presence of each emitted vortex quantum of finite mass and energy and directed along the radius of the pulse, determines the comprehensive the direction of their propagation, that is, in essence, their quasi-antigravity, acting as a universal expanding factor. But, since given spiron at birth has finite mass and energy, and the latter is consumed at every even elementary interaction with the elements of matter, therefore, contrary to the currently widespread hypothesis, the expansion of the Universe continues, but without any excess acceleration, and rather, even with some reduction. Having used up all the energy reserves momentum and angular momentum, spirons turn into primary elements of the dark matter that fills the entire Universe. “Cold” spirons (2.73K) interact only with galactic gravitational fields, collecting them into clouds and further into spiral formations. This is how it happens transformation of stellar matter into dark matter, which can subsequently participate in the process of creating the next generation of stars, galaxies and their associations. Let us now return to the nuclear level.

Anticipating the description of the experiment on the decay of Cs, held in Leningradsky Polytechnic Institute in April 1994 [10], consider recently published [11] results of 15 years of monitoring of speed variations decay of Ra226, which clearly and unequivocally indicate the impact solar emissions (apparently SVI) on processes at the level of nuclear structures. In Fig. Figure 4a shows the close correlation between variations in the decay rate isotope Ra226 and changes in the Earth-Sun distance (1/R2). These studies were carried out at the Federal Institute of Physics and Technology (Germany) during 1983-1998 under the leadership of H. Schrader. The presented data has been corrected in relation to background radiation. The occurrence of phase shifts between rows 1/R2 and decay rates of Ra226 (for example, in 1994, 1996 and other years) are assumed attributed either to the influence of temporary variations in the solar neutrino flux on terrestrial r/a atoms, or due to variations in scalar fields generated by the Sun [12, 13], which can, in turn, affect ÿ and ÿ decay through modulation of the fine structure constant ÿEM. Rates of both types of decay sensitive to variations in ÿEM [14]. However, the appearance in years may also have an effect the minimum solar activity of large near-equatorial coronal holes, which, according to our ideas, are effective sources of SVI. J. Jenkins, analyzing in [11] a number of experiments with the decay of p/a atoms, comes to the conclusion that the decay rates are modulated (with an annual period) by flows or fields emanating from the Sun.



Rice. 4a. A relationship is presented (for a 15-year series of continuous observations [11]) of changes in the decay rate of the radioactive isotope Ra226 with relative changes in the inverse the square of the distance between the Earth and the Sun (1/R2). It should be noted that with an obvious close correlation between the mentioned parameters, in some periods of time a phase shift appears, as well as a tendency for additional increase in the decay rate during the period of increasing solar activity in cycles 22 and 23 (spring maximums 1988 and 1997). The presence of a reliable correlation in largely determines the characteristic features of the factor affecting the nuclei of the isotope (or, which is possible, the active substance of the detector), namely: a) indicates it inside solar origin; b) on its field rather than corpuscular nature; c) that its field has an affinity with the electromagnetic field of the Sun only in the place of their generation and by the nature of their distribution in space (1/R2); d) exposure to new things (vortex) factor on the active substance of the radiation detector will be integrated with its effect on the nuclei of atoms; e) the electromagnetic field does not have any effect influence on the vortex field, since the quantum of the latter is neutral, but the vortex field partially transfers upon meeting (for example, in the solar wind) the energy of the impulse and chiral angular momentum to all mass particles and, first of all, to the electron due to its relatively small mass.

Figure 4b compares the results of simultaneous observations in the period 1984-1986. carried out in Germany (PTB, Fig. 4a) and in the USA at Brookhaven Laboratory (BNL). The correlation of observational results on different continents is sufficient convincing.

Since changes in decay rates are monitored at extremely high accuracy of observations (0.01%), in some recent experiments there were doubts regarding the reality of external influences on the nuclei of isotope atoms. IN In these experiments, the dependence of the decay on 1/R2 was not observed or turned out to be below the noise level, despite all the methodological and experimental tricks. Obviously, direct comparisons of measuring setups and mandatory standardization of detectors used to indicate products decay.

Let us now return to our results, which more specifically indicate the main source of solar emissions that have a direct impact on the rate of decay of r/a atoms, namely into active regions or, even more specifically, on the shadows of spots. The latter not only define gigantic flow cross-sections SVI, but also make them narrowly directed, with a concentrated vortex energy.

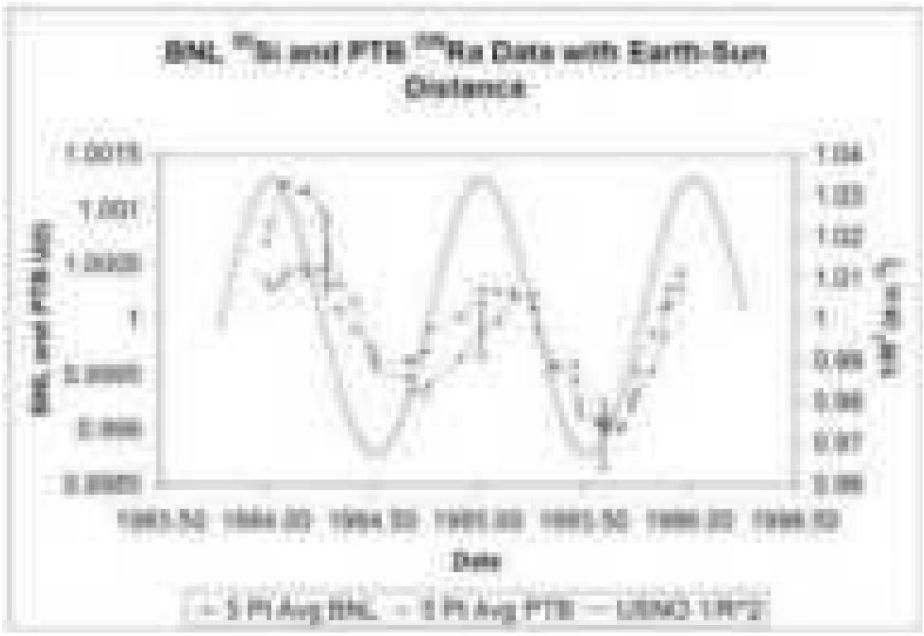


Fig.4b. Comparison of the results of measurements of the decay rate of Si32(BNL) and Ra226 (PTB) in period 1984-1986

By comparing events on the Sun during the days of experiments at the Polytechnic Institute on April 20-23, 1994 with temporary changes in the rate of decay of the drug, it was poss find out that the location of the Ce144 decay rate maxima **on the time scale (see Fig. 5) exactly correspond to the geoeffective positions of the two active areas Nos. 58 and 62 (see Fig. 6). Indeed, the maxima on the time course of variations decays correspond to certain longitudes of sunspot groups relative to the central meridian of the Sun (4-7)o E and (7-10)oW, known as geoeffective longitude (see Fig. 6.).**

Further, an analysis of the results of work [10] revealed that its author was mistakenly informed about belonging of the studied drug to the Cs137 isotope .

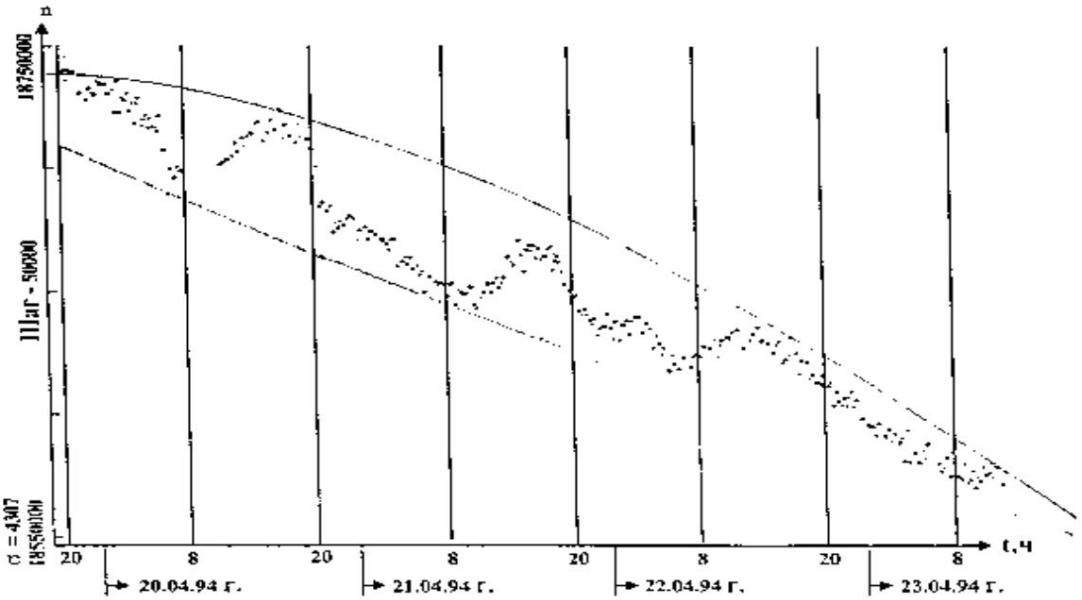
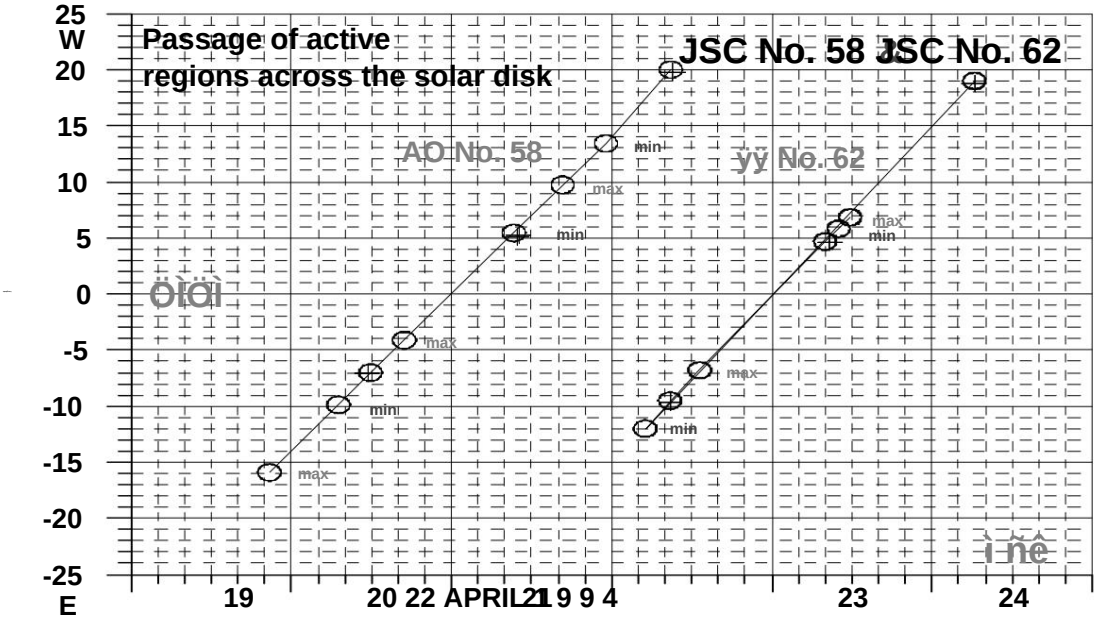


Рис.5. Вариации скорости распада церия 144. n - количество распадов за 16 минут, t - время суток (г. Санкт-Петербург, 20-23 апреля 1994 г.).



Rice. 6. Passage of active regions No. 58 and No. 62 across the solar disk on April 19-24, 1994, Moscow time. CM is the central meridian of the visible hemisphere of the Sun. Max & min – moments corresponding to the maxima and minima on the decay curve. The location of "moments" on straight lines and in certain longitude ranges indicates the reality of the connection and the high correlation of the considered phenomena, that is, about the existence of a direct influence of the macro source of SVI (the Sun) on matter at the level of the structures of its nucleus (and/or radiation detector).

Processes of interaction of SVI with matter on the electron-atomic structural level (see Table 1) acquire some specificity due to the fact that

SVI solitons are filled with oscillations with a high carrier frequency (~ 3@1011Hz) and excite light atoms (and even their molecules) to levels n >100. Cancellation produced by the same field structures due to their chaotic dynamics and diversity of spiral structures of the SVI field. A characteristic manifestation interactions of SVI with atoms and molecules, apparently, can serve as their Rydberg states arising in the upper atmosphere of the Earth.

Electrons, as light mass structural elementary particles, are the most are exposed to the influence of SVI, which raises their energy state, accelerating their rotation. This can be evidenced by the anomalous value gyromagnetic ratio of the electron.

Free electrons when moving in conducting media, continuously are exposed to spiral-vortex fields and, as a result, constantly emit specific noise, so-called. flicker noise or 1/f noise characterized by intermittency of relatively long periods of minor stochastic changes in a dynamic variable, relatively short periods of irregular emissions (bursts, peaks) [15]. Such factual the description of the phenomenon fully corresponds to the case of the passage of a series of spiral-vortex solitons through a conducting medium (object).

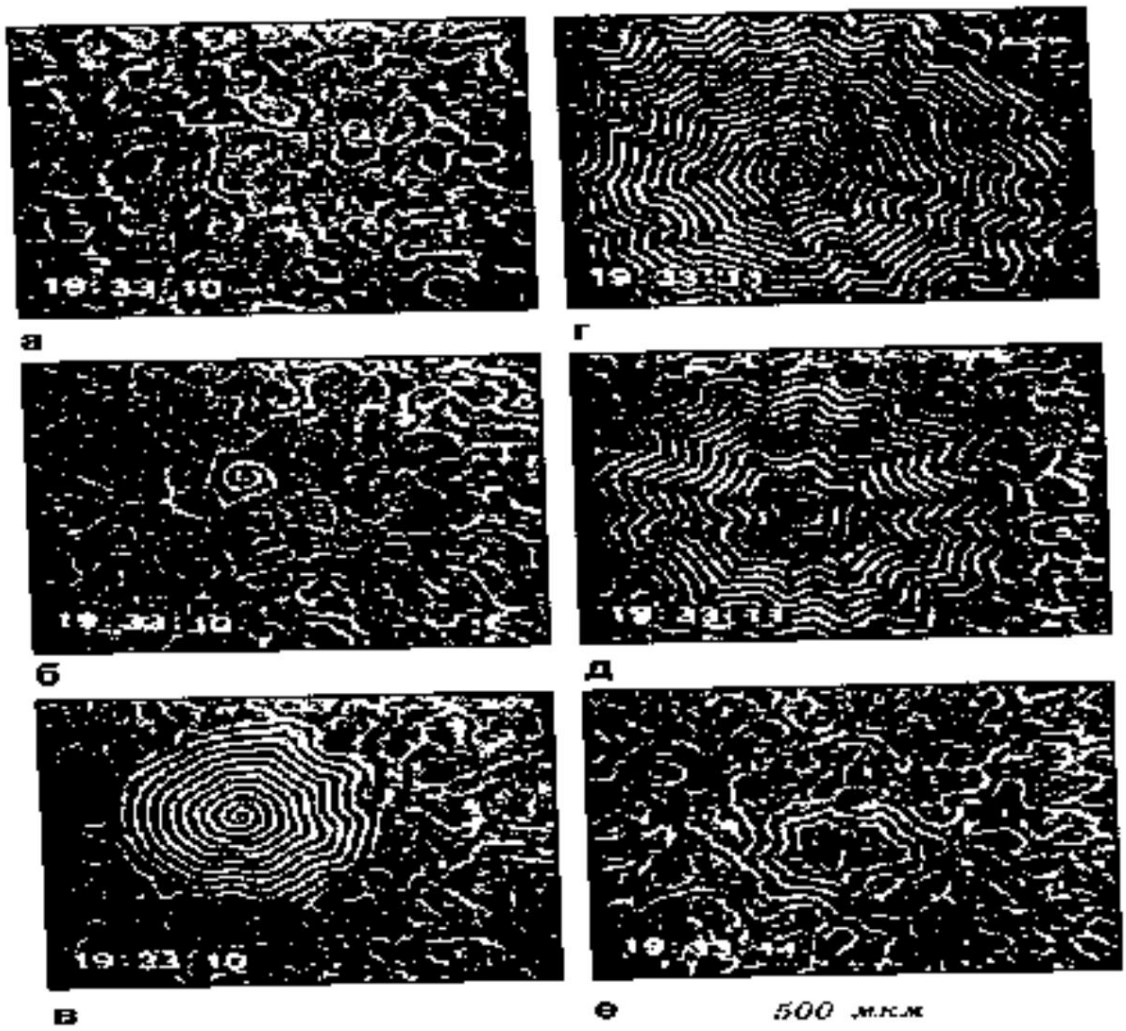
Discussion of the effects of SVI on matter at the molecular and meso-molecular levels level should very significantly expand the scope and scope of this article due to a huge number of experiments carried out in the world, clearly indicating constant external influence of solar emissions on biological objects and environment. Due to the exceptionally original structure of the water molecule, it itself its connections most effectively perceive the moment of impulse, continuously brought by the SVI field into all spheres of the Earth on its day side. Is not means that the spiral-vortex field on the night side is completely absent, from in the depths of the Earth (mainly along faults in the earth's crust), streams break through spiral-vortex radiation, scattered on inhomogeneities of the lithosphere and, in general, filling the entire globe as a resonator.

In terms of the reality of the existence of the SVI field and its chiral (left and right) solitons, the results of studies of the dynamics of magnetic domains [16, 17] in thin and transparent films of ferromagnetic substances such as (YSm)3 (FeGa)5 O12 . Using high-speed photography, you can follow the passage of chiral vortex solitons, continuously rearranging domains into helical structures of varying degrees of twist (in the plane of the film micron thickness). According to the data accompanying Fig. 8 you can estimate the dimensions solitons: at a speed of 2 km/s, the length of the soliton will be 2 km, and the cross section (according to part "d" of Fig. 8) - within 0.5 mm for the middle of the soliton length. So Thus, it turns out that this and other solitons are giant needles that penetrate all earthly objects and all subjects. If we take into account that the solitons emerging from the Earth on its night side after focusing can carry a vortex energy with high bulk density, for example ~ 10 J/cm^3, then getting under such a soliton is fraught with instant fire.

Rice. 7. Spiral dynamic domains in a ferrite garnet film in an alternating field type meander with a frequency of 300 Hz and an amplitude of 80 Oe, photographed in the same place the sample sequentially at intervals of less than one minute (a, b, c).

One of the most spectacular macro manifestations of SVI should be considered known from ancient times, phenomena now called pictograms. Most often pictograms appear in fields of ripening grain crops, but are also visible on grass, snow, sand and on calm water surfaces.

The largest annual number of pictograms is recorded in England, for example in 1990 – 120, and in 2000 – 145. This natural phenomenon of the country does not bypass territories of other continents (Japan, Australia, Russia, etc.). Important note that the design of pictograms has become more complex over the years, moving from simple circles and rings to very intricate images, but their geometrically correct shape and almost filigree accuracy linear and curvilinear boundaries of images in “drawings”. Pictogram sizes and their fragments vary from tens of centimeters to hundreds of meters.



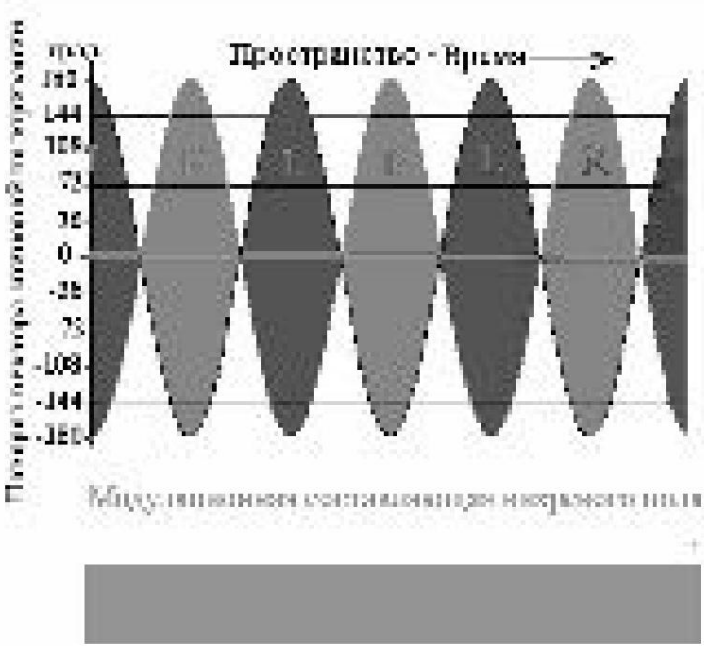
Rice. 8. The dynamics of the passage of a left-handed spiral are presented frame by frame. soliton, starting from the background state - chaos (a), then the appearance of the top of the soliton (b), cross section of an almost ideal Archimedes spiral (c), cross section of a soliton at maximum diameter, strong distortion due to modulation (d), the stage of reducing the cross-sectional size and further distortion due to parasitic modulation (d), the lower section is strongly distorted part of the vortex soliton (e).

Over the 13 years (1977 - 1989) preceding the period under review, the appearance "circles" were incomparably rarer - 5÷10 per year. This can be partly explained lack of attention from the scientific community and the press to this exceptionally mysterious phenomenon. Residents of rural areas have long (for centuries) gotten used to losses in harvest due to lodging of plants over large areas and with changes in them quality (due to biophysical effects on the composition and taste characteristics of grain in the process of release of concentrated spiral-vortex fields from the depths of the lithosphere).

The presented pictogram is clear (in full accordance with the real structure of the SVI field emerging from the lithosphere) demonstrates a spiral and vortex components of the SVP. Thus, the vortex field is independent and in all demonstrates in detail its multiscale spatiotemporal structure (such a complex pictogram is built by the SVI field in 15-20 seconds) and always under cover of darkness - at approximately 1:30 a.m. local time.

Rice. 9. Here is a photo of an openwork pictogram formed by a vortex soliton when emerging from the earth's crust on the "canvas" of cereal crops (England). In that episode, the soliton structure contains six wave fronts formed many different sized vortex tubes. High frequency carrier field SVI in pipe (~ 1011 Hz) instantly heats a small zone at the bottom of the wheat stalks at simultaneously bending and twisting them. In pipes, the rotation frequency of the spin vector polarization appears to be ~0.5 Hz. A change in the twisting direction (by 180°) occurs at half the spin polarization frequency of the SVI field. Turning fronts around the soliton axis occurs in this case with a frequency of no more than 10-3 Hz, since the circles do not take on an ellipsoidal shape. The diameter of the pictogram is about 180 meters. In the distance you can see fields and farm buildings.

In Fig. 10 presents a hypothetical model of SVP, which includes the main The peculiarity of this field is its chirality and the presence of 100% modulation, which is completely is confirmed by the results shown in Fig. 7 and 8.



Rice. 10. Model representation of a spiral-vortex field with its 100% modulation low frequency. Amplitude of the left-hand rotating component of the spin vector angular momentum polarization (L) changes during the first half of the frequency cycle modulation within ±180° and the amplitude of the right-hand rotating component (R) is a constant close to zero. During the second half of the cycle, the amplitude the right rotating component changes within ±180° and the left rotating component component is close to zero. The carrier frequency of the SVI field can vary in depending on source conditions, but is located mainly in the range of 200-500 GHz. The density of the focused SVI flux (on the night side) can reach 109 erg@cm-2s -1

Conclusion

The existence of a spiral-vortex field on the Sun is beyond doubt modern solar astrophysicists, but they imply that the SVP, having originated on the Sun, does not go beyond the corona. To clarify spatial-temporal parameters of the solar hovercraft they have not yet started. As our analysis of the latest astronomical observations for dynamics of processes in the chromosphere, a source of chaotic emission different-scale SVP solitons (interpreted by solar astrophysicists as Alfven waves) are up to a million fluctuating spicules that arise mainly along the boundaries of large convective cells - supergranules. The characteristic periods of spicule life are within 3-10 minutes, that is, the length of the vortex soliton, expressed in time units, reaches 600 seconds. Ground-based solar radio telescopes operating in the 2-3 mm range record vortex packets of precisely similar durations. Rate of increase spicules (raising solar matter in a magnetic tube) up to 30 km/s [18]. On approaching the Earth, the "length" of the vortex soliton will noticeably increase (up to 5 - 15 min) in as a result of overcoming the Sun-Earth distance in the solar wind field. Apparently, the gigantic scale of vortex processes on the Sun does not allow for theorists to understand, feel and simulate the characteristics of the spiral-vortex field, assess the possibility and parameters of its propagation in the heliosphere and space.

However, as it turned out, there are clear traces of the impact of SVI on Earth on the biosphere and inorganic matter. According to numerous traces on different At the structural levels of the substance, estimates of the parameters of the SVI were made.

It can be argued that the fifth interaction - vortex - is real, biologically and energetically significant.

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Interaction of spin fields of material objects

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It is shown that the characteristic fields of material objects interact at a distance of 8 meters or more. Interactions are informational character: the intensity of interaction is determined by the spin structure substance of a material object. In the near zone the intensity increases sharply, which indicates the possible existence of a direct spin-spin phenomenon. interactions. There is an external environmental factor - an information field that determines the interaction of material objects outside the near zone, participating in the physical and physico-chemical processes occurring in these objects.

1. Statement of the problem

The problem of the existence of the phenomenon of distant mutual influence of material objects on their properties and the processes occurring in them, caused by interaction of their spin fields, has been discussed in the scientific literature since the 80s years of the last century. However, to date, direct evidence there is no such interaction.

In experiments in 2004, the synchronous response of two detectors was studied - electrode systems (ES) with asymmetric near-electrode double electric layers (DES) – the so-called “Current electrode systems” on exposure, which consisted of bringing them to a distance of 5 to 60 cm various material objects. The influences were carried out with an empty plastic vessel, a vessel filled with 500 ml of settled tap water and vessel containing pre-activated [1] water. Water activation was carried out by means of informational influence on its surface by radiation. coming from a pulsed LED emitter [2] Duration exposure - 90 s.
It has been shown that inanimate material objects have their own (“characteristic”) fields reflecting the spin structure of the substance. IN

[1] ***Activated water*** **– water subjected to information influence**
[2] ***Information impact*** **- exposure to the non-electromagnetic component of radiation induced by pulsed LED or laser emitter ([1], chapter 2). The term was introduced based on experiments that showed that such exposure leads to changes in the biological properties of water: in depending on the post-activation shelf life, activated water can stimulate vital activity of living organisms (which is explained by the emergence of quasi-stable structural macroformations) or inhibit them (which is explained by the subsequent transition of quasi-stable structural macroformations into metastable ones). With information influence and subsequent behind this boiling, which destroys macrostructural formations, the water retains in memory traces of the impact over many years, which is explained by the preservation of the spin structure resulting from information impact ([1], chapter 5).**

depending on the structure of the substance of the influencing object, these fields are different influence the magnitude of the interelectrode current flowing in the ES and those passing through it physical and physico-chemical processes - polarization of near-electrode DES, changes in the parameters of the self-oscillatory process occurring in the ES ([1] chapters 3 and 4), etc.

At the same time, the question remains open whether the response of the current detector is the result of the direct interaction of its characteristic field with characteristic field of the influencing material object, or this reaction is the result of indirect interaction of the fields of each of these objects with an environmental factor capable of carrying information about the structure substances.

In 2009, a study of the dependence of the response of current ES on distance and specific information properties of fields of various material objects was continued.

2. Methodology

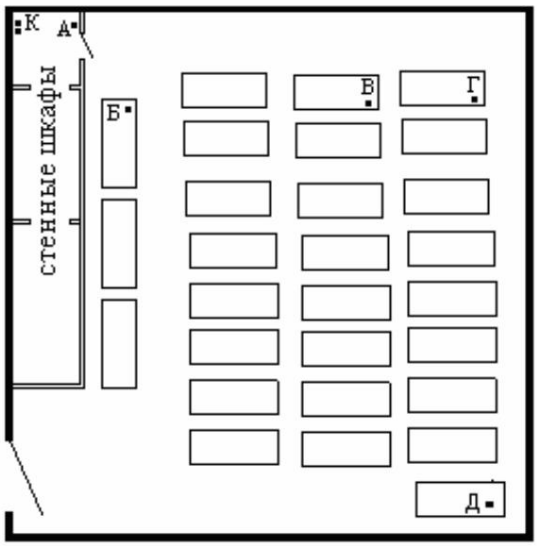
To increase the reliability of recording the impact of an external factor, experiments were carried out using two detectors on diesel power plants operating in mode of synchronous registration of interelectrode current in the ES. To reduce the impact temperature fluctuations in the room, the detectors at the diesel power plant were placed in the wall cabinet (position K in Fig. 1).

The influencing material object ("sample") was installed at 0.1-0.75 m (position A), 2, 3, 5 and 8.5 m from the detectors (positions B, C, D or E in Fig. 1, respectively).

The impacts were carried out using the following samples: “1” - A block of dried wood measuring 230x180x110 mm; "2" - an empty vessel with a volume of about 600 ml (2 liter plastic bottle with remote top); "3" - The same vessel filled with 500 ml of settled, non-activated tap water; “4” - The same vessel filled with 500 ml of activated water;

Activation of water was carried out by exposing its surface to a pulsed LED emitter with exposure 90 s. The LED emitter contains 128 LEDs of the KIPD-40ZhP6 type, located on an area with a diameter of 75 cm ^{2}.

Frequency and time parameters of the signal at the emitter output: - pulse repetition frequency – 3000 pulses/s; - pulse duration – 0.3 ÿs; - modulation – rectangular pulse, meander; pulse repetition rate – 15/s.



Rice. 1. Location of detectors (position K) and samples in the closet and on tables in audience (positions A-D).

Distances:
KA – 0.1 ÷ 0.6 m;
HF – 3.5 m;
KG – 5.5
m; CD – 8.5 m.

2.1. DES detectors and the specificity of the reaction that occurs in response to weak information impacts.

The main feature of the Current Detector is the specificity of the mechanism the occurrence of its reaction to the influence of the external environment: the magnitude interelectrode current is always determined by the potential difference between the near-electrode DES – sensory elements of the system that are sensitive to such influences. This limits the functional properties of detectors: the current detector is indicator rather than a sensor, which eliminates the possibility of recording absolute the magnitude of the response to the impact, but allows us to judge it. Therefore everything The values given below are estimates only. Under these conditions, great information about the rate of increase of the reaction (slope increase), duration of increase and duration of the latent period (duration of the time interval between the beginning of exposure and occurrence of a reaction).

The main distinguishing features of the current ES reaction that occurred in response at the beginning of the effect or its end (immediately or up to 30 minutes later), serves change in the magnitude of the interelectrode current relative to the base value (the appearance of a “hump” on the curve, the emergence of a trend in the curve or its change directions). The detector response that occurs after the cessation of exposure, such as as a rule, is expressed much more strongly than the reaction to the onset of exposure, which may not occur at all.

Distinctive signs of a reaction to a weak impact also include change in electrical activity (intrinsic noise of the detector), and change parameters (frequency and amplitude) of the oscillatory process when the detector operates in self-oscillation mode.

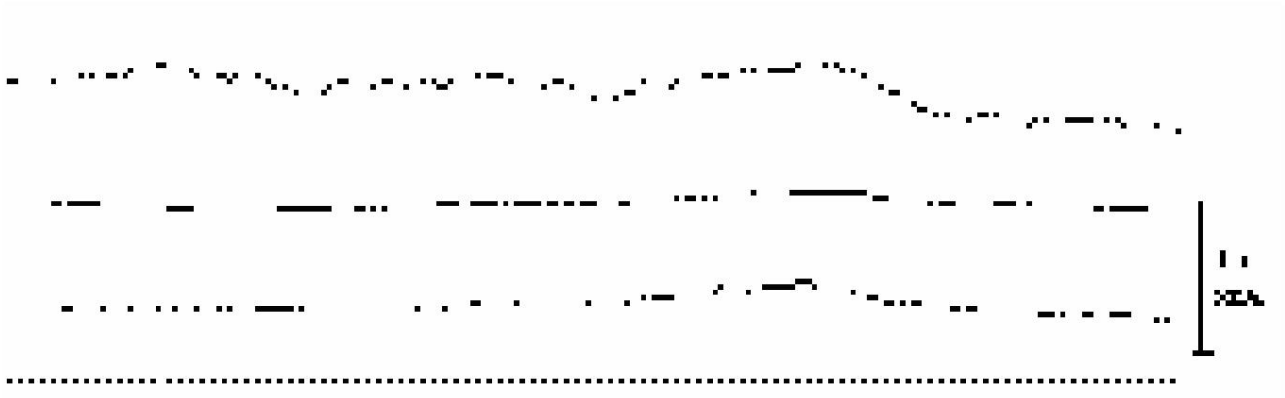
Another feature of the response of current detectors is the ambiguous the direction of its development (polarity). The change in the direction of the trend of the curve, as well as the polarity of the “hump” on it, which arose after the start or removal of the influence, depends both on the state of the ES itself (on the process currently takin

polarization of near-electrode DES) and from external factors, continuously affecting an open system.

Relaxation of the ES state can last more than 1.5-2 hours.

3. Experimental results

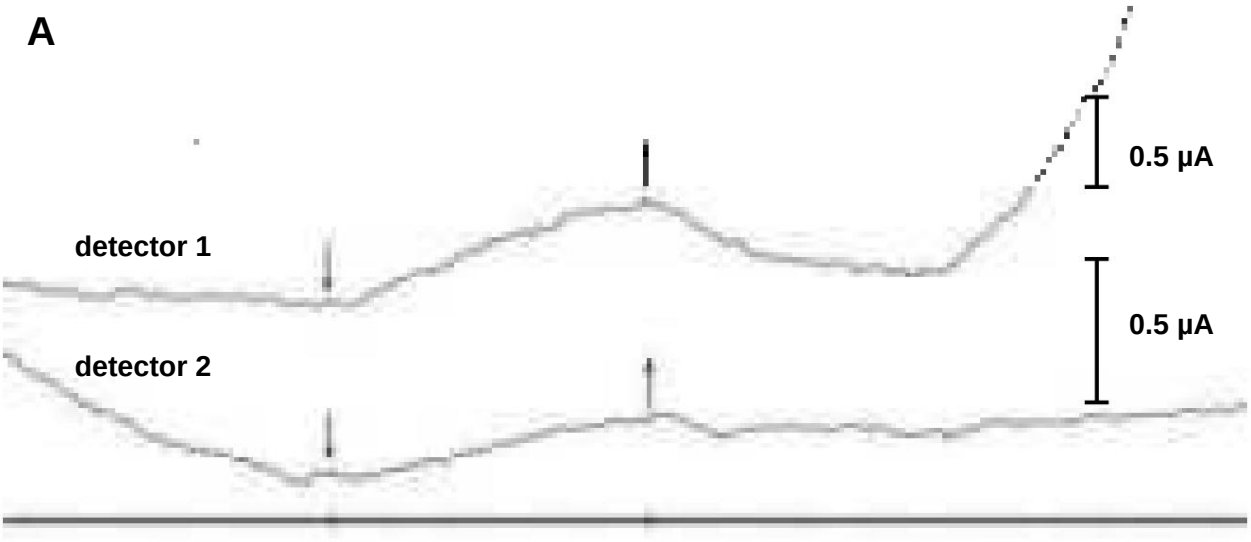
In Fig. Figure 2 shows the result of recording the background activity of the interelectrode current in 3 current detectors at night, carried out in the absence of people in academic building of the university.

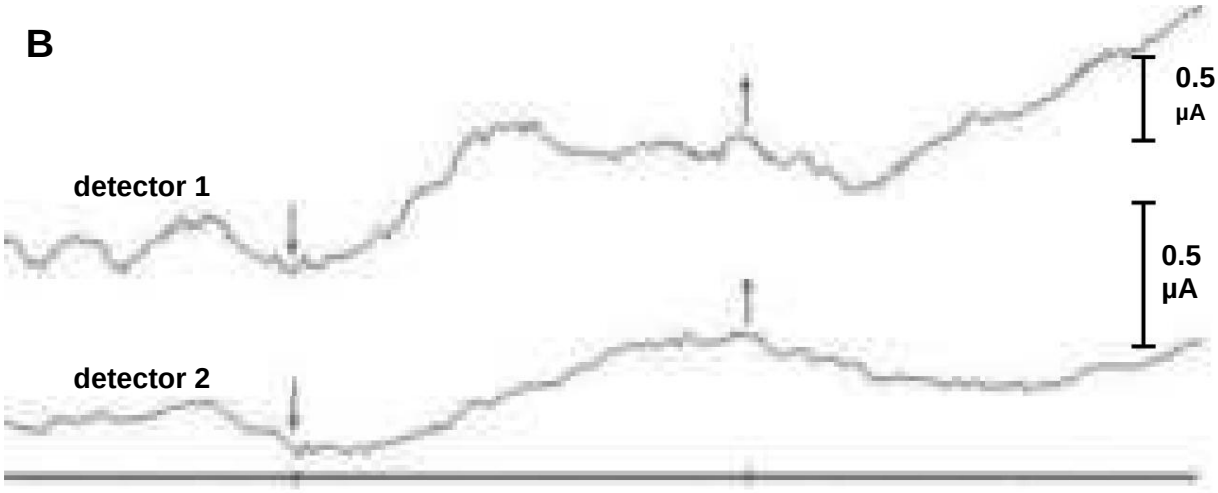


Rice. 2. Synchronous registration of background changes in interelectrode current in three detectors at diesel power stations at night. Timestamps – 45 s.

To illustrate repeatability, Fig. Figure 3 shows the results of two experiments that followed each other with an interval of 7 hours. In both In experiments, a vessel with non-activated water (sample No. 3) was installed 8.5 meters from the detectors on the diesel power station, located in the closet (positions “D” and Fig. 1, respectively).

In the first experiment (Fig. 3A), the value of the interelectrode current in detector 1 reached 0.5 ÿA; in the second detector - 0.34 ÿA. In the experiment in Fig. 3B they reached values of 0.72 and 0.37 ÿA, respectively. Latent time allowing one to judge the intensity influencing factor ranged from 7 to 9 minutes.

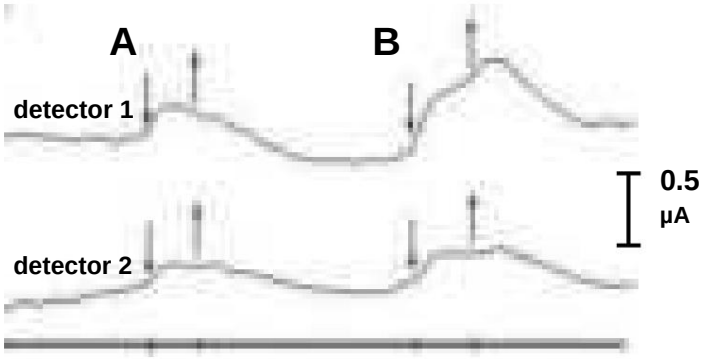




Rice. 3. Response of two DES detectors to the influence of a vessel filled with non-activated water. Exposure: A – 66 minutes; B – 90 minutes. Distance - 8.5 m. The arrow facing the curve indicates the beginning of the effect; from the curve - ending.

3.1 Dependence of detector response on distance

In the experiment shown in Fig. 4 (distance 10 cm), in both answers detectors for short-term impacts (9 and 12 minutes), the latent time is zero. The magnitude of the response of detector 1 was 0.25 and 0.5 ÿA; detector 2 – 0.25 and 0.4 μA, respectively.



Rice. 4. Reaction of detectors to impact: A- empty vessel (sample No. 2); B - vessel c non-activated water (sample No. 3).

Distance between detectors and vessel – 10 cm; timestamps – 45 s.

In Fig. Figure 5 shows the results of 4 experiments using sample No. 1. In the experiment (Fig. 5A) the impact was made from a distance of 8.5 m from the detectors. Reaction there were no detectors at the beginning of the impact.

In the experiments (Fig. 5B and 5C), the distance between the sample and the detectors was 10 cm. The value of the interelectrode current in detectors 1 and 2 reached 1.16 in the first case and 0.66 μA, respectively; in the second 1.42 and 1.16 μA.

In experiment 5G (distance 8.5 m), the magnitude of the reaction is 0.4 ÿA - 3.3 times less than with exposure in experiment 5B (distance 10 cm).

In the experiment in Fig. 5B, the rate of development of the reaction is significantly higher than the rate of development in experiment 5G and is similar to the results obtained in experiments with exposure to samples 2 and 3 in Fig. 4.

While at small distances the magnitude of the reaction reaches its maximum values (tops of the "hump" on the curve) 5-8 minutes after the start of exposure, with at a distance of 8.5 m, the development of the reaction can last up to half an hour or more (Fig. 3A and 3B, Fig. 5D, Fig. 6A and 6D). Thus, in experiment 6B, the slope of the curve (rate of rise reaction) was 0.125 ÿA/min, whereas in experiment 6G the slope of the curve was 0.009 µA/min – 14 times less!

From consideration of the experimental results presented in Fig. 4 and 5, it follows: the intensity of exposure to objects of various natures located at a distance of 8.5 meters from the detectors, significantly lower than the intensity influence of objects located near them.

3.2. Information properties of characteristic fields of material objects

In Fig. Figure 6 shows the results of experiments involving samples No. 2-No. 4, installed at a distance of 8.5 meters from the detectors.

In response to exposure to an empty plastic vessel, a reaction occurred in detectors No. 1 and No. 2 with values of 0.29 and 0.25 ÿA, respectively (Fig. 6A).

As a result of exposure to a plastic vessel containing 500 ml non-activated water, the detector response was 0.76 and 0.41 ÿA, respectively (Fig. 6B).

The magnitude of the ion current in the detectors, which arose in response to the influence of sample No. 4 (the same vessel with water subjected to information influence), was 1.15 and 0.46 ÿA, respectively (Fig. 6B).

4. Discussion of results

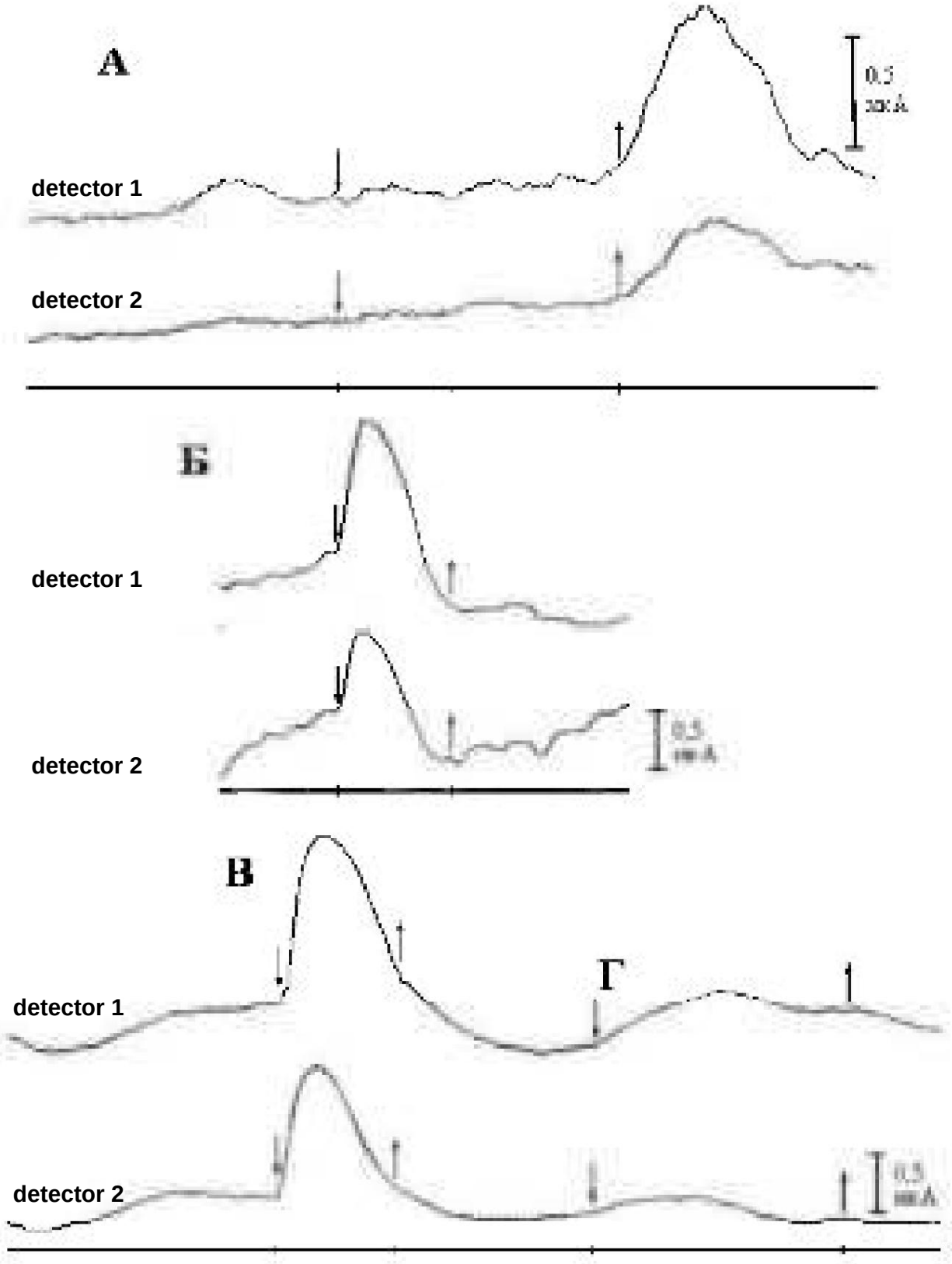
Let us ask ourselves: through what physical factor does this occur? transfer of information from the influencing material object to detectors in experiments shown in Figures 5 and 6?

The non-involvement of "routine" physical fields generated by charge and mass in the transfer of information is due to the specifics of the methods used. Let us consider in more detail the arguments in favor of this statement.

The location of the detectors in the isolated volume of the closet and significant the distance between them and the influencing material object (8.5 m) excludes the possibility of exposure to weak electrical (for example, triboelectric) charges present on the walls of the plastic vessel.

The absence of ferromagnets in the composition of the sample substance excludes the participation magnetic fields.

The absence in the substance of an empty plastic vessel of a structure capable of induce EM radiation (including water in the experiment in Fig. 6A), allows extend this conclusion to the electromagnetic factor.



Rice. 5. Reaction of detectors to the influence of sample No. 1 installed at a distance: A and D – 8.5 m from the detectors, B and C – 0.1 m. The arrow facing the curve indicates onset of exposure; from the curve - its end. Timestamps – 45 s.

Due to the identity of the masses of samples No. 3 and No. 4 in experiments 6B and 6C, the assumption about the possible role of the gravitational factor disappears.

The exclusion of the listed physical fields from the number of possible factors stimulating the response of detectors to DEL leads to the need to recognize participation in the described phenomenon of a certain information factor.

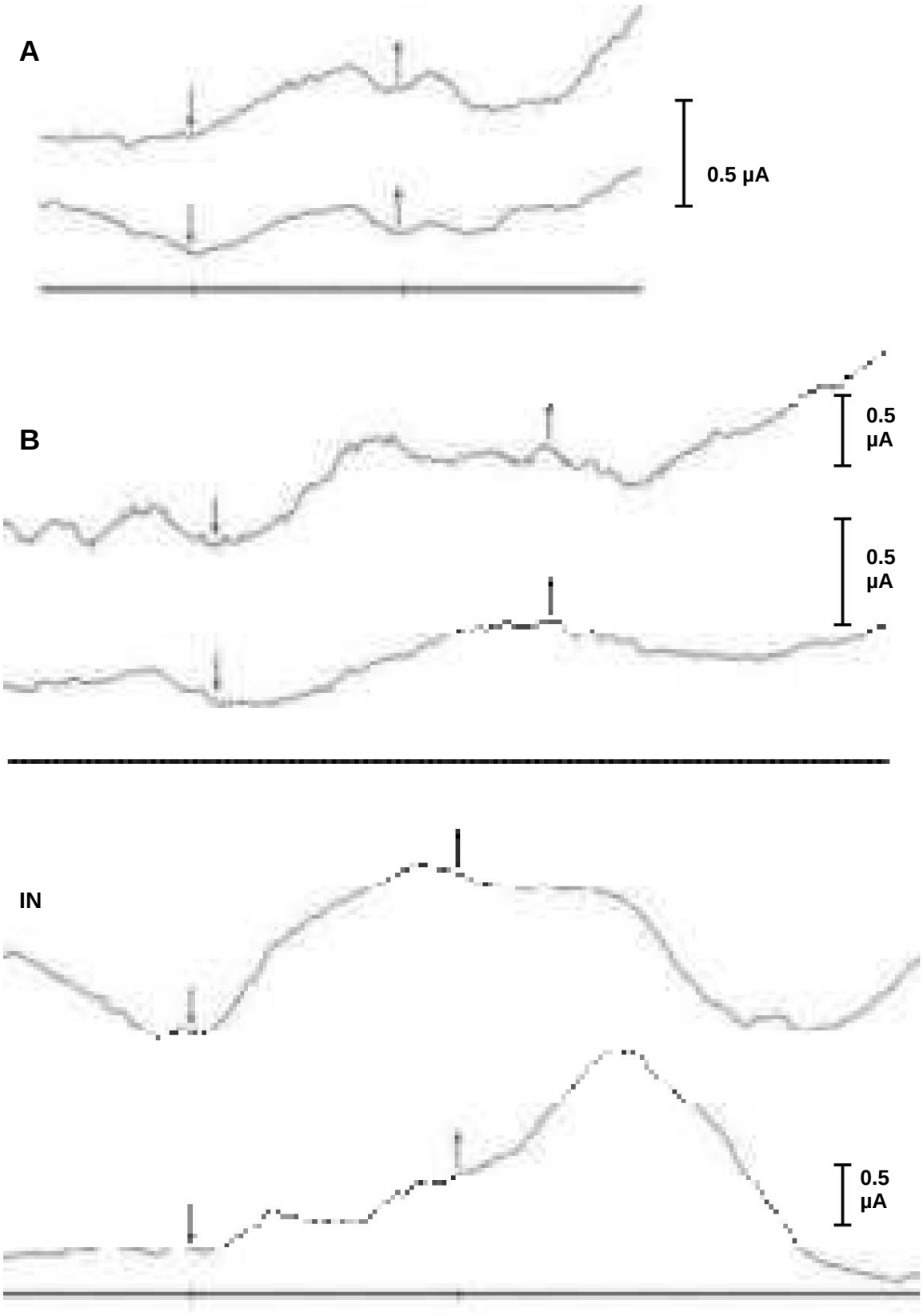
Activation of water through information influence did not change its chemical composition at the molecular and atomic levels. The difference between samples No. 3 and No. 4 was only in the method of preparing them for the experiment. It was noted above th activation of water leads to its structural changes - the formation quasi-stable macrostructures. In sample No. 3 (vessel filled with non-activated water) there were no quasi-stable macrostructures. Consequently, the difference in response to exposure to samples containing non-activated and activated water, was due to the difference in structure substances of these samples, ultimately - by the difference in their spin structure characteristic fields.

From all that has been said, we can conclude: distant interaction of material objects is due to the spin-spin interaction of their characteristic fields. Reaction of Current Detectors to the Impact of a Material Object manifests itself in a change in the interelectrode current of ions in a closed electrical circuit of the electrode system, which is caused by changes in potential values near-electrode double electrical layers – electrode polarization. From this follows: non-local interactions of characteristic fields of material objects influence the physical and physical-chemical processes occurring in them.

The fundamental result of the study is the conclusion: all material objects are interconnected by their interacting characteristic characteristics fields. This conclusion is not final. Reaction Dependency detectors from the distance is not fully detected. In particular, there are no data on the nature of its distribution in the near zone - at small distances from detectors. The immediate task of research is to identify this dependence, which may make it possible to determine whether there are direct nonlocal spin-spin interactions, or interactions of characteristic fields material objects are always mediated by some “global” factor that carries out spin-spin interactions with each of the participants interactions with the object. The most likely performer of the role of physical The factor that performs the function of the “world information operator” is the physical vacuum.

So, from the above experimental material we can conclude:

distant interactions of material objects are caused by the spin-spin interaction of their characteristic fields. For a given distance the intensity of interaction between two material objects is determined by information about the structure of the spin system of matter each of the objects, adequately reflected in their characteristic fields.



Rice. 6. Reaction of DES detectors to the influence of: A – an empty vessel: B and C – a vessel filled with non-activated and activated water, respectively. Distance – 8.5 m. The arrow facing the curve shows the beginning of the impact; from the curve - it ending. Timestamps – 45 s.

Based on the results of the above experiments, the following conclusions can be drawn.

1. **The own fields of all material objects interact on distance of 8.5 meters or more.**
2. **Interactions are informational in nature: intensity interaction is determined by the structure of the substance of material objects. 3. There is noticeable unevenness in the intensity distribution interaction of objects located at different distances from each other friend. In the near zone, at distances of the order of several tens centimeters, the intensity of interaction increases sharply, which does not excludes direct spin-spin interaction in this region. 4. It is assumed that the interaction of material objects is inanimate and living nature are realized with the participation of the information factor of the external environment, which organizes the physical, physico-chemical and biological1 processes occurring in these objects.**

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[1] **According to [2], the system of near-electrode DES in the Current electrode system is a model near-membrane DES in the tissues of living organisms.**

Some results of physical studies of the phenomenon "direct vision"

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In addition to the senses known to us and science and the corresponding sensory channels every person perceives information about the world around them to one degree or another has additional - extrasensory - channels of perception, which allow you to consciously or unconsciously receive information about the environment reality, as if without the participation of receptors known to science.

Evolutionarily, our body and its physiological functions have developed in such a way that, with the help of physiological sensory channels - touch, smell, taste, tactile, auditory, visual, provide us with adequate orientation in the changing circumstances of surrounding life. It's great that it exists, otherwise how would we live? Receptors are located in one place or another of the body; these receptors are connected to the central nervous system, which carries out analysis of signals from receptors. These signals are analyzed and then the resulting information is used or brought to the plane of consciousness. This is how we learn about what is happening around us. This type of perception is called sensory. These processes interesting and difficult, but something else is even more interesting.

In cases where it would seem that nothing interacts with the receptors, however less, information about the world around us may appear in certain analyzing parts of the brain, more often these processes occur without control of consciousness, and in some cases become accessible to consciousness. Such The method of obtaining information is called extrasensory sensory (ESP).

Well-known terms “clairvoyance”, “clairaudience”, etc. do not appear too precise. Sometimes there is not too much clarity with this type of perception, but other features are significant. It seems that it would be more accurate to say that we We are dealing with “direct” sensations. With “direct seeing”, “direct hearing” and so on. In these cases, known specialized receptors in reception information is not involved, but information nevertheless arrives. In these situations The reception mechanisms are completely different. Let us recall, for example, the Rose phenomenon Kuleshova and other people with “skin vision”.

This type of perception really exists. You need to calmly work on studying it, without prejudice and excitement. Huge volume of existing observations suggests that the time has already come when these real phenomena and abilities could become the subject of scientific study, specific, using

powerful methodology of scientific positive knowledge, developed over the past 300-400 years.

"Simple" forms of direct vision

Let us dwell on the results of laboratory studies of direct vision a fairly simple type (we briefly discuss the variety of manifestations of direct vision we'll discuss later). Let me remind you that “direct vision” is the vision of surrounding objects world without the participation of the eyes as an optical analyzer. This type of direct vision can be developed by almost everyone, this happens especially effectively in children. Special exercises and training are well described and accessible. Now even in You can find a lot of methodological information on this issue on the Internet. In your time I had the opportunity to be present at a fairly large number of experiments with people who have been trained in these techniques. I will immediately note that I It seems interesting and valuable that in a number of cases children were successfully trained by parents who themselves did not have any such abilities possessed. These parents worked with their children according to a specific program, in As a result, the child developed “direct” vision. This vision first appears in weak form, with glitches, and then, as training progresses, it becomes stable. This The observation is very encouraging. There is no mysticism here, there is a certain amount of work, there is psychophysiology, and a subject for scientific research.

A few words about the details of the manifestation of the phenomenon. At the first stages, the subject with blindfolded, he begins to distinguish the shape and color of large objects placed in front of him. As you practice, you become able to distinguish everything finer details - read texts written in large print. Then the ability sharpens and the opportunity to read books and newspaper text appears. The ability becomes stable. In the experiment, which was filmed at Moscow State University for television, a blindfolded boy was shown the famous “cards Zener" (circle, cross, wavy lines, square, star). Presented 50 cards with speed of 1 card per 2 seconds. In his voice, the boy reported the result of the vision. The boy didn't make a single mistake! Such results would be envious classics of parapsychology, for example, Dr. Rhine, whose world achievement in the experiments there were 60-70% coincidence percentages (instead of the expected 20% according to probability theory). There is no longer a 100% probability, here it’s just reading... Such The experiments were filmed by TV channels in different countries in my presence.

At the next stages of training, the ability to distinguish more distant objects, and then objects located behind (behind the back of the head) of the subject. With work and training, these further develop abilities. It is not surprising that these phenomena, reliable and reproducible, have become the subject of experimental research.

Young people with developed direct vision were examined in different laboratories, first electroencephalographically examined by Olga Ivanovna Koyokina (Moscow), then research was carried out in St. Petersburg under the guidance of an academician RAS, Natalia Petrovna Bekhtereva. The results were reported by her at a special

conference at the Institute of Higher Nervous Activity of the Russian Academy of Sciences in Moscow. They published in academic scientific journals.

The conclusions of these two series of studies from different laboratories are in good agreement each other. "Direct Seeing" Confirmed to be True
exists. Switching subjects (7 people were examined) to the state
“direct vision” is accompanied by changes in electroencephalogram parameters
brain. This switching occurs similarly in different subjects.
way.

Physical observations and experiments with the phenomenon "direct" vision

Research of this type of “direct vision” using special
diffraction gratings showed that the phenomenon is realized through a process that has wave nature. It turned out that the wavelength of the carrier varies depending on state of the subject. When the experiment begins, the subject is cheerful, cheerful, full of energy, the wavelength can be 4-5 mm; when the subject gets tired, the wavelength increases to 10 and even 30 mm. Decreases accordingly
the ability to distinguish small details, these phenomena correspond to the phenomena of physics wave processes.

It is appropriate to make a historical excursion. Even before the Second World War, Professor S.Ya. Turlygin, who worked at the Laboratory of Biophysics of the USSR Academy of Sciences in Moscow, in experiments on the study of extrasensory perception he established similar patterns. During extrasensory contact, the radiation of an unclear nature could be reflected from the mirror, blocked by screens and passed through a diffraction grating as a wave with a length of about 2 millimeters. The results of these studies were published in 1942.

After additional training, the ability to read and see appears
objects that are not directly nearby. Sensitive mentally, as it were "takes his virtual eyes", moves them to the right place and sees what the the item is there. These are very significant observations. It can be concluded that although perception is tied to the human body, the very process through which carries out perception, turns out to be no longer connected. At the command of consciousness, point observations can, as it were, move in space. This actually means that the ability of direct vision has reached the next level. Were made and
other important observations related to the participation of the magnetic field and electrodynamic processes.

Let us turn to the results of these physical experiments, which were carried out under leadership and on the initiative of Doctor of Physical and Mathematical Sciences, Professor MSU Yu.P. Pytyeva. Some of these results are presented in a special review, but we will dwell on them only briefly.

The phenomenon of "seeing" matter in
electromagnetic field

It turned out that the subject N.A. "sees" with closed eyes objects placed in a constant magnetic field and "illuminated" by an electromagnetic visible or microwave radiation. Resolution "vision" is related to the wavelength of "electromagnetic illumination" and increases with reduced wavelength.

A sheet of paper placed between the magnet and the subject did not allow the magnet to be "seen." If the paper was placed very close to the magnet, then that part of the sheet around which there was a sufficiently strong magnetic field became "visible". Same The shielding effect was caused by ordinary glass, metal, etc.

When the subject brought her hand to the magnet, its image moved towards the hand and disappeared when the hand was above him. If the subject approached the magnet both hands on both sides, then at some point in time the image of a magnet bifurcated.

If magnets were placed at both ends of the rod, then in the case when they were facing the rod with opposite poles, rod 20...30 cm long was all glowing. This is more than the sum of the lengths of the sections of the rod that glow under by the action of each magnet separately. In the case of poles of the same name, the rod glowed from the edges (at a distance of about 5...8 cm), the glow areas were shorter, and the glow intensity is greater than for each magnet separately, and with side of the stronger magnet, the glow spread further along the rod and was more intense. As it turned out, this effect does not depend on orientation. systems of magnets with rods relative to the test subject, but depends on the distance before her.

If the system with rods moved away from the test subject, then, starting from a distance about 2 m, the "transfusion" effect disappeared. The effect disappeared abruptly, after which both the rods glowed from both ends without affecting one another. Thus, it is possible conclude that the observed phenomena should not be considered as an effect passive contemplation, but as a result of interaction between the subject and the system magnets with rods.

Since the interpretation of ESP is given to the subject in terms of her visual system, its consciousness must transform ESP into a perceptual image objects, as if "visible with the eyes." Such "eyes" have actually been discovered, they located outside her head approximately at the level of the crown, their stereo base is 2.5-3 times greater distance between (normal) eyes. This explains the fact that The subject with ESP "saw" a horizontally distorted picture, "compressed" by 2.5-3 times (compared to the usual optical one).

The detected wave process itself cannot be attributed to ordinary electromagnetic radiation, since for electromagnetic waves 4-35 mm

the paper is transparent, while for the wave process being studied the paper turned out to be opaque.

Electromagnetic processes accompanying extrasensory perception

If next to the permanent magnet, which the subject "sees," there was placed conductive ring in the shape of a circle, so that the magnet is along the axis of the ring, then, in addition to the image of a magnet on one side of the ring, the subject "saw" on the other side of the ring a series of "imaginary" images of a magnet located on the axis of the ring, the first of which is mirror symmetrical image of the magnet relative to the plane of the ring, the second is a mirror image symmetrical to the first, and the distance between the first and second images half the distance between the first and the image of the magnet, etc. WITH increasing the conductivity of the ring, the number of "imaginary" images of the magnet increased, and they became "brighter"; if the ring was broken, all the "imaginary" images disappeared. If the ring is not flat, but slightly curved, imaginary the images turned out to be blurry, and the blur was greater the more ring is deformed.

If the magnet-ring system moved and rotated as a whole, then exactly the entire set of "images" experienced the same transformation. IN in particular, when the magnet-ring system turned out to be turned with the ring towards subject, the latter "saw" imaginary images oriented towards her along the axis of the ring. The image of the magnet through the ring was "visible" weaker than directly, but somewhat brighter than virtual images.

Note that the closed ring generated virtual images not only of the magnet, but also of any object placed in front of the ring in a magnetic field.

It is curious that the whole picture (magnet and imaginary images) is "visible" only when simultaneous illumination of both the magnet and the ring. Illumination of one magnet, one ring, or the space behind the ring where the virtual images are located did not allow the subject to "see" the virtual images.

When the lighting was suddenly turned off, according to the subject, the image of the magnet went out first, then a series of imaginary images sequentially from closest to the ring, and in such a way that while the closest one does not go out, the others do not changed, etc. The entire process of "collapse" of imaginary images lasted approximately 1 s.

If behind the first ring in the area where virtual images are "visible", the second ring, then it "reflected" them forward, and in a mirror way. In this case, the angle between the initial series of virtual images and reflected from the second ring was equal to twice the angle between the axes of the rings. We emphasize that while the first the ring led to the formation of virtual images and did not give reflections, the second, on the contrary, gave only reflections of virtual images.

Although the results obtained clearly indicate a connection considered phenomena of ESW with electromagnetism, remain unclear how the mechanism of ESP, and the nature of the interaction of a constant magnetic field, the substance in this field, electromagnetic light radiation and the subject. From From the experiments performed, the following conclusion was drawn:

> ***"The phenomenon under study has the features of a wave process and is characterized two important features that make it possible to use for its research physical methods, - complete reproducibility and the ability to perform physical measurements. The fact that the phenomenon in question turned out to be Electromagnetic processes are directly related and play a decisive role. Experimental results indicate the holographic nature of this variant of perception and the possibility of its interpretation in terms characteristic of the visual system."***

Let us emphasize once again that all the phenomena described are absolutely real and are on the border of what has already been described in science and is therefore considered known. The scientific and my personal position is the belief that there are no miracles, all are real phenomena will at one time or another be explained from a "scientific" point of view if these positions themselves will go through a certain path of development. In other words, you need develop science and the system of our knowledge, and not argue about whether there are miracles or not. The only question is whether the incomprehensible and as yet inexplicable facts are reliable or not. Three hundred years ago there were much more inexplicable facts than there are now, although today there are enough of them for many years of exciting and fundamental scientific research that will lead us to expand our understanding of the world.

It is known that St. Augustine also noted in his time that "miracles are not contradict the laws of nature, but contradict our ideas about them."

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About the mechanism of manifestation of the therapeutic effect low-intensity optical radiation

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A mechanism has been proposed for the effect of optical radiation on the state biological objects, including the generation of optical radiation flow ultra-weak magnetic field due to the reverse Faraday effect. Subsequent the effect of such a field on a living object is similar to the effect of geo- and heliopathogenic fields, hypnotists, psychics, etc. Experimental results obtained by the "statistical dowsing" method. The considered mechanism the interaction of light and biological objects is additional to well-known, including chlorophyll. Lit. – 8 titles.

Lasers and medicine are an established phrase that has formed solid scientific, industrial and commercial base. Substantial part laser medicine is associated with the concepts of "laser scalpel" or "laser compress", implemented according to photophysical principles that are clear in their principles mechanism. This mechanism is based on the local release of thermal energy on the target. Another possible option is photochemical, but has not yet been obtained sufficient practical justification. Meanwhile: biologists and doctors, trying identify the mechanism of action of low-intensity laser radiation, met with difficult to explain by the phenomenon of its high therapeutic activity at levels from cellular to the organism as a whole. This result is in no way consistent with any photophysical, nor with photochemical mechanisms, for the manifestation of which there is no Enough of many orders of energy and (or) power. Interest in such techniques grew even more after the discovery of similar effectiveness of a more affordable (compared to laser) LED radiation. It became obvious that The active principle in these techniques is not the features of laser radiation as such – monochromaticity, coherence, polarization, small divergence angles, but simply the flux of optical radiation. Today in medicine A new direction is developing, which can be defined as "light therapy". However, in all cases, the enthusiasm of users is restrained by the lack of any clear hypothesis about the mechanism of action of optical radiation on homeostasis and inexplicably low reproducibility of results.

We want to consider a hypothesis that, in our opinion, reveals additional opportunities to study the mechanism of light effects, including including laser radiation, on life processes [1]. In accordance with this hypothesis, optical radiation generates an ultra-weak magnetic field, which, for random (or maybe not!) reasons, turned out to be similar in its manifestations in the human biofield. The source of such a field is the inverse Faraday effect. Let us recall that this effect consists in the phenomenon of magnetization

transparent medium when unpolarized electromagnetic, including optical, radiation passes through it.

In turn, the mechanism of influence of the emerging magnetic field on biological objects is similar to that which is realized in the actions of psychics, healers, hypnotists, radiophysical equipment, geopathogenic zones, heliopathogenic activity, etc. The sensitivity of the human body to weak electric and magnetic fields has long attracted the attention of researchers [2 , 3, etc.]. The fact of such sensitivity can be considered as a manifestation of the existence in humans of a specific system for perceiving energy field signals from the external environment, additional hearing, vision, sensation of temperature, etc., but differing in that these signals are not registered by consciousness [4].

The experimental materials underlying the hypothesis about the mechanism of the effect of optical radiation on homeostasis through the magnetic field it generates were obtained by the “statistical dowsing” method and control measurements using the IGA-1 device [5, 8]. By the term statistical dowsing we denote the results of statistical processing of the readings of dowsing operators (dowsers), who determine the presence or absence of a field that is excessive relative to the background at a given point in space, give a numerical assessment of its energy intensity and determine the sign according to the criterion of comfort - discomfort.

Since the field signals do not pass through the operator’s consciousness, their registration is carried out through unconscious muscle acts that cause movement of the frame, plumb line, ring, etc. For this reason, the testimony of any dowsing operator always has a subjective component. This is especially true in cases where the operator tries to “artistically” interpret the results he receives. These circumstances force specialists to be critical of the information received from dowsing operators. In the statistical dowsing technique, the consequences of subjectivity are minimized and can be expressed numerically through the value of measurement reproducibility. Using this method, up to 10 or more operators trained according to a unified program take part in the work. In our experiments, most of them were junior schoolchildren who did not understand the physical meaning and content of the events taking place and did not know each other’s results. Each operator was faced with the task of determining the presence or absence of a field at a given point in space, identifying its intensity in an agreed system of coordinates and sign. First, the difference in intensity sensations when placing each operator in a node of the Kurri grid and outside it was equal to 100%. This is how the field intensity scale was formed for each operator. To form a unified coordinate system in terms of intensity and direction, the mentioned indicator of geomagnetic anomalies was also used. The sign, that is, the direction of the vector of the field lines of force, was determined by the criterion of perception in the concepts of “comfort - discomfort”. The feeling of comfort for the operator was identified with the “+” sign, while the effect of the field was considered therapeutic. And vice versa.

All operators detect a field close to the laser radiation path, which they perceive as similar to the human biofield. That is, they cannot to distinguish these fields neither qualitatively nor quantitatively. This is the field they register at a distance of up to 5 – 7 m from the radiation flow (for a helium-neon laser), at points remote from the location of the laser radiation generator at distances not less than 150 m. The nature of the dependence of the perception parameters of this field on power, spectral composition, degree of polarization, radiation mode - continuous or pulse-frequency. However, the main feature is that the recorded field turns out to be alternating and has alternating comfort zone – discomfort zone, which can be interpreted as alternating zones therapeutic and pathogenic effects. The distance between the zones as you move away from radiation flux axis increases from several centimeters to fractions of a meter s simultaneous decrease in intensity. Alternating fields were found in laser radiation fluxes at wavelengths of 0.638, 1.06, 1.15, 3.39, 10.6 microns, etc. Similar effects are recorded for light fluxes, the source of which is is the sun, incandescent lamps, LEDs, provided that the radiation has the predominant direction in space, that is, is not scattered.

These circumstances confirm the hypothesis about the reasons for high activity and low reproducibility in light therapy techniques, processing plants, microorganisms etc., based on the assumption that the impact mechanism is being implemented through a magnetic field.

Electrical parameters of signals realized by the human nervous system back in the 1931 were summarized in the work of E.D. Adrian [6]:

- Voltage < 15 mV. • Signal propagation speed ~ 100 m/s. • The rate of rise of the nerve impulse is ~1 ms. Outside this range the signal is not registered.
- During the pulse generation time (~1 ms), the detector is “switched off”. • Using a continuous signal, that is, intensity coding, impossible.

Irritation, that is, the magnitude of the signal of the receiving device, recording nerve impulse depends on the rate of change of voltage and its amplitude, however, the parameters of a single nerve impulse do not depend on the strength of stimulation.

Changing the signal-to-noise ratio due to the influence of an external field on the nervous system

the system changes the content of commands transmitted using nerve impulses, and This means the mode of functioning of the body and its components. Small the distances between the zones of positive and negative impact leave there is little chance of creating reproducible therapeutic conditions for such a large object as, for example, a person. Especially in cases where the operator is unaware of the existence of such zones. Additional Research showed that in cases where laser radiation using optical elements are directed along a certain trajectory, simulating the work

solenoid, it is possible to separate and localize in space the zones of positive and negative impact. For this purpose we used a design including a system of optical mirrors or, which is more convenient, optical fiber. Use of such devices allows you to stabilize and intensify the results in techniques light and laser therapy [7].

Such devices, under certain conditions, completely compensate for the negative impact on humans of geophysical and solar activity, as well as fields radiophysical equipment – computer monitors, televisions, mobile phones phones, etc. These devices weigh from 2 to 15 g, power supply from batteries. In healing techniques, it was possible to replace the energy of a psychic with energy “from the outlet”. At the same time, it should be noted that everything of this kind the effects are individual in nature and their results depend on the condition biological object. For example, sometimes situations were discovered when in the same point in space, one operator perceived the field existing there as pathogenic, and the other as medicinal. For this reason, the operator who feels illness should not take part in tests according to the methods statistical dowsing, since its readings may be distorted. The details of clothing have an impact in cases where it contains electrically conductive materials, some other circumstances.

The table shows the test results of the protective devices mentioned above, obtained by statistical processing of data from 11 operators who determined the magnitude and sign of the field at various distances from the screen of a computer monitor, TV, or mobile phone. The average deviations of comfort and discomfort values given by an individual operator did not exceed ± 25 units from those given in the table. The sequence of actions was as follows. The IGA-1 device measured the background value at different points in space and the results were correlated with the operators' readings. The background values were set to 0. Then the measurements were repeated with the radiophysical equipment turned on. Statistically, the field in the direction of the operator always had a negativ and was pathogenic. This is mode 1. Then the measurements were repeated at switched on protection device, which was located close to the source - mode 2. The operator always recorded an increase in comfort relative to mode 1. The pathogenic effects of the equipment were compensated. Moreover, mode the formation of a protective field turned out to be “health-improving” for all operators. According to this technique, for the screens of various television receivers, the efficiency protection ÿ 1 was obtained for distances from 1 to 1.4 m.

Table.

Distance ÿ Monitor type ÿ	20 CM. SVGA	40 CM. SVGA	60 CM. SVGA		20 CM. WTC 401	40 CM. WTC 401	60 CM. WTC 401
Mode 1	- 100	- 90	- thirty		- 75	- 90	- 60
Mode 2	+ 140	+ 75	+ 40		+ 85	+ 90	+ 65
Efficiency	140/100	75/90 =	40/30 =		85/75 =	90/90	65/60

protection	= 1.4	0.8	1.3		1.1	= 1.0	= 1.1

For a mobile phone, it is determined that when positioned “near the ear”, mode 1 corresponds to the value “–180”, mode 2 “+190”. Protection efficiency ÿ1. The physical meaning of the concept “efficiency” can be determined from the data last row of the table. Note that the mode with the “+” sign does not mean at all that it is “health-improving” for everyone.

The hypothesis about the generation of an ultra-weak magnetic field by light and ideas about the mechanism of interaction of this field with a biological object allows us to combine system some concepts and techniques of “non-traditional” and official systems healthcare, eliminate their opposition. It turns out to be possible to offer a physical hypothesis based on the concept of a magnetic field to explain many so-called paranormal phenomena.

Ultra-weak fields have energy characteristics corresponding to changes in the values of the natural background of the environment over a period of about several minutes recorded by the IGA-1 device. That is, < 10-12 W. In addition to energy characteristics, fields similar to the fields of biological objects must vary in frequencies in the range of 0.01 – 1000 Hz, characteristic of processes vital activity, as well as the direction of the force line vectors, that is, the sign that determines the mode of influence “therapeutic - pathogenic”. Specifics of parameters and the increased level of sensitivity required only partly explains lack of instrumentation for recording such fields that may be identified as “biofields”. Other reasons include lack of the present social order for the production of such devices. At the core such absence lies in the assessment of the topic of the biofield as “pseudoscience” from the outside some scientific institutions, in particular, the Russian Academy of Sciences. Recently, technical means for recording ultraweak fields are beginning to appear.

The development of this area of scientific research should lead to the identification new, additional photochemical (for example, chlorophyll) mechanisms in the process of interaction of living organisms with light. Note that the person constantly surrounded by a complex cacophony of super-powerful, relatively to ultra-weak, natural and artificial fields. Survive and normal Only an organism that has an effective system of protection against excessive exposure. But any defense has limits of applicability, which undoubtedly differ for young and healthy body and for the old and sick. The zone is located in this range maximum effectiveness of light therapy techniques and other methods of exposure to application of a magnetic field.

The methodology of ultra-weak magnetic fields offers new horizons for science and techniques, especially relevant in the field of life sciences.

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Development and application of devices for measuring ultra-weak natural radiation fields

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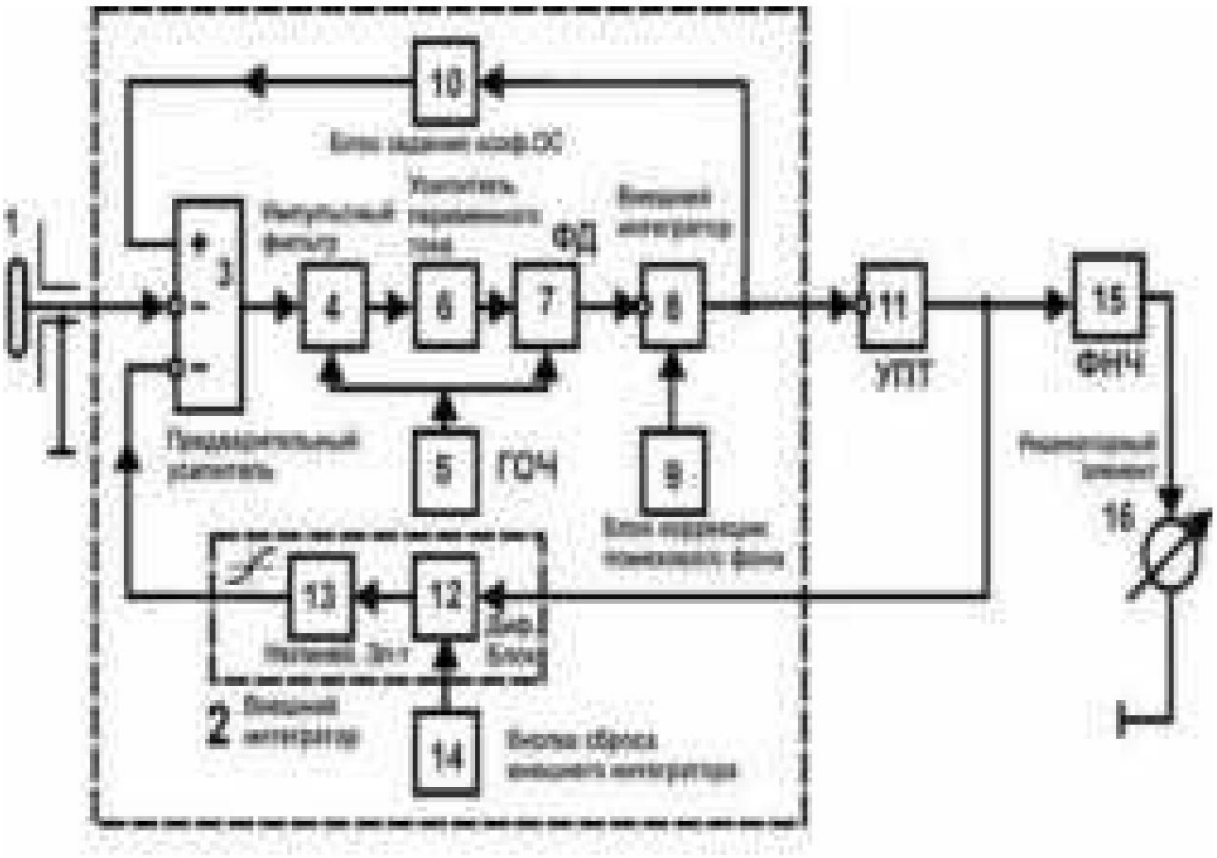
For the period 1990...2009, the medical-ecological company "Light-2" developed and a number of instruments for measuring ultra-weak energy were put into production electromagnetic fields of the natural field of the Earth and re-emitted by various objects. These devices are selective receivers electromagnetic fields in the range 5...10 kHz, with calculation of the phase integral shift at the measured frequency. Sensitivity from units to hundreds of picovolts. The devices differ from standard selective field meters in that Instead of resonant LC circuits, a pulse filter is used, providing a "narrow" passband in the form of a single spectral line characterizing a specific tuning frequency, and a phase-sensitive detector instead of amplitude, which makes it possible to measure the relative phase shift of oscillations isolated by a pulse filter [8...21].

The IGA-1 device relates to developments in the field of ecology, medicine and underground intelligence and can be used:

- **to detect the impact on humans of anomalies of terrestrial radiation, in including electromagnetic in so-called geopathogenic zones, for example, when placing hospital beds, planning workplaces, when construction of residential buildings.**
- **to fix the boundaries of technopathogenic impact on humans computer equipment and other electronic equipment and testing effectiveness of protective devices.**
- **measurements of biofields for the purposes of medical diagnostics and testing of various effects on humans as psychophysical, psychotropic drugs, bioenergetic amplifiers and protective devices.**
- **underground exploration of metal and non-metal pipelines, voids, water veins, burials. •**

settings and debugging of torsion generators.

Figure 1 shows the functional diagram of the IGA-1 device.



Rice. 1. Functional diagram of IGA-1.

The IGA-1 device contains a sensor in the form of a receiving antenna 1, made in the form conductive plate of round, square or other shape in plan and which is electrically small compared to the wavelengths of the operating frequency range; external integrator 2, the input of which is connected to antenna 1, moreover, integrator 2 contains a pre-amplifier 3, the first inverting input of which is the input of external integrator 2, pulse filter 4, first input which is connected to the output of pre-amplifier 3, the reference generator frequency 5, the output of which is connected to the second input of the pulse filter 4, alternating current amplifier 6, the input of which is connected to the pulse output filter 4, phase detector 7, the first input of which is connected to the output of the amplifier AC 6, and the second input is connected to the generator output 5, internal integrator 8, the first inverting input of which is connected to the output of the phase detector 7, background noise correction unit 9, the output of which is connected to the second input of the internal integrator 8, the first feedback loop, including the block 10 setting the feedback coefficient, the input of which is connected to the output integrator 8, and the output is with the second non-inverting input of the preliminary amplifier 3, direct current amplifier (DCA) 11, the inverting input of which connected to the output of integrator 8 and a second feedback loop, including differentiating block 12 and nonlinear element 13 of the "zone" type insensitivity", connected in series, differentiating input block 12 is connected to the output of the UPT 11, and the output of the nonlinear element 13 is connected to the third inverting input of the pre-amplifier 3, the output of the UPT 11 is the output of the integrator 2; In addition, the device contains a reset button 14 external integrator 2, connected to the second input of the differentiating block 12 and short-circuiting when pressed the capacity of the block 12, which is

storage capacity of external integrator 2; low pass filter 15, input which is connected to the output of external integrator 2, i.e. with output UPT 11 and indicator element 16, for example, of a pointer type, the input of which is connected to filter output 15.

The IGA-1 device allows you to protect living organisms by determining localization of anomalous inhomogeneities of the electromagnetic field in space above the surface under study, determining the configuration of their exact boundaries for appropriate redistribution of protected living organisms (or their places permanent or frequent stay). Identification of dangerous places in spatial picture of the field over the study area and redistribution of protected objects reliably guarantees their protection from harmful influences such as electromagnetic component, and from components of a different nature.

Since it is known that in geopathogenic zones there is a similar topology superposition of anomalies of fields of various natures (magnetic, electromagnetic radio range, ultraviolet range, increased radioactive background, climatic anomalies and, possibly, still unknown nature), then the most radical protection is to choose a safe place according to one of the simple recorded radiation components using the IGA-1 device.

The IGA-1 device (Fig. 1) works as follows.

Receiving antenna 1 is placed parallel to the surface under study on the required height level, as a result of which antenna 1 forms an electrical capacitance with the surface under study and is one of the plates. As a result of application antennas 1 with ultra-small electrical dimensions, i.e. antenna, which geometric dimensions are negligible compared to the dimensions wavelengths it receives, selective amplification at any specific operating frequency does not occur, and therefore such an antenna is broadband and accepts all noise signals as a useful signal.

The noise signal from antenna 1 is fed to the input of external integrator 2, which operates as a result of the capacitive nature of antenna 1 as an input integrator current, i.e. as an antenna charge amplifier 1. After amplifying the noise signal in preamplifier 3, the first input of which is the input of an external integrator 2, the amplified signal passes through a narrow-band pulse filter 4 with a bandwidth of a fraction of a hertz, where frequency separation occurs component of the noise signal at the frequency of the pulse voltage generated generator 5, which has the possibility of restructuring.

After amplifying the signal in the AC amplifier 6, the amplified frequency signal noise component is supplied to the first input of the phase detector 7, the output whose signal is proportional to the magnitude of the phase difference between the reference signal generator 5 and the selected frequency component of the signal received by antenna 1, i.e. noise signal.

Next, the phase difference signal is supplied to the input (inverting) of integrator 8, to non-inverting input of which the noise correction voltage is supplied from the output of correction block 9. The resulting signal from the output of the internal integrator 8, weakened in block 10 for setting the feedback coefficient, which is a voltage divider, is supplied to the input (second non-inverting) of pre-amplifier 3, where it is subtracted from the input signal of noise.

Thus, due to the coverage of the second internal integrator 8 by the reverse loop communication, the entire path from the input of the preamplifier 3 to the output of the integrator 8 works as a smoothing low-pass filter, which is necessary for smoothing pulsations at the output of phase detector 7 and increasing the conversion accuracy the magnitude of the phase shift in constant voltage. The value of the coefficient transmission of block 10 in the feedback loop also sets the coefficient strengthening the specified path.

Smoothed voltage proportional to phase difference, optional is amplified in the DC amplifier 11 and through the differentiator 12, which is capacitive feedback and responds to changes in this voltage and nonlinear element 13 is supplied to the third inverting input preamplifier 3, where noise is also subtracted from the voltage.

Thus, after the working arrangement of antenna 1 is motionless parallel the surface under study, the oscillation phase of the generator 5 and the selected pulse filter 4, the frequency component equal in frequency to the oscillations of the generator 5, as a rule, are not equal, as a result of which the output of the phase detector 7 is observed voltage, which is averaged by integrator 8 with the first feedback loop through block 10, gives a voltage whose level is proportional to the magnitude phase shift. This phase shift is taken as interference background and is compensated by the voltage subtracted from it from the output of correction block 9, which is adjusted to the value of full compensation, so that at the output of the integrator 8 the voltage was zero.

After this, integrator 2 is reset using button 14, which short-circuits the capacitance differentiator 12, resulting in the voltage at the filter output of the lower frequencies 15 and, accordingly, indicator readings 16 are equal to zero.

Then the working movement of the antenna 1 begins in the search direction in parallel surfaces at a constant speed. In this case, when antenna 1 enters the zone electromagnetic anomaly, an increment in the phase difference occurs relative to the value accepted as the interference level, as a result of which there is an imbalance of the integrator 8 and the appearance at its output of a voltage proportional to the given increment of the phase difference. This tension intensifies amplifier 11 and goes to the second feedback loop blocks 12 and 13.

In the case when the increment of the phase difference at the output of UPT 11 is small and does not exceed dead zone of the nonlinear element 13, for example, in the case of natural spatial field fluctuations that are interfering or at the boundary electromagnetic anomaly, the second feedback loop is open, in

as a result, only the direct path antenna 1 - indicator 16 works, integrator 2 is turned off and does not integrate, and the voltage from the output of UPT 11 is supplied through the fi 15 directly to the indicator 16, the oscillations of the arrow of which are proportional instantaneous phase increments. These deviations of the indicator 16 arrow are reversible if you return antenna 1 back to its original place.

In the event of entering the zone of an electromagnetic anomaly, the magnitude of the phase difference selected frequency component from the output of pulse filter 4 and oscillations from the output of the reference oscillator 5 increases, which leads to an increase in the area pulses at the output of phase detector 7 and an increase in the voltage level by the output of integrator 8, proportional to the magnitude of the phase shift. As a result of this, these changes are transmitted through differentiator 12 and if the voltage on it output exceeds the dead zone of element 13, then the loop (second) is reverse connection, consisting of differentiator 12 and element 13, is closed, as a result External integrator 2 is turned on and begins to integrate selected phase difference.

Moreover, if the phase difference does not disappear, then at the output of UPT 11 there is signal increase up to the saturation voltage value of UPT 11, this is voltage is supplied through filter 15, which filters out voltage surges when transient processes, the indicator input 16 is displayed.

Thus, an arbitrarily small value of the phase difference exceeding the dead zone of the nonlinear element 13 is sufficient to cause deviation (rotation) of the indicator 16 arrow to the limit, and the speed of this deviation is proportional to the phase difference minus a constant value dead zones.

Stopping the arrow of indicator 16 in any position means the disappearance phase difference (exit from the anomalous zone), and a decrease in the readings of indicator 16 corresponds to a change in the sign of the phase difference. The unit of reading can b time of one deflection (rotation) of the indicator arrow 16 to the end of the scale (similar to turning a mining vine) while moving at a constant speed along the study area, measured in steps per turn of the arrow, in meters per one turn or in seconds per turn (especially when the observer is moving in transport).

Thus, the device allows you to register and evaluate even the smallest phase shift deviations at two different spatial points. Performance internal integrator amplifier 2 in the form of a functional converter voltage - phase, including the direct path from pre-amplifier 3 to UPT 11, allows you to decouple the input and output of integrator 2 and implement in connection with this high gain, resulting in higher sensitivity devices in comparison with known ones.

When performing further measurements, the integrating function is reset to zero. container 12 by closing its plates with the reset button 14.

The choice of the value of the integrating capacitance of integrator 2 in block 12 is made from the conditions of a compromise between the value of the overall gain (the smaller the capacitance, the greater the gain) and a sufficiently long integration time for the purpose of ease of recording (the larger the capacitance, the longer the integration time).

The circuit diagram of the IGA-1 device itself is built on classical radio elements and represents a radio receiver of ultra-weak fields in the range of 5-10 kHz, but its construction (functional diagram), as well as the unusual shape and design of the antenna for this frequency range, possibly makes it possible to detect torsion component i.e. The IGA-1 antenna is most likely a torsion field sensor. The IGA device is built according to the circuit of a radio receiver (however, this circuit is not entirely ordinary; in the 50s there were regenerative receivers, then they were replaced by superheterodynes, i.e. close to this).

A special feature of the IGA-1 device in comparison with other similar geophysical equipment is an increase in the accuracy of determining the localization and classification of anomalies of electromagnetic fields, the boundaries of geopathogenic zones of terrestrial radiation and geological anomalies - water flows, faults, karst cavities, an increase in noise immunity, and the reliability of information.

PHASE AUROMETER (stationary device, on the basis of which the portable device IGA-1 was created) is intended for measuring and assessing the aural electromagnetic field emitted by a person. Before measurement, the antenna is moved to a distance of 1...1.5 meters from the biological object, the device is balanced for the specific noise environment of the room, and then the antenna is moved towards the person with visual control of the device indication. At the moment the antenna crosses the phase surface of the field, the distance to the human body is recorded. The testing and clinical use of the device was carried out on the basis of several medical institutions in the city of Ufa. Studies have shown that the phase surface is normal in a healthy person, and is an ellipsoid at a distance of 50 - 75 cm from the skin. The phase aura has a completely different form in people with various diseases. Deformations appear that correspond to the anatomical and topographic location of the pathological process in the organs.

Research conducted by employees of the Department of Neonatology and Perinatology of the Bashkir State Medical University in the maternity hospital and the Republican Children's Clinical Hospital made it possible to determine the fundamental possibility of using a phase aurometer for diagnosing pathological conditions of children, including newborns and premature infants. As a result, it was found that in children, just like in adults, a phase aura is determined at a distance of 30 - 50 cm from the skin. The results obtained show the relationship between aura distortion and pathological changes in the child's body. The studies carried out showed that the resolution of the device is 30 mm, i.e. The device allows you to localize the pathological focus within thirty millimeters in diameter.

Nikolay Vasilievich Kalashchenko, associate professor of Bashkir State Medical University, conducted studies of several thousand adult patients (1989-1991) based on Republican Clinical Hospital named after. Kuvatova, as a result appeared phase aurometry technique approved by the Ministry of Health of the Republic of Bashkortostan [44], and a patent for the invention was obtained. Operating reception frequencies have been determined devices on which distortions of the electromagnetic aura were confirmed pathological processes in the body [15, 26, 35].

In 1995, the PHASE AUROMETER device was considered by the Commission on Scientific and Technical Issues of the Defense Industry of the Russian Security Council, and a decision was made to introduce it to identify mental disorders at an early stage. deviations of military personnel and secret service workers. However, the chairman Commission Maley Mikhail Dmitrievich died and work was suspended.

However, given that IGA-1 is a portable option PHASE AUROMETER, some consumers of the IGA-1 device later became use it to measure human biofields. In the Republic of Bashkortostan the IGA-1 device was used to measure the biofields of athletes and workers Ministry of Emergency Situations during scientific research by Associate Professor UGATU Goryukhin Alexander Sergeevich together with the Department of Psychology of Bashkir State University under the guidance of Professor Aminev Gisoyat Abdullovich (1999). Some years (2000-2003) a teacher from the Bashkir State Medical University worked with the IGA-1 device Ph.D. Nazhimova Gulzhan Turdymuratovna, who was able to use this device as diagnostic equipment, and as a feedback element when research and treatment of female infertility, as well as menopause and premenstrual syndromes. The results of her work were included in the book she published. INFERTILITY (2000) and a number of articles describing the devices in detail PHASE AUROMETER, IGA-1 and measurement technique [28...38]. Also carried out measurement of biofields with IGA-1 before and after correction of psychophysiological state of students and athletes according to the method of spiritual and health seminars of Associate Professor of the Department of Clinical Psychology of Bashkir State University, Ph.D. Nazhimova G.T. (2007-2009) [24].

In addition, IGA-1 was used to measure the biofields of premature infants children manager Department of Maternity Hospital No. 4 Bogdanova Svetlana Yuryevna, for monitoring the effectiveness of treatment of premature infants in a shielded medical chamber designed by Yuri Kravchenko (1999-2001) [36].

Since 1999, the assistant professor of the Department of Childhood Diseases has been measuring biofields BSMU Voinova Margarita Vyacheslavovna, who together with students (now already doctors) Almaz Mirsaev and Rustem Valeev conducted research biofields of pregnant women in the process of prenatal preparation, as well as newborns [39…41].

Their work BIOENERGY FEATURES AND INTERACTIONS IN THE FATHER-MOTHER-FETUS-CHILD SYSTEM was reported in St. Petersburg at the congress "New medical technologies - 2001" and received first place in pediatrics. For the first time in world practice, studies of electromagnetic biofields have been carried out

pregnant women using a portable PHASE AUROMETER - the IGA-1 device, in order to replace the ultrasound diagnostic equipment currently used to study the pregnancy process, and
affecting the studied patients - the woman and her fetus, on the environmental a safe method for studying their electromagnetic biofields. The same young scientists also used a safe technique to study the condition newborns, including premature babies with various pathological deviations. The researchers went further and mastered process measurements separation of the biofields of a pregnant woman and a child during childbirth, as well as studied the influence of the father's biofield on pregnant women and their fetus. At the same time, between the biofields of the fetus and the child's father form a "communication channel" when it approaches a pregnant woman, and if a stranger approaches, then their biofields repel each other. During the birth process, you can see how the mother's biofield embraces and presses the newborn's biofield to itself [40].

Subsequently, starting from 2002, the use of IGA-1 devices for measuring human biofields using the phase-aurometry method has found application in the development and introduction of protective devices (made in Russia and Ukraine) against exposure to human geophysical anomalies (geopathogenic zones), as well as technopathogenic zones, from the effects of computers, mobile phones and other electronic equipment. Companies that produce ROTAN, Forpost and Foton products use IGA-1 devices in the production and sales process (show how the size of the biofield changes human or the boundary of computer radiation), companies producing products Gamma-7, DAR, VITA, including AIRES matrices for local distribution their products [42, 43].

Further development of the phase-aurometry method was research conducted with using IGA-1 instruments by the Volyn Center for Historical and Geophysical research "Rivne-Surenzh" (Rivne, Ukraine) [25], which allowed, in addition to the intense shell of the biofield, recorded earlier, fix a whole series membranes around a person, this was also reported by other researchers working with IGA-1 devices, for example Viktor Beloglazov from Kirov.

In the city of Rivne, an effective technique was developed for studying the human aura, which makes it possible to confidently measure up to 8 aura shells in conditions of increased energy pollution of the premises. Although it should be noted that realistically more shells. The shells closest to the human body (less than 20 cm) are not were measured. And there are probably shells at a distance of more than 7m. There are none yet can be measured due to the limited technical capabilities of the equipment. The shells probably go to infinity. Thus, every person integrated into the energy-information space of the Universe and Space as a whole and forms a single whole with it, like everything that exists.

The essence of the Rivne method is that the IGA-1 is positioned motionless on rod (with the ability to adjust in height), and a person approaches the installation, which is used for the first time. This allows you to measure exactly the boundaries of the shell of the walki (studied) person, which eliminates false positives from various energy planes, such as Hartmann and Kurri grids, phantoms, etc., which

observed with a stationary object of study (person) and a moving
apparatus IGA-1.

Portable small-sized version of PHASE AUROMETER - indicator
geophysical anomalies IGA-1. When moving the device along the test area
the surface of the Earth or inside buildings and structures of any number of storeys is carried out
determination of the location of geophysical anomalies in the form of networks (Hartmann, Kurri)
and energy spots of natural and man-made origin.

Natural fields of the Earth form *geopathogenic zones (GPZ),* which represent
are local geophysical anomalies. The entire surface of the globe is covered
grids of electromagnetic lines about 10 cm wide and a cell pitch of 2.5x2 m - Hartman network, 5x6
m - Kurri network, 16x16 m, etc. These grids, overlapping each other
friend, create a complex picture of geophysical anomalies on the Earth's surface, and in
at their intersection points, small foci measuring 10x10 cm are formed, where
the radiation intensity increases sharply, prolonged exposure to which
(working or sleeping places), contribute to deterioration of health and development
serious diseases such as cancer, sclerosis, arthrosis.

Signs of prolonged stay in a geopathogenic zone are: unexplained
irritability, weakness, headaches, fear, possible burning or
tingling of the skin. In geopathogenic zones, people may experience cardiac
arrhythmia, changes in blood pressure and body temperature [1]. Especially a lot
Research in this area was carried out in Germany, Switzerland, Belgium, France, and Austria [2-4].
One of the first problems of geopathogenic zones
German scientist Gustav von Pohl became interested and published the results
their work in a prestigious medical journal on cancer research
diseases. Analyzing his observations made in Bavaria, he came to
conclusion that what was common to all 58 people who died from cancer in the city under study was
the fact that their sleeping places were in geopathogenic zones.

In 1976, a fundamental book by E. Hartmann was published in Germany
DISEASE AS A PROBLEM OF LOCATION [5], which summarized
long-term results of the author's work on the study of the influence of geopathogenic zones
on people's health. Geopathogenic zones are of two types - natural
origin, usually associated with voids, water flows, mineral deposits; another type is technogenic
zones
origin associated with human activity - underground passages, subways, mines, pipelines, cable
networks, landfills, burial sites. Almost to
Currently, the GPZ was determined only with the help of a vine, a pendulum, a bioframe
[1]. In recent years, research has been carried out abroad related to
determination of geophysical anomalies on the ground using various
methods: radar, chemiluminescence, radiation and others
measurement methods [2, 3, 6]. All this equipment has a large volume and
mounted on a cart or mobile carrier and, in most cases, not
adapted for research inside residential and industrial premises. In addition, the correlations with
the ILI recorded by these methods were very
unstable.

In 1992, a small-sized electronic device was developed in Bashkortostan to determine geopathogenic zones by the electromagnetic component of radiation - the indicator of geophysical anomalies *IGA-1* [7], protected by patents of Russia and copyright certificates of the USSR [8-21]. When moving the device along the studied surface of the Earth or inside buildings and structures of any number of storeys the location of geophysical anomalies in the form of networks is carried out (Hartman, Kurri) and energy spots of natural and man-made origin. The device is designed as a portable sensor with visual indication, weighing no more than 1.0 kilograms and connected to it by a cable nutrition. The medical-ecological company Light-2 organized production IGA-1 devices based on the aerospace defense enterprise instrument making (Ufa), the main consumers are sanitary inspections and environmental centers. Since 1994, more than 250 IGA-1 devices of various types have been produced modifications.

Inspection of apartments and workplaces in enterprises using a developed Ufa equipment - the IGA-1 indicator - allowed for the first time in world practice identify the relationship between the size of the geopathogenic network and human health [22]. It was determined that people living on grids with mesh sizes from 80 to 120 cm are more likely to have health problems and experience unexplained ailments. This can be explained by the higher probability of intersections of networks with smaller cell sizes for a working or sleeping place.

In addition, the device allows you to determine geopathogenic spots measuring 0.5...2 m^2, which have not been recorded or studied before [21]. It turned out that long Being in these zones leads to depression and hallucinations. At the same time, cases of oncological diseases of people living in apartments located next to each other under a friend, as well as cases of suicide. The latter took place against the backdrop long-term depressive states, and a characteristic dependence on the fact that the beds of these people were in geopathogenic zones.

In 1997, an International seminar on the problem was held in Larnaca, Cyprus. geopathogenic zones, in which scientists from Austria, England, Brazil, Cyprus, Canada, Sweden, and the CIS took part, where they reported on work related to studies of geopathogenic zones in Russia and demonstrated developed in Bashkortostan device IGA-1. At the same time, foreign researchers of geopathogenic zones were able to personally verify the effectiveness of this device.

The location of the seminar was not chosen by chance, at the request of the mayor's office of Aradippou (district center of Larnaca province), associated with increased child mortality from leukemia in this city, in May 1995, the Russian ecological expedition, where four schools, two kindergartens, apartments in buildings where there were deaths, administrative buildings. Research has shown that under the houses where children died from leukemia, a powerful water flow passed through, which, due to the general desert nature of the terrain, gave very contrasting differences in geophysical radiation,

recorded by the IGA-1 device. Testing with the IGA-1 device made it possible to "blindly" detect, based on the device's readings, all the beds where sick children slept leukemia, an increase in electromagnetic background was noted in these places. In all In cases, recommendations were given for rearranging sleeping and working places.

Similar cases when under the newly built Gorgaz building in the regional center Yazykovo and under the Printing House in Ufa there was a water vein, they were recorded in Bashkortostan, and employees of GAZ-SERVICE JSC immediately after the move began complain of discomfort and deterioration in well-being. At the Printing House (Ufa), there were cases of failure of equipment located on the water vein, as well as three people died of cancer whose workplaces were located above the water vein. The management of GAZ-SERVICE JSC took this problem seriously, including environmental control of geopathogenic zones of industrial premises city gas companies of the republic in occupational safety measures. As a result of checks back in two cities, a relationship was established between increased terrestrial radiation and oncological diseases of workers, and in the Sterlitamak city gas in one workplace, 4 people died from cancer over the course of several years and one got sick. disability.

Research on the impact of geopathogenic zones on health was carried out in Bashkortostan under the leadership of the head. Department of Childhood Diseases, Bashkir State Medical University Professor Elsa Nabiakhmetovna Akhmadeeva [26, 35]. Using the IGA-1 device, environmental studies were carried out in Maternity Hospital No. 4 and the Republican children's clinical hospital, resulting in hospital beds being placed in the safest place. According to reviews of the chief doctors in these There was an improvement in indicators in medical institutions. For nine years the IGA-1 device is used in the Sanitary Inspectorate of the Ufa Department Kuibyshev Railway and Kirov branch of Gorky Railway, during this period environmental surveys of geopathogenic zones were carried out in organizations railway.

Based on the work carried out, the following *conclusions were made:*

- in intensive care units and the department of premature infants - children located in geopathogenic zones recover more slowly and More often the disease ends in death;
- finding a child in a geopathogenic zone leads to deterioration of sleep and appetite, increased anxiety, and as a result developmental delays; • long-term stay of a child in a geopathogenic zone can lead to serious illnesses.

Thus, geopathogenic influences pose a great danger to health and should be taken into account in our daily lives along with others environmental factors.

A further development of the IGA-1 device is an underground exploration device. Device detects distortion of the electromagnetic field in places of soil heterogeneity when the presence of any objects underground. The device is designed to search under

earth of metal and non-metallic (including polyethylene) pipelines [19], as well as human bodies [16] by changing the phase shift by
transition boundary Detection depth of pipelines, voids, up to 20 meters, human bodies and small objects up to 3 meters, water veins
found at depths of up to 60 meters. The devices have been tested on a number of industrial enterprises, the device was first used to detect corpses
in the village Neftegorsk after the 1995 earthquake on Sakhalin.

Studies of tectonic faults of the earth's crust and karst processes with
using the IGA-1 device are carried out in the process of urban planning engineering surveys at JSC PGP "Tula-Nedra" and "Ufa-Archproekt", LLC "Diakont" with Bashtransgaz [23].

The relevance of this topic lies in the fact that currently there is no
portable and reliable instruments that allow you to determine the location
non-metallic communications, non-powered cables, as well as both live and
people killed under the rubble. Available in units of the Ministry of Emergency Situations highly sensitive acoustic instruments can be used to search
people only in absolute silence, and provided that the victim creates
noise. The devices available in the Ministry of Internal Affairs for detecting corpses, operating on principle of the gas analyzer has not been used in units of the Ministry of Emergency Situations, since it interferes with the smell of burning buildings, as well as the general smell of a large number of victims
The background of cadaveric odors does not make it possible to work with this equipment. In our There are also no devices for location reconnaissance in the country and abroad
non-metallic (polyethylene, ceramic, asbestos-cement) pipelines.

In the summer of 2000, the IGA-1 device in the mine detector version [20, 21] was tested in Central Research Institute 15 MO for the possibility of detecting anti-tank, anti-personnel, non-magnetic mines and those located at great depths
unexploded land mines, positive feedback was received. More detailed questions associated with underground exploration using IGA-1 instruments are described in [23].

IGA-1 devices have been implemented in many cities of Russia, as well as Belarus, Ukraine, Uzbekistan, Kazakhstan, Tajikistan, Moldova, the Baltic States, and Austria. Greece, Cyprus, Germany, France, Romania, Sweden, Switzerland, USA, Canada, Colombia, South Korea and Australia.

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Method of phytoindication of local electromagnetic anomalies with low intensity radiation (emission) and assessment methodology their sizes

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Introduction

Complex influence on the human body and other biological objects electromagnetic fields (EMF) and radiation (EMR) of low intensity of natural and man-made origin (EMIN), are assessed as natural-man-made electromagnetic systems. They are referred to as the electromagnetic factor environmental pollution that negatively affects living objects. IN In recent years, this problem has been actively studied by many scientists [2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 17, 26, 27]. Tools are used for these purposes control, for example, SQUID magnetometers, geophysical anomaly indicator IGA-1 and others [19, 20]. The use of such devices is limited by their insufficient quantity and distribution during environmental monitoring of the environment environment.

The formation of electromagnetic anomalies is usually associated with high the degree of variations in geophysical landscapes, including EMR and EMF, which are known to be caused by various processes occurring in rocks and accompanied by the occurrence of electromagnetic emission [8, 9, 12]. This effect is manifested in altered morphogenesis of plant landscapes and plant individuals as a complex systemic impact. Changed morphogenesis manifests itself in the form of uncharacteristic forms of growth and development of woody, shrub and herbaceous plants [11, 16]. Research in recent years allow us to say that EMR and EMF with a low level of intensity radiation (emissions) significantly below the MPL can have a much greater impact impact on biological objects than is commonly thought [10]. Research influence of EMINI on test objects of plant and animal origin showed the possibility of their different effects on such systems, for example, in the form activation or inhibition of their growth and development, as one of the types gravitropic reaction (GTR). This depends on the EMINI characteristics in frequency, amplitude, phase, etc. [2, 3, 4, 5, 6].

By assessing such altered morphogenesis, it is possible to detect the presence of LEMANI and character of the influence on plants, examining signs of activation or inhibition plant growth - indicators that need to be grown in the study areas actions of such anomalies, that is, use the phytoindication method. Phytoindication is a proven and reliable method for monitoring environmental conditions

environment [11, 13, 14, 15, 16, 22]. At the same time, they are often limited to only high-quality indicators without providing quantitative estimates, for example, on preliminary stages of geological exploration [1, 12]. This makes it necessary developing methods for identifying their presence in the environment, including in the form of local electromagnetic anomalies with a low level of intensity (LEMANY) [8, 10, 11, 12, 13, 14, 16].

These manifestations of GTR can be assessed from the perspective of the general theory of symmetry, as methodological basis of modern natural science, which provides symmetrical reflection and formation of objects located inside the system. IN AND. Vernadsky, developing approaches to the theory of symmetry in relation to the biosphere, noted that dissymmetry can only arise under the influence of a cause that has the same dissymmetry, which is directly manifested in the biosphere as a corresponding influence of the Cosmos. Developing these ideas, Vernadsky came to the conclusion about the fundamental heterogeneity of space - time, i.e. for him characterized by a stable violation of symmetry [7]. Such methodological approaches generally extend to plant communities, which involves studying spatial structure and landscape complexes of phytocenoses, their geometric structure of the supraorganismal and organismal level, including by altered morphogenesis. Study of the spatial structure of natural complexes of various scales, may have great prognostic value in various areas of ecological, biological and other research [1, 11, 16, 22].

Developed LEMANI phytoindication method and method for determining their sizes is based on an assessment of the average length of sprouts of seedlings of indicator plants, for example wheat, grown on minimal areas, which are conditionally are taken as points with given (selected) coordinates, with statistical reliable samples. Comparison of the average length of sprouts between points (cells) and their groups, relative to the selected gradation, formed on the basis average length of sprouts throughout the model area, allows us to identify local zones with different growth reactions of indicator plants, determine their sizes in projections onto a plane at the level of plant seeds in their place growing.

Materials and methods

The proposed method of phytoindication LEMANI is based on methodological developments for preliminary assessment of the quality of seeds, for example, wheat, in relation to pre-selected indicators of the development of plant organs, which used to determine the yield of this crop [21]. Comparison morphological changes in plant organs of seedlings grown in for 7-8 days in containers with water, allows for fairly accurate crop forecasting. According to these methodological developments, seeds germinated in thermostats, in rolls of plastic film, with certain dimensions (for example, 20 x 40 cm) and placed inside, moistened water, filter paper. The proposed method provides germination of seeds in the light, both in laboratory and field conditions, in

similar rolls located in containers with water. Each container placed on a minimum area, for example 10 x 10 cm, which is conditionally is taken as points with given (selected) coordinates. This allows you to further draw up a diagram of the placement of zones of activation and growth inhibition indicator plants throughout the model area, which is divided into cells specified sizes. The dimensions of the model platforms are selected depending on goals and objectives of the study. They are usually comparable to the size of a person. The sites are marked with markers having overall dimensions of 0.5 x 0.5 m (25 cells), which are wooden grids separated partitions and forming cells measuring 10 x 10 cm. All model sites must be filled with sets of such markers to prevent overturning or displacing water containers.

To increase the accuracy of the experimental results, the seeds must be placed in a roll with high density, for example at a distance of 1.5...2 cm from each other, in quantity at least 20 pieces per roll. The seeds of indicator plants are actually located at a level of 16 ... 18 cm from the level of the plane on which they are located. Such planes can be: the surface of the earth, a laboratory table, etc. Possibly placement of several rolls, for example 3, in one container. After graduation germination, use a ruler (division value 1 mm) to measure the length of all sprouts and the value of their average length is calculated $\overline{X}_n$ both for each cell and for the entire model site with entering $\overline{X}_{\Sigma n}$ data into a table. The table represents is a projection of a model site on a certain scale, divided into cells. For example, a model platform measuring 1.5 x 1.5 m (2.25 m^2) will have 225 cells. Next, a diagram of the location of activation and inhibition zones is drawn up, relative to the indicator $\overline{X}_{\Sigma n}$.

In this case, the following condition is met:

$$\overline{X}_{n\ ингибир} < \overline{X}_{\Sigma n} < \overline{X}_{n\ актив} \qquad (1)$$

Additionally, the average amplitude of oscillations along the average length is determined sprouts, for each cell and the model area as a whole, respectively, and To assess $\overline{X}_{n}$ $\overline{X}_{A\Sigma n}$. the presence of LEMANI with different radiation intensities, we introduce coefficient of uneven impact of anomalies Kvoz, which can be expressed in the following form:

$$К_{возд} = \frac{\overline{X}_{A\Sigma n}}{\overline{X}_{\Sigma n}} \times 100\% \qquad (2)$$

where Kvozd is the LEMANI unevenness coefficient for the test object,

$\overline{X}_{A\Sigma n}$ – the average amplitude of oscillations along the length of the sprout on the $\overline{X}_{\Sigma n}$ entire model site, – the average length of the sprout on the entire model site. Empirically, we will form the levels of exposure to LEMANI into four groups, according to the table.

Degree impact LEMANI	Kvozd, (%)	$\frac{\overline{X}_{A\Sigma n}}{\overline{X}_{\Sigma n}}$
Minimum	Up to	Up to
Minor	20 20…30	0.2 0.2 …
Significant	31…50	0.3 0.31 …
Essential	More than 50	0.50 More than 0.5

It should be noted that in zones of transition from one growth reaction to another, edge effects caused by the nature of the change in the action of LEMANI on test objects [8]. This may create some uncertainty regarding the formation boundaries of anomalies with varying degrees of impact - from very intense to minimal (weak). For quantitative and qualitative assessments presence throughout the model site, the concept of “basic gradation” is introduced or "base interval".

$$0{,}2 \times \overline{X}_{\Sigma n} \le K_{баз} \le 0{,}5 \times \overline{X}_{\Sigma n} \qquad (3)$$

Kbase is selected to a certain value, depending on the purpose and task experiment, relative to which the indicated zones will be formed, taking into account impact coefficient (Klzd) according to (1). This can be expressed as follows form:

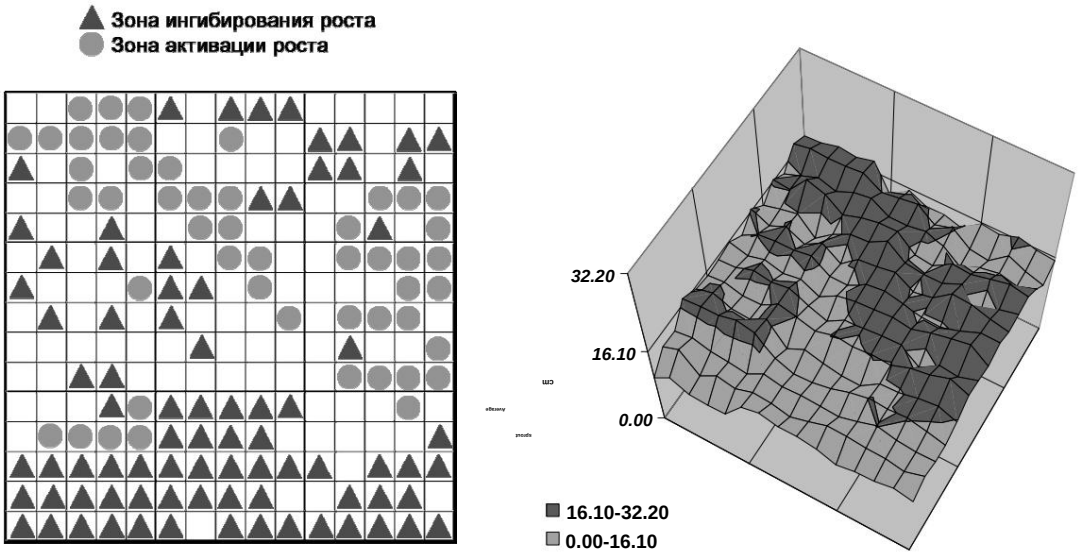
$$\overline{X}_{\Sigma n} - \frac{K_{баз}}{2} < \overline{X}_{\Sigma n} < \overline{X}_{\Sigma n} + \frac{K_{баз}}{2} \qquad (4)$$

where Kbase is the value of the base interval (base gradation) of the selected indicator, which is selected to identify LEMANI zones with the highest intensity influence on test objects.

Having drawn up a diagram of zones of activation and growth inhibition by cells on the model site, relative to the basic gradation, according to (4), it is necessary to group the value of the selected indicator based on the signs of activation or inhibition. IN As a result, we will be able to determine in quantitative categories area of the presence zone of LEMANI as an external factor with a different character impact on indicator plants. Thus, given the known dimensions cells conventionally accepted as points with given coordinates can be preliminarily having grouped them according to signs of activation or inhibition of growth, taking into account Kbas, determine their area, as well as evaluate their shape or configuration.

It should be noted that when determining the dimensional indicators according to this scheme, we We introduce some convention into the values of these indicators. In fact we we determine the dimensions of LEMANI in the plane of their horizontal section, at the level indicators of plant growth and development, and not the entire volume of such anomalies. However However, this makes it possible to quite accurately identify the presence of LEMANI, and, to some approximation, estimate their size and configuration.

Having fulfilled the requirements of the method and methodology, you can evaluate the presence of LEMANI on model sites, as well as the degree and nature of the impact on indicator plants. The method and technique make it possible to determine the LEMANI area using signs of activation or inhibition of growth of indicator plants (Fig. 1). At environmental monitoring, this makes it possible to assess the suitability of selected sites based on the characteristics of so-called “comfort” or “discomfort” [22, 23] as for the growth and development of plants of a certain type, and for staying in them person.



A B

Rice. 1. Examples of phytoindication of zones of activation and growth inhibition by indicator plants (wheat seeds): “A” - in a 2-dimensional projection (base interval 2 cm) and “B” in a 3-dimensional projection, relative to the average length $\overline{X}_{\Sigma n}$ = 16.10 cm (size of the site sprout 1.5 x 1.5 m, S^2).2.25 m

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Modern capabilities of fine-field diagnostics of objects living and inanimate nature

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Traditional diagnostics of various objects of living and inanimate nature usually produced on the basis of the classical laws of the natural sciences: physics, chemistry and biology. As a rule, this is a contact diagnosis carried out through interactions are material, energetic, or both at the same time, between the object being diagnosed and the diagnostic tool (device). IN In necessary cases, remote communication is used between the object and the device through various energy fields, the most popular of which is the electromagnetic field. Technical solutions for the formation, generation, reception and decoding of electromagnetic signals have been achieved in this direction very high perfection. However, along with the obvious advantages of accuracy, speed, noise immunity, etc., such diagnostics also have flaws. They, as always, are a continuation of the above and others advantages. High performance usually entails increased power consumption of devices, and noise immunity and accuracy are difficult to achieve without significantly complicating and increasing the cost of equipment. Moreover, as it shows practice, in most cases excellent quality indicators such equipment is not fully used, but is only continuously increased following so-called technical progress. Besides this, it is difficult not to accept the remark about the obvious deterioration of the ecology of our life, one of the reasons for which is probably contained in the too unrestrained pace of its electromagnetic growth.

The situation is further aggravated by the fact that not all objects are accessible for electromagnetic diagnostics (including electrical and magnetic individually), but in general, by energy methods. This primarily concerns very remote, very hot, radioactive, or shielded one at a time from field components of inanimate objects, as well as complexly structured living ones organisms whose organs are difficult or impossible to get close to without their damage.

Therefore, it may be worth taking a closer look at the aspect itself information diagnostics, in particular how this is done in nature for minus the human factor. Long-term observations and modern subtle experiments show that nature is simply replete with information interactions, their density and saturation are many orders of magnitude higher than those for human activity. And, most importantly, she, nature, gets by for this purpose extremely low energy costs. Apparently for

natural information interactions electromagnetic and others
energy fields are not the most “popular”.

What information carriers does Nature mainly use on Earth? Maybe those that she had before Hertz's remarkable discoveries and inventions Popova - Marconi. Long before them, and even long before the advent of biological life on Earth. What can modern science say about this? Not really, to unfortunately, a lot. The most powerful until recently in Russia (and in the former USSR especially) academic science for some reason decided (in the person of some of its “significant academicians”), that basically the structure of the world is completely understood adequately, the world is organized only on the basis of electromagnetic, gravitational, strong, etc. energy interactions. How did they organize and exist?
For some reason, academic science is not interested in knowing these interactions themselves. Amazing lack of curiosity! And her fight against dissent in her field, under the guise of protecting real science from so-called “pseudoscience”, is more
looks like a criminal inquisition.

Now let’s return to the “subtle” experiments mentioned above. There aren't too many of them a lot, but not so little that you don’t pay attention to their results, sometimes amazing. In this text, the author does not present the results of special physical experiments with objects interacting along the spin (i.e. without use of charge, magnetic moment and mass), carried out in the last two to three decades in leading laboratories in Russia and the World. They can be found in excellent review by Academician of the Russian Academy of Natural Sciences A.E. Akimov [1]. The results of other experiments performed in other laboratories, often in conditions unsuitable for this. But they, these experiments, were carried out with using a new, specially designed for this work ultra-highly sensitive measuring technology, before this there was no existing in the experimenters' tools. Such equipment in the 90s was called torsimetric, in accordance with the name that appeared then fundamental, basic, field of Nature - torsion field (torsion field).

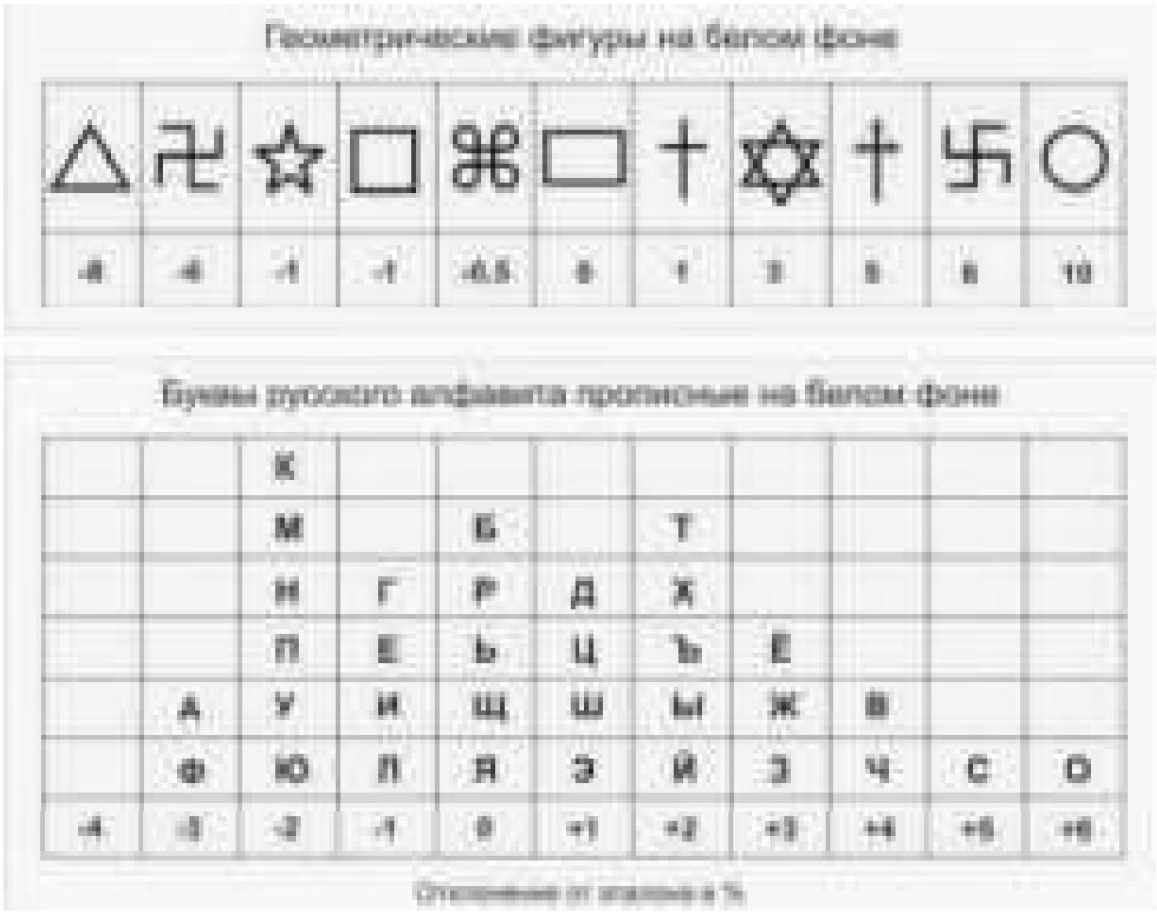
This name, not to mention its physical essence, still evokes ongoing disputes between supporters of this idea and orthodox scientists, primarily physicists. These disputes rise and fall in waves, in full in accordance with the general oscillatory nature of the behavior of complex systems that are out of control. There is a certain truth on both sides. The orthodox part of scientists seems to consider it their main duty protect existing scientific achievements from insufficiently tested ones, from her point of view vision, new ideas and technical proposals. This is probably correct. Only there are too many such guards, because by definition the train of science should travel, and not stand still with the locomotive, on which fire is fired from all types of weapons defeat. Continuing in the same spirit, we can say that the drivers of such locomotives are forced to take up a perimeter defense, with heavy losses for themselves and truth. The difficulties for the defending side also lie in the fact that their subject defense, although it looks promising for practice, is being developed not fast enough due to the fundamental difficulties of its theoretical arrangement and the smallness of the forces involved. In conclusion of such a metaphorical

paragraph I would like to express an optimistic note for the near future, because The "guards" are probably tired of guarding the dilapidated and partially looted train of science. But that's the job.

Now the presentation will be a little stricter. As far as the author has understood himself, to date time, there are a number of experimental measurement techniques and technical devices suitable for, again, experimental attempts diagnostics of a number of objects of living and inanimate nature. What are these devices and techniques? Are they worth attention? In Fig. 1 the first meter is presented torsion contrast (special differences from the background) of the object, developed by the author around 1998

Rice. 1. Torsimeter TSM-021 with torsion valve.

This meter was called torque meter TSM-021. Shown in Fig. 1 option at that time it was not yet equipped with a data transfer system to a computer, now this the deficiency has been eliminated. A number of good results were obtained using this torque meter. measurement results, only a few will be presented here. In Fig. Figure 2 shows the torsion contrast values of various geometric shapes and letters Russian alphabet, in arbitrary units, on a white background.



Rice. 2. Torsion contrast of flat figures and letters.

Some comment on Fig. 2. Geometric shapes drawn with a fountain pen on pieces of white writing paper measuring 50*50 mm, obviously not were a source of electromagnetic field in relation to TSM-021. The measurement technology was very simple. The indicated figures on paper the substrate was placed on the device table with the image up, alternately with the same piece of paper without a pattern. The influence of signs of rotation such as left and right is striking, using the example of the ancient heraldic symbol - the swastika: straigh inverse. Also interesting are the figures that close the series: a circle and a triangle, working to the maximum, but in different signs, as well as stars: five-pointed and David. As for the letters, which due to limited resolution had to organized into groups, then they scattered into torsion contrast some spectrum, at the right end of which there was the letter “O”, and at the left “A” and "F". The principle here turns out to be this: everything round is right and positive, and everything acute and bidirectional - left and negative. Positivity and negativity in our case is not entirely symmetrical, positivity corresponds to the complication (growth) of any system, and, conversely, negativity corresponds to its degradation.

No less interesting is that the torsion contrast of a substance significantly depends on time of day. The figures in group 3 show the effect of time of day on torsion indicator of water of different structures.

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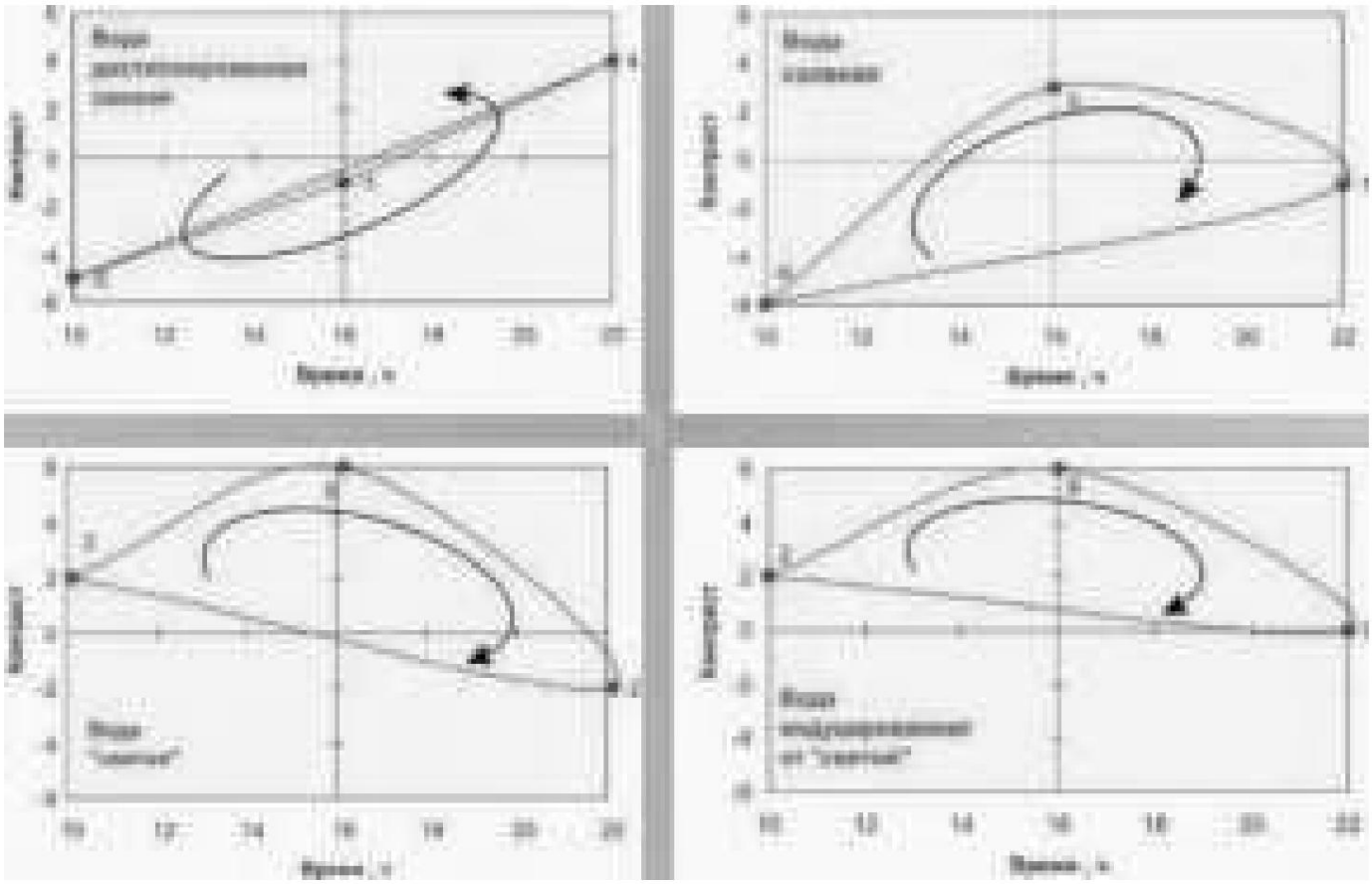
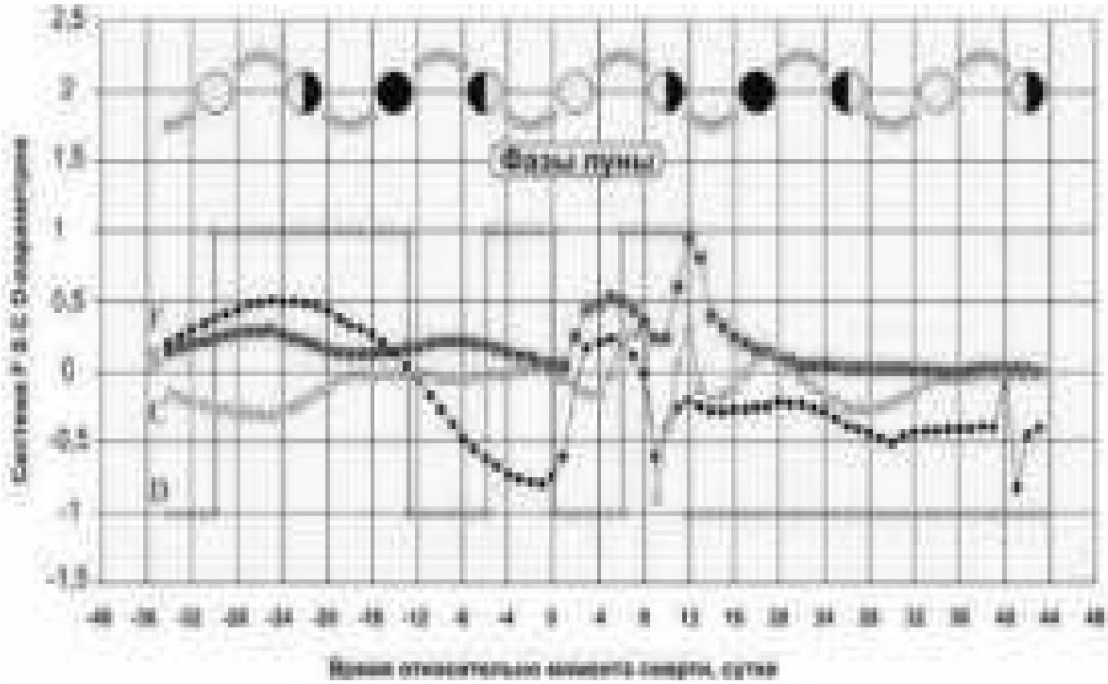


Rice. 3. Torsion phase portraits of water of different contents.

In the drawings of this group, the method of torsion phase portrait was used, when one, dependent, cyclic quantity is plotted as a function of another, leading, cyclic quantity on the reverse axes of a compact graph. Each chart corresponds to the change in values over one day. There is a clear difference in daily behavior of the torsion contrast of the object (in this case, water: distilled, salted, holy and induced from this holy). First of these is a typical “dead” object, (i.e., no), the second is water, and also the third and fourth are working objects, each in its own way purpose. It’s interesting that water is fourth in the phase portrait, surprisingly similar to the third, truly holy, although the fourth water is taken from ordinary water supply, only she stood for a while next to the third.

The results of yet another job done make a certain impression using the torsion phase portrait method, using TSM-021. She represented the first long-term torsion monitoring of an object representing a person crossing the threshold of death. The work was carried out from a photograph of this person placed on the TSM-021 table. results shown in Fig. 4.



Rice. 4. Monitoring a dying person.

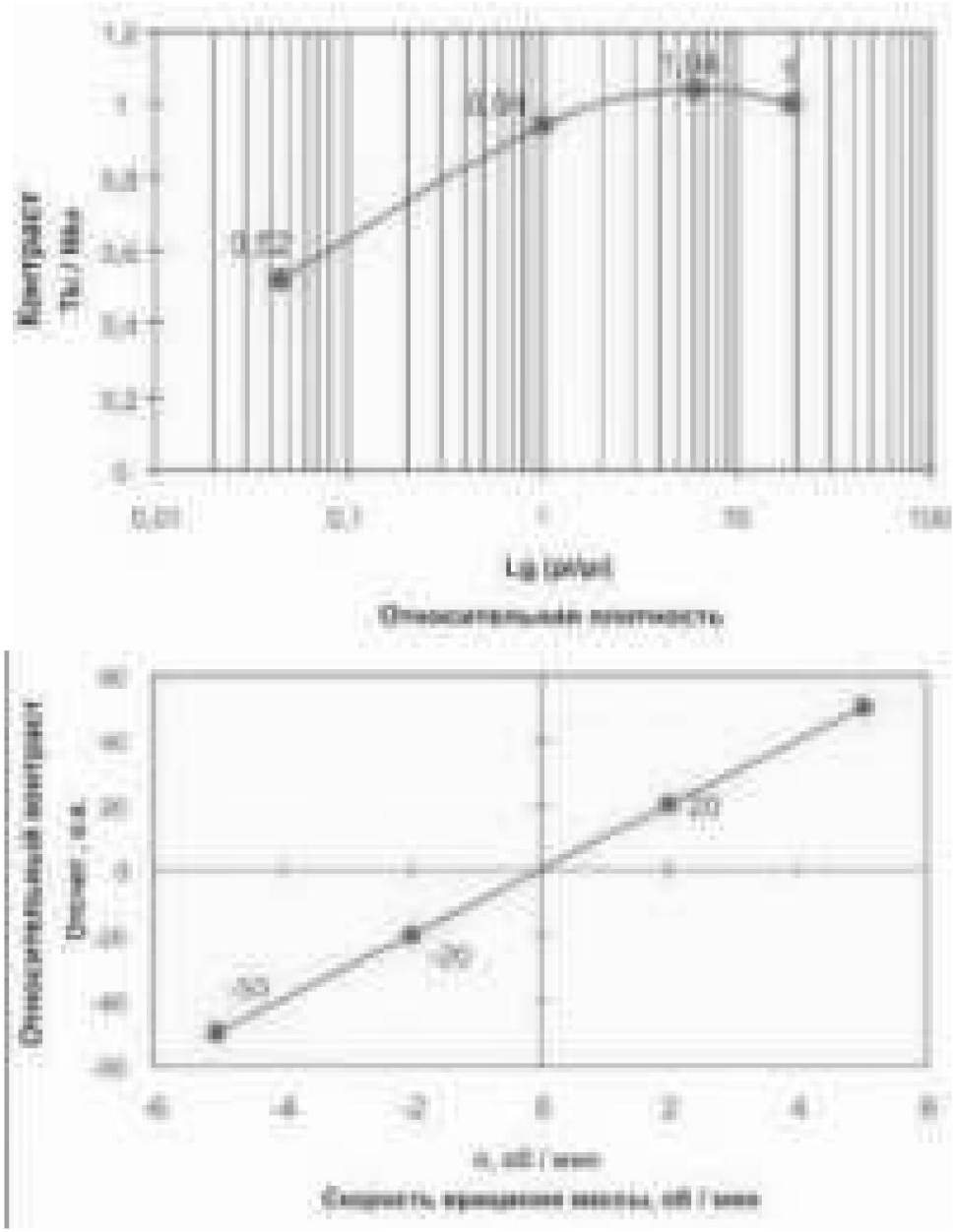
By way of commentary on this monitoring, we can say the following. On him five quantities are given as a function of time: four parameters F,S,C,D torsion phase portrait (PPP), representing its fine structure, and phases The moons are known to have certain influences on humans, especially sick. It is clearly seen that the FSCD parameters of the DFT of a dying person are approaching At the moment "M", about two weeks before, they change the nature of their changes. A kind of death clock is started according to parameter D. Directly at the moment "M" there is a sharp change in all FSCD parameters, and within three days these the parameters are similar to the parameters characteristic of a given organism before the disease. On ninth day of FSCD – body parameters undergo a drastic change in negative side, and on the fortieth day after moment "M" there is a signal only according to the energy-free parameter F. The last, so to speak, go-ahead. By this time, the remaining SCD components of the DFT go to stationary for each of them has a level.

Further work is related to attempts to link those measured by torsion meters quantities to normal physical quantities, preferably in SI units. For this purpose, another meter was used, built according to differential diagram, namely the TSM-030 torque meter, Fig. 5.

Rice. 5. Torsimeter TSM-030.

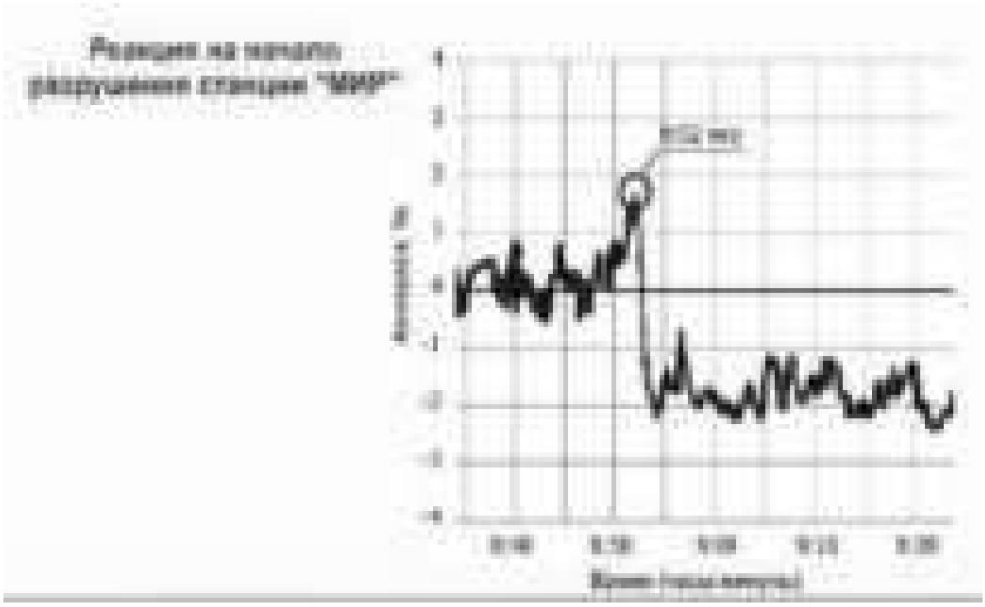
This torque meter uses capacitor sensors based on highly permeable radioceramics, one for each channel. From electrical capacity These sensors depended on the frequency of two self-oscillators (approximately 500 kHz). These frequencies were fed to a device that extracted their difference, which was measured over a certain period of time (about 1 second) and visualized on a digital indicator. The device had a built-in automatic zero setting system and touch control. Two measuring channels orthogonal to each other made it possible to measure two objects simultaneously in a comparative mode. System autonomous power supply and data transfer to the computer turned out to be useful for solving metrological and other problems.

In Fig. Figure 6 shows the results of measuring the torsion contrast of reference bodies. from different materials, rotated reversely and at different speeds. On the top The curve (Fig. 6a) shows the dependence of the relative torsion contrast rotating bodies made of materials of different densities: from foam plastic to copper (ratio about 450). It can be seen that with such a large variation in density the indicated contrast does not change so significantly compared to the change in this density.



Rice. 6. Metrology experiments.

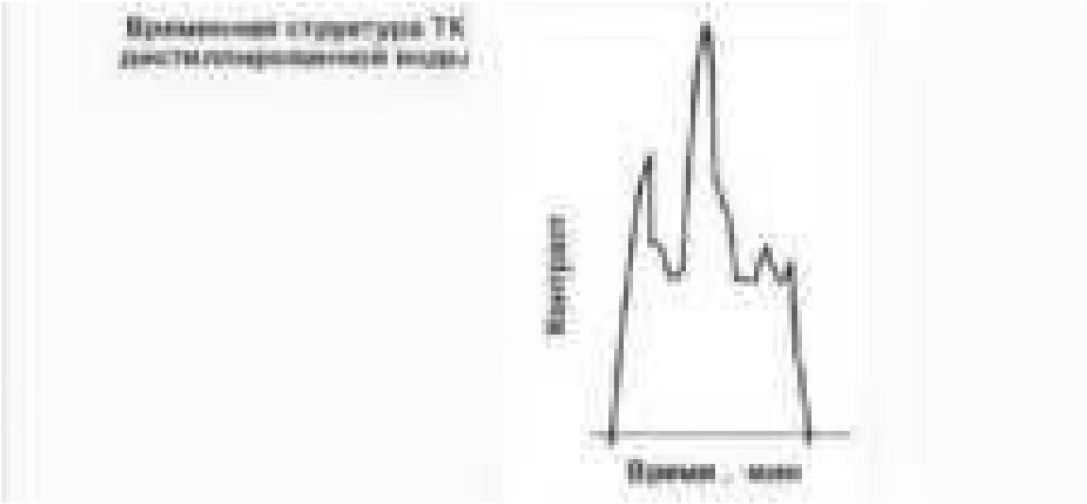
The lower curve shows the dependence of the relative contrast of the rotating bodies on the speed and direction of rotation. Here the linearity of the connection between the first and second and symmetry with respect to left and right rotations. In Fig. Figure 7 presents two more results obtained using TSM-30. First of they are related to space.



Rice. 7. Monitoring of a collapsing object.

Work with the space object “MIR station” was carried out using its image in the newspaper "Arguments and Facts". In Fig. 7 shows a record of changes in torsion contrast of the object during the beginning of its destruction at an altitude of about 80 kilometers from surface of the Earth. For young or incurious readers, we will have to remind you that at one time, during the heyday of our space technologies, in Earth orbit there was an inhabited and quite powerful station. I worked for more than one year until has exhausted the resource of its systems. Moreover, by the end of her existence on board some strange biosystems have developed, possibly of a mold nature, interfering with the operation of the station. It was decided to throw it into the ocean, while During the process of orbit descent, the thermodynamic destruction of the solar batteries of the station, and then the entire complex. From the entry in Fig. 7 shows that at 08.52 Moscow time its torsion contrast sharply decreased by 3.5 points scale used, which, upon further analysis, coincided with real events according to the published chronology of the station's descent.

Second interesting result. In Fig. 8 Readers are invited to record time base (monitoring) of some spatial structure (water molecules in liquid water)! I emphasize that in this experiment with substance was the first to obtain a measurement transformation of molecular structure of this substance into the time structure of the instrumental record without physical contact of the test substance with TSM-030. This is the torsion bar chromatography was also used to analyze more complex chloride molecules. On records, the extreme peaks apparently correspond to hydrogen, and the central peak oxygen in a water molecule.

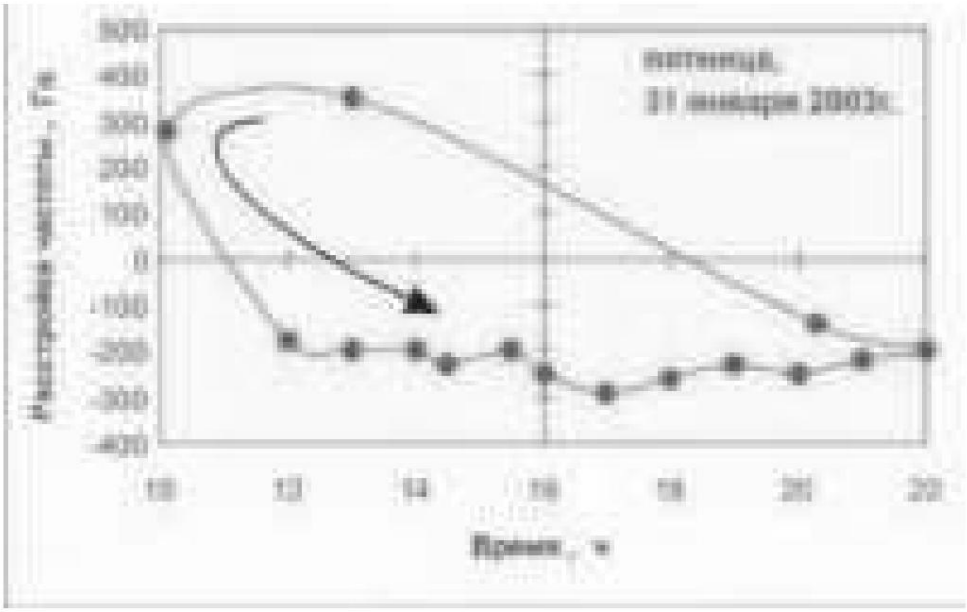


Rice. 8. Time development of a chemical compound.

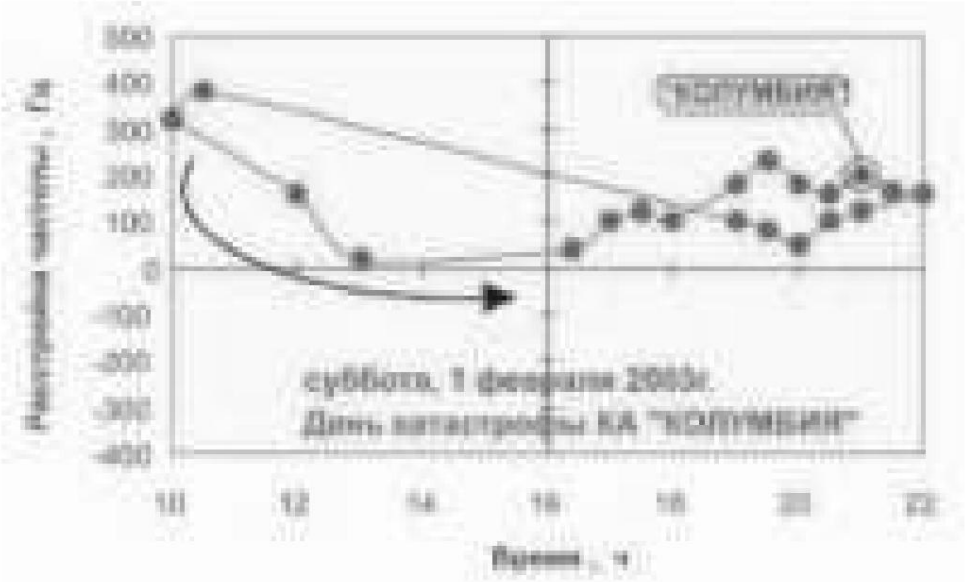
There is another measuring tool called SADAF-08LC. He has one tungsten-based sensor and two laser probes for two objects, switchable alternately. The change in tungsten resistance is converted to change in frequency, and then everything follows the TSM-030 ideology, highlighting the difference readings and data transfer to a computer. The appearance of the device is shown in Fig. 9.

Rice. 9. Torsimeter SADAF-008LC.

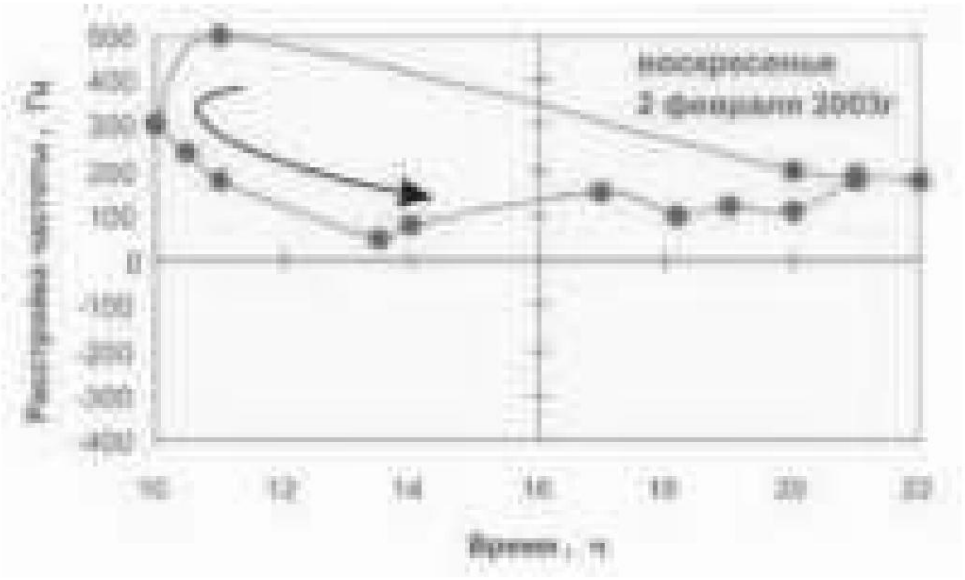
When preparing the system for converting the torsion signal into electrical An artifact was accidentally recorded that coincides in time with the fact of death American shuttle Columbia. In Fig. 10a, 10b, 10c, 10d shows the group recordings of changes in an unknown signal in phase portrait format.



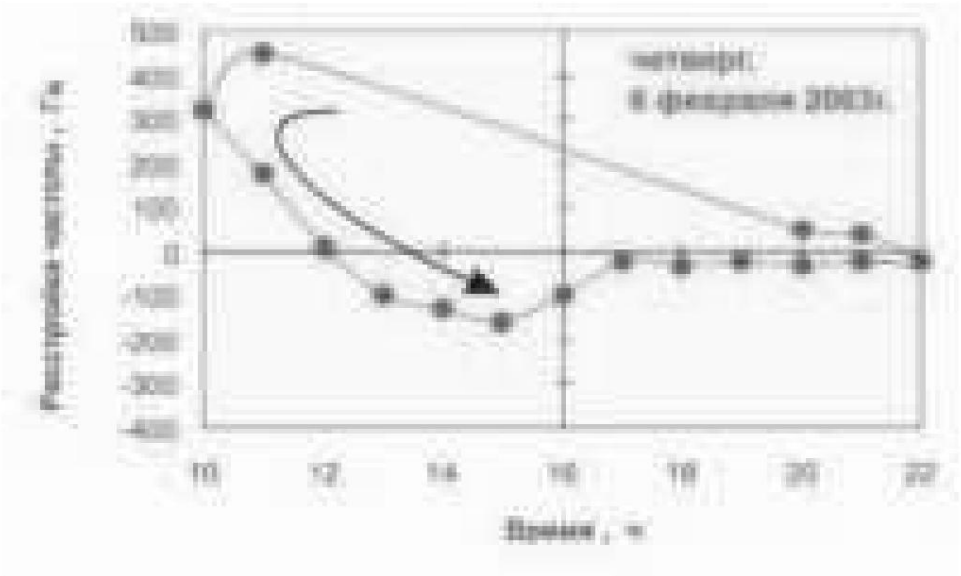
Rice. 10a. Torsion phase portrait of an X-object.



Rice. 10b. Torsion phase portrait of an X-object.



Rice. 10th century Torsion phase portrait of an X-object.



Rice. 10g. Torsion phase portrait of an X-object.

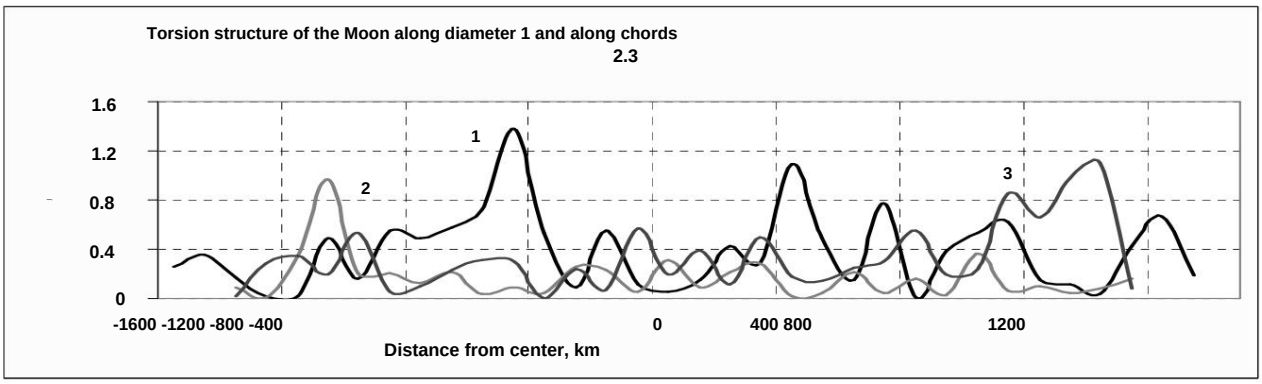
These figures show the results of monitoring the general torsion situation at the location of the sensor (X-object, Tomsk, Akademgorodok) selectively by days: Friday, Saturday, Sunday and Thursday. On Saturday there was an accident with shuttle During the recording process this Saturday it was still possible at 16:00 local time, i.e. before the event, to assume something is wrong in the future. But in general, with it can be assumed that there is a sufficient probability that the general The planetary change in the torsion environment affected the readings of the device. It can be seen that the biophysical complex of the Earth has been relaxing from shocks for quite a long time, almost a week.

The SADAF-08LC device also carried out monitoring of the space region around some bodies of simple shape: a solid and hollow ball, glass lenses of different curvature, as well as areas of space near flat images. In Fig. Figure 11a shows one of these field records near the image of a convex-concave lenses. The characteristic vibrational repeats are clearly visible in this recording. simultaneously with some deformation of the profile, apparently due to the influence of the process of its measurement on the object.

Rice. 11a. Scanning a torsion-shaped field around an object image.

The capabilities of SADAF-08LC in general are quite large, in particular they received positive results on sounding the Moon in a similar way, with using its flat image. The work was carried out at three points aiming with a resolution of 50 km. The result is that the Moon is in the central parts have a reduced density. These results were published in [2] and given in Fig. 11b assembled. The control experiment was carried out with using a steel ball with a diameter of 30 mm as an object. Glubokoye

There is no dip in the middle of the recording.



Rice. 11b. Torsion structure of the Moon.

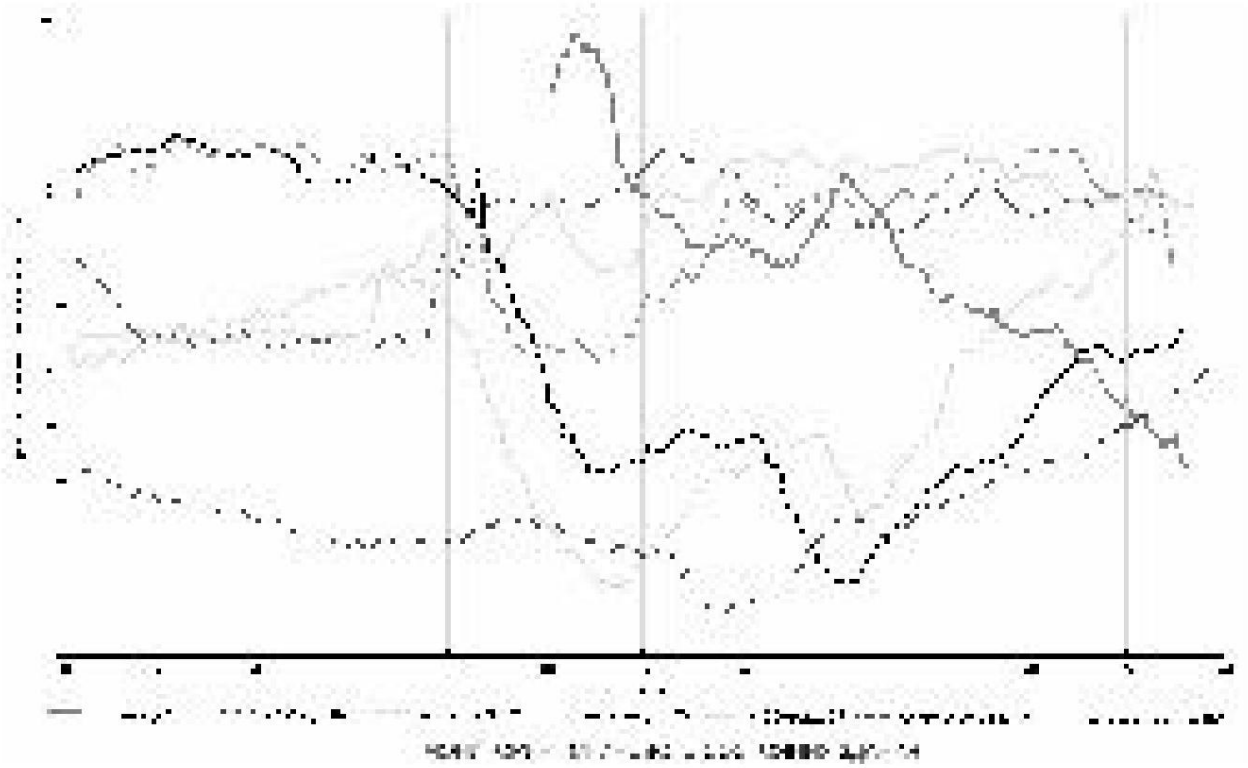
Currently, intensive work is being carried out on long-term temporary environmental monitoring using the new OREOL-001+ meter, Fig. 12.

Rice. 12. Torsimer OREOL-001++

This device has a built-in sensor on a CMOS chip, highly efficient sensor power supply and temperature stabilizers, AD system – conversions for connection with PC, application program.

Oreol001+ has already received a number of automatic monitoring results: weekly scans of the spin environment of the laboratory building metallurgy SKhK, monitoring of the body by its image, monitoring earthquakes with the receipt of an information precursor some time before real event (from 10 to 30 hours), etc.

In Fig. 13 shows the results of the spin reaction of the laboratory to the arrival employees to work. It can be seen that on weekdays the curves of spin changes state of the LM SKhK laboratory, starting at approximately 9 o'clock local time "fall" down, towards a decrease in information entropy, which It's clear: the staff came to do the job.



Rice. 13. Torsion monitoring of the laboratory building.

On weekends this effect is insignificant, but on weekdays it varies.
depth. Unfortunately, both Mondays have incomplete records, this is due to
rebooting your computer these days. In Fig. 14 shows one of the results for
monitoring the earthquake in Italy on 04/06/09, which physically occurred at 05.32
Moscow time (08.32 Tomsk). Copy dot format low
resolution, unfortunately, poorly conveys the fine structure of event recording.

In Fig. 14, the abscissa axis shows time in points, with each small division
scale is equal to 10000 sec. (2,777 hours). The main event occurred in the vicinity
marked with a red square and was preceded by an information signal marked with
a red rectangle. It precedes the main event by almost
30 hours. In this experiment, the structure of the precursor was not developed in
detail, as was done in other records, for example, for the earthquake in Sumatra on
04/16/09 or in Haiti on 04/21/09. It turns out that these harbingers are extremely complex.
structure that appears to contain encoded information about
upcoming troubles for people. If it were possible to decode such predecessor
messages, this would bring considerable benefit to the service
warnings of unpleasant events. Continuing the topic, see also Fig. 15 (Harbinger
04/19/09, approximately 18.40 Tomsk time).

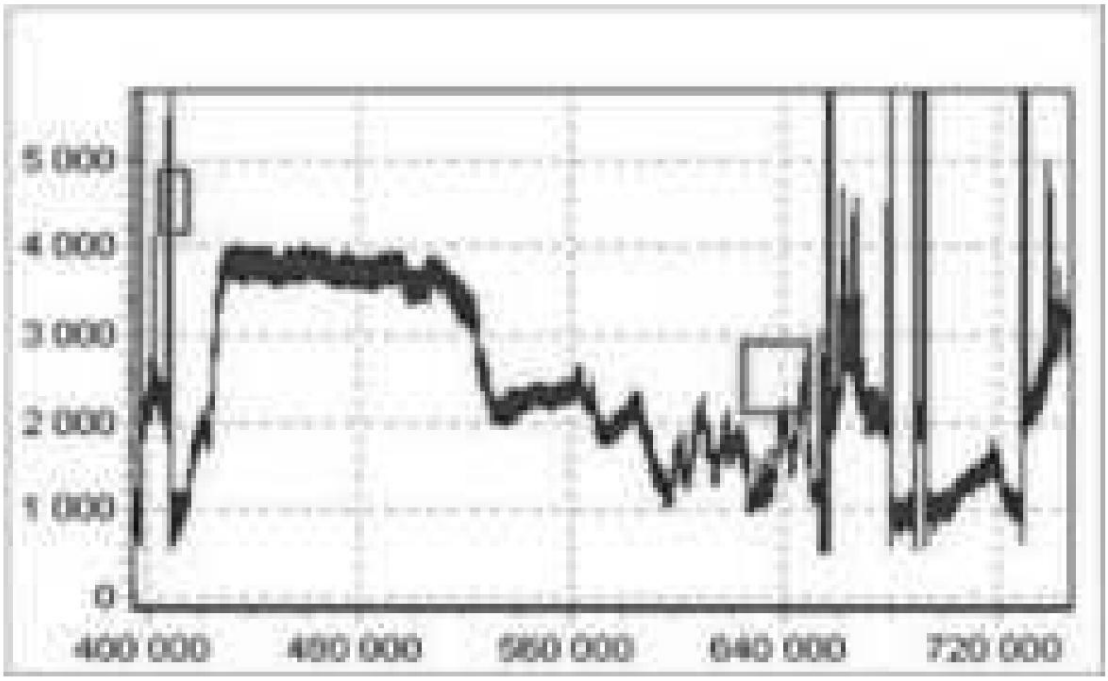
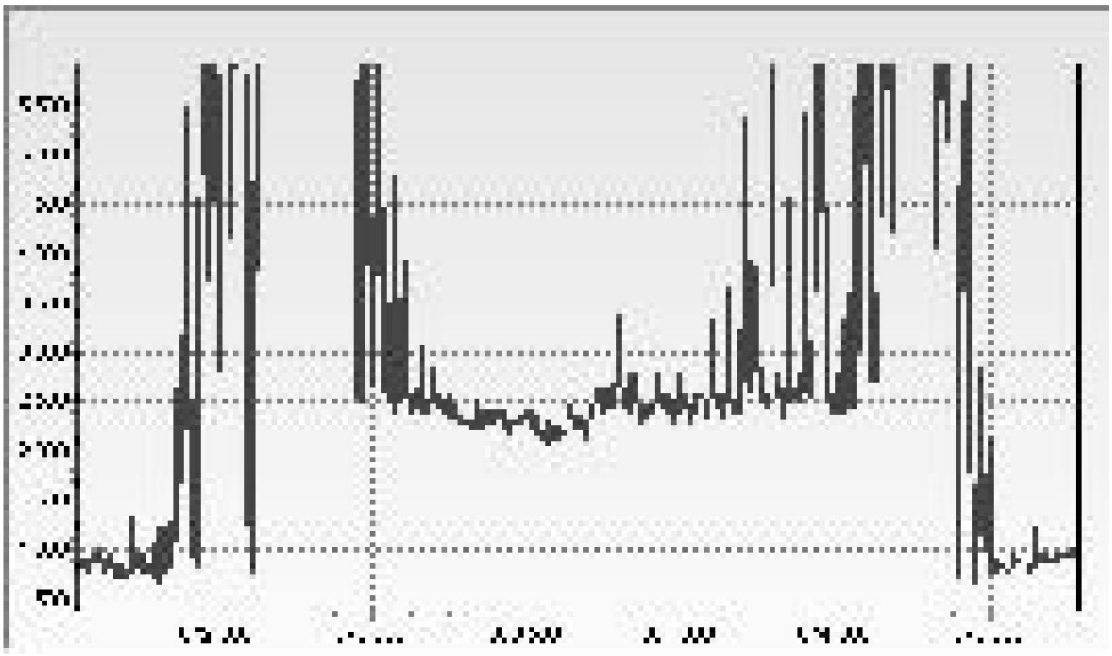


Fig. 14. Monitoring the precursor and the earthquake itself.



Rice. 15. Torsion harbinger of an earthquake.

Information, a graph of which in BMP format with better resolution is shown on rice. 15, is proposed to be considered a harbinger of some future event (possibly a subsequent earthquake in Haiti on 04/21/09, magnitude 6.5 on the Richter scale). This information was received by the OREOL-001+ complex on April 19, 2009 from an unknown source. The transmission lasted about 23 minutes, with resolution one element per second.

Conclusions on the stated scope of work and their results

1. Monitoring: temporal and spatial, living and inanimate objects, with the use of fine-field technologies and corresponding equipment does not only possible, but also very real.
2. The fundamental possibilities of such monitoring seem to be very significant, both in terms of penetrating ability and distance (to the Moon and further), and by spatial resolution (down to the molecular and deeper levels). 3. These developments possibilities directly from connected wnth ultra-highly sensitive measuring equipment, a number of solutions challenging experimental and engineering problems. Further this aspect of the work will intensify. 4. The document outlines only individual results of fan, trial, initiative work on fine-field scanning technologies. They obtained using exclusive instruments and methods developed a limited group of new wave search scientists and engineers, without serious support for design bureaus and industry. That's why The price indicator for such developments is still quite high. At As work progresses into a series, the price must inevitably decrease.

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Additional explanations for using the method torsion phase portrait (TPP) in fine-field diagnostics of various objects

Shkatov V.T.

For about nine years now, the author and his like-minded people have been using the method torsion phase portrait (TPP) for remote fine-field diagnostics objects of living and “inanimate” nature according to any image of these objects. Almost Each serial experiment of this plan is briefly described and published in from small-circulation Materials various conferences By publications energy information interactions, most often conferences organized P.I. Goskov. Unfortunately, he passed away about a year ago.

Publication of works in publications of this level, along with advantages (lax formatting, speed of execution), has a significant drawback: small accessibility for the general reader, even those knowledgeable in this difficult area. Within this text, it is also not possible to rewrite everything that we have done according to using TFP, you will have to limit yourself to some links and graphic illustration.

Let us briefly list the stages of the path to creating the DFT method:

a) on the TSM-021 torque meter developed and implemented in 1998 (to him preceded by a “black” prototype - torque meter TSM-02) were first successfully measured torsion contrast (TC) values of some flat images and three-dimensional objects, including substances;

b) when measuring the TC of a number of substances (sedimentary composites from several lakes in Siberia and Kazakhstan) it was noticed that the value of their TC significantly depends on time days. Measurements of each of the substances over several days definitely pointed out the cyclical nature of this dependence. It was decided to build daily dependences of the TC of these and other objects as a function of cyclic time, namely in the chain 10-12-14-16-18-20-22-24-02-04-06-08-10 local hours, or other standard time. At the same time, the graph gives special priority to time points 10, 16, 22 and, if necessary, 04 (night). TC values in the first three mandatory times (10, 16 and 22 hours), i.e. in direct motion, rarely lie on a straight line and most often form an angle not equal to 2ÿ. Closing this the angle is reversed in the form of a straight line through the moments of 22 and 10 o'clock, we get the simplest figure - a triangle. This triangle is located on coordinate grid: along the abscissa axis at the bottom - forward stroke times 10, 16, 22, along the same axis above at reverse stroke times 22, 04, 10; along the ordinate – TC values in appropriate units. Educated in appearance the closed configuration resembles a simplified Lissajous figure. Quite it is permissible to call it torsion phase portrait (TPP) [1]. This kind

representation TK = f(t) is appropriate for quasi-harmonic changing values when there is no significant difference between periods;

c) a torsion phase portrait made in this way is minimal approximation to the true, rounded phase portrait. However This simplification facilitates subsequent calculations of the DFT parameters. Triangle together with the coordinate grid on which it is located, has four relative to the independent parameters: the slope of the night line – F, the area – S, the displacement of the center at the moment of 16 o'clock – C, the direction of the contour bypass – D. The sig parameters are chosen as follows: F - positive at negative angles, i.e. at turn clockwise; S - always positive; C - positive up and negative down; D - positive when bypassing the TPP circuit counterclockwise arrows and negative when going backwards. Of course, when determining FSCD parameters, it is necessary to take into account the scale factors along the coordinate axes.

d) you can work autonomously with the obtained F, S, C, D parameters, as is done by the author when monitoring a dying organism. However, in some cases when simultaneous registration of DFT parameters for several objects and their When presented in one picture, the picture turns out to be difficult to read. That's why it is advisable to learn how to combine individual F, S, C, D components of DFT into a certain combined cluster parameter ÿ, using some simple formula. After a series of searches, the author settled on the following dependence: Ã=F*S+k*C*D. It contains the sum of two products, in which the parameters F, S and C may not simultaneously cross zero. Quantum parameter D by definition cannot be equal to zero. The coefficient "k" must have dimension that equalizes the dimensions of the terms.

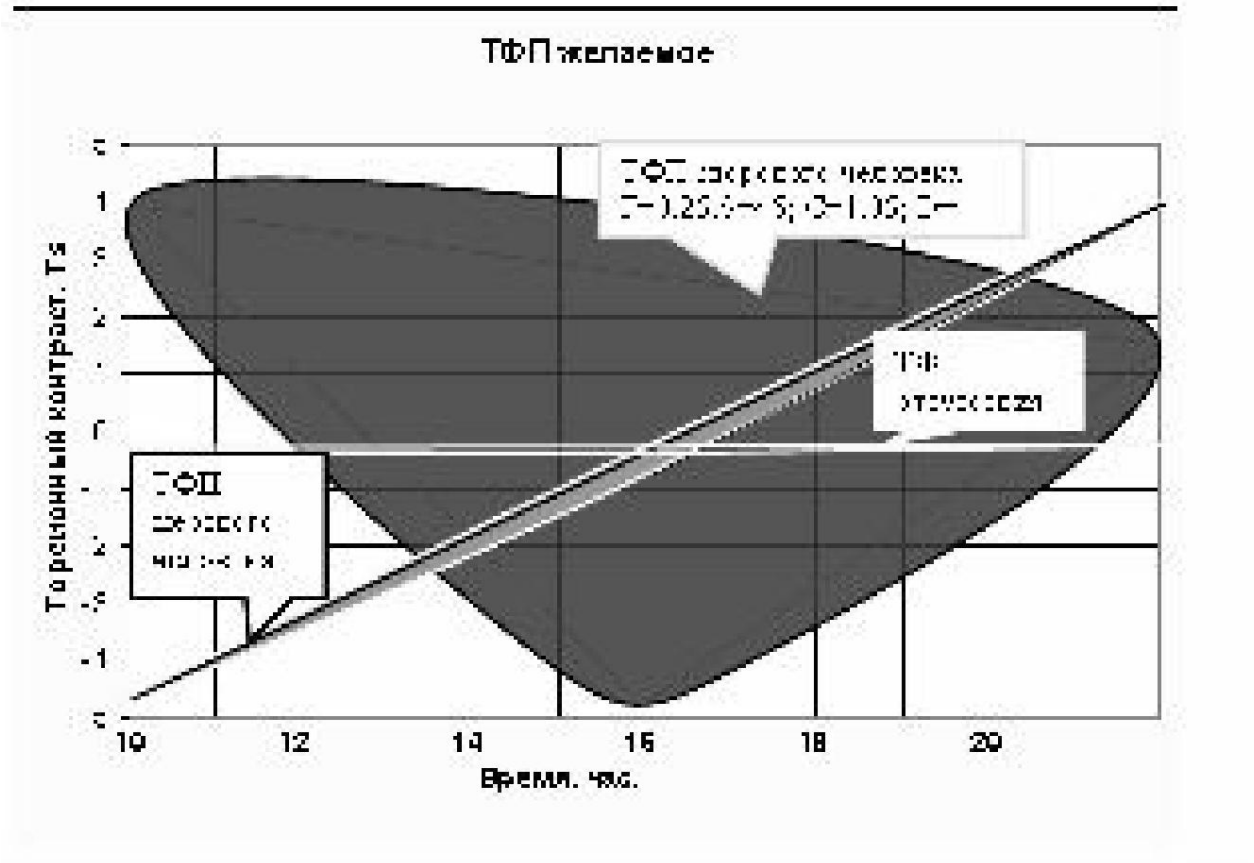
By the way, about dimensions. Since time is plotted on the abscissa axis of the TFP, and ordinate axes of the TC - in arbitrary and dimensionless or special units, then There are two options for the dimension "k" and its numerical value:

- In the version of arbitrary TC units, the first term has no dimension, since the parameter F is equal to the tangent of the slope of the night line of the TFP and dimension [1/t], and parameter S is equal to the area of the TFP and dimension [t]. Second the term is also dimensionless, since [C] = [TK], and the D-dimension parameter is not It has. In this option, the coefficient "k" does not need to be non-zero dimension and its numerical value can be chosen based on considerations scale of interaction of terms. Therefore, in this case the Ã-dimensionless parameter.

- In the version of special units TK, the first term must have dimension [1/t²], since the dimension of the TC in this case is [1/t], work [2] in list of references. So that the dimension of the second term is identical dimension of the first, the dimension of the coefficient "k" should be [1/t]. It turns out to be more complex and cumbersome, but in return there is a physical the meaning of cluster Ã is angular acceleration. Not such a weak conclusion for understanding the essence of torsion interactions! True, now we need understand the physical meaning of the coefficient "k".

Over the past years, using the DFT method, fine-field features of several hundreds of people from their chemical and electronic photographs, including several dozens of lost or dead. To this should be added a few specimens of animals, variants of technical devices and substances (solid and liquid) [3].

In general, the DFT method and its extensions are continuously developing both in the instrumental and and methodological aspects. It is planned to develop an automated software and hardware complex for unmanned periodic measurements of TPP (a kind of TFP - object monitoring) followed by transition to "TFP - tube". IN In conclusion, the author offers readers a stylized sample of TFP.



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Study of concentrated heavy hydrogen water torsimetry methods

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Using modern structure-sensitive torsimetry methods
The informational features of heavy water have been studied. Results were obtained indicating the different nature of information and energy exchange heavy and ordinary water with the surrounding world. Availability established information interaction between two modifications of water. Can draw a preliminary conclusion about the participation of molecular entities in mechanisms of the studied interaction and assume that the heavy What hydrogen component of water in the composition of ordinary water in a certain way affects its properties.

Most physicochemical and biological processes on Earth are determined by the anomalous nature of such thermodynamic constants as specific heat capacity and the heat of vaporization of water, the latent heat of melting of ice. Water from the ancients times was considered the primary source of life not by chance - the existence of life on planet is possible due to anomalous boiling point values and freezing of water.

Water is changeable and fickle, which manifests itself in frequent changes in values indicators characterizing its properties. According to many researchers, this the reaction is explained by the high sensitivity of the aquatic environment to influences on her factors. Water and aquatic systems are extremely sensitive to signals weak intensity and change under their influence, remember these signals and retain their properties long after such an impulse impact. The reason for the unusual properties lies in the structure of water molecules and structural features of the aquatic environment.

The area of weak (in modern terminology of information-energy) interactions includes a number of modern ideas about some properties and structural features of various water modifications that cause biological effects. For the first time, the problem of the role of weak interactions in behavior of water systems was formulated in 1929 by A.L. Chizhevsky when substantiation of the mechanism of influence of solar activity on biological and hydrochemical processes. He linked the impact of cosmic factors on biological and hydrochemical systems with changes in water structure without changes in its chemical composition, and emphasized that this requires very small amount of energy [1].

Since then, almost all existing physical and chemical research methods have been used to analyze the supramolecular organization of the aquatic environment (x-ray diffraction, NMR and IR spectrometry, mass spectrometry of (H2O)n vapors **in vacuum, laser vibration-rotational tunneling spectroscopy (VRT) in the far-field IR region, proton magnetic resonance, Raman spectroscopy, refractometry, etc.). It turned out that the general formula H2O is valid only for water in a vapor state. In the temperature range between reference points (0 – 100°C), the concentration of monomers does not exceed 1%. The polarity of water molecules and the presence of partially uncompensated charges in them gives rise to a tendency to group molecules in varying degrees of complexity and associate spatial structure. The primary reason for the formation of such enlarged "communities" of molecules is hydrogen bonding. The four hydrogen bonds of a water molecule are directed approximately to the vertices of a regular tetrahedron. A three-dimensional network of hydrogen bonds, built from tetrahedra, exists in both the solid and liquid phases of water throughout the entire range - from the melting point to the critical temperature of +3.98°C [2].**

Modeling of water systems has been carried out for decades. However, there is still no generally accepted picture of the structure and dynamics of water systems. Modern science knows several models that can explain many of the anomalous properties of water. Some properties are determined by the number of associations of molecules of monomers, dimers and trimers present in water at different temperatures. Another idea about the structure of water is the cluster model of "shimmering clusters": tetrahedrally connected water molecules form swarms of fairly stable composition, the space between which is filled with monomeric water molecules [2].

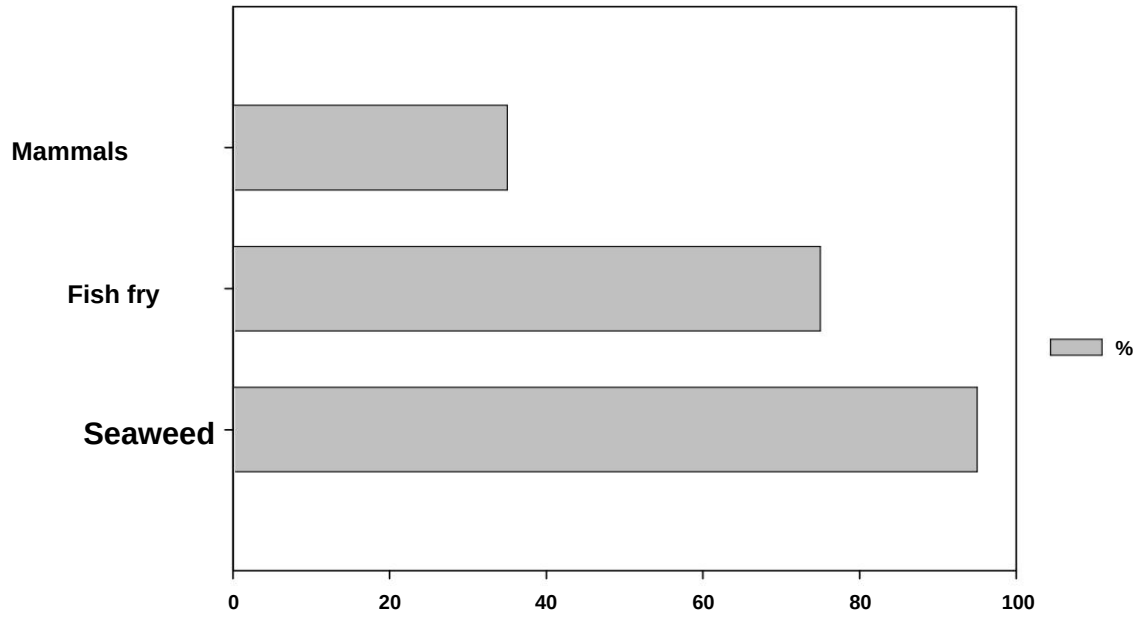
Until recently, the lifetime of cluster formations was estimated at about 10-16 s, which excluded the important organizing role of water in biological processes. Nowadays, in the literature devoted to quantum chemistry, there are more and more reports about the presence in liquid water of a wide variety of stable structures, up to bulk architectural molecules - fullerene and nanotubes. Calculations have confirmed that a short-lived associate of 5 water molecules, combining with the same short-lived associate, forms a structure whose lifetime is 10-14 s. The model of a stable associate of 57 water molecules was obtained as a result of theoretical and experimental studies using physicochemical methods of refractometry, high-performance liquid chromatography and proton magnetic resonance. Theoretical calculations show the possibility of the existence of a special associate of water molecules - a "crystal", consisting of 912 molecules, the lifetime of which is minutes and even hours. Studying the geometry of crystal elements reveals the presence of larger formations in the water structure - cells with so-called information panels. Each of the 44,000 panels of the cell has an individual structure and, like a receptor in a living cell, responds to a specific external influence. The interaction of the panels with each other leads the water to a certain new state [2 – 4].

Thus, water is not a simple object, not only from the point of view of its geometric and spatial features. She represents

hierarchically organized environment and has a certain behavior. In some
In a sense, we can talk about water as a united space - time. The geometry of the water
is constantly changing. Openness to external factors and external
influences brings water closer to biological objects of a higher level
organizations. Intermolecular interactions in living organisms
are carried out not in an abstract huge sum of molecules, but in a subtle
structured substance, therefore we can recognize the most important role of water in
intracellular processes and what happens in any organism. Water, quite possibly, is
the main receptor, the main resonator medium
changes occurring in the external environment [5].

Numerous works have been published containing data on the beneficial
the influence of various activating agents on changes in the properties of water and internal
aqueous environment of the body [5 – 9]. Some possible mechanisms have been identified
formation of clathrates under the influence of the operator [10] and obtained
experimental facts of distant interactions of biological objects with
aqueous solutions of their liquid components [11]. It has been established that the medicinal properties
water is determined by the structures of associations of its molecules.

The opposite, often irreversible effect of influence is also known
heavy hydrogen modification of water on the functional state of biological
objects. Getting into living organisms, such water causes inhibition of cell growth,
mutations, accelerated aging, many diseases, and in large doses causes them
death. The limits of substitution of protium by deuterium in water that are compatible with life are shown in
Figure 1 [8].



Rice. 1. Permissible limits for the substitution of protium with deuterium

Heavy water D2 16O is an isotopic variety of water, in the molecule of which
hydrogen atoms are replaced by deuterium atoms. The density of this water is 1.104 g/cm³ at
25ÿC, melting point 3.813ÿC, boiling point 101.43ÿC, ratio in

natural waters H2O/D2O about 6800/1. Heavy water is commonly used in nuclear power plants as a neutron moderator and coolant, as well as an isotope indicator when studying the mechanisms of chemical and biological processes [12]. From the source [13] other 8 isotopic varieties of water found in natural water on average in the ratios (molar %): 99.73 H2 16O; 0.04 H2 17O; 0.20 H2 18O; 0.03 HD16O, as well as 10-5 – 10-15% (total) HD17O, HD18O, D2 17O, D2 18O.

The proportion of heavy components in natural waters is relatively small - ~ 0.27 molar % in general, therefore the presence of heavy fractions does not lead to significant changes in the physical constants of natural waters. It makes it difficult study of the influence of heavy components on water in general by physical and physical and chemical methods. Pronounced destructive influence of severe water fractions on biological structures can be explained by a finer organization of the latter. For this reason, it is of interest to study heavy components of water using structure-sensitive hardware methods, for example, chromatographic, spectrometric, etc.

In recent years, new opportunities have emerged for studying the structure of matter. torsimetry methods [14], aimed mainly at identifying informational features of this substance. A special place in such approaches belongs to the torsion phase portrait (TPP) method, which allows realize the energy contactlessness of the means and object of measurement when extreme information contact [15].

The methods specified in [14–17] were used to measure the structural features of various varieties of water from the perspective of variations in information characteristics that are practically inaccessible for study by known physical and chemical methods and equipment due to their insufficient sensitivity to information component of the substance. In this work, torsimetry methods [14, 15] were used to study characteristics of heavy hydrogen water D2 16O. In this case, a non-serial instrument TSM-021, specially designed for measuring structural-dynamic (thin) fields using the DFT method [15].

The purpose of the work is to diagnose concentrated heavy water using torsimetry and identifying its information difference from water with low content of heavy fractions.

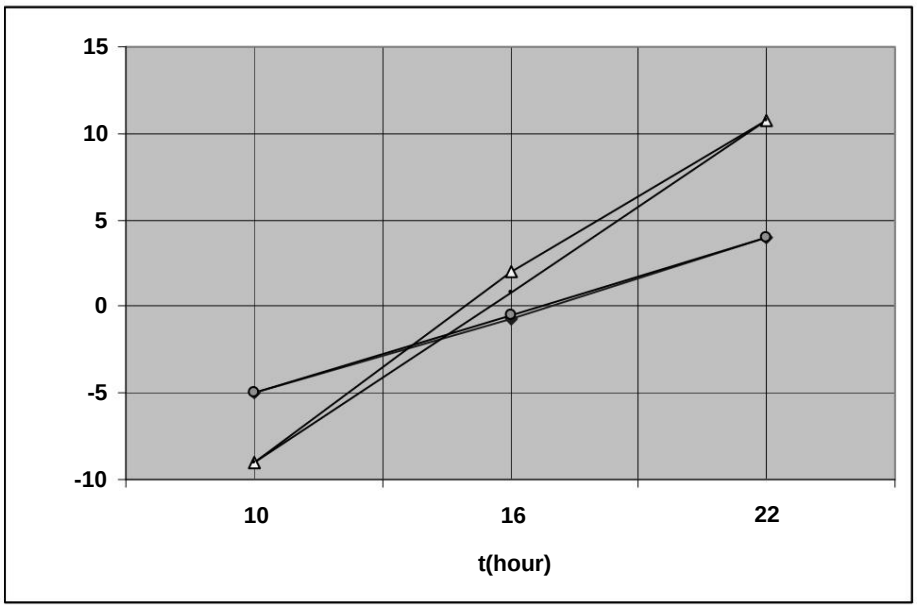
Fresh distilled water was chosen as the object of comparison. Previously studies have shown that it is practically structureless and can serve as a “matrix” for subsequent information filling [2, 18].

The measurements were carried out in two versions:

1) heavy water (HW) and distilled water (DV) in a colorless glass container volume 10 ml in relation to the information zero of the device; 2) TV in the same container compared to DV with the possible presence of information connections between them.

The information zero of the device is achieved by including in its composition electrically controlled torsion valve of a special design (KNOW-HOW).

The result for the first option (minus the characteristics of the container) is presented in Figure 2. To quantify the difference between heavy and distilled TPP water it is convenient to use the FSCD parameter system and its modification in combined parameter Ã [18]. From the table below Figure 2 it can be seen that D2 16O TPP differs markedly from TPP in most FSCD characteristics distilled water H2 16O. We especially note the opposite direction bypassing TPP cycles, indicating the different nature of the information and energy exchange of heavy and ordinary water with the outside world. The slope of the cycles varies significantly; for heavy water it is more than double exceeds that for H2 16O. The centering of cycles has a different sign, respectively +1.26 for D2 16O and –0.57 for H2 16O. These objects differ especially strongly in the value of parameter Ã is, respectively, –26.0 for D2 16O and –7.7 for H2 16O.



		CD Ã	
F -0.75	S 1.2	-0.57 +	-7.7

F		CD Ã 1.26 –		
S -1.65	6.6	-26.0		

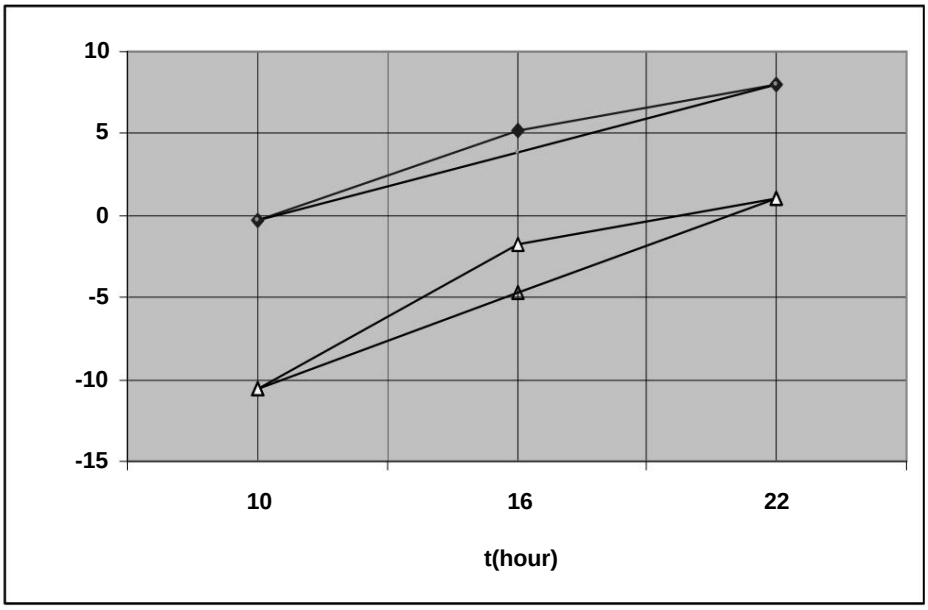
Rice. 2. Torsion phase portraits of heavy and distilled water in relation to to the information zero of the device: ÿ – heavy water; • – distilled water as an object of comparison.

The result for the second option (minus the characteristics of the container) is presented in Figure 3. From the table below Figure 3 and the figure itself it is clear significant imbalance of the TPP of both types of water, primarily in terms of alignment indicator C (system of FSCD-parameters of TFP). TFP DV rises to positive half-plane of the coordinate system TK – tcycle. , and the TV TFP, on the contrary, descends into the negative half-plane of the same coordinate system with inverting the alignment signs in relation to option 1. Simultaneously with this changes the direction of bypass of the TFP DV to the opposite bypass, and

The areas of both cycles increase. This just indicates the presence information interaction between TV and DV in option 2. From the analysis of parameters Ã according to For both options, it turns out that for DV the characteristic Ã in the direction from option 1 to option 2 increases significantly (–57.7 compared to –7.7, respectively), while for TV this same characteristic changes sign (–26.0 and +27.5 respectively).

If we assume that the parameter Ã corresponds to the level of structural organization living and nonliving systems (their entropy) [19], then you should get an approximate equality of the sum of entropy indicators of substances before and after interaction. Summing up the parameters Ã for both measurement options, we obtain the following results:

- for the isolated version ÃH2O + ÃD2O = ÿÃ1 = – 33.7; - for the variant with the interaction Ã'H2O + Ã'D2O = ÿÃ2 = – 30.2.



F	S	CD Ã '	
-0.69	8.25	4.33 –	-57.7

F	S	CD Ã '	
-0.98	18.0	-3.75 –	27.5

Rice. 3. Torsion phase portraits of heavy and distilled water at their information interaction: ÿ – heavy water; • – distilled water.

The results obtained are in satisfactory agreement with declared assumption. In general, the availability of information interactions between the varieties of water we studied, taking into account the results of numerous studies of the structural phenomenon in ordinary water suggests the presence of the same phenomenon in the heavy hydrogen fraction.

conclusions

1. Torsimetry methods show the informational features of heavy water in comparison with ordinary distilled water. Heavy water the results of independent measurements of both types of water significantly differs from distilled water in the direction of greater diamagneticity. 2. The same methods show the information features of both varieties of water in the version with their interaction. Got an interesting one a result indicating antagonistic contradictions between these varieties. 3. A preliminary conclusion can be made about the participation of molecular formations in the mechanisms of the studied interaction and assume that heavy hydrogen component of water in the composition of ordinary water influences its properties in a way, which is reflected in the processes in living and nonliving systems.

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On the issue of assessing the content of information in photographs from using various non-living systems

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In recent years, the study of information interactions (impacts), information transfer mechanisms between objects in living and inanimate nature, the development of methods and apparatus for assessing the content of information located (inside and outside) objects. One of the important tasks in this direction is to further study the possibility to evaluate (study) the information impact (information content) of an object not only directly, but also from his photograph. Positive results in in this direction were obtained using devices for studying the “fine-field” properties of objects and the connections between them - torsimers [1, 2, etc.]. However When working with these devices, significant difficulties may arise in in particular, when studies are repeated many times.

The purpose of the work is to further study the possibilities of assessing the direction and information content of various objects using a torsimer Egypt and "drying drop" method.

Material and methods

The study used glass balls (60 mm in diameter), a pyramid and its photographs printed on a color printer, as well as images of a triangle, circle and color photographs of various three-dimensional objects, the components of which contained triangles and round shapes.

As one of the methods for recording the content of real information objects and in their photographs we used the “Egypt” torsion meter. Each object were measured at least 7 times, and the obtained values were averaged.

The second physicochemical method used in the work was determining the number of crystals of regular shape formed on a glass slide after a drop of fresh sea water has dried on it Adriatic Sea or salt solutions (drying drop method). For At least 6 dried drops of solution were used to analyze each object.

In the control, the slides were mounted on white paper, and in the experiments - on real objects or their images printed on a color printer size 40x40 mm. After the drop dried, the crystals on the glasses were photographed OLIMPUS camera (6 megapixel in super macro mode). Received images processed using the CorelDRAW 11 program.

Results and discussion

In the first series of experiments, the effect of a glass ball on crystal formation in a drying drop. In table 1 shows data on number of crystals of regular shape (in a dried drop) on glasses removed at different distances from the ball.

It turned out that the number of crystals of the correct shape in a dried drop varies depending on the distance from the ball. So, in a drop located on at a distance of 10 mm from the ball, the number of crystals was slightly greater than in the control. When the drop was removed from the ball at a distance of 35 mm, the number of crystals in it dec in relation to the previous result by 18% (P<0.05).

Table 1. The effect of a glass ball on the number of crystals in a drying drop. Distance from the ball

Control	10	(mm) 35	60
10.9±2.6	13.1± 0.8	10.8+0.8	11.4±0.8
12	2	P2.3<0.05 3	5

In the second series of experiments, the influence of images of a circle and a triangle was studied on crystal formation in a drying drop (Table 2). In a drying drop on on a glass slide placed above the image of a triangle, the amount there were fewer crystals compared to the control (by 46%) and compared to image of a circle (by 44%).

Table 2. The influence of the image of a circle and a triangle on the number of crystals i drying drop.

Control 1 13	Triangle 7+0.9	Circle
+1.8	–	12.6±1.7
P1.2<0.01		ÿ2.3<0.05
1	2	3

In the third series of experiments, the correlation of changes in parameter values obtained using the physicochemical method and the Egypt torsimer was assessed. Slides with drying drops were placed above the images circle, triangle, and photographs of 3 volumetric objects. These same objects measured using the laser channel of a torsion meter. It turned out that the resulting using two different methods, the values were correlated with each other (r=0.92; P<0.05).

Thus, based on the results obtained and data carried out earlier research [3, etc.], we can conclude that the “Egypt” torsimer and the method "drying drops" of a solution can be used to estimate the content information about various objects both directly and from their images.

The results of this work also confirm our previously formulated provisions that information is non-energy (in the traditional sense

of this word) substance (impact), reflecting the composition and properties of any object (substances and fields, organisms). In relation to material objects information appears to be both inside and outside the material object him at an indefinitely large distance. This is confirmed by the above results of experiments with a ball and other objects.

Information about an object can be presented (recorded, encoded) on carrier. In this work it was presented in photographs of various research objects.

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Information system of water and physical space as basis of energy information concepts

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Currently, two main information systems or two are known information-phase states of matter that determine the emergence and existence of earthly intelligent beings. This is the aquatic environment - the basis for the flow any life processes, both physiological and intellectual, and the electromagnetic vacuum is the environment for the existence of the particles from which they are composed objects known to human knowledge.

The mutually determining influence of these systems allows us to make the statement that information changes in the electromagnetic vacuum directly are interconnected with information changes in the aquatic environment of living organisms.

Consequently, the mutual flow of information and methods of their registration due to the characteristics of these two systems, i.e. space - physical vacuum chose among the terrestrial systems the environment that was optimally suited in its own way structured state corresponding to the structure of the electromagnetic vacuum.

Aggregate consideration of the information interaction of these systems forms the basis of the information system of life.

The message covers a complete picture of the structural state aquatic environment, its specificity, which determines the nature of the objectively existing information system, about the presence of properties inherent in any objective existing information systems, about the mechanism of interaction with the closest structural level information systems, primarily with electromagnetic environment of physical space.

Data are provided on the use of universal energy information analyzer on water sensors as evidence of objective prerequisites availability of an information system of physical space. Role being considered a new idea about the information properties of space in interpretation chemical, biochemical and physiological processes. Justified the idea of a unified global information field.

It has been shown that any bioenergetic manifestations of living systems and actions energy information devices can be described using data representations.

A look at characteristic torsion phenomenology

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Physics is an experimental science.

S. Ting (inscription on the wall of office** 4-59 **D.D. Ivanenko at the physics department of Moscow State University)

Statement of a question

Studying the criticism of the Akimov-Shipov torsion hypothesis, I became convinced that the majority critics do not know not only the experimental facts underlying this hypotheses, but also did not read the primary sources on this issue [1, 2, 3]. Many don't are considering this hypothesis seriously due to several rather bold statements its authors, although they cannot say anything essentially against its other provisions or the results of experiments known to them. The first type of critics, like as a rule, does not want to know any experimental facts that do not fit into textbooks. If we take into account the few constructive criticisms torsion hypothesis, it comes mainly from people familiar with the field anomalous physical experiments first-hand, and the authors of their own original hypotheses. Such criticism is usually caused by dissatisfaction with the fact that with one hypothesis (and an alien one at that) they want to explain everything that is unexplained at once, and lies mainly in the question: "Why exactly torsion fields, and not something other?" This article examines some of the modern anomalous phenomenology and represents an express attempt to find an answer to this, of course, justified question.

Concepts about torsion fields

Let us briefly list the properties that supporters of the Akimov-Shipov torsion hypothesis attribute to torsion fields:

1. Long-range action on quantum spin and macroscopic rotation. 2. Unescapable in the usual way. 3. Axial symmetry of torsion radiation sources. 4. The presence of left and right torsion fields. 5. Non-energetic, holographic and non-local nature of torsion radiation.
6. The speed of propagation is many orders of magnitude greater than the speed of light. 7. Accompanying electromagnetic fields.

8. Attraction of like and repulsion of unlike “torsion” charges."
9. Primary torsion fields as the basis of physical vacuum. 10. The quanta of the torsion field are neutrinos of ultra-low energies. 11.The presence of static (having a limited scope) and dynamic torsion radiation (which does not have its own nearby boundaries).
12.Generation of torsion fields by geometric shapes.

Such provisions as holographic nature, non-energetic nature influences, the presence of left and right field modalities, information transfer, high penetrating ability, are confirmed by many experimenters. In particular, the following phenomena are known:

- Targeted physical impact on objects through their photographs [4, 5].
- Reliable reading of additional (hidden) information from photographs [6, 7, 8, 9, 10].
- The paradoxical effect of torsion generators, as well as psychics on biological organisms, nonequilibrium physical and chemical processes, as well as the parameters of quantum random processes [11, 12, 13, 55, 56].
- High penetrating power of torsion generators and psychics [14, 15, 16].
- Transfer of information about matter through radiation from torsion generators [15, 17, 18].
- Non-local interaction between objects [11, 19, 20, 21, 22].
- Generation of highly penetrating non-electromagnetic components by lasers, LEDs, electronic equipment [23, 16, 24, 25, 26].

These effects have been identified by many researchers, and some of them are already working in technologies, despite their “anomaly”. But are there any significant reasons to say that torsion fields are “to blame” for these phenomena, i.e. fields torsion?

Phenomena characteristic of torsion fields

The main point that distinguishes the torsion hypothesis from the rest is binding to spin/rotation as a source of torsion fields. In my opinion, part the results of the experiments directly speak in favor of this position, some do not excludes such an explanation as quite probable. Let's consider these results and how they can, in principle, be explained by the spin-long-range action hypothesis.

1. Change in the crystal lattice of a frozen molten metal under the influence of torsion generators [17, 27]. The assumption that this is happening namely the remote influence on the spin subsystem of the emerging crystal lattice, together with the well-known Pauli exclusion principle, can indeed explain this effect from the point of view of the mechanism of action.

2. The influence of torsion generators on the kinetics of chemical reactions [28, 29]. Here the hypothetical mechanism is the same, in combination with a possible coherent state of matter during spin polarization. It is characteristic that this effect for there are more solids than liquids, and more liquids than gases.

3. Effects of rotating masses with pronounced axial symmetry impact. Experiments by the groups of Lunev, Melnik and Shnol [11, 30, 31, 32, 33, 34, 35] show that rotation affects radioactive decay and other physical processes. Evidence of a decrease in the radioactivity of the samples is also found in experiments with vortex installations in which they rotated at high speed solutions of radioactive salts [36, 37]. Mechanical phenomena of mutual influence rotating masses are described in [38].

4. Similar nuclear effects, but much more pronounced, appear under the action of devices that are typical torsion generators (generators of Krasnobryzhev, Kinderevich, Shakhparonov [20, 39, 40]), as well as a number experimental setups that, firstly, lead to transmutation chemical elements and a decrease in the radioactivity of isotopes, secondly, are based on a powerful electric discharge, and thirdly, they again contain elements structure of a torsion generator based on a cylindrical capacitor (installations of Urutskoev, Adamenko, Ivoilov[1] [41, 42, 43, 44, 45, 46]. See also [63].

It is characteristic that these installations from another field of research have the same effect. the most characteristic effect on biological objects as torsion generators Akimov (increasing the resistance of mammals to radiation sickness [47, 48, 49, 50]), and are also sources of “strange” highly penetrating radiation [51, 43, 44]. These effects can also be interpreted in favor of the torsion hypothesis: not It is excluded that it is through influencing the spin of the nucleus that one can in principle achieve changes in nuclear states up to inhibition/catalysis of nuclear reactions. This does not exclude the factor of collectivity of the nuclear processes occurring here in coherent states (see also the description of Parkhomov’s experiments with Karavaikin generator in [12], p. 44).

5. Impact of spin-polarized polymers on biological systems and IGA-1 meter. We are talking here about protective devices of the Forpost type [26], which are made on the basis of a polymer that has hardened under torsion radiation. generator These polymers are transparent to electromagnetic wave ranges, in which operate mobile phones and many other radio-electronic equipment, judging by test reports, are capable of providing protective exposure to pathogenic factors [52, 53]. Confidently say that the mechanism here it is spin-torsion, apparently, prematurely, although this hypothesis clearly claims to be plausible. Protocol of the France-Omsk experiment [54] with using IGA-1 as an indicator also indicates that such protection can be transmitted via a cellular communication channel, which in itself is extremely Interesting.

[1] The role of a cylindrical capacitor can also be performed by a double electrical layer during discharge in water, as well as in any electrolysis installations. See also [68].

6. The effect of weakening the impact of torsion generators and psychics on sensors using special spin-polarized screens [1, 55, 56]. Such materials (double polymer films with perpendicular vectors polarization) were used as torsion gates in generators designs by Deev and Akimov. Characteristically, these films are also transparent to ranges of electromagnetic frequencies used in the experiments. At parallel arrangement of polarization vectors, screening effect radiation from torsion generators disappears.

7. The effect of permanent magnets on biological objects, as well as on chemical ones processes in liquid media (so-called activation of water and fuel). Currently There is no generally accepted explanation for how a magnetic field can promote greater energy release during fuel combustion, change the occurrence of chemical reactions in water and change its biological activity, and also affect the growth of plants and the well-being of people. However, quite many designs so-called water and fuel activators are based specifically on using permanent magnets (just type “magnetic” in Yandex activator" to ensure that the quantity of products offered appears to be in demand). From the point of view of the torsion hypothesis, the magnetic field here is neither what, but instead the torsion field from spin ordering works electron shells of a ferromagnet. Here, however, experiments are necessary. to isolate the non-electromagnetic component of radiation from permanent magnets. Interesting in this regard is the reverse process - magnetization of non-magnetic materials and the appearance of anomalous magnetic zones and some thermodynamic effects from typically torsion installations [57, 58, 59].

8. Metastable Mössbauer effect. According to Akimov, under the influence torsion generators, the Mössbauer spectrum of Fe-II compounds and lecithin [60], and according to Tarasenko, this effect was independent reproduced on the initiative of the USSR State Committee for Science and Technology [61]. A similar effect was noticed Urutskoev and Ivoilov when studying the effect of an electric explosion in water on Fe57 foil , located next to the installation [62], and the effect turned out to be metastable - after a few days the shift in the spectrum disappears. Here you can make a cautious assumption that in these experiments one and the same effect of exposure to torsion radiation ("strange" radiation in terms of Urutskoev and Ivoilov) on the spin subsystem of atoms - effect metastability is another characteristic feature of torsion effects.

9. The spin-lattice NMR relaxation time changes significantly for solids and liquid samples of substances exposed to powerful torsion generators [21]. This is also direct evidence of the effect on the spin subsystem of matter.

It can be noted that confirmation of the characteristic distinctive features is There are many torsion fields. The same devices - electric torsion generators - have an effect similar to that of rotating masses, and at the same time

cause the whole spectrum of anomalous phenomenology, also inherent in actions psychics.

However, I did not find direct results for individual provisions of the torsion hypothesis. confirmation in the experimental works available to me. These include provisions on neutrinos as quanta of the torsion field, on superluminal speed transmission of a torsion signal, and the attraction/repulsion of torsion charges. The presence of a radiation pattern (and therefore the direction of radiation) various torsion generators, and at the same time non-local character some effects require separate careful study of the provisions on non-local nature of the torsion field (although with the addition of the considered hypotheses by the assumption of accompanying quantum nonlocal phenomena and in coherent states, this contradiction can be resolved, and at the same time an explanation appears for the metastability of torsion effects through the effect gradual decoherence with the environment). In this regard, see also [14].

Another group of provisions - about the non-energy nature of interaction, has obvious contradictions with some facts of impulse or torque transfer pulse through “strange” forms of radiation [64, 65]. Obviously, along with the spin-torsion interaction, there are other physical factors that are not covered by theories, and one hypothesis to explain the whole variety of known Anomalous facts are indeed impossible.

Also, I have not come across an explanation of the mechanism of how torsion bars fields are self-generated by geometric shapes (shape effect). However, I don't there have been other convincing explanations for this extremely interesting effect [66, 67].

conclusions

1. A number of experimental results indicate the reality of the phenomenon long-range action along the spin, which underlies the hypothesis of torsion fields Akimov-Shipov, and on the fruitfulness of this hypothesis in general.
2. A number of provisions of the torsion hypothesis require further development and experimental confirmation. 3. Some of the modern anomalous phenomenology is apparently not caused by torsion fields, and other factors that need to be highlighted and study.

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Hypothesis of highly penetrating fluxes of coherent Bose radiation*

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1. Introduction

The problem of strange influences of “ultra-weak radiation” on many processes now is experiencing an equally strange state. Use the term "torsion" and also attract other hypotheses of the “fifth interaction” in Russia highly prohibited in the late 90s, and traditional "electromagnetic" explanations often contradict experience too much. So in the heat of battle with pseudoscience has achieved a sad result - researchers under pressure out of fear, they began to lie too often, and what is saddest of all is to lie to themselves, closing eyes to the obvious discrepancies between the experimental results and what concepts are called upon to explain them. But fear and lies are bad traveling companions, especially in science, and the point here is not at all in terminology.

Meanwhile, what was discussed in the literature of the 90s as torsion phenomenology can be quite definitely separated from electromagnetic effects. The need to understand the accumulated experimental results and their correlation with the generally accepted scientific picture world, with a critical perception of the hypotheses put forward, and with the obligatory deepening research.

This article is an attempt at such understanding in a certain aspect: in it introduces a hypothesis with which the author wants to explain the most strange and at the same time time is perhaps the most interesting part of torsion phenomenology. This hypothesis is at the formulation stage; the reasoning given in the article is only outline a model of the phenomenon and are quite preliminary.

2. "Phantom" effect

There are several testimonies from experimenters working with torsion bars. generators of various designs, that for torsion radiation characteristic effect of the formation of the so-called. "phantoms" [1, 2, 31-34, 17, 18, 55]. After the torsion generator is turned off, and even removed to another place, the beam remains in the same place and continues to act on various physical processes. Some psychics can create phantoms that

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can be determined by dowsing methods, as well as using the IGA-1 device; researchers instrumentally observed phantoms from people in places of their permanent stay [10]. The same phantoms remain from activated water. Effect wave phantoms were also noticed in P.P. Garyaev's experiments with irradiation DNA preparations using a laser [11].

This effect is a characteristic feature of torsion radiation and can be used to separate torsion effects from electromagnetic ones. These phantoms remain in the same place in the laboratory coordinate system for some time (from minutes to several days until their registration disappears). IN experiments of P.P. Garyaev phantoms that were noticed by fluctuations light scattering disappeared when the chamber was purged with dry air and nitrogen, but after 5-10 minutes later they appeared again in the same place.

The effect of phantoms is highly paradoxical. A.E. Akimov and G.I. Shipov It is believed that this is how the polarization effect of the physical vacuum manifests itself. However, with this explanation, a problem arises with the principle of relativity: the phantom is at rest relative to some frame of reference, but the vacuum itself does not has a dedicated reference system. The frame of reference in which the phantom is at rest is not is inertial: the Earth rotates around its axis, moves in orbit around the Sun, etc.

The question arises - regarding what does the phantom remain motionless? The fact that the phantom remains in the same place when both the torsion generator and environment (for example, when experimenters move), forces assume that the "binding" of the phantom is not to the immediate environment, but directly to geographic coordinates.

The effect of phantoms should be distinguished from the effect of metastability in some environment. In the latter case, under the influence of torsion radiation, the physical properties of the substance, and they remain so for some time after the effect is removed. In this case, the changed properties of the substance are naturally localized in that body on which the influence was carried out. In the case of phantoms, we change properties of some geometric space relative to the Earth. Although the author There are no known experiments with torsion generators in vacuum, which could would exclude the effect of air polarization, but it is obvious that the effects of convection and diffusion would easily disrupt the stability of the phantom if it were tied to some macroscopic amount of air - after all, phantoms can remain in place for up to several days without blurring the boundaries.

3. Hypothesis of highly penetrating radiation of Bose particles

It is natural to assume that, in accordance with quantum theory, and also taking into account the existence of a radiation pattern for torsion generators, torsion radiation is a stream of certain particles. Based on high penetrating ability of torsion radiation and the effects it produces [12], these particles must be electrically neutral and must also interact with substance on the back.

What is the spin of torsion quanta? Here the author takes the risk of putting forward a hypothesis about the multiplicity of the spin of particles to unity, that is, their subordination to Bose-Einstein statistics. The basis for this hypothesis is the following considerations. Known quantum effects associated with Bose particles: laser radiation (photons), superconductivity (electron pairs), superfluid helium (4He), Bose condensate. These effects manifest themselves for particles, usually quite strongly interacting with a dense environment, and manifest themselves in the collective behavior of Bose particles - they tend to occupy the same state, in the opposite of Fermi particles, for which, on the contrary, there is a principle ban.

If torsion radiation is composed of weakly interacting Bose particles, then these particles will also tend to occupy the same quantum states, including momentum. This means that just like superfluid helium, these particles can move together in a stable coherent flow, which is quite difficult to destroy by external influences. For superfluid liquid helium, either for superconducting current the main destructive mechanism is thermal movement of molecules. But for particles that weakly interact with normal matter, even strong movements of the surrounding matter cannot lead to destruction of coherent flows. Thus, the hypothesis suggests some analogue of laser radiation - a coherent flow of particles, but non-electromagnetic nature. The flow of co-directed quanta of torsion radiation itself is self-maintenance mechanism, and then phantoms are stable coherent particle flows.

The consequences of this hypothesis are as follows. First of all, torsion generators are then not only generators of their own radiation, but also flux concentrators radiation scattered in space. This is confirmed by the so-called. the effect of shapes - the generation of torsion radiation by passive static shapes (cones, pyramids, cylinders). The ease of obtaining this effect suggests that the formation of coherent radiation fluxes should be very common phenomenon in nature, and we are surrounded by various concentrators of torsion radiation, as well as zones of increased concentration (density) of radiation in various directions.

It is possible that the flows of torsion quanta prefer to move along phase interface. This is evidenced by:

1) Photos of tracks of “strange” radiation that go exclusively in photoemulsion plane or metal/air boundary [43, 14, 51, 16, 17], often with characteristic torsion effects accompanying these tracks [63]. 2) Experiments with “Veinik’s hedgehog”, in which flows go along the surface plates, twisting the probe ring in the place where the flows are concentrated, with clearly associated torsion biological effects [19]. 3) The non-thermal effect of objects on the properties of water, discovered by Radyuk, which spreads along their surfaces [66].

4) “Effect of cavity structures” by Grebennikov [21] and some other manifestations "form effect".

The nature of this behavior remains unclear. It is possible that in this case there are two types of particle flows: primary flows propagate in in an arbitrary direction, and they generate secondary flows at the boundary of the media, and Secondary flows now proceed predominantly along the phase boundary. But these are apparently too mechanistic ideas; the explanation may be closer to interference and other wave effects.

The word “weakly interacting” characterizes particles in their relation to ordinary matter, means first of all that individual quanta of radiation are not have a noticeable energetic effect on particles of matter, and Only their collective, coherent action is effective. Here it is appropriate to refer to estimate of the coupling constant of electrotorsion interaction derived G.I. Shipov - it is two orders of magnitude less than the electromagnetic coupling constant [22].

Ease of concentration of coherent torsion flows and their stability, as well as the inevitable ripple effects accompanying them suggest the complexity of the structure and behavior of these flows. This is indicated by spatial heterogeneity and nonlinearity of torsion phantoms, as well as nonlinear the intensity of their impact over time on the sensors [55, 15, 23].

The question remains open about the reason for the appearance of a typical radiation pattern torsion radiation from various sources - two cones in opposite directions sides. It can be assumed that two directions are formed due to the law conservation of momentum, and such separation of coherent flows is energetically the most favorable.

Perhaps the left and right torsion radiation within the framework of this hypothesis are flows particles with different helicities - spin along the movement and against the movement. This the conclusion does not contradict the opinion of A.E. Akimov that the torsion bars of the same name charges attract, and unlike charges repel, although the nature of these charges is A.E. Akimov’s interpretation remains unclear. At least that's how it should be identical Bose particles behave - they tend to occupy identical states. Although, at this stage of formulating this hypothesis, one can assume the existence of several types of highly penetrating radiation quanta.

What can be said about the mass of torsion radiation quanta? Some experimenters identified the effects of momentum transfer from flows some highly penetrating radiation [19, 25, 26]. It's too early to say that torsion radiation and these flows are of the same nature, and the rest mass quanta is an open question. But if it is true that the flows of these particles are easy concentrated in static forms, i.e. the trajectories of their movement are easily changed direction, then their mass should be small.

Quanta of torsion radiation within the framework of this hypothesis cannot be single neutrinos, although the hypothesis of composite particles is not excluded, like

electron pairs in superconductivity and 4He atoms in superfluidity. Appropriate here cite the opinion of G.I. Shipov and A.E. Akimov that the torsion quanta The radiation may be ultra-low energy neutrinos. However, everything known quanta that transmit fundamental interactions are bosons, and it is natural to assume that the quanta of the fifth interaction should also be bosons.

Finally, necessary to explain the immobility of phantoms, their connection to surface of the Earth indicates the predominant direction of scattered radiation: most likely, it comes from the Earth, as a kind of “reference” radiation. This conclusion confirms the existence of geopathogenic zones, which may be concentrated flows of coherent radiation along faults the earth's crust, as well as above water flows, i.e. along and across the interfaces. It is easiest to think of this scattered reference radiation as a manifestation the Earth's own "subtle" field, its "aura", and phantoms are like metastable dynamic formations in this aura, like atmospheric vortices.

4. Parallels and possible confirmations

The hypothesis of flows of coherent Bose particles is consistent with the hypothesis of G.A. Nikolsky about the spiral-vortex radiation of the Sun (SVIR), which, passing through the Earth, is concentrated in the form of solitons and emerges on the night surface of the Earth [25]. The quanta of this radiation - spirons in Nikolsky's terminology - have spin 1.

Indirect confirmation that streams of some space agent, are also the results of S.E. Shnol’s group (cycles with period of solar and sidereal days, 27-day, annual cycles, etc.). Especially Interesting in this regard are the recently obtained results with semi-diurnal "palindromes" of histograms from alpha sources, including collimated ones, which further indicate that, in particular, the source of this agent is the Sun [27], as well as experiments with paired moving noise generators [28].

Daily periodicity in torsimetry, revealed in the torsion phase method portrait of V.T. Shkatov [29], also speaks in favor of cosmic flows passing through the Earth. At the same time, it is natural to assume that the Earth is in this sense is not unique, and there are phantoms tied to other celestial bodies, and also rotating with them. Such phantoms form a “thin halo” of celestial objects. Spin-torsion geology using the Akimov-Okhatrin method [30], and also torsion photos of the Sun are also optional evidence in favor of this, a number of mysterious phenomena during solar And lunar eclipses (see for example http://www.tesis.lebedev.ru/info/tesis_20090723.php).

A similar hypothesis by A.G. Parkhomov with ultra-low energy neutrinos as component of dark matter, although it assumes fermions as quanta, nevertheless, it also has many similarities with the hypothesis of G.A. Nikolsky, and also is based on rich experimental material [13].

Wavelengths of non-electromagnetic radiation, calculated by A.G. Parkhomov from wave effects on periodic structures - from microns to millimeters. Wavelengths that subjects "see" in direct vision experiments [32] - from millimeters to centimeters, and it is natural to interpret these waves as torsion radiation induced by electromagnetic, in accordance with the theory torsion field. For now we can only guess the wavelengths of a typical torsion radiation and their effect. At least the modulation frequency, which fed to electric torsion generators - from hertz to gigahertz, and the light of lasers and LEDs should generate torsion radiation in the light frequency range. According to the results of Bobrov's experiments, the higher the frequency of light sources, the non-electromagnetic materials have a greater impact on biological objects radiation component [15]. If we can simultaneously measure the wavelength and frequency, we can say something definite about the speed of torsion radiation.

The following is also interesting: according to Yu.P. Kravchenko, the coefficient Energy conversion of vortex heat generators depends on the location of their installation. Although this effect needs more rigorous confirmation, like the superunit effect of these installations, but it can be assumed that vortex installations use external torsion flows for the formation of coherent states of water. Extremely it would be interesting to independently repeat the results of V.G. Krasnobryzhev in [33] - a twofold decrease in the heat capacity of water in a coherent state, as well as evidence metastability of the effect of heating water by vortex heat generators "MUST" [34] after turning off the engine, according to E.S. Stepanova1 . There are more questions here than answers.

A direction of experimentation that can clarify the issue under consideration is the study of various methods for creating and erasing phantoms and their effectiveness. It would also be interesting to conduct experiments with torsion generators in motion relative to the Earth and determine the shape of the resulting phantoms. And, of course, clarifying the nature and properties of torsion radiation should contribute to further efforts to develop methods for its detection.

5. Coherent states of matter and nonlocal effects

Now let's consider, within the framework of the hypothesis put forward, the effect on the substance streams of coherent Bose particles. There is a hypothesis by V.G. Krasnobryzhev that changes in the properties of fuel and water under the influence of torsion generators is due to the spin-coherent state of matter [35]. If the threads represent quanta of torsion radiation, and the primary cause generation of these quanta is spin (accelerated movement of particles with spin), then Flows of such quanta can generate spin effects in matter, for example, spin precession. Flows of coherent quanta of spin-torsion interaction can apparently lead to spin-coherent states in the macrovolume,

[1] Private message.

which is a completely reasonable interpretation of the experiments of V.G. Krasnobryzhev and other researchers.

Research on quantum decoherence theory shows that usually coherent states of matter are easily destroyed. This happens due to that isolating particles from interaction with the environment is very difficult, and any interaction destroys pure quantum states, scattering them throughout many degrees of freedom. Thus, coherent states at the level substances are unstable under normal conditions, and this serves as a serious practical obstacle to quantum computing and to the practical difficulty of obtaining Bose condensate. However, at the level of radiation quanta interacting with substance only along the spin with a small coupling constant, the coherent states of the radiation can be, firstly, very stable, and secondly, can artificially maintain coherent states in a substance. Thus, the assumption of coherent fluxes of Bose particles from torsion generators is necessary to explain the metastable coherent waves they induce states of matter.

Of particular interest are nonlocal effects similar to entangled ones. states of particles (EPR paradox). Manifestations of nonlocality in torsion phenomenology involves influencing objects through their photographs [36], and also correlation of fluctuations of physical parameters of spatially separated fragments of matter and various sensors [27, 37, 38]. In experiments V.G. Krasnobryzhev, the effect of torsion radiation on the “chip-translator” leads to the appearance of a coherent state not only in it, but also in the “chip-inductor”, which, according to Krasnobryzhev, is entangled on the back with translator chip at the macro level [39]. Translator chip and inductor chip are pieces of what was once one metal plate, broken into two parts, and can be removed from each other at an arbitrary distance.

How can these manifestations of nonlocality be interpreted within the framework of the proposed hypotheses? In the experiments of V.G. Krasnobryzhev, the generators are mainly macrovolumes of spin-polarized matter, i.e. static torsion generators. Let us assume that the coherent flow of quanta is directed by a torsion generator onto the translator chip, and it excites spin-coherent state: the spin states of individual particles of a substance change synchronously. If in the response fragment of the plate (chip-inductor) the spin subsystem is quantum entangled, then a coherent state is also excited in it. This the state generates new coherent flows of torsion radiation quanta already from the inductor chip, and these flows act on the substance. Thus, spatially separated fragments of matter with a nonlocal connection along the spin participate in local interactions, each with its environment, and torsion radiation is teleported through such non-local connections at the level of matter.

Effects of increased correlation of random processes between separated fragments of samples, substances appear due to coherent states substances. In incoherent states, fluctuations are generated by many independent contributions from individual particles, and even in the case of quantum entanglement

For some part of the particles, the macrovolumes of the substance cannot show noticeable correlations between samples. And only the in-phase state of the particles causes significant fluctuations in one sample to be reflected significant fluctuations in another sample.

This can be explained as follows. If that part of the particles in the first sample that is entangled with part of the particles of the second sample (for example, atoms at the boundar fault), will take part in the collective coherent processes of the first sample, then the state of the corresponding atoms in the second sample will also be coherent. This group of particles in the second sample serves as a source (seed) of coherent torsion radiation, which, firstly, supports coherence of this seed group, and secondly, propagates the coherence throughout the sample. This qualitatively explains why, under the influence of torsion generators, the effects of synchronous (correlated) nonlocal fluctuations, and also the dispersion of radioactive decay rates changes with invariance of the average speed [13], and forces us to assume the general nature of these effects.

6. Conclusion

Let me briefly repeat the essence of the hypothesis put forward:

1. The space surrounding the Earth is permeated with light neutral particles with spin divisible by unity and weakly interacting with normal matter. These flows form another shell of the Earth.

2. The combination of properties of these particles gives them the ability to form metastable coherent flows that are perceived by sensitive sensors as phantoms - zones at rest in relation to the Earth. These formations similar to vortices in the atmosphere, but less mobile.

3. Various physical processes take place in the areas where phantoms are located. abnormal. The anomaly of these processes is presumably due to macroscopic coherent states of matter under the influence of such coherent fluxes of Bose particles.

4. Local torsion effects are apparently caused by precisely these phenomena, and torsion generators are devices that generate, concentrate and direct these flows.

5. Non-local manifestations of the influence of torsion generators have a quantum nature and should be studied from the standpoint of quantum entanglement of macroscopic quantities of coherent matter.

This hypothesis inevitably raises many questions. The production comes out is beyond the scope of this article, although a preliminary list of questions might include the following:

• How are coherent flows formed? • How are they destroyed? • What generates scattered torsion radiation? • How does a quantum of torsion radiation interact with known matter? • Is coherent flow a standing wave/soliton? • What is the speed of torsion radiation? • What is the mass of its quanta?

After asking questions, the stage of searching for answers to them is necessary, both from the outside theory and from experiment. Without these steps, the hypothesis will remain just preliminary considerations.

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Torsion-orientation processes

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The existence of a specific class of orientational signals is substantiated processes caused by the dependence of potential energy on mutual location of the rotation axes of bodies. An analytical expression of the law is proposed conservation of energy, containing members responsible for the processes of torsion and orientation. It is emphasized that the spontaneous occurrence of such processes obeys the energy-dynamic criterion of minimum ordered energy.

Introduction

To date, natural science has accumulated quite a lot of observations related to the spontaneous ordering of the relative position rotating bodies. The first to draw attention to this circumstance were astronomers who observed the alignment of the rings of Saturn and the orbits of a number of planets in one p in the macrocosm, this phenomenon has also been known for a long time and manifests itself, in particular, in the strange behavior of the "Chinese top" - a gyroscope, which, being suddenly turned 180 degrees, gradually stops its rotation and then changes it to the opposite with practically the same angular velocity. When researchers now have access to monitoring the behavior of systems oriented according to the classical spin (own mechanical torque elementary particles), similar phenomena were discovered in the microcosm. Thus, back in the first half of the twentieth century, American physicists F. Bloch (1936) and D. Hugh (1947) observed stronger scattering of neutrons on a magnetized plate with spin orientation parallel to the magnetic field [1]. In the 40-50s E. Purcell and R. Pound [2], as well as A. Abraham and W. Proctor [3] in experiments on nuclear Magnetic resonance revealed the presence of a specific spin-spin interaction leading to the establishment at low temperatures of a single orientation of nuclear spins. In the 60s it was experimentally established that When neutrons pass through a spin-polarized target, neutron precession, the magnitude of which is several orders of magnitude higher than that which could be caused by a magnetic field [4]. In the 80s, at the measuring installation Lamb shift revealed unusual interference features hydrogen in its various spin states [5] and it was found that the spin polarization of atomic hydrogen prevents its combination into molecules [6]. At the same time, in experiments with 3He, the dependence of its thermal conductivity was discovere on the state of nuclear spins [7]. In the 90s it was also found that protons with spin orientation opposite to the target spins, the protons of the target seem to "pass through" (without visible interaction), while with the same spin orientation in the beam and in the target, their scattering occurs in complete in accordance with theoretical concepts [8].

These and many other experiments indicated the dependence of the energy of a system on its total spin. Since in these experiments only the the orientation of the spins, and not their magnitude, we are talking here rather not about torsion interactions, which consist in the transfer of angular momentum of rotation (acceleration of the axial type), but about a special category of processes that would be appropriate to call *orientational.* In [9, 10] we showed that processes of this kind exist at all levels of the universe. From a phenomenological point of view, they are due to the fact that different orientations of bodies are not mechanically equivalent [11]. However, until recently, in our opinion, insufficient attention has been paid to the study of orientation processes. Interest in them has increased only in recent decades in connection with the search for the so-called "fifth force" - an interaction that differs from gravitational, electromagnetic, strong and weak. More often than others, this role is claimed by torsion interaction, attributed to hypothetical fields of inertial forces [12, 13]. Meanwhile, a huge number of facts underlying the thermodynamics of irreversible processes [14] indicate that any real process arises under the influence of not one, but all forces acting in the system (Onsager's principle), so that its nature and direction are determined by the relationship between these forces and the degree of their involvement in a particular process. This is especially obvious for phenomena at the intersections of various scientific disciplines, when the indicated forces have a different physical nature. Therefore, it would be more correct to talk not about some "fifth force" generated by a previously unknown fundamental interaction, but about the specificity of those processes that arise under the influence of already known forces, but lead to specific changes in state - ordering the orientation of rotating systems and stationary bodies with anisotropy of shape. For reasons that will become clear from the following, we will call such processes *torsion-orientation* if this ordering is associated with the transfer of rotational acceleration to bodies. It is advisable to consider them from the standpoint of thermokinetics as a unified theory of the rate of processes of transfer of matter and internal energy [15] and energy dynamics as its further generalization to the processes of transformation of any forms of energy, regardless of their belonging to one or another field of knowledge [16].

Energy conservation law for inhomogeneous media with torsion

As is known, classical (equilibrium) thermodynamics expressed changes in the internal (intrinsic) energy of the system *U* in any reversible (quasi-static) process in a very general form of the product of the generalized potential ÿi (temperature T, pressure P, chemical potential of the kth substance Lk and etc.) to change the generalized coordinate ÿi (entropy S, volume (with the opposite sign) -*V,* mass of the kth substance Mk , etc.) [14,15]:

$$dU = TdS - PdV + \ddot{y}k\, LkdMk = \ddot{y}i\, \ddot{y}i\, d\ddot{y}i \;.\; (i=1,2,\ldots,n) \quad (1)$$

Here the terms *TdS, PdV* and *LkdMk* characterize, respectively, the elementary heat transfer of the system ÿQ, the elementary work of expansion ÿ*W* and elementary

transfer of energy *by the kth* **substance across the boundaries of the equilibrium system (energy and mass transfer) dUk;** *n is* **the number of degrees of freedom of the equilibrium system.**

In equilibrium systems, to which equation (1) applies, the change in the value of *ÿi* **is due exclusively to the transfer of a certain amount of it across the boundaries systems. This allows us to express the change in parameters** *ÿi* **in time** *t* **by the known expression:**

$$dÿi / dt = – ÿ ji ÿndf \quad (2)$$

where j =ÿiwi *is* **the flux density of the physical quantity ÿi through a closed surface system f in the direction of the outer normal** ***n;*** **ÿi = dÿi** */dV* **– density of quantity ÿi ; wi = vi – vm – speed of movement of its element dÿi=ÿidV relative to the center of mass elementary volume** *dV* **(vi = dri /dt, vm = drm/dt, where ri , rm are radius vectors, respectively, of the element of the i-th physical quantity dÿi and the element of mass** *dM* **in the sta reference system).**

Substituting (2) into (1), we have:

$$dU/dt = – ÿi ÿi ÿ ji ÿndf \quad (3)$$

It is easy to see that equation (3) is a consequence of the more general expression

$$dU/dt = – ÿi ÿÿiji ÿndf \quad (4)$$

for the special case of a homogeneous system, when the local value ÿi of the generalized potential ÿi is the same at all points of the system and is therefore taken out of sign integral.

Here ÿiji represents *the i-th* **component of the internal flux density energy ju = ÿi ÿiji through the element** *df* **of the surface of the system at rest relative to fixed coordinate system.**

Passing to (3) based on the Ostrogradsky-Gauss theorem to the volume integral system, we come to the expression of the law of conservation of energy for an arbitrary continuum region proposed by N. Umov in 1873:

$$dU/dt = – ÿdivju\, dV \quad (5)$$

The expanded form of this equation can be easily obtained by representing in it divju = ÿi div(ÿiji) as the sum of two terms ÿi ÿi divji + ÿijigradÿi :

$$dU/dt = – ÿi ÿi div\, ji + ÿi Xi ÿji , \quad (6)$$

where Xi = *–* **gradÿi** *is* **the driving force** *of the i* **–th process, called in the theory of irreversible processes “thermodynamic force in its energy representation”.**

This equation contains, compared to (1), twice the number of terms. His additional terms correspond to processes not characteristic of homogeneous

systems. First of all, these are processes of energy dissipation (scattering), leading to a spontaneous change in a number of thermodynamic parameters (entropy S, volume V, mass of the kth substance *Mk ,* etc.) due to friction, expansion into space, chemical reactions, etc. In the balance equations of these quantities [14]

$$d\ddot{y}i\ /dt = -\ \mathrm{div}\ ji + \ddot{y}i\ , \qquad (7)$$

this is taken into account by introducing the density of internal sources of this then quantity ÿi , while divji reflects the change in ÿi due to the transfer of the physical quantity ÿi across the boundaries of the system (during heat transfer, volumetric deformation, diffusion, etc.).

Taking into account (7), equation (6) takes the form:

$$dU/dt = \ddot{y}i\ \ddot{y}\ \ddot{y}i(d\ddot{y}i\ /dt)dV + \ddot{y}i\ \ddot{y}\ \ddot{y}i\ \ddot{y}i\ dV + \ddot{y}i\ \ddot{y}\ Xi\ \ddot{y}ji\ dV \quad (8)$$

It is easy to notice that in equilibrium (externally and internally) systems, where Xi = 0, ÿi and there are no internal sources of ÿi , this equation turns into (1). = ÿi , Consequently, the terms of the third sum (8) can only relate to the work *Wi* performed by the system in addition to the expansion work. Indeed, assuming for simplicity Xi and vi constant throughout the volume of the system and, on this basis, placing them beyond integral sign, we have:

$$\ddot{y}\ Xi\ \ddot{y}ji\ dV = \ddot{y}\ Xi\ \ddot{y}vi\ d\ddot{y}i = Fi\ \ddot{y}vi\ , \qquad (9)$$

where Fi = ÿiXi . This expression corresponds to the definition of second work (power) of the i-th process Ni = *ÿWi /* ÿt as the product of the resulting force Fi by the speed of movement vi of the object of its application ÿi . Thus Xi acquires simple and clear meaning of force in its usual (Newtonian) understanding, attributed to the field value it carries (Xi = Fi /ÿi).

According to (8), in the process of performing work, energy can transfer from one of its *(i-*th) forms to any other (j-th), including thermal (i.e., dissipate). This this circumstance makes equation (6) applicable to processes with any degree dissipativity and allows us to directly obtain from (8) the fundamental theory of irreversible processes, the expression for the rate of entropy generation in stationary processes (where *dU/ dt* = 0) [15]. Thus, the proposed form of the law conservation of energy differs from that used in continuum mechanics, electrodynamics and thermodynamics of irreversible processes [14] by taking into account additional ***energy transformation*** processes accompanied by useful work *Wi* and (or) energy dissipation.

The emergence within the system of entropy flows S, masses *of kth* components Mk , charges *ÿÿ ,* impulses Mkvk , etc. is of interest because it leads to ***redistribution*** of parameters ÿi throughout the volume of the system. Specifics of such processes is that they cause changes in properties ***that are opposite in sign*** system (parameters ÿi or ÿi) in its various regions or volume elements, i.e. lead to ***polarization of the system*** in the broadest sense of the term. According to (6), the number of such processes in the general case corresponds to the number *n* degrees

freedom of the equilibrium system. If, for example, the system is thermally inhomogeneous (Xi = –ÿT ÿ 0), it acquires the ability to conduct heat (ji is the flux density entropy) and at the same time convert part of it into useful work, which takes place in thermoelectric generators. If Xi = –ÿÿ ***ÿ 0,*** **processes arise in the system filtration (ji = vi – filtration speed) with transformation of the potential part energy into kinetic (as in jet devices). Similarly, at Xi = –ÿLk ÿ 0, diffusion processes arise (ji = jk is the flux density of the kth substance) with converting part of the chemical energy into mechanical or electrical energy (as in galvanic and fuel cells).**

This provision also applies to moving or charged systems, as well as systems located in external force fields. If, for example, the system contains free electric charges ÿÿ , then the term **ÿdÿÿ is added to the right side of (1) , which characterizes the work of introducing an electric charge into region with electric potential** *ÿ.* **In this case, the second sum (6) will contain an additional term Xe ·je , process manager electrical conductivity, where Xe = E** = –ÿÿ **– electric field strength, *jÿ* – electric current density [1]. In the same way, if the term** *ÿgdÿ is added to (1),* **characterizing the work of introducing mass *M* into a gravitational field with potential ÿg , in the** That **second sum (6) an additional term Xg·jm** will appear , **characterizing transformation of gravitational energy, where Xg =** –ÿ **ÿg = g – intensity gravitational field, jm** – **matter flux density. In the same way for system, the components of which move translationally with speed** *vk ,* **the terms** *vkd(Mkvk) are* To *added to expression (1),* **where Mkvk** *is* **the momentum of the kth component. IN** In this case, terms **Xw·jw appear in (6) , characterizing the transformation kinetic energy, where** *Xw* = **–ÿvk** *is* **the component velocity gradient vector, jw = ÿkvkwk** *is* **the momentum flux density tensor.**

Using the similarity of electrical and magnetic phenomena (the symmetry of the equations Maxwell), in a similar way one can take into account the processes in the system that dissolves magnetic degree of freedom. In this case, an additional term will appear in (1) *ÿÿdÿÿ ,* **which determines the work of input into the system with the so-called “magnetic potential" ÿm "magnetic mass" Mm [16]. In this case, on the right side (6) will appear density of the where Xÿ =** – **ÿÿÿ = H is the magnetic field strength, jÿ = ÿÿvÿ** *is* **the term Xÿ·jÿ , the “magnetic displacement current” [15].**

Finally, if the system as a whole rotates, then the term ÿ Tÿ dÿÿÿ is added to the right side of expression (1) , **where Tÿ, ÿÿÿ** *are* **the components of the angular velocity vector ? *(ÿ =1,2,3)* and angular momentum ÿÿ = I?** *(I* – **moment of inertia of the body). Accordingly, in the second sum (6) the terms Xÿÿÿ·jÿÿ** appear , **where Xÿÿÿ =** – **ÿÿÿ , jÿÿ = ÿÿwÿ** – **components of the angular velocity gradient vector ÿ? and flux density tensor angular momentum (ÿÿ** = **ÿÿÿ/ÿV; wÿ** – **relative transfer speed angular momentum). These terms characterize the transfer processes quantity of rotational motion in systems with a non-uniform angular field rotation speed. This kind of interaction, strictly speaking, should be called *torsion* [12,13]. It should be noted, however, that according to (6) the transfer**

[1] **In the absence of free charges, *je* gives way to a displacement current.**

“vorticity” (in particular, turbulent momentum transfer) is possible only in media with a moment of inertia *(I ÿ* **0).**

Further detailing of the processes occurring in heterogeneous systems can be carried out, taking into account that the radius vector ri of the element dÿi is expressed by the product of the basic (unit) vector *ei ,* **characterizing its direction, and the module ri of this vector. Therefore, its change in the general case is expressed by two terms:**

dri = dÿri + drri = *ÿidri* **+ ri dei** . **(9)**

Here, the first term on the right side dÿri characterizes the transfer of the element dÿi **without changing the direction of transfer ei, and the second term characterizes the change in the direction of this vector. It is more convenient to express the value dei through the rotation angle vector ÿ, normal to the plane of rotation formed by the vectors ei and dei [15]. Then dei is determined by the outer product of the vectors dÿi and ÿi, so ridÿi = [dÿi,ri] and Xi** ÿ **[dÿi ,ri] = dÿi ÿ[ri,Xi]. In this case, equation (6) will take, taking into account (7) and (8), the form:**

dU/ dt **= ÿi ÿÿi(dÿi /dt)dV + ÿi ÿÿiÿidV + ÿi ÿXi ∂ÿi + ÿi ÿMi (dÿi /dt)** *ÿidV* **(10)**

where ji = ÿiei dri /dt – displacement flux density of the element dÿi relative to the center of mass of the system; Mi = ri ×Xi – moment of force Xi ; dÿi /*dt* **– angular velocity of rotation of the element dÿi relative to the center of mass of the system.**

Expression (10) is the most general and at the same time the most detailed of the known mathematical formulations of the law of conservation of energy. In addition to the processes of scattering and transfer considered in the theory of irreversible processes and physical kinetics, it describes the processes *of reorientation* of displacement vectors dri *that* **occur in the presence of moments Mi of thermodynamic forces Xi . Moreover, it contains two types of members responsible for “torsion”. First of all, these are the terms of the third sum (10), containing “torsion” forces Xÿÿ - rotational components of the angular velocity gradient vector ÿ?. These terms characterize the processes of transfer of angular momentum caused by the inhomogeneous distribution in space of the density of the angular momentum of rotation of bodies or parts of the body (as well as their angular velocity ÿ). For example, fluid couplings operate on this principle [17].**

Another kind of terms of the fourth sum (10), containing moments of *forces* **Mi. Formally, they have the meaning of the work done by the moment of force Mi per unit time when reorienting the element** dÿi **with a speed Xe ÿje . However, it is characteristic that, in accordance with (9) and (10), these moments disappear when the directions of the vectors Xi and dri coincide. Therefore, they should be called not torsional (rotating), but *orientational.* Unlike torsion effects, orientation processes do not change the magnitude of the angular momentum of the system and its kinetic**
rotational energy, affecting only the orientation of bodies or elementary particles relative to external bodies or fields (angle ÿi), i.e. to the corresponding part of their potential energy U(ÿi), depending on their mutual orientation. In accordance with the thermodynamic principles of classification of processes (distinguishing processes not by the reasons that cause them, and not by their physical nature

interactions, and according to their consequences), such processes should be called *orientational.*

Reasons for the occurrence of orientation moments

A feature of inhomogeneous systems, as shown in [16], is the displacement of the center corresponding extensive value ÿi relative to the center of mass of the system in in general. It is known that the position of this center (its radius vector Ri) is determined by expression:

$$Ri = ÿi^{-1} ÿ\, ri\, dÿi \qquad (11)$$

If **we take the position of the center as the origin of the current (Eulerian) coordinate ri value ÿi in a homogeneous (equilibrium) system Riÿ, then BRi = Ri –Riÿ will be determine the displacement of the center of the quantity ÿi from the center of mass of the system Rm, since in In a completely (externally and internally) equilibrium system, the positions of Rm and Rio coincide. Thus, under the influence of forces Xi, a certain "distribution moment" Zi = ÿiBRi parameter ÿi :**

$$Zi = ÿiBRi = ÿ\, ri\, dÿi \qquad (12)$$

This process of redistribution of parameters ÿridÿi can lead to the fact that part the forces acting in the system will turn out to be *non-central* with respect to the mass systems. Such forces, after being brought to the center of mass of the system, form orientational moments tending to reorient BRi so that the forces Xi become central.

A less obvious reason may be the presence in a non-stationary system several multidirectional forces Xi . According to the basic tenet of the theory irreversible processes, each of the flows ji arises under the influence of all forces of the same (or even) tensor rank Xj *(j =1,2,…n) available in the system.* **This is reflected in Onsager's phenomenological (experience-based) laws [13]:**

$$ji = ÿi\, LijXj , \qquad (13)$$

where Lij *are* **the so-called "phenomenological" coefficients characterizing conductivity of the system. Special cases (13) are the well-known laws thermal conductivity (Fourier), electrical conductivity (Ohm), diffusion (Fick), filtration (Darcy), viscous friction (Newton), etc.**

Thus, according to modern concepts, the number of heterogeneous forces generating one or another independent process is, in general, equal to the number nonequilibrium degrees of freedom of the system, i.e. does not come down to four known types of "fundamental" interactions. In this case, equations (13) reflect the interconnection of processes arising due to the superposition of heterogeneous forces Xj. . This "overlay" leads to numerous effects (thermomechanical, thermochemical, thermoelectric, thermomagnetic,

electromechanical, galvanomagnetic, etc.) [14,15]. These effects are good have been studied, and there is no doubt about their existence. In particular, as follows from (13), the process of displacement of any parameter ÿi (for example, electric current) can occur not only due to forces of electrical nature, but also under the influence "thermomotive force" Xj = – *ÿÿ.* The latter, as is known, is on a par with magnetic component of the Lorentz force bends the trajectory of the electric charge and leads to the appearance of an electric field E in the direction of force Xj (this is the phenomenon is called the thermomagnetic effect) [13]. Similarly the process redistribution of electrical charges can also cause mechanical stress Xmech (piezoelectric effect). Thus, equations (6) and (10) instead of searching unified field theory offer a unified method for finding clearly distinguishable driving forces of various physical and chemical processes, including processes *transfer* and *transformation* of rotational motion, as well as processes *reorientation* of existing inhomogeneities in the system. These last processes arise under the influence of moments Mi , tending to reorient the vectors BRi in the direction of their reduction. Since the vectors Mi and dÿi were the result expansion of the second sum (6) and reflect two sides of the same process redistribution of the parameter ÿi , an equation similar to (12) should be written for generalized rates of the reorientation process:

$$d\ddot{y}i/dt = \ddot{y}iKijMj , \quad (14)$$

where Kij *are* some phenomenological coefficients characterizing "compliance" of the system to turn.

Like (13), these equations reflect the fact that the process of reorientation can be caused by any of the moments Mj . In particular, this means that the process orientational polarization of electric and magnetic dipoles affects not only electric or magnetic fields, but also fields of temperatures, voltages, concentrations and so on. Reorientation processes can also cause so-called torsion fields (fields characterized by the antisymmetric part of the tensor ÿ?). It is known that the action of some of the moments Mi on rotating bodies or particles causes the occurrence of their precession [1)]. It is also known that the moment of force Mi , which must be applied to the axis of rotation in order to rotate it through an angle dÿi in a time *dt* equal to the rate of change of angular momentum *ÿÿ* [17]:

$$Mi = |d\ddot{y}i/dt| \; @|\ddot{y}\ddot{y}| \sin \ddot{y}i . \quad (15)$$

It follows that for the same value of the "disturbing" moment Mi, the angle ÿi less, the higher the angular momentum ÿÿ. Therefore, when telling the body additional angular momentum ÿÿ angle ÿi decreases, i.e. the orientation of the rotation axes of bodies becomes more ordered. Thus, the process of exchange of angular momentum is also accompanied reorientation of the moments of momentum of rotating bodies. This is exactly what we are emphasized when talking about torsion-orientation processes. It should, however, be emphasized that "torsion" interactions reflect only part of the phenomena

1) Precession is a movement in which the axis of rotation of a body describes a circular cone

logic associated with reorientation processes. In particular, in the case of elementary particles, the spins of which can only change their direction, but not their magnitude, their purely orientational interaction takes place. As shown in [16], these processes also obey the energy-dynamic criterion of minimum ordered order, i.e. the minimum of @Zi , the energy of the convertible (workable) part of the internal energy *E* = ÿi Xi the system *U.* In contrast to the known thermodynamic potentials such as Helmholtz free energy or Gibbs free enthalpy, which are not applicable to open systems, and in isolated systems reflect only its behavior in In general, the concept of ordered energy is applicable to any system, and its value Ei can be found for any degree of freedom. This allows us to follow the evolution of each of them separately. As for other thermodynamic potentials, the decrease in the ordered energy of any degree of freedom Ei = Xi @Zi corresponds to the system approaching "partial" equilibrium (i-th kind). In the case of rotating bodies, the spontaneous nature of orientation processes is due to the desire to minimize the kinetic energy of the system of rotating bodies. For a spin system, this corresponds to the disappearance of their precessional motion and the ordering of the mutual orientation of the spins [18].

This tendency to a minimum of ordered energy is characteristic, as shown in [16], for each degree of freedom of a polyvariant system Ei , the including for gravitational energy of a system of interacting bodies. This can be verified by considering the potential energy in the Earth's gravitational field of a dumbbell-shaped body [18].

Another obvious reason for the occurrence of orientation processes is the presence of electric or magnetic dipoles in a number of substances, formed under the influence of external force fields as a result of a relative displacement in space of opposite signs of charges or poles. The opposite sign of the forces acting on these charges or poles leads to the appearance of a pair of forces that cause their orientation along the field (such polarization is called orientational) [19].

The discussion of the results

As follows from expression (10), all known forms of ordering energy exchange can include a component that is perceived by inhomogeneous systems as their orientational polarization. This circumstance makes it unnecessary to involve previously unknown types of long-range actions to explain the phenomena associated with this. According to the above, the existence of torsion and orientation interactions directly follows from the law of conservation of energy for spatially inhomogeneous media. Regardless of whether they are strong or weak, these interactions give rise to processes of ordered energy exchange (in the form of work) and therefore, in principle, cannot be purely informational.

The consideration of torsion and orientation processes and the corresponding interactions undertaken here was of a purely thermodynamic (phenomenological) nature, which does not pretend to be a complete description of all

details of the process and therefore does not require establishing the nature of the mentioned interactions, the structure of the system and the “mechanism” of its energy transfer. Being free from any hypotheses or postulates, this approach promotes eliminating the mistrust of “conventional science” towards these processes. Together with Therefore, the proposed approach allows us to draw a clear line between torsion and orientation influences. From the point of view of energy dynamics, torsion bars interactions are generated by an inhomogeneous field of angular velocities of rotation of media with mass and a certain moment of inertia. Transfer of such interactions with a physical vacuum is very problematic. On the contrary, the orientational influence is transmitted by well-known force fields, so that they research can rest on a solid foundation of modern natural science.

A quantitative description of orientation processes seems to us to be another a step towards studying the phenomena of structure formation at any level of the universe, from DNA to galaxies. In any case, it gives the key to understanding the origin of such processes, finding their driving forces and elucidation of their influence on the functionality of nonequilibrium systems. It becomes clear that when flowing in some parts or degrees of freedom polyvariant system of any relaxation processes, their other parts or degrees of freedom can move away from equilibrium, which makes it possible long-term development of such systems, bypassing the state of equilibrium. This is due the fact that the approach of a system to equilibrium is accompanied not only by scattering energy, but also by useful transformation of energy, as is the case in oscillatory circuits. The internal work performed in this case determines maintaining a temporary order in the system, called dissipative structures. It is characteristic that such useful energy transformations can be are caused not only by external force fields (electromagnetic, gravitational), but also by fields of temperatures, pressures (voltages), concentrations, etc. in the most heterogeneous system. This is of particular importance for understanding the reasons the emergence of so-called processes of “self-organization”, which in reality is conditioned by the performance of useful internal work alone parts of the system over others with inevitable irreversibility (presence of losses) in those and others. In particular, equation (10) reveals the reasons for the occurrence of such called “dissipative structures”, i.e. ordered states supported by dissipative processes occurring in the system. In that case, the stationary state of partially ordered systems arises as the result of mutual compensation of two opposite processes - orientation (when performing work) and disorientation (due to energy dissipation). It is especially important to understand that orientation processes can be spontaneous (similar to the phenomenon of spontaneous magnetization or ordering the orientation of spin systems at low temperatures), i.e. arise against the background of system relaxation [18].

Thermodynamic method for finding driving forces and generalized velocities orientation processes is also of no small importance for the study influence of the relative orientation of nuclear particles, atoms and molecules on the kinetics and catalysis of chemical reactions [20]. Since reorientation processes can cause destruction of materials, their study is of interest to

materials science, as well as for hydrodynamics (in connection with the emergence and destruction of turbulence).

Studying reorientation processes can also shed new light on work rotating devices supposedly generating free energy. Practical of interest in this regard is to clarify the reasons for their spontaneous rotation. What is important here is that due to the interconnection of various processes reflected in laws (15), processes of reorientation of heterogeneity any degrees of freedom of the system are subject to, including the mass displacement vector BRm. This means that reorientation processes can also change body position as a whole. This process can be made, in principle, continuous (transitioning into rotation), if you change the direction of action of forces *Xj* in a timely manner **by organization, for example, of an oscillatory process (changing the sign of the displacement** *BRi)* **or periodic alternation of forces of different nature (creating an imitation "rotating" field). It is possible that this "mechanism" underlies self-rotating technical devices such as a Searle disk [21].**

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Energy information research in Israel

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The message outlines the research directions of the Israel Association bioenergologists in the field of energy-information interactions and highlights some results of these studies.

Introduction

By now, a huge amount of facts has accumulated, irrefutably proving the reality of the so-called energy-information phenomena. By As knowledge accumulated in this area, the attitude of “conventional” science to the field of knowledge, which received the conventional name “parapsychology,” changed. If in the 1967 TSB edition this term referred to this area of research anti-scientific, then already in the third edition of the TSB (1978) it is classified as a “phenomenon actually existing, but has not yet received satisfactory scientific explanations." In the “Psychological Dictionary” (1983), parapsychology is designated already as “a direction in psychology that studies extrasensory methods of receiving information, forms of influence of a living being on external physical phenomena without muscular effort." Lately there has been persistent talk about the need to create a special scientific one in the system of fundamental sciences directions - *bioenergy informatics.* In Israel for this purpose in early 2002 The association "Energoinformatics" was created, uniting more than two dozen enthusiastic researchers (including 12 doctors and candidates of sciences - natives of from CIS countries). It arose as a freelance division of the Institute theoretical and applied physics, headed by A. Akimov, and how collective member of the Association of Inventors and Authors of Israel Projects. The Association conducts proactive research in the field of non-traditional medicine and energy. Its website http://zhurnal.lib.ru/e/etkin_w [1] contains more 40 articles highlighting research results. These results were reported at 25 Israeli and international conferences. This article introduces reader with the most important directions of these studies and the results obtained in them results.

1. Identification of the specifics of energy information interactions

Interest in this issue is due to the fact that in recent decades in scientific and In pseudo-scientific literature, there is an increasingly frequent contrast of concepts "energy exchange" and "information exchange". The idea is cultivated that information in nature exists independently of and in contrast to energy can exist and be retrieved for as long as desired [2-8]. As a result, in consciousness

people there is a gradual shift in ideas about information from its purely service role as an instrument of cognition before its interpretation as fundamental the essence of nature, connecting the material and spiritual hypostases of the universe. They agree that information is primary, matter is secondary, and information fields can materialize, that is, arise from a vacuum. These are the foundations of the new "science" – *information science.* At the same time, under information interactions are understood that are not associated with the exchange of any forms of energy, i.e. as existing along with "energy-material" interactions [9-11].

In this regard, our research in the field of thermodynamics is of interest, which is often referred to as the theoretical basis of bioenergy informatics. These studies are most fully reflected in [12], where among many problems modern thermodynamics, its connection with information theory is analyzed. How shown in a number of articles on the website mentioned above [1], among many definitions the concept of "information", which is in its infancy, is closer to thermodynamics total information in the Brillouin sense, also called "structural" or "tied up" Obtaining structural information involves rearrangement structural elements of the object [13], i.e. with streamlining the system and reducing "entropy deficit" in it. As is known from thermodynamics, ordering system is associated with an increase in its free (ordered) energy, which is possible only as a result of performing useful work on the system. This job measured by the product of the resultant force and the displacement of the object application and differs from other types of work (for example, the work of dissipative character) by its vector nature. Since in medicine, biology, parapsychology and cosmology we are talking specifically about the ordering of the state when receiving information, the concept of *information exchange* must give way to them place for the concept of *energy-information exchange,* understood as the exchange ordered (free) energy. As shown in [12], ordering the system associated with changes in specific parameters of spatial heterogeneity *Zi ,* or what we called "moments of distribution" (entropy, mass of some system matter, its charge, momentum, etc.). These variables have a vector nature and characterize the deviation of the system as a whole from the homogeneous (equilibrium) state according to any of its extensive properties. Thereby it becomes possible to track the evolution of the system for each of its inherent degrees of freedom, fixing the ordering of some and the disordering of others parts as a result of external energy-information influences or internal energy transformations in the nonequilibrium system itself.

Recognition of the energetic nature of information exchange made it possible to put the question of the energy equivalent of energy information (including psychophysical) influences, their driving forces, specificity and consequences. An important role here is played by the unified definition of force given by energy dynamics. of any nature as a derivative of the energy of the system *U* according to any of the independent extensive coordinates of the nonequilibrium state *Zi ,* including Newtonian definition of force. For a wave form of energy, the distribution which in space various researchers call "biological", "microleptonic", "radiesthetic", "torsion", "chronal", "tachyon", "subtle physical", "super weak", etc. fields and

radiation, these forces are proportional to the gradients of the amplitude and frequency of the signal. These gradients are formed as a result of the absorption of radiation in their media. propagation in the same way as gradients of other potentials. Emerging At the same time, “radiant” energy exchange is by no means reduced to heat exchange, which is what evidenced by such well-studied phenomena as photosynthesis, photoelectric effect, photoionization, photoluminescence, photoacoustic phenomena, photonuclear reactions, etc. All of them are accompanied by the performance of ordered (useful) work. In this case, the reasons for the imbalance of radiant energy exchange in system of interacting bodies is a shift in the radiation frequency in one of them, a change in the wave shape and its amplitude, which leads to a change in potential radiation and the emergence of uncompensated force ***Fl .*** The emergence of such kind of forces is possible both in living and inanimate nature. That energy-informational interactions change the frequency of cyclic processes, as evidenced by the well-known experiments of A. Veinik with recording changes in the course mechanical and electronic watches placed in a torsion balance chamber, experiments N. Kozyreva with “slowing down” time, and numerous examples from yogic practices. These forces themselves have a physical nature and correspond to the forces in their usual (Newtonian) understanding. They can occur in any frequency range, which explains the multiplicity of their manifestations - from super-weak interactions in the tissues of living organisms [14] to very significant, as in poltergeist. These forces can also be generated by psychophysical processes in living organism - the known ability of living objects to influence speed processes occurring in their bodies. The resulting change in length ÿ waves emitted by any organ or the sensitive organism as a whole, leads to a change in the potential of this process and to an imbalance of forces between them and various living and nonliving objects. The existence of such forces that we we will call it “psychophysical” for brevity, provides the key to understanding the phenomena “synchronization” of the work of a number of organs, processes of “self-organization” in living and inanimate nature, as well as a number of psychophysical phenomena, including processes harmonization of the work of biological structures, the healing effects of psychics, dowsing, etc. The essence of the operator’s “tuning” to the object becomes clear. dowsing, as well as the similarity of the processes of radar and dowsing. Below will be Some results of research by members of our association are noted that confirm the stated point of view.

2. Improving dowsing methods

With all the variety of methods for detecting “energy information” effects on objects of living and inanimate nature, the most sensitive is Today the method of dowsing remains. Among the different opinions about The “mechanism” of this process is closest to us from the point of view of A.P. Dubrov [15], which explains the effect of dowsing by the existence of a physical field, which a person creates as a result of special mental activity a resonant field type and its interaction with the environment (resonant connection of fields). Member our association, author of the book “Dowsing in the 3rd millennium” Ph.D. K. Fomberstein [16] believes that the phenomenon of dowsing is associated with the skill of the operator consciously “tune in” to the wavelength range of the person being examined that interests him object and read information based on its response. In this study, the biolocator is

only a tool that helps the operator reflect the internal connection between him and the energy-information field of the object. The true detector in this case is the operator himself, who, however, needs the appropriate knowledge and ability to interpret the information received.

We have repeatedly been convinced that this information is objective in control experiments with a member of our association, Ph.D. M. Goldfeld, who has many years of experience in dowsing research. In one of them, the dowsing operator was asked to determine the position in space of standard galvanic cells while blindfolded. During the experiment, the elements were lined up side by side in different combinations of their poles (for some elements the positive pole is directed upward, for others - downward), and the operator was asked to determine the "sign" of the resulting field. The results were surprisingly accurate. In another series of experiments, the operator was asked to establish the presence or absence of the test object in a measuring field unit (MFB) hidden from his eyes - a device invented by M. Goldfeld that sharply increases the sensitivity of dowsing due to the special selection of the material of its walls (know-how) [17]. For this purpose, a test object with dielectric properties (whether of organic or inorganic origin) was placed in the chamber of this device, secretly from the operator, and the operator had to, using a biological instrument (such as an "inverted pendulum" with a ball on an elastic string), detect not only the presence or the absence of the test material in the chamber of the device, but also to identify the material itself (from the set known to him by the reaction to the biolocator). The results were again unmistakable. In the third series of experiments, the operator was instructed to select from a variety of cards polarized using a high-frequency generator those that had the same frequency. As he had previously established, some materials (for example, samples of 5-layer cardboard measuring 100x50 mm, of which three layers are flat, two are wavy) during dowsing testing of their fields set different angles of deflection of the bioinstrument depending on the frequency and intensity of the electromagnetic signal supplied to them fields. This property was used in the described test. For this purpose, frequencies were applied to the prepared samples (20 pieces) using a standard frequency generator (model 200 AVR from Packard (USA)) at intervals of 100 hertz. For this purpose, a copper electrode was used, which was inserted into the wave part of the sample along the entire length along the larger side. In this case, the same frequency was applied to two control samples. All samples were numbered and frequency coded. This preparatory work was carried out by the research engineer in secret from the operator. The task of the latter was to select samples with the same frequency using a dowser. And it was also solved by the operator without a single error. The experiment showed that one of the physical factors to which the dowsing operator responds is the frequency of the field somehow induced in the sample. At the same time, these experiments confirm that the operator is recording an objectively existing reality, and is not simply "making involuntary movements," as skeptics claim.

However, to strengthen confidence in dowsing data, M. Goldfeld conducted an additional series of experiments aimed at reducing the dependence

his testimony from the operator [18]. To this end, he secured the end of the handle, which the operator usually holds in his hand, in a rigid tripod, and the operator contacted it through a flexible, free-sagging PVC tape. The absence of a rigid or elastic connection between the operator and the biolocator excluded the transfer of ideomotor movements. However, the moving mass of the biolocator still made circular or oscillatory movements with a certain amplitude, although significantly less than in the original design. Thus, it was once again confirmed that fluctuations in the moving mass of the biolocator are caused not by ideomotor effects, but by the interaction of the operator's field with the external field created (or re-emitted) by the object under study.

3. Establishing the vector nature of dowsing

In the course of experimental studies of the dowsing process, M. Goldfeld discovered that bioindicators such as an ordinary or "overturned" pendulum (with a weight on the top of an elastic rod) after some time begin to oscillate along a line forming a certain angle with the lines of force of the Earth's gravitational or magnetic field. For trained dowsing operators who have undergone self-testing before starting measurements (the method of which is outlined in [18]), this angle is very stable and in the state of bioenergetic "balance" of the operator is 45° relative to the magnetic meridian. This behavior of the pendulum fundamentally distinguishes its behavior from its right-handed or left-handed rotation under the influence of so-called "torsion" fields, which is actually observed in a number of cases. After a series of experiments, he found that in addition to the forces that cause the pendulum to oscillate in the north or east direction, there is a force that causes it to oscillate in the vertical plane (in the direction of the radius of the Earth). Thus, a connection was discovered with the results of geomagnetic monitoring carried out by observatories, during which the parameters of the geomagnetic field (GMF) are usually recorded in the Z - H plane, where Z is the vertical (radial) component of the GMF, and H is the direction to the north magnetic pole, coinciding with magnetic meridian. In this regard, he introduced the concept of "geofield" (in our opinion, the term "geospheric" field would be better), defined by the magnitude and direction of the resultant of all known and unknown forces acting in this region of space. At the same time, as a unit of field intensity, he took the magnitude of the rectilinear movement of the movable element of the biolocator equal to 60 mm (which is a tenth of the maximum amplitude of the pendulum oscillation). Along the way, it turned out that fulfilling certain requirements for the biolocator measurement technique allows one to obtain results with a high degree of reliability. This is how the vector nature of the dowsing process was discovered, and thereby the vector nature of psychophysical forces resulting from energy dynamics was confirmed.

In order to further improve dowsing, M. Goldfeld designed a special device, which he called a measuring field unit (MFB). It is a camera made of materials that do not distort the surrounding field environment (know-how). Objects to be studied are placed inside this chamber. On the outside, the camera has a 180-degree scale, with

with which the device is oriented relative to the magnetic meridian. This scale allows the operator to estimate, with an error of ±2°, the direction of the resulting vector of the external “energy information” field, and thereby provide additional (relative to the signal amplitude) information about deviations of the angle of inclination of the line of oscillation of the pendulum in the vertical plane, caused by the test sample placed in the IPB, from that which is due to the natural background of the environment [18]. Thus, using the IPB, not only the intensity, but also the direction of the resulting field in a given region of space is determined.

Thanks to this device, it turned out that the dowsing operator, after self-testing [18], is able to record a change in the direction of the resulting vector caused by the addition of the field of an object placed in the IPB chamber with external force fields generated by geomagnetic and atmospheric phenomena in near-Earth space. Of particular interest in this regard is the possibility of obtaining quantitative estimates when comparing the fields of inanimate objects, devoid of their own energy sources, with the fields of standard finger or flat galvanic cells, also placed in the IPB chamber. Thus, a portable IPB allows monitoring the geofield in any medical institution or in a patient’s apartment. As this device was used, its other useful properties were revealed, which will be discussed below.

4. Detection of polarization of energy-information radiation

In the process of conducting experiments with sources and information analogues (IA) of subtle physical fields (FPP) by members of the association Ph.D. M. Grinshtein and Ph.D. M. Shreibman discovered an interesting phenomenon that is still difficult to explain. It turned out that the radiation from the sources mentioned above and their ionizers have properties similar to those of linearly polarized light. Thus, using the same Polaroid, they discovered that the light emission of a liquid crystal screen (LCD) of a computer monitor is also linearly polarized, as is the pathogenic TPP emitted by it [19]. This is all the more surprising since both oscillatory processes (electromagnetic and information-wave) have a different nature, which is confirmed by a number of experiments. Another difference in the properties of both polarized radiations is that the intensity of linearly polarized light passing through the analyzer depends only on the angle
rotation of the analyzer plane relative to the plane of polarization, while the intensity of the “fine-field” structure passing through the analyzer depends
also on the distance between the surface of the flat field carrier and the plane of the analyzer.

The importance of the discovered phenomenon, in our opinion, is that it expands our understanding of the nature of DFT. Thus, based on the data obtained, one can rightfully challenge the statement of a number of scientists that information-wave structures are nothing more than longitudinal electromagnetic waves,

since only transverse oscillations (waves) can be linearly polarized. The above also applies to torsion fields, the properties of which are replaced by supporters of the theory of “physical vacuum” for many properties of information-wave structures. The authors, not being theoretical physicists, did not set themselves the task of studying the discovered phenomenon, especially since it requires a detailed theoretical analysis. However, the discovered phenomenon is of great practical importance in terms of improving medical information-wave technologies, for example, technologies for biofunctional diagnostics and therapy. The fact is that when working with informational drugs (homeopathic drugs, nosodes, etc.) and having a commercially produced “Transfer” apparatus, the doctor uses these drugs mainly in standard potencies present in the drug selector of the corresponding diagnostic complexes. The discovered phenomenon allows us to ensure a smooth change in the potency of a particular drug from the maximum value to fita (zero potency).

5. Monitoring the geopathogenic situation and its impact on person

Already mentioned Ph.D. M. Goldfeld developed a fundamentally new device for monitoring the geopathogenic state of the environment. The device, called a “geofield compass” [18], has a moving needle with a circular scale and is capable of responding to changes in fields of an unknown (apparently complex) nature in the surface layer without any operator intervention. The range of changes in the direction of the device's arrow reaches 180° and is completely independent of the readings of the magnetic compass. It has been established that when the instrument reading corresponds to the “north-south” direction, the condition of people from the so-called “risk group” (sensitive to magnetic storms and weather changes) is favorable. And on the contrary, when the direction of the arrow corresponds to the “west-east” position, the well-being of people in the observed group sharply worsens, regardless of the presence or absence of magnetic storms. At the same time, it turned out that the well-being of people in this group is more influenced not by magnetic storms or other factors predicted by weather stations, but by these radiations of an unknown nature, which can only be measured by dowsing methods. The results of local monitoring are published on the website “Man and the Energy Field” (http://vb.futurisrael.org/) and are compared with weather observation data, as well as statistical data from medical institutions receiving emergency patients. The results of these studies show that changes in the direction of the resulting geofield balance vector are somehow related to the well-being and health of people with various diseases. The device prevents the approach of a geopathogenic situation that has a harmful effect on people at risk, and allows, in principle, to take preventive measures. In addition, it is important for establishing the nature of this connection. In particular, it allows us to evaluate the effectiveness of devices created by M. Grinshtein that protect residential premises from harmful effects

geopathogenic zones.

6. Study of the process of transferring medicinal properties to water medical supplies

The idea of the wave nature of energy-information exchange allowed Ph.D. M.M.Grinshtein and Ph.D. M.M. Shraybman to develop a new look at the phenomenon homeopathy, supported by a series of experiments on the transfer apparatus medicinal properties of "Transfer" type medications.

As is known, in the process of dilution (potentiation) in intermediate solutions the concentration of the “material” component of the drug is significantly reduced, which, if it enters the body, could take part in various biochemical reactions. At high dilution levels, the real component of the drug practically disappears and the main role in the treatment process only the field, information component plays, containing information about medicinal properties of the drug. Thanks to special structural and information the properties of the water on it remember all this information about the medicinal properties drug.

According to the observations of these authors, each subsequent dilution and shaking increases the number of active clusters contained in the volume, thereby increasing, from potency to potency, the therapeutic activity drug. The same effect is obtained with non-contact exposure to water. field structure containing therapeutic information. Experiments have shown that two versions of the same drug, at different potencies, differ from each other by intensity rather than by frequency of background radiation. Received the result refutes the “frequency” hypothesis, according to which as a result potentiation, only the natural frequency of radiation of the drugs changes.

7. Explanation of the “cavity structure effect”

An idea of the power mechanism developed on the basis of energy dynamics energy information exchange allowed us to offer a new look at nature effect of cavity structures (ESS), discovered by a famous naturalist V.S.Grebennikov. Studying the influence of cavity structures on health and well-being of people and animals, reproduction of bacteria, seed germination, productivity and safety of agricultural crops, etc. and so on. revealed how their positive and negative effects. Beneficial for humans and V. Grebennikov especially highlights the most ancient “emitters” of this kind pyramids, honeycombs; a “lattice” of hands, a sieve and tefillin (a box of Torah scroll, used by Jews during prayers). Most researchers classifies the impact of cavity structures on biological objects as informational processes that do not have an energy component. However, the simplest experiments carried out by the author using a Grebennikov device (such as torsion weights) shows that cavity structures cause thread twisting torsion balances and, therefore, have a non-zero torsional moment.

Analysis of this phenomenon from the perspective of energy dynamics allows us to conclude that this is rather, in contrast to the energy state of the extremely developed molecules surface layer of cavity structures from the state of deep layers of such materials. This difference entails a shift in the frequency spectrum of the radiation of this layer compared to deep layers and, as a consequence, the emergence energy exchange in case of any violation of the energy balance between them. This energy exchange can be of an ordering (directional) nature when the surface layer has additional potential energy depending on the orientation of the bodies or particles that make up this surface layer. In such in the surface layer of many materials, orientational moments due to the presence in it of molecules with non-spherical symmetry and the predominance of the action on this layer of internal forces that have a certain direction. This moment seeks to orient in a certain way molecules, electron orbits and spins of nuclear particles of surface atoms layer. As a result, a certain ordering of particles arises surface layer, which, due to the inherent oscillation of particles (including including the oscillatory nature of the precessional motion of the spins of nuclear particles) transmitted to other particles.

The energetic nature of the ordering influence of cavity structures illustrated by the author using examples of experiments with torsion balances and changing surface of guide plates made by academician Belorussian Academy of Sciences A.I. Veinik, as well as on the example of experiments on the influence of shape vessels on the physical and chemical properties of the water in them, carried out by Academician M.V. Kurik at the Institute of Physics of the National Academy of Sciences of Ukraine.

8. Study of the influence of radiation from electronic equipment on people's health

In recent years, many studies have been carried out to detect harmful effects of electronic equipment, including the consequences use of mobile phones (MT). One of these studies, conducted by a member of our association, M. Goldfeld, concerned the impact mobile phone radiation on the reproductive properties of chicken eggs. A method for sorting eggs using measuring field unit (IFB) [1] for specimens with living and dead embryos. The device allows you to accurately record the egg field vector at different state of the embryo and thereby increase production efficiency chickens in incubators.

For the experiment, a batch of eggs with a living embryo was selected, which was then divided into two groups. A serial mobile phone was placed next to 1 of them telephone (MT) with a negative (H) field, next to another - the same type MT with positive (Z) field [1]. A day later there was not a single one in the first group eggs with a living embryo. In the second group, all embryos were alive. After that the eggs of the first group were replaced. Monitoring their condition this time was carried out every two hours. It turned out that after 6 hours the first egg died,

the rest - over the next two hours. The tests were repeated for another
4 sets of eggs. The results were similar. All the time
During the tests, the condition of the eggs of the second group was monitored. All the germs are in it
were alive. This group was subsequently observed for another two weeks. None
no changes in the condition of the embryos were detected.

However, the nature of such “pathogenic” radiation remains unclear. Alone
researchers explain them by their presence in electromagnetic radiation (EMR) as follows:
called the “torsion” component of a non-electromagnetic nature, others, on the
contrary, believe that this torsion component is a type
longitudinal electromagnetic waves. Still others deny the torsion nature altogether
pathogenic radiation, based on the concept of penetration of conventional
electromagnetic fields (EMF) into the human brain.

In particular, members of our association Ph.D. M.M.Grinshtein and Ph.D. M.M. Shraybman
in the course of joint experiments they came to the conclusion about the non-electromagnetic nature
harmful MT radiation on the grounds that plastic corrugated cardboard is
an obstacle to negative TFP of a mobile phone, while weak EMF
of a dextrorotatory nature he passes without any problems. This result
confirmed both by dowsing methods and on a hardware-software complex
"Imedis-test +" [1]. These researchers rightly note that both developers and most
researchers evaluate MTs by their “active” electromagnetic radiation in the “receive-
transmit” mode. Under this regime
work takes into account the ability of electromagnetic radiation (EMR) of a mobile phone
directly penetrate the brain and heat its tissues. However, much
More dangerous, they believe, is an order of magnitude longer operation of the MT in
the “standby” mode, when the MT emits an anomalous component of a non-
electromagnetic nature, which can cause a number of serious diseases.

9. Search for means of protection against pathogenic influences mobile phones

Most research aimed at protecting users from harmful
radiation from electronic equipment, are based on the concept of generation by devices
protection (US) of right-hand torsion fields capable of compensating
torsion fields emitted by this equipment. However, from the point of view of energy dynamics
generation of energy by any device requires a built-in or
external energy source, which in most known devices
absent. Therefore, members of our association, along with this concept
the possibility of scattering or reflecting harmful radiation is considered
cavity structures of ultrasound. This, in our opinion, is the “mechanism” of action of the protective
devices "Forpost-1" manufactured by Spinor International (Kyiv). With him
test conducted in 1998 by a member of our association, Doctor of Geology and
Mineralogy. V.E. Vetshtein, this device was installed in front of the TV screen. Behind
years of testing due to the deflecting (reflective) effect of the charger on the wall
an oblique projection of the contour of the kinescope bulb was imprinted on the back of the TV

TV, similar to traces of “soot” from the action of a number of electrical AC devices.

A very effective KM was designed by a member of our association, Ph.D. M. Grinshtein and was called by him “the neutralizer of Bio-Magen.” He is an ellipsoidal structure consisting of a set of polymer elements with protective layer in the form of a special polymer fill. On the active layer of this elliptical shaped devices with dimensions 3x2cm and thickness 2mm through technology (know-how) developed by the author, a special holographic matrix having the properties of a broadband positive resonator "subtle physical field". The above-mentioned matrix also includes the healing and healing properties of specially selected wave structures medications. This resonator always emits a positive field, the phase of which is opposite to the phase of harmful radiation, which, according to the author, determines the process of neutralizing the latter. A special property of this resonator is that if it falls within the range of the external field, then the resonator is “activated” - a sharp increase in its intensity radiation. As tests have shown using radiesthesia methods and through various computer diagnostic systems, "Bio-Magen" attenuates harmful radiation electronic devices, household and industrial equipment. With comparative checking the “Bio-Magen” device and the Japanese ultrasound “Radiation free shield” for computer diagnostic complex ART and computer diagnostic device GDV-Kamera type “Aura Video” (USA), the Japanese device showed only 40% neutralization of cell phone radiation, instead of the advertised 99%. Concerning “Bio-Magen” device, it provided 95% neutralization of harmful radiation. This neutralizer is glued to the working surface of a household appliance, or the back of a mobile phone. Its effective range is at least 3.5 m. An industrial batch of such ultrasonic devices has been produced.

Even more “revolutionary” methods of protection from harmful mobile radiation phones were proposed by M. Goldfeld, who found ways “repolarization” of their radiation from harmful to positive. This method allows you to save what is induced in the device for a long time (from 0.5 to 2 years) positive field without the use of any protective devices. Re-polarization of mobile phones is carried out by placing them on time in special device with consistently positive by energy information field, which is achieved by using special materials that retain the sign and magnitude of their field during any fluctuations external fields. Educational and scientific cooperative "Kashtal", with which it cooperates the author puts on the agenda the organization of permanent points of repolarization mobile phones among the population.

10. Use of orgone accumulators for correction health

Member of our association, Doctor of Geological and Mineral Sciences, Professor V.E. Vetshtein designed and built the first “organic accumulator” in Israel, an improved model BK-

1-RVF. Its action is based on the principle of “orgone biocorrection” proposed by Dr. Reich. The biocorrector is a wooden cabin sheathed from the inside (without a single nail) with multilayer metal covered with insulating layers, and topped with a small pyramid. Cabin equipped with a seat and its volume is designed for a 15-minute stay of one patient.

The difference between the project and analogues lies in the design features orgone accumulator (in its shape, size, number of layers of internal metal coatings, etc.). These design features contain elements of know-how and may be subject to patenting. The project was implemented as an operating device that is used by the author on a non-commercial scale for treatment voluntary patients (relatives, friends, acquaintances, etc.). In all cases treatment of persons with various diseases after several sessions was observed positive effect without the use of any medications. Each session was accompanied by dowsing monitoring of the patient’s condition before and after a 15-minute stay to the cabin. Particularly effective and visual turned out to control the effectiveness of treatment by applying Kirlianograms of the patient before and after the treatment session, taken using gas discharge chamber "GDV - Camera" from the Finnish company "Kirlionics Technologies Internationale". This portable diagnostic complex, the action of which based on the method of gas-discharge visualization - the glow of human fingers in high-frequency electromagnetic field (Kirlian effect), and has independent meaning, used by a member of our association, Ph.D. I. Pertsikov, an acupuncturist, during therapeutic course in accordance with the existing license.

11. Study of interaction between mother and unborn child

Association member Professor G.I. Brekhman is developing the concept of wave interaction between mother and unborn child (UN), based on the trinity: structure – wave – information. His work shows that information exchange between the mother and the NR is carried out through the uteroplacental basin with using plasma, blood cells and biologically active substances dissolved in them substances, so that information is carried not only by structural elements, but also by their wave components. It has been established that at the molecular level DNA, water and proteins that make up cells can generate and perceive wave information, to be its carrier, custodian and transmitter. Reviewing the question exchange of information from these positions allows us to understand hitherto inexplicable phenomena: a) instant reactions of the HP during sudden changes in emotional mother's condition; b) involuntary transmission by her in such states of extensive information in the form of images and pictures with their subsequent fixation in the cellular fetal memory [20].

12. Protection of premises from geopathogenic zones

According to a number of European countries, up to 80% of malignant neoplasms associated with the impact of natural geopathogenic fields. In particular, the occurrence of tumors occurs if a person has several
hours per day is located on a Hartmann grid node or line. It is especially dangerous if they pass under a permanent place of sleep, work or rest.

To prove the harmful effects of geopathogenic zones on biological organisms a member of our association, M. Goldfeld, conducted experiments with exposure of the grid field to living chicken embryos according to the method described in [18]. It turned out that when eggs are placed on a Hartmann grid node, the embryos die for 15 minutes, and on the Hartmann line - in 30 minutes. For comparison, we point out that under Under the influence of the cell phone field, the embryos died within 6-8 hours. So Thus, the influence of the geopathogenic field is much more destructive.

To observe the behavior of the geopathogenic field, M. Goldfeld was the geofield compass he constructed, described above in paragraph 5, was used. This the device was installed in the nodes and lines of the Hartmann grid, detected by methods dowsing. Measurements using it showed that the intensity of the field generated by the grid can change by 6–8 times. To find the reasons for this behavior of the geopathogenic field, geofield compass readings were compared with geomagnetic field indicators recorded by the country's weather stations. These The observatory records the earth's magnetic field vectors every minute, including the radial component Z lying in the plane of the magnetic meridian and directed along the radius of the earth, and the horizontal component H, normal to plane of the magnetic meridian. It turned out that when the H value increases and Z decreases, the intensity of the pathogenic field in the nodes and lines of the Hartmann grid increases. At the same time, in people with chronic diseases (and especially those associated with the presence of pathogenic infections in the body) exacerbations are observed, sometimes very heavy.

The usual method of protection against the influence of geopathogenic zones is dowsing inspection of premises to identify the Hartmann grid in them and placement of workplaces and rest areas in such a way that they do not fall on elements of this grid. At the same time, in the scientific and educational cooperative "Kashtal", where M. Goldfeld works, methods for general protection of premises from exposure to geopathogenic fields, as well as means of local protection of the work area. They consist in the use of a special, highly polarized material, which is, as it were, bent around a geopathogenic field, as a result of which it is diverted to required distance from the person. The methods were tested for two years. The results of observations of the readings of a geofield compass located in premises protected in this way are also published by us on the website <http://vb.futurisrael.org/> along with measurements of the geofield situation outdoors. As a comparison of measurement data shows, the geofield situation in a protected zone is much more favorable and stable, entering the danger zone only in case very strong shocks to the geofield situation.

13. Transfer of medicinal properties of drugs over long distances

Ph.D. Mark Greenstein and Ph.D. Mikhail Shraibman created a system that provides the ability to transmit via wireless and cable communication lines, for example, cellular communications and the Internet, the information-wave properties of substances of biological objects, including the medicinal properties of medicines and medicinal plants, as well as information about the functional state of the human body and animals. A system based on the bioresonance therapy method (Voll method) can be used to create an emergency telemedicine network that has no analogues in the world.

14. Computer light-color brain stimulation

Member of our association Ph.D. Sh. Baskin proposed a method and set of programs of light-linguistic medicine for effective treatment, health prevention and increasing human creative potential. The method is based on known evidence of the amazing healing and preventive properties of Jewish holy texts and on the discovery of visual images of Hebrew and Aramite. In contrast to existing technical devices for sound and light stimulation of the brain, such as the light-sound machine "Mind machines", computer programs for light stimulation of the brain are offered according to the original method developed by the company "Wezit". The technique and program turns the computer into a powerful and flexible tool for stimulation and energy massage of the brain, safer and much cheaper than the technical means mentioned above. The data is published on the website "www.visnsoft.com".

15. Correction of health with small-sized pyramids

Dr. M. Goldfeld developed small-sized healing pyramids (maximum size up to 1.5 meters) with predetermined "energy" properties. The connection of these properties with the geometric characteristics and surface of the pyramid was established by him through long-term experimentation using the above-mentioned method of calibrating the biolocator using standard galvanic elements. The most effective were the "Pyramids of David" - twelve-sided pyramids with a cross section in the shape of a Star of David. They are distinguished by particularly powerful energy. He also established regimes for the use of healing pyramids depending on the person's energy state and the nature of the disease. They are used for non-commercial purposes to provide assistance to family and friends with lasting positive results.

One of the useful applications of small-sized pyramids was to store medicines, cosmetics, some food products, etc. in them. For these purposes, a special device was developed based on a small-sized pyramid with optimal geometric parameters. It ensures a stable state of the field inside it, independent of the parameters of the field outside

environment. It has been tested for four years on various medical and
cosmetic products showed that the field content of objects does not change.

By the way, the architectural department of Petah Tikva, where he lives
M. Goldfeld, according to his calculations, a 12-story medical and administrative
building of a pyramidal shape was designed, all the premises of which
made in the form of pyramids. The project implementation is delayed due to lack of
investor.

16. Testing and adjustment of medicinal properties medications

The method was proposed by Ph.D. Mikhail Goldfeld and based on what he discovered
the phenomenon of medications losing their medicinal properties under the influence of external
geopathogenic fields. The consequence of this phenomenon may be the transformation of previously
useful medicines into harmful ones. Returning drugs to their medicinal properties
carried out by Goldfeld in the pyramid-based device described above, in
which maintains a constant positive (so-called “ontogenic” energy information field.

A very effective means of monitoring the changing effectiveness of drugs
is the measuring-field unit described above in paragraph 12. For this
previously transferred to an intermediate carrier biofield of the diseased organ
or areas on the surface of the body. Then, using the IPB, the direction is determined
vector of the patient's resulting field. Then the patient is asked to take
prescribed drug. After 10-12 minutes a re-check is carried out
directions of the field vector in the same places. By changing the direction of the vector
you can make an accurate prediction about the effectiveness of the drug. Next stage
work - determining the duration of the drug for the patient. For this it is necessary
periodically check the direction of the patient’s field vector, which has changed after
taking medication. The time it takes for the biofield vector of the diseased area to return to
initial position, and will be the necessary and sufficient interval between
taking medications.

17. Restoring sensitivity biologically active points

The method was also proposed by M. Goldfeld and is based on the effect on BAP
biological field adapted to the patient both in direction
the resulting field vector, as well as in intensity and frequency range. In that
In this case, the electrical conductive properties of BAP in the patient not only do not decrease due to
session to session (or as a result of an illness), but even increases. Method
tested on a group of volunteer patients and gave positive results.

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Torsion fields and information interactions – 2009

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Discovery of vortices in the nervous system

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The paper presents original results of volumetric neuromodeling propagation of axonal spikes in myelinated axons. Shown much more complex than is currently believed, the nature of this propagation, and the significance of the influence of features associated specifically with the volumetric propagation is substantiated, namely, the vortex nature ion currents and corresponding electromagnetic fields propagating spikes. Based on the analysis and neuromodeling of electrochemical transmission mechanisms, it is suggested for the first time that the substrate of long-term memory may be the myelin sheath of axons, which is important in understanding the development of relevant pathologies, including diseases Parkinson's and Alzheimer's.

Dedicated with Love to the eternal blessed memory of my Mother and closest Friend SAVELYEVA-NOVOSOLOVA NINA ANDREE

Introduction

Until now, the propagation of axonal spikes has been considered only in longitudinal section of the axon, by default considering it, thus, in one-dimensional space. One-dimensional spike propagation is good studied issue since the studies of A. Hodgkin and A. Huxley, for which they received the Nobel Prize in 1963. More refined equations generation and conduction of an electrical active spike, however, also by one-dimensional axon fiber were proposed by Yu. G. Antomonov and A. B. Kotova [1]. Subsequently, the spike propagation equations are repeatedly refined and modified up to the present time [2], however, not going beyond the one-dimensional model. However, the symmetry of the transverse cross sections of the electrical axon impulse is far from ideal, and therefore considering only its one-dimensional distribution along the length of the axon means loss of a significant portion of information. In addition, the length to diameter ratio are not negligible, especially for short axons, characteristic for the neocortex. And finally, as will be shown below, as a result of volumetric nature of the propagation of spikes, super-effects can manifest themselves, dramatically influencing the distribution itself and its results.

Methods

Methods of mathematical and simulation modeling were used with the involvement of expert data obtained by identifying the parameters of dynamic distributed models of real biological tissue in culture. Spike propagation was studied using *neuroexistential* algorithms implemented in a number of neuroprocessors [3, 4]. In particular, conduction along the axon was studied taking into account quasi-reciprocal [5], as well as reciprocal [6] propagation due to the reflection of spikes from nodes of Ranvier. A similar scheme is also applicable for modeling the propagation of an electric wave generated by a spike impulse along the radial directions of an axon cross-section, taking into account the identification of differing parameters

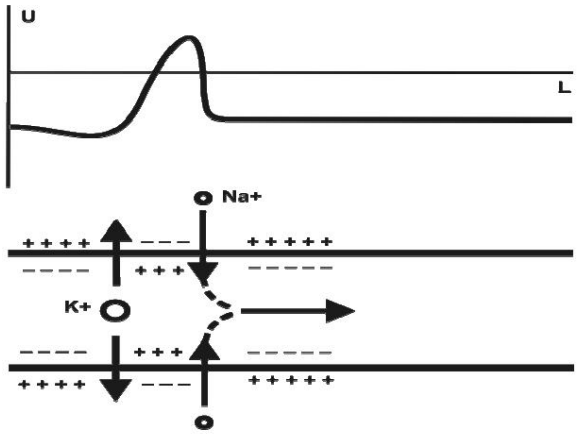
distribution environment for each individual direction.

The neuromodel developed to simulate a nerve bundle [7], due to the fractal and quasi-fractal properties of neurons [8], with a fairly high degree of accuracy reflects the properties of volumetric conduction in a solitary axon, taking into account the parallel-longitudinal propagation of the components of the spike wave and cross interactions between them. The discreteness of the spike components was reproduced by a neural network neuroprocessor [9], which models the distribution of the initial zone of spike occurrence and the features of their total distribution. The same neural model provides sampling of a distributed spike wave in the cross section of an axon. A number of neuromodels that detect the component-wise discrete composition of a spike were proposed and studied by us in [10]. Passive conduction of spikes, for example, between nodes of Ranvier or within the cross-sectional plane of an axon, was modeled by neuroprocessors [11-14], taking into account the phenomena of volumetric interference of electrical waves [15, 16], as well as a gradual subthreshold neuroprocessor of a commissural neuron [17]. We also used data from neurophysiological studies using microelectrode technology and electron microscopy of sections of animal and human brain tissue, as well as optical methods

microscopy of intravital cell cultures.

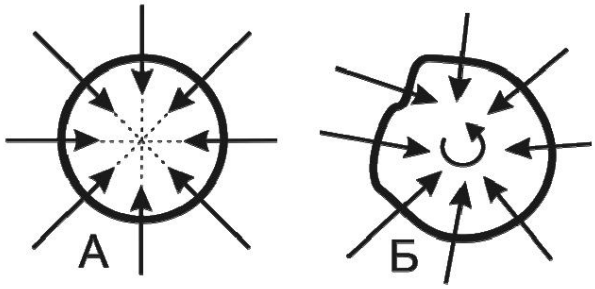
Results

The simulation showed the complex dynamic structure of an axonal spike propagating across a cross-section. The entry of Na+ current from the extracellular environment into the internal space of the axon in the section of the leading edge of the spike is centripetal in nature. At the same time, the accumulation of positively charged Na+ ions behind the leading edge creates an excess concentration positive ions, since the release of K ions into the extracellular space occurs with some delay after the entry of Na+ ions at the leading edge of the spike. $^{+}$



Rice. 1. Schematic representation of the delay in the release of positively charged ions K+ from the internal space of the axon and the formation of the axial component incoming sodium currents.

This forms a positively charged region of the membrane, following directly behind the spike, resulting in, as well as centripetal incoming sodium currents, their axial cumulative component is formed (Fig. 1). It is known that axons in areas below the initial segment do not contain ubiquitous organelles – granular endoplasmic reticulum and free ribosomes. Compared to large dendrites in axons contains many neurofilaments parallel to their longitudinal axis and relatively small number of microtubules. Neurofilaments are usually have a diameter of about 0.1 nm and various indeterminate lengths. Research Schmidt and Davidson [18] showed that each neurofilament is a ***helically*** **twisted thread constructed from globular protein subunits. IN During the prenatal period of ontogenesis, axons contain a large number microtubules and a relatively small number of neurofilament filaments. Further, with the development of the organism, this quantitative ratio is significantly shifts in favor of neurofilaments, which, in addition, begin to combine into groups. With age, the number of these groups increases and the location neurofilaments become more dispersed. It is also known that as As the body matures, the cross sections of axon membranes become increasingly different from perfect circle. Electrical activity of an axon during a spike discharge accompanied by powerful flows incoming along the leading edge of the spike sodium ion currents.**



Rice. 2. Schematic representation of the cross section of an axon at the moment of occurrence leading edge of the spike. A – mutual balancing of incoming sodium currents, ideal case; B – appearance of the eddy component of the incoming sodium current, corresponding to the leading edge of the spike in the real case.

The potassium outward current has been shown to turn on later and accompany the trailing falling front of the spike before reaching the peak of the refractory period, therefore, in in the formation of the leading edge of the spike impulse, it has practically no role plays. Thus, the leading edge of the spike is formed exclusively incoming sodium current. If you look at the cross section of an axon (Fig. 2), you can see that the non-ideal shape of the axon membrane, which differs from a circle, contributes to unbalanced mutual compensation of incoming vectors sodium currents. At the same time, such an obvious significant asymmetry cross-section of real biological axons, determines unevenness in both the quantitative characteristics of the axons entering the interior spike sodium currents, and their qualitative unevenness, that is, their directions. Moreover, as a result of algebraic summation, the resulting eddy component of the sodium current, twists in one direction or another, in depending on the specific ratio and direction of the vectors of incoming currents In addition, this effect enhances the heterogeneity of the cytoplasm containing various types of inclusions and organelles, as well as electromagnetic influences from sides of neighboring closely spaced axons packed into syncytium [19]. Thus, a spike in a cross section is a rather complex multidimensional vortex education due to appropriate spiral flow of the resulting ionic currents. Availability of the mentioned the spiral twist of neurofilament filaments also confirms this fact according to the well-known experience of W. Schauberger with placing a thread in a pipe with spiral flow of liquid, which as a result also swirled in three-dimensional spiral [20]. They also carried out an experiment showing combining such threads (if several of them were placed) into groups during a spiral flow, which is clearly observed as axons mature in ontogenesis.

For a wave equation with potential $u(|\varphi|) = \frac{\lambda}{4}(|\varphi|^2 - 1)^2$ and turning on Abelian gauge field $u(1)$ The action functionality is determined

$F_{\varphi,a} = \frac{1}{2}[|D_x\varphi|^2 + |D_y\varphi|^2 + ||Q||^2 + \frac{\lambda}{4}(|\varphi|^2 - 1)^2]$ by: (1)

$D_x\varphi = (\varphi_{,a} - iK_a\varphi)$, $K_a(x)$ – real Abelian gauge field;

and the functionality will be minimal when executing the system of equations:

$$\begin{cases} (\varphi_{1,x} + K_1\varphi_2) - n(\varphi_{x,y} + K_2\varphi_1) = 0 \\ (\varphi_{1,y} + K_2\varphi_2) - n(\varphi_{2,x} + K_1\varphi) = 0 \\ Q_{xy} + \frac{1}{2}n(\varphi_1^2 + \varphi^2 - 1) = 0 \end{cases}; \quad (2)$$

$nN > 0, n = \pm 1;$

Solving it when $N > 0$ are N-vortex. , defined

Displaying $\theta_m: T^1 \to T^1$ by the mapping y – zeros of the $\theta_m: z \to z^n$, Where: $|z| = 1;\ z^n = x + i$ function $\varphi(z)$,

allows you to search for a solution φ in the form:

$\varphi_1 + i\varphi_2 = e^{im\psi}f(r)$, где: $f(\infty) = 1$. (3)

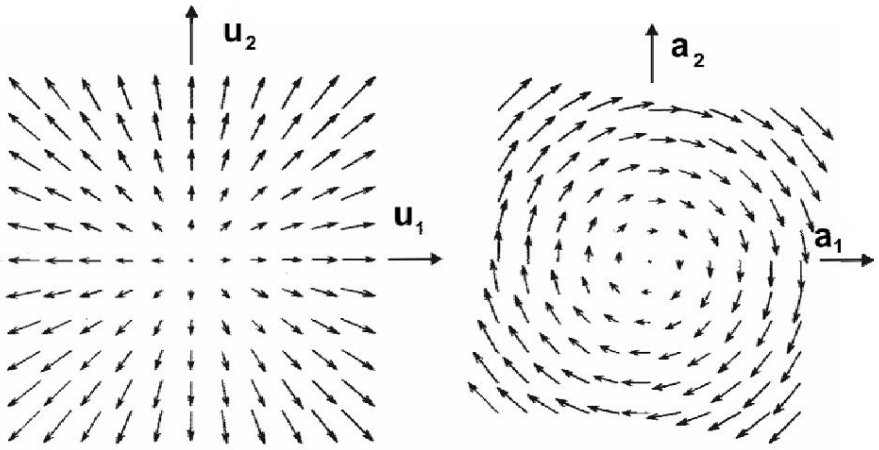
For this mapping the $\theta = m\psi$, so the gauge field has asymptotic form is:

$K_a = (m\psi)_{,a} = -\frac{mn_{ab}x_c}{r}$, **Where:** $x_c = \frac{x_b}{r}$, **and the solution will be:**

$$K_a = -\frac{mn_{ab}x_c}{r} \cdot a(r), \quad \text{где: } a(\infty) = 1 . \qquad (4)$$

Substituting (3) and (4) into (2), we obtain for $N > 0$:

$$\begin{cases} r\frac{\partial f}{\partial r} - m(1-a)f = 0 \\ \frac{2m}{r} \cdot \frac{\partial a}{\partial r} - m(f^2 - 1) = 0 \end{cases} \qquad (5)$$



Rice. 3. Solution field with a single vortex.

In the vicinity of a point $r = 0$ **the solutions have the following asymptotics:**

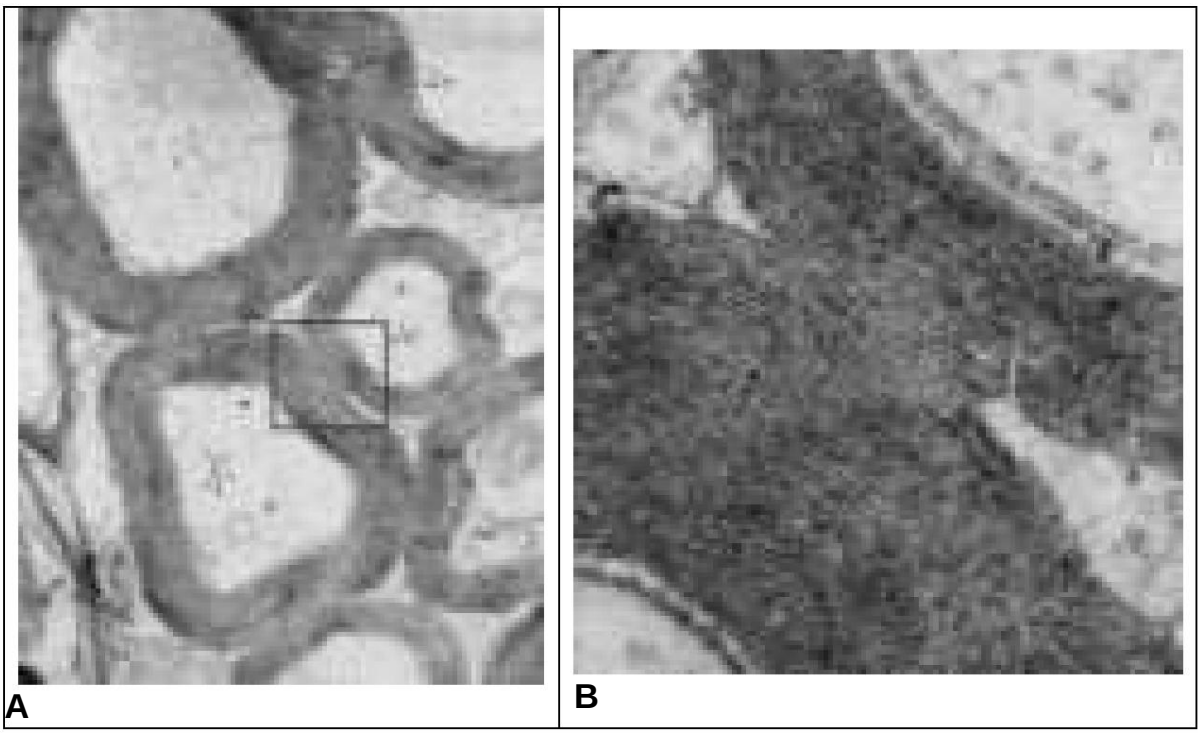
$$\begin{cases} f = Cr^n \\ a = \frac{1}{4m} \cdot r^2 \end{cases}$$

Single vortex solution for ÿ and gauge field near $r = 0$ **It has asymptotes:**

$$\overline{K} = \pm\frac{r}{4} \cdot H_\psi + O(r^2),$$

– diverging radial potential from a point relative to it is a $r = 0$ **and swirling vortex (Fig. 3).**

It is quite possible that it is precisely the spiral nature of the spatial spikes discharges is explained by the spiral twisting of the myelin sheaths around axons. In this case, the electrical activity of axons may be stimulating for the oligodendrocytes that form these membranes, otherwise it is inexplicable that such a large number of turns of myelin are clearly excessive for electrical insulation of the nerve fiber.



Rice. 4. A: Optic nerve of an adult rat. My – myelin. VM – internal mesaxon. Microtubules (T) and microfibers (F) in axons of various calibers (1-4). It is seen a large number of layers of myelin, clearly redundant to perform the function electrical insulation. Magnification 45,000, photo by C. Nèmeÿek. B: Myelin fragment shell of image A, a large number of layers are visible.

From here it is clear what a large role EMF interactions play in the nervous system, up to the determining factor in a known unsolved problem "structure-function" problem [21]. In Fig. Figure 4 shows a cross section of three myelinated axons of different calibers and sections of the myelin sheath four other axons. The spiral plates of the shell begin with the inner mesaxon. In the place of mesaxon as a result of closure of the outer surfaces plasma membranes of the oligodendrocyte process, which forms the myelin shell, an intermediate line is formed. It alternates with the main dense line resulting from close contact of surfaces cytoplasmic membrane of the oligodendrocyte and ends on the outer side at the level of the outer process of the so-called "tongue". In Fig. 4 it is clear that the number of layers on different axons differs, with axons with fewer diameter contain fewer myelin layers, which can also be interpreted shorter total activation time. However, in all cases it is good there is a clear redundancy in the number of myelin layers to perform functions of electrical isolation of axons from the extracellular environment, which is practically the only one taken into account at present.

Axonal-ephaptic logic

Ephaptic (via electromagnetic field - EMF) interactions are practically an integral part of interneuron interaction [22]. This can directly follow from both physical ideas about the nature of EMF, taking into account the strong electrical nature multineuronal extra- and intraneuronal activity and from numerous results neurophysiological experiments [23, 24] and modeling results [3, 4]. However, it should be noted that the ephaptic effects in multineuron activity are considered mainly either in the influence of external fields [24] or in the form of interdendritic interactions [25]. At the same time, the most powerful electric a phenomenon in the functioning of a neuron is axon spike, which also has, due to its pronounced pulse form, rich content enough high-amplitude harmonic components. Moreover, given the dense packaging of some axon fibers in nerve bundles (Fig. 5) or syncytia [26], we can assume quite strong mutual influences of EMF generated adhesions spreading along them. Generation of each spike in such densely packed neuropils contribute to increased asymmetry ionic currents flowing into each individual fiber (see Fig. 2), which enhances conditions for their vortex formation.

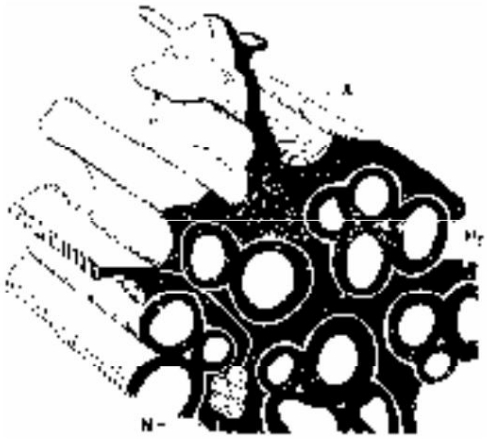
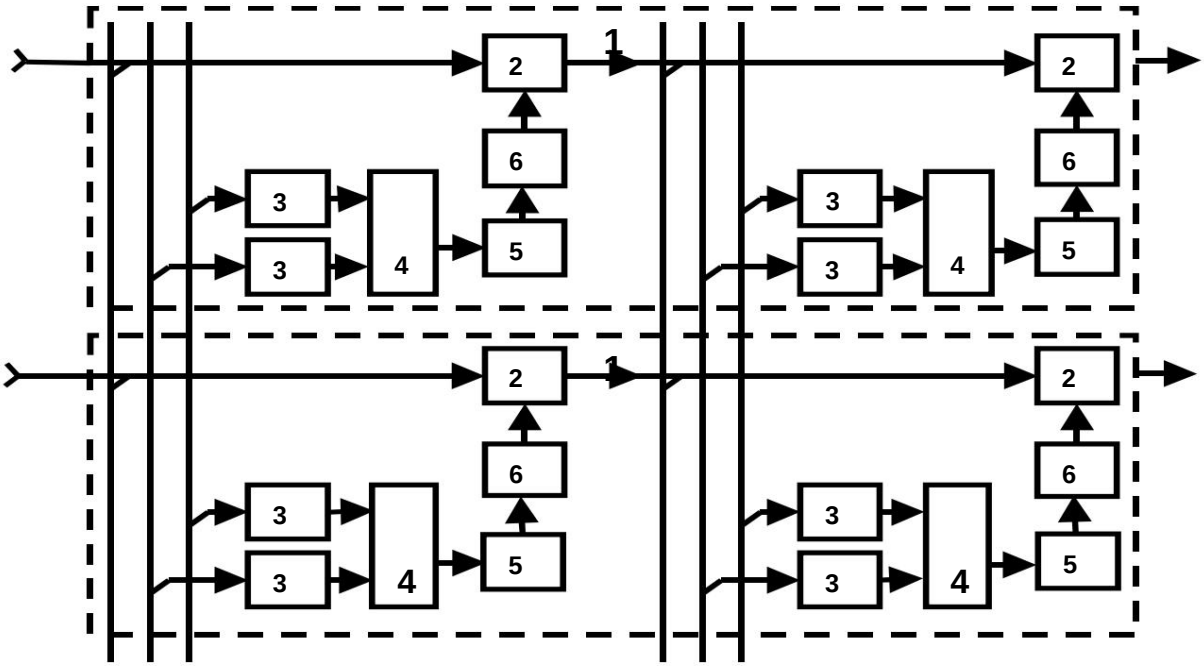


Fig.5. Nerve bundle segment with astrocytic sheath (A) around the group myelinated (My) and non-pulpate (N) neurites (Nÿmeÿek S.).

We carried out logical and mathematical modeling of the mechanisms self-processing of information by spike flows at the axonal level when union of myelinated axons into a nerve bundle. In the neural model according to [7], Fig. 6, a neuristor network is implemented that models a nerve bundle. Additional logic is set by the mutual topology of individual axons in the nervous beam, which determines the nature and degree of their influence on each other at the moment the passage of spikes.



Rice. 6. Neuristor processor of the nerve bundle of fibers along a. With. 1439632 [7]: 1 – neuristors, 2 – neuristor cells, 3 – scaling blocks, 5 – blocks differentiation, 6 – delay elements. A fragment of a network with dimensions 2 x 2 is shown.

This influence can be expressed in dynamic synchronous reduction or increasing the corresponding thresholds (according to the location of the fibers and pattern of their activation) of individual neuristor cells of the neural network of the bundle. At this field, connecting individual fibers, forms this axonal neural network, and the connections are logical in nature, realizing a dynamic synchronous continuous valued logic.

This logic of mutual work of nerve bundle fibers differs from the traditional one. logic by the admissibility of paradox collisions ÿÿ *AA*¯*A*)(**, which in this In this case, for such logic, collisions are not** ***(P-logic*** **[27]). Weaker restrictions for this are revealed in the following relationships:**

If in a correct structure S ÿ **the literal L,** =ÿ *MLPostInvL* ÿ **))((, where:** *M* ÿ **Ø,** ÿ ÿ ÿ *MA* **relation** ÿ *AA* **is an admissible paradox collision in S (P-collision), where:))((=** *PPInvInv* **– inversion for a set of literals** ÿPL_ **, at which everyone Li is put in correspondence with** *PInvL*)(**– main ideal L in the structure S (set** *LredPL*)(**);**

If in a correct structure S ÿ **the literal L,** =ÿ *MLredPInvL* ÿ **))((, where:** *M* ÿ **Ø,** ÿ ÿ ÿ *MA* **relation** ÿ *AA* **is a P-collision,**

Where: *L* ÿ **– main filter L in the structure S (set** *LPostL*)(**).**

If in the correct structure S: {(*b* **0** ÿÿÿ ÿ)ÿ(*LSLredPL*( )) **P-collision:** }

ÿ *bb LL* **is admissible in S,**

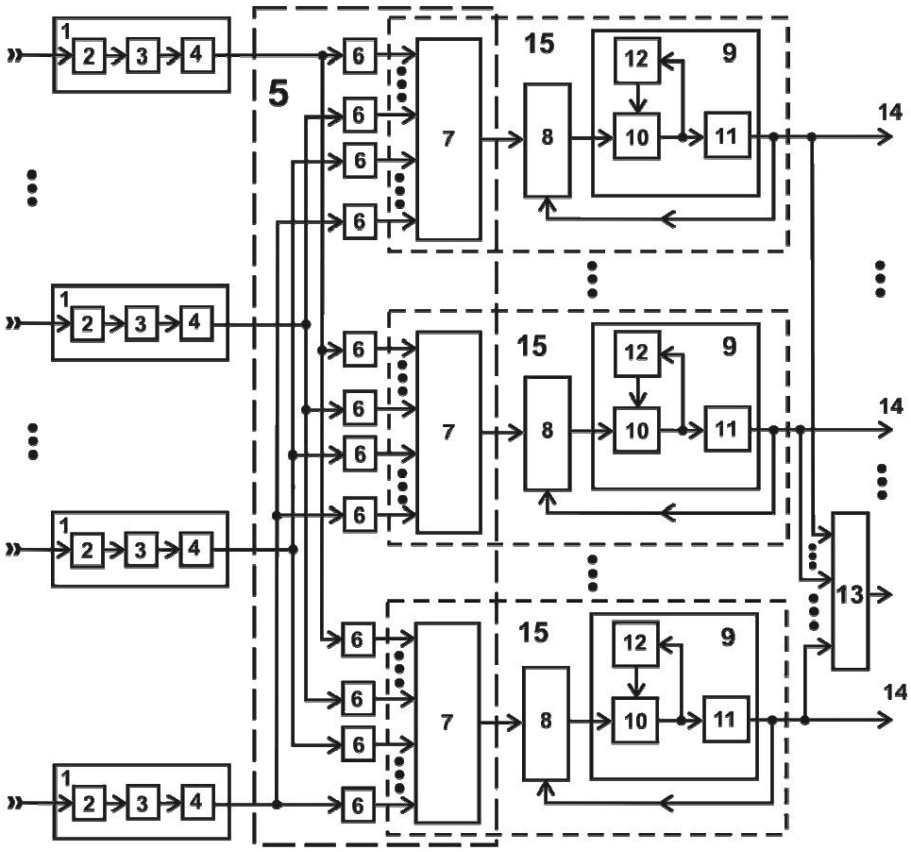
where: *b* ÿ *LredPL*)(**– base literal.**

For structures of a more general form, cases are possible when, from the relation $\ddot{y}\, AA_{ii} \_ \overline{}$ it does not necessarily follow that $A_{ii} \overline{} 10 A$.

Waves of excitation propagation in such a neural network have, together with usually considered convergent character (converging to one point), also divergent character (diverging from one point). At the same time, this symmetrical and simultaneous coexistence of convergent and divergent excitation tendencies are explained by their qualitative asymmetry [28]. This asymmetry is manifested in differences in the representation of convergence, which manifests itself in the summation of excitations from multiple sources in t EPSPs or spikes and divergences, which are diverging waves changes in excitation thresholds. Thus, information may not be transmitted only in the form of direct excitation carried by nerve impulses, but also in in the form of gradual spatial-wave changes in fiber thresholds, distributed along the nerve bundle in the longitudinal and transverse directions along its volume. The occurrence and conduction of spikes in this case can serve mechanism for detecting current threshold values, acting as a reverse (inversion) logic [29]. It is shown that mutual influences on the quantities threshold factors (EMF spikes), which are products of these very threshold values, contributes to the emergence of steadily circulating nonequilibrium “threshold waves”, forming stable foci of reduced threshold states of the membranes of some axons in the nerve bundle (Fig. 6). This can determine the self-organization and self-sustainability of a certain tonic state of nervous activity autonomously at the level of the nervous beam. The neuromodel will also make it possible to display cross longitudinal-parallel propagation of spike microcomponents along one axon, modeled by a quasi-neural network neuristor structure taking into account volumetricity spike wave.

Spike discreteness in vortex formation

In accordance with the shown complex volumetric structure of the spike, it can be presented as a total formation consisting of elementary discrete components. The conditions for their generation and propagation are not uniform in axon volume due to the heterogeneity of the intracytoplasmic environment distribution, especially considering the numerous inclusions in axoplasm. We simulated these facts in the neural model [9] in Fig. 7.



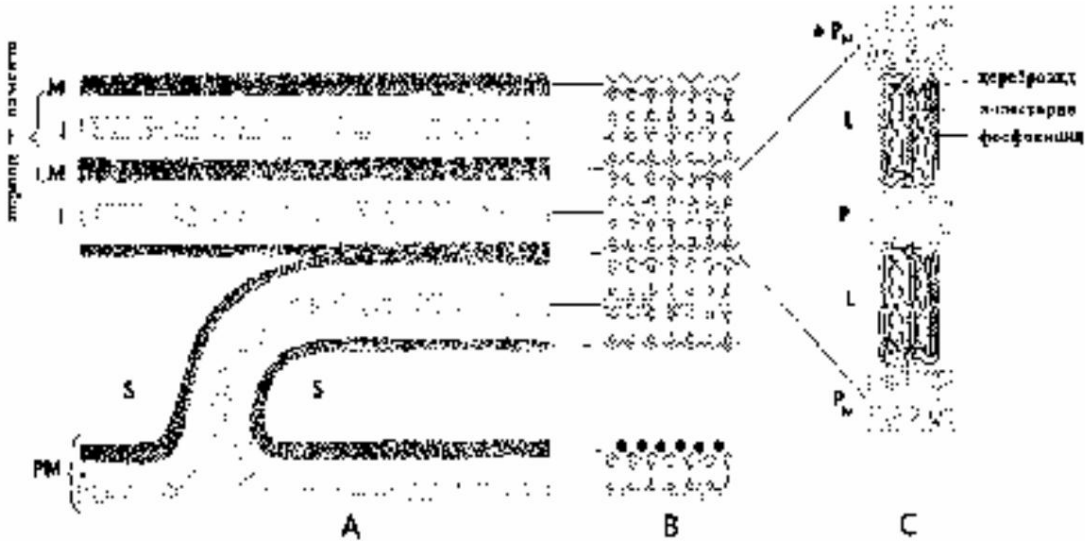
Rice. 7. Axo-somatic neuroprocessor according to a. With. 1306368 [9] contains n synapse modeling blocks 1, each of which consists of matching elements 2, scaling factors 3 and delay elements 4; soma modeling block 5, which includes weight elements 6 and input adders 7; m blocks 8 called postsynaptic potentials; m formers 9 spikes, each of which consists of a comparison element 10, a pulse shaper 11 and a threshold value shaper 12, an output adder 13, the output of which is axonal output 14. The corresponding blocks 7-9 form m excitation nodes 15, and block 8 is designed as a controlled integrator.

Each of the adders 7 receives signals from all *n* block outputs modeling synapse 1 with appropriate weights. This corresponds to the real neuron in which the signal from each synapse, spreading, reaches each excitable portion of the membrane of the soma or axon. Moreover, its amplitude at the moment reaching any excitable area is determined by the location the latter on the membrane, which is reflected in the model by the value of the transmission coefficient corresponding weight element 6. At the same time, the propagation paths excitations from synaptic contacts to one excitable area are different, therefore, the parameters of the signals coming to this area from different synapses, all other things being equal (parameters of the synapses themselves and conditions for their stimulation), which is reflected by the selection of weight elements 6 at the inputs each i-th adder 7. Each spike microcomponent generated local zone of the somatic membrane is summed up in the intra-axonal space, thus forming a resulting spike that spreads along the axon to target cells. Number of formers 9 spikes, simultaneously generating pulses is determined by the number and configuration of activated synapses, as well as quantitative and qualitative indicators of signals,

arriving at synaptic inputs, and the parameters of the neuron itself, in particular number and localization of excitable nodes on the soma 15. Proposed neuromodel can reproduce a transverse section of an axon, and the non-simultaneous generation microcomponents of the spike contribute to the asymmetry of the potential-current fields in the cross-sectional plane of the axon, which enhances the conditions of ion-electronic vortex formation.

Myelin and the dynamics of its formation

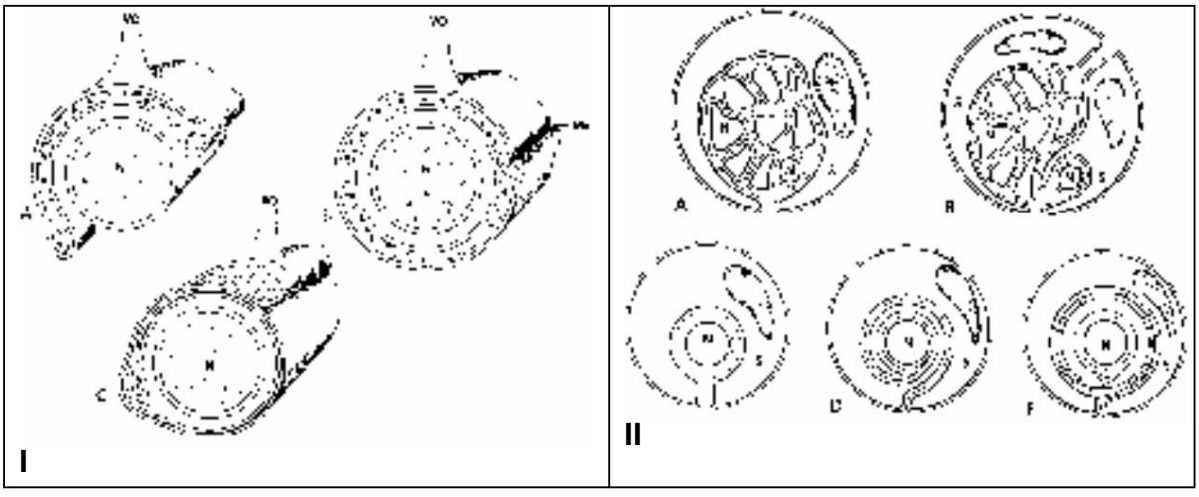
The myelin sheath is a strictly ordered lipoprotein system; its formation and regression also reveals fairly clear patterns. In the peripheral nervous system (PNS), each internodal segment (IS) - the space between nodes of Ranvier - corresponds, as a rule, to one Schwann cell. In the central nervous system, compared with other departments, the lowest quantitative relationship between myelinated fibers and oligodendroglia. For this reason, one oligodendrocyte process can participate in the formation of another internodal segment due to possible remoteness of the oligodendrocyte soma from the myelin sheath it forms shells. However, the continuity of the plasma of the glial perikaryon and myelin in In any case, it is preserved, that is, the myelin lamellae have the same properties as the plasma membrane of the corresponding glia. All Schwann cells (SC) corresponding to the axon appear only when it reaches its target, and this is a morphogenetic factor, just like the fact that axon myelination begins with its diameter reaching 1-2 μm in the PNS and 0.3 μm in the CNS. Before In total, myelination occurs on axons that reach maximum diameters in an adult body, which indicates their longest functioning in the form of electro-ionic activity. Increase in the number of IPs occurs only during the process of axon myelination, and later during growth the latter without the formation of myelin, only lengthening of the IS can occur. Myelin at the ultrastructural level is a periodic system (with a period 12-17 nm) alternating main dark lines and light wide intermediate layers.



Rice. 8. Ultrastructure of myelin. A – formation of its layers by a Schwann cell (SC) (sketch from an electron microscopic image after fixation of the preparation

osmium hydroxide. PM – plasma membrane of Schwann cell, M – main line, I – intermediate line, S – cytoplasm of the Shk; B – molecular model of myelin and plasma membranes of ShK according to Sjöstrand; C – location of the complex of lipid molecules: P – protein layer, L – lipid layer (Elfvin, Finean).

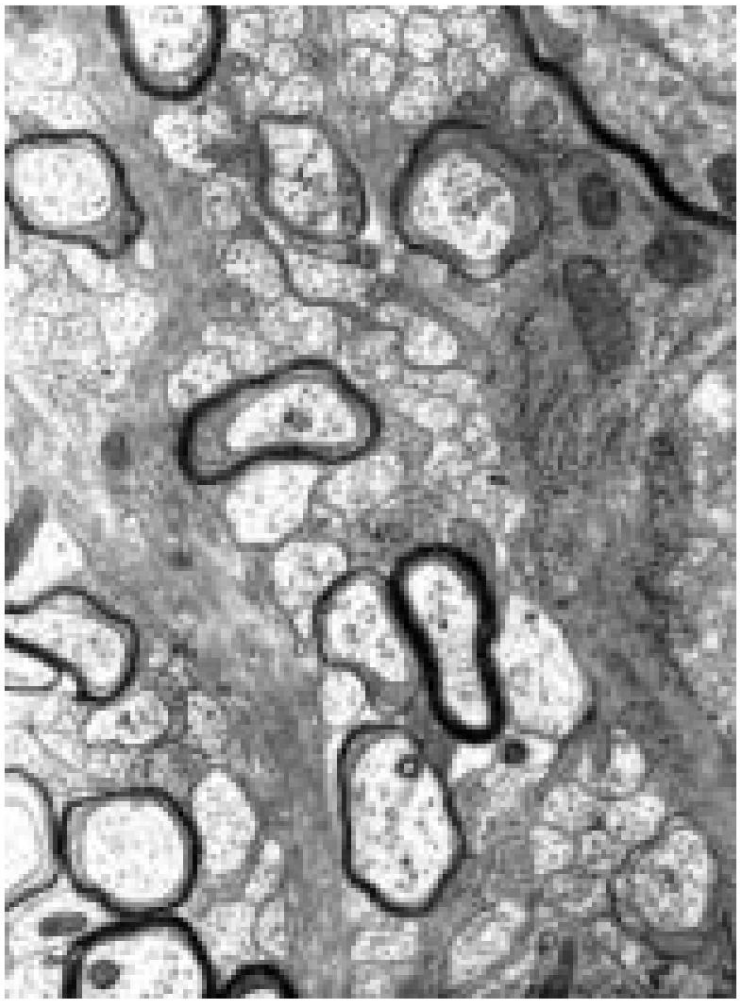
A thin discontinuous layer is found within the intermediate layer intermediate line. The myelin lamella consists of two glial membranes and is generated by mesaxon, which spirally envelops the axon and layers on itself myelin lamella (Fig. 8). The myelin lamella consists of an orderly complex associated lipid molecules - phospholipids (42%), cerebrosides (28%), cholesterol (25%) and sulfatides (5%). Myelin contains much more fats than in other membranes (78% myelin dry matter). Majority myelin fats have a half-life of renewal of 6-12 months, for proteins - 35 days. The main line of myelin arises from the fusion of the inner layers of two membranes with gradual extrusion of the intraplasmic glial environment. System myelin membranes are in the crystalline phase. Intermediate education line is accompanied by the fusion of two outer layers of the plasmalemma with subsequent disappearance of the environment. Lipid Band Thickness is 5-5.5 nm. The outer layer, consisting of protein molecules, forms hydrophilic surface. Polar amino groups located on membrane surfaces cause an electrical surface charge. To them include sialic groups of polysaccharides, phosphate groups of phospholipids, carboxyl protein groups when they come into contact with the aqueous phase. Phosphate groups are negatively charged and are found at the ends of molecules phospholipids.



Rice. 9. I: Initial stages of myelination in the central nervous system. VO – oligodendroglial process. Me – mesaxon (A. Peters). II: Initial stages of myelination in the PNS. S – Schwann cell (SC), surrounding the group of axons N. B – division of SC with the formation of long processes penetrating between axons. As a result, S-E to each axon corresponds to one glial element. (Elfvin).

They create a layer 1-2 nm thick, however, sufficient to respond to external electric field, for example, from a spike discharge. Layer thickness can be calculated in nanometers using the Debye–Hückel equation: $\delta = \frac{3,06}{\sqrt{i}}$, where: i –

ionic strength of the solution. During the initial phase of myelination, doubling occurs mesaxon - the plasma membrane of the glial cell (Fig. 9 I A). Wherein fusion of the outer protein layers of both surface glia membranes occurs. Next, the mesaxon elongates and spirals around the axon (Fig. 9 I B), and the mechanisms of myelination are the same in both the PNS and the CNS. Then glia cytoplasm is displaced almost throughout its entire length and remains only in external and internal languages of mesaxon. However, sometimes islands also remain cytoplasm, which can then become the basis of Schmidt-Lanterman notches. Sometimes one GC surrounds a group of axons (Fig. 9 II), and then it divides, as a result of which the axon acquires its own glial sheath. Before at the beginning of myelogenesis in the cytoplasm it is clearly noted that glia creates myelin only in the presence of a neuron, and this can be confirmed by electrochemical the nature of stimulation of myelogenesis by the generation of axonal spikes. Myelination is not is simultaneous (Fig. 10) and begins earlier in phylogenetically more old systems, which can also be associated with long-term memory, including number, genetically determined. Neurons associated with higher cognitive functions are the last to be myelinated, which determines the connection with priorities long-term memory of genetic programs and time sequence formation of electrical activity of neurons in various parts of the nervous system systems in ontogenesis.



Rice. 10. Rat optic nerve, magnification 47000 (H de F. Webster, A. Peters, SL Palay). Some axons do not yet have a myelin sheath (A), while other fibers (A1 – A5) are at different successive stages of myelination. At the initial stage A1 surrounded by an oligodendrocyte process that forms mesaxon (Ma). As myelination, this process forms a spiral. Tsv – internal and Tsn – external ("tongue") ends of the spiral. Ol – oligldendrocytes, ÿÿl – process of oligldendrocyte, Ac – process astrocyte.

In addition, it is known that the myelin lamella in the central nervous system is approximately 10% thinner than in PNS. Myelination in the central nervous system is a more complex process and much less stereotyped. The growth of the myelin sheath in the central nervous system occurs in the terminal areas spiral formation, which is confirmed by the relative position of the outer "tongue" and internal mesaxon, located, as a rule, in one quadrant. This proves that the growth of the myelin sheath does not occur continuously, but periodically, and may also confirm a connection with electrical activity axon. The sequence of growth stages in the CNS shows some variation. In some cases, the cytoplasm disappears from the glial processes at the very beginning myelogenesis even before the axon is completely surrounded by these processes. At the same time, the main the dense line is formed before the intermediate line, and the processes surrounding the axon glia become dumbbell-shaped in cross section (Fig. 10A1) due to movement of the bulk of the cytoplasm inside the terminal extensions. In that In this case, there is no stage of mesaxon formation and the myelin spiral has the form turns consisting only of the main dense line. The intermediary line can arise already during further myelination when connecting external surfaces of adjacent turns. Slippage may also occur in the central nervous system. turns of the myelin spiral relative to each other. Significant increases diameters of axons, for example, several times during experimental edema, not lead to damage to the myelin sheaths, which is impossible in the absence sliding between layers.

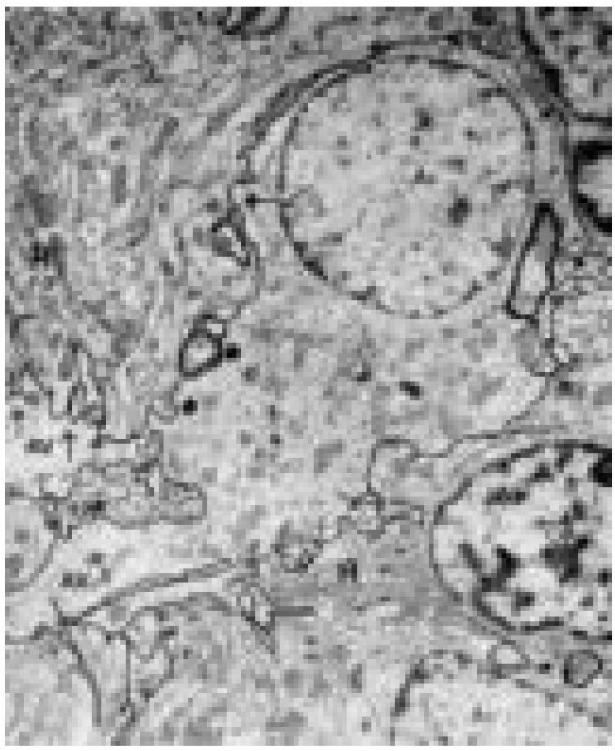
Myelin retraction

Oligodendroglia have very active trophism, even more active in white substance than in gray. This indicates quite large energy costs aimed specifically at servicing the myelin sheaths. Hypoxia, causing ischemia of nervous tissue, has a negative effect on oligodendroglia, in as a result, nutritional damage may occur, leading to honeycomb-like breakdown of myelin starting from the main line. With Wallerian rebirth, a completely different mechanism operates, initially affecting not oligodendroglia, but directly onto myelin, which breaks down the intermediate line, that is, the glial processes are freed from communication with myelin. At the same time, the activity of enzymes such as ÿ-galactosidase, ÿ-glucosidase and peptidase (CWM Adams [30]). Metabolism of cholesterol (the content of which in the brain is 10 times more than in other organs and tissues) myelin is minimal. Known also that myelin glycerophosphatides exhibit relatively active metabolic changes and in a normal state. However, it is reliably it is known that intravital myelin lamellae are not static

education, but respond to various physiological stimuli, in particular, constant peeling or fusion.

Interaction of the spike field EMF with oligodendroglia

Impaired glial function can lead to pathological functional states of neurons. This is observed, in particular, with demyelination in the case of some genetically determined diseases with reduced content myelin metabolism enzymes. It is also known that glia react strongly to regressive changes in neurons. So, with primary destruction of the axon, and, consequently, disruption of the function of spike conduction, secondary myelin degeneration as well as axon transection. This order of changes is the fastest and most pronounced, which can also serve indirect confirmation of the connection between the electrical activity of the axon and the development and maintaining the integrity of the myelin sheath. Islands of cytoplasm of ShK and oligodendroglia located inside the myelin sheath may participate as the main element in the phagocytosis of degraded parts of axoplasm. This occurs by their immersion into the axon and subsequent cytosegregation of the residues axoplasma. During the electrical activity of neurons, glial cells behave passively, the magnitude of their membrane potential exceeds the neuronal potential rest (–60 mV) and is usually –90 mV. Depolarization of the glial membrane occurs when the external concentration of K^+ increases even by a small amount, like a sensitive potassium electrode.



Rice. 11. Cat cerebellar cortex: N – neuron, Ac – astroglia, AV – thick glial cells processes, O – ligodendroglia. Arrows indicate receding glial lamellae. Magnification 10,000 (Wolff).

The membrane potential of neurons is much less sensitive to changes in the external concentration of K in glial $^{+}$. strong hydration also occurs cells, exceeding the sensitivity of neurons by 5-7 times. This is reflected in electron micrographs by the lower electron density of the preparations (Fig. 11). Therefore, of all the cellular systems of the brain, it contributes to the highest level of sensitivity to pathological influences. The surface electrical resistance of the glial membrane has a wide range depending on the type and functions of glia, as well as metabolic conditions and occupies an intermediate value between the resistance of the intercellular space (4 Ohm/cm 2 kOhm/cm ^{2}) and neuron membrane resistance (5). The ion metabolism of glia is more active than that of the neuron, as evidenced by the increased activity of ATPase, activated by sodium and potassium ions. This mechanism is directly connected through the intercellular environment with axonal metabolism, most pronounced at the moment the spike passes along the axon. The movement of charged Na+ and K+ ions can be significantly influenced by the EMF of the spike, which is quite powerful. The glial marker protein is S100, and specifically glial metabolic reactions are the induction of glycerol-phosphate dehydrogenase by cortisol and the induction of lactate dehydrogenase (LDH) by catecholamines. The latter act on surface adrenergic receptors, which increase the level of cAMP inside the cell, which, in turn, causes a change in transcription and an increase in LDH content. It is also known that glia capture GABA secreted by neurons; thus, glia acts as a regulatory factor in the intercellular space, which can simulate the postsynaptic response. The activity of glycolysis in neuroglial cells is many times higher than the activity of oxidation processes in the Krebs cycle, which causes a reduced oxygen consumption by glial cells compared to neurons. At

As the spike passes along the neuron's axon, an intense release of K ions occurs into^{+} the intercellular space between neurons and glia. Taking into account the increased sensitivity of glial metabolism to ions, its increased hydration^{+} (i.e., mechanical plasticity) and the ability of intense metabolism to occur with reduced oxygen consumption, we can conclude that the regulation of gap junctions [31] of glial processes with neuronal axons is carried out exclusively by glia when this is initiated activation of flows by generation of a spike. This can also be attributed to the $^{+}$, that is islands of glial cytoplasm in myelin and the myelin itself, as the specific ending of oligodendroglial processes. The perinuclear part of the cytoplasm of the CC is characterized by the presence of ÿ-granules (Reich's protagonal granules), which are found only in humans and some large mammals and appear in the second or third year of life. With age, their number increases, but the most interesting thing is that they are found only in those CCs that have already formed myelin sheaths, and a clear correlation is found with an increase in their number in those CCs that form thicker myelin sheaths. It is also known that the migration and proliferation of glia increases with increased stimulation of neurons and their high-frequency discharges, for example, during and after excessive motor load of spinal cord motor neurons and increased afferent stimulation of the cerebellum [32-33].

conclusions

1. Analyzed and modeled on numerous existential neuromodels show a complex dynamic volumetric structure of the spike, spreading along the axon and significantly influencing the character this spread and its result. 2. Using modeling, it was discovered that, spreading along the length axon, the excitation areas in cross section experience rotation, that is a potential-current “vortex” is formed.
3. It has been shown that the role of myelin as an insulator is clearly redundant in the sense such a large number of axon “wrappings” (up to 400 layers!), as ontologically, and ontogenetically.
4. The most important role of potential vortices in the dynamic formation and further maintenance of myelin in the appropriate form axon sheaths, and therefore the latter may be a substrate for traces long-term memory at the neural level [34], which may, among other things, be important in understanding the mechanisms of development of corresponding pathologies, such as Parkinson’s and Alzheimer’s diseases [35].

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On the physical mechanism of manifestation of fine-field structures in three-dimensional space (On the issue of measuring “thin” fields with IGA-1 equipment)

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1. Energy twins of humans and plants

Rice. 1.

IC “Rivne-Surenzh”, using the methodology outlined in [1], succeeded measure the aura of a person’s energy double (copy) (Fig. 1). In short, the difference between the applied methodology and the standard one is is that the device is fixed on a vertical rod, and the object under study moves. That is, the parameters are measured belonging only to the object under study. Probability of measurements parameters from other objects (geopathogenic grids, phantoms, etc.) is practically excluded.

In some esoteric sources this structure is described as invisible a copy of the human body with all organs, energy channels, chakras and etc. He appears as a special advisor to a person in critical situations, like Guardian angel. In Fig. 2, 3 show graphs of a person’s aura and his energy double (copy).

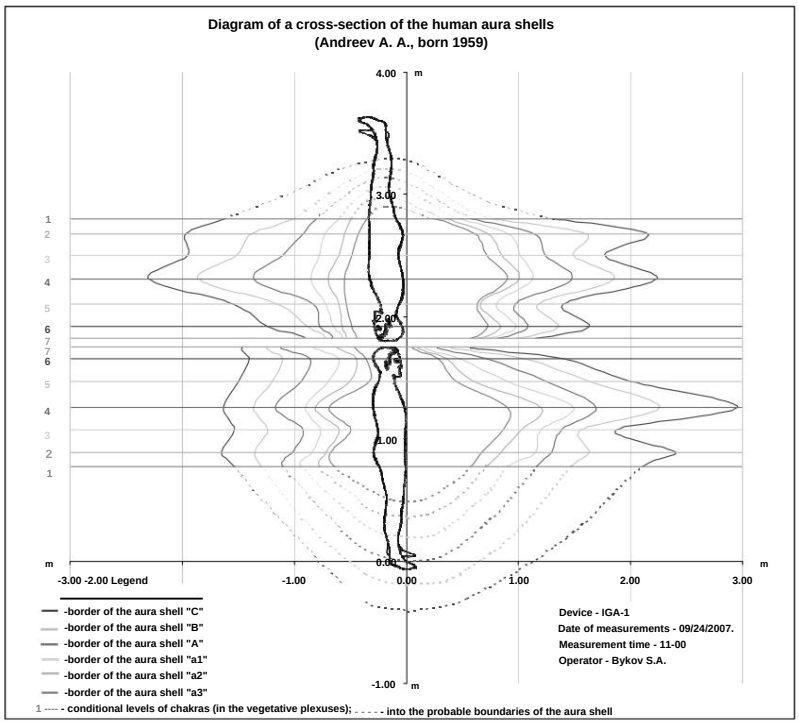
It should be noted that if in esoteric sources the double is located (looks) in the same direction as the human physical body, then it is real (by character of the aura) it is clear that it is turned 180° in relation to the human body (looking back).

A similar phenomenon is recorded in other living entities. In Fig. 4, 5 show graphs of the aura of indoor plants with the aura of a double (copy) of the plant above him.

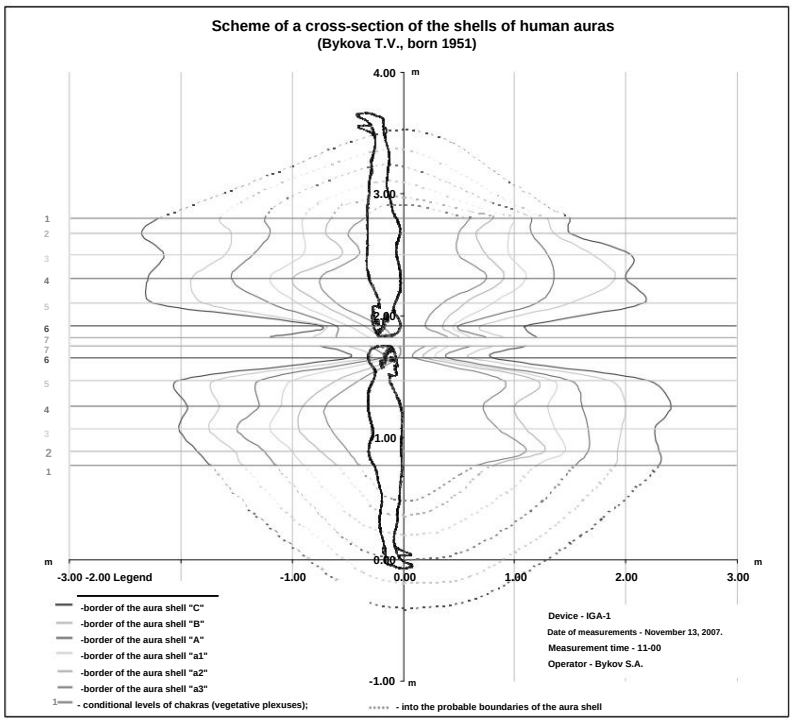
Based on the nature of the aura graphs of living objects, it can theoretically be assumed that there is a whole chain of doubles, spreading both up and down from the physical body of the subject. Perhaps in this way the connection between the living and the Cosmos (Creator) is manifested in the three-dimensional (physical) world. Another thing is clear - ph the body is only one of many manifestations of man in the material world.

You can also notice that the distant shells of the auras of humans and plants (and their twins) tend to the shape of an elongated ellipse and do not depend on the geometric test subject's forms. It is natural to assume that in the three-dimensional (physical) world all living entities (and possibly nonliving ones) on the energy (energy information) level look almost the same for a person, in the form

an endless chain of elongated ellipses, which in volume also tend to infinity (volumetric energy columns) (Fig. 6). Most likely, the Earth, planets, stars manifest themselves in the subtle world in the form of energy information pillars that are located along the axis of their rotation which can be called information axis of the object (Fig. 7).



Rice. 2.



Rice. 3.

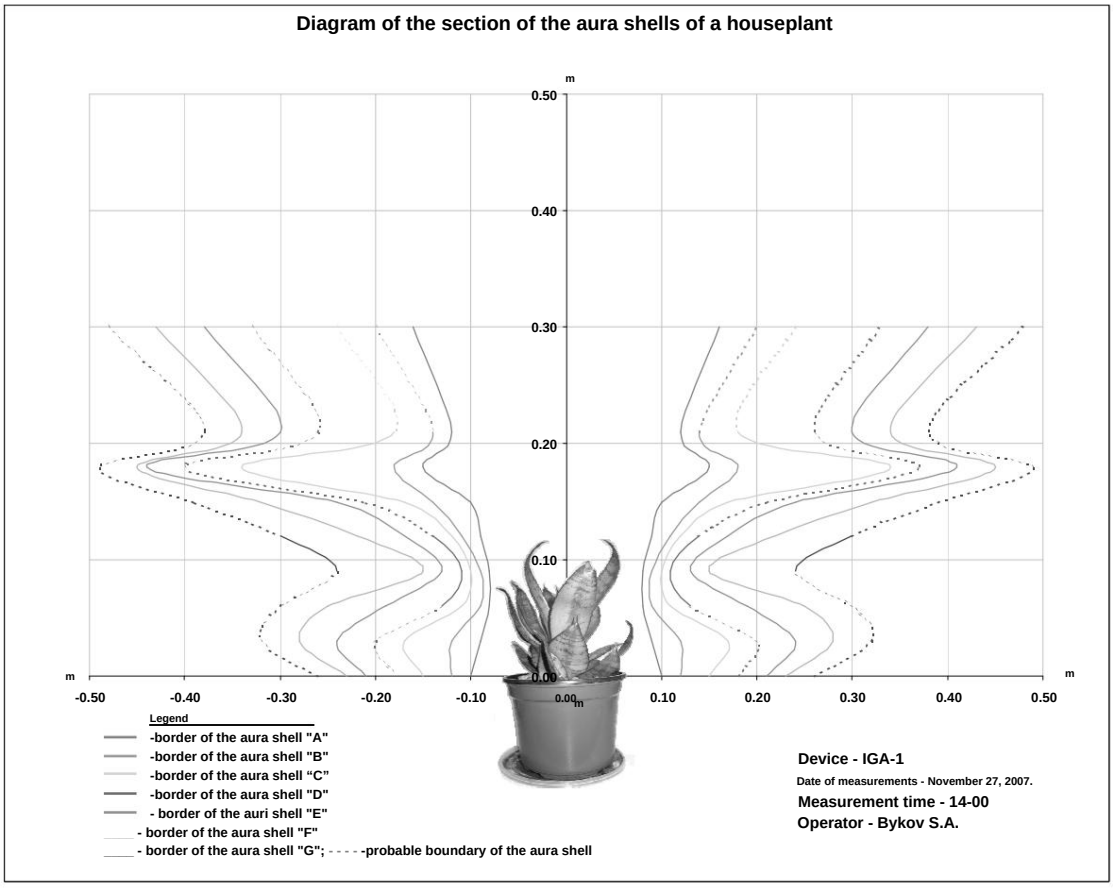
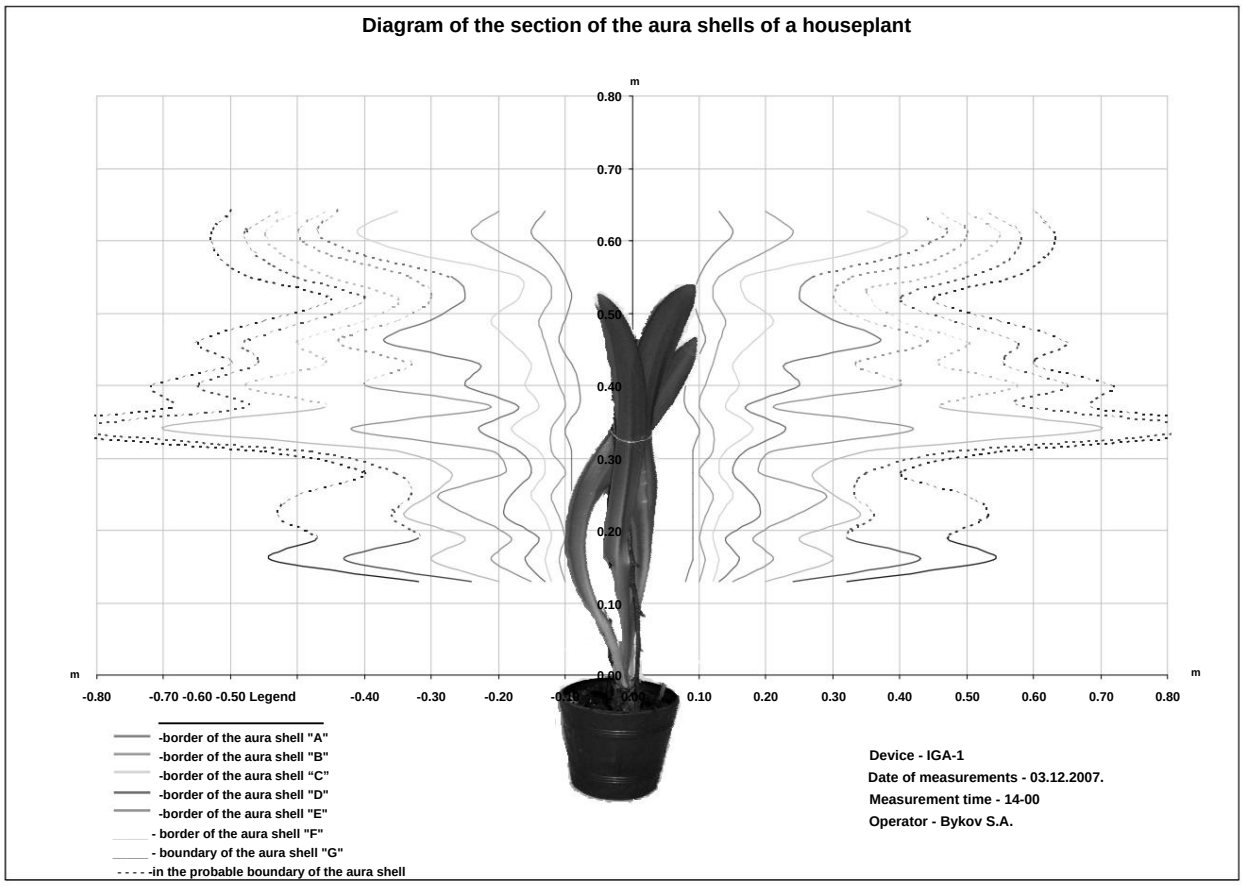


Fig 4.



Rice. 5.