

The hypothesis of an elastic universe.

© People who in their thoughts
can not go far ahead prefer
to start from afar.

Why is Nature so complicated? Why so many elementary particles, types of interactions, laws, theories and formulas, paradoxes, etc. Why was it so necessary for the Lord to complicate the internal structure of the world?

Let's remember history. How difficult and at the same time helpless and inefficient was the ancient medicine, with its shamans and sorcerers; With its thousands of dried roots, frogs, mice; With her urine of a young pig, etc. A few modern antibiotics replaced all this stuff. Or take physics or astronomy. Was not mechanics difficult before Newton? And then three laws of mechanics decided everything. Did not astronomy with its Ptolemaic geocentric theory exist before Copernicus, Kepler, and again Newton? And then common sense, the correct choice of the frame of reference, the law of gravity and several consequences, describing the trajectories of the planets, explained everything. Or take the chemistry. Is not there always an infinite number of chemical substances and their transformations? How many alchemists spent their lives trying to get gold from different substances. And at the core of everything was a system of Mendeleev elements that do not chemically change into each other. But the very system of Mendeleev's elements, as it was explained later, is built from even simpler elementary particles, quarks, which are only three pieces (according to modern views). Plus, light photons, neutrinos and more in the universe, there is almost nothing. What the nuclear scientists are proposing today - this supposedly "standard model", these hundreds of supposedly elementary particles, antiparticles, quarks, gluons, etc., is nothing more than a collection of some temporary formations, unstable form and unstable content.

Is not this a general law? The law that at the heart of any, the most complex natural phenomenon or variety, with a reasonable analysis, is a very small number of constituent elements.

As a guideline for describing the device of the Universe, we have taken the postulate that the Universe is arranged simply.

The birth of the hypothesis of an elastic universe.

The hypothesis mentioned by Einstein, and earlier researchers about the **jelly-like universe** is known. By its properties to transmit electromagnetic waves, the cosmic vacuum is close to the elastic body, to the "elastic jelly". So radio waves propagate in a vacuum. However, Einstein, being in captivity of his own worldview, being in captivity of his senses, being in captivity of generally accepted views, rejected the hypothesis about the possibility of a jelly-like universe. He considered it impossible that "the planets pass through the air - jelly without encountering resistance." That is, Einstein could imagine any Vacuum in space, but matter at the atomic level was for him invariably something solid, sharply different from outer space. Empty space and solid atoms - this is the whole essence of his Theory of Relativity. We do not suggest anything else to the senses. The theory of Einstein's Relativity is an extension of our subjective perception of the surrounding world to the category of Science. It's just as ridiculous as if creatures that perceive the world in black and white would find the world truly black and white. But surprisingly, it's just as ridiculous as if creatures that perceive the world as colored would find it really colored. There is no color, length or time in the universe. All this is a means for our perception of reality and tools for orientation in our life and the struggle for existence.

Many modern physicists have applied to the model of elastic vacuum. It is enough to insert into the search engine the phrase "elastic vacuum". But none of them advanced

further than empty exercises with matrices and verbal gymnastics. The historians of science will give an overview of these works.

The Reality tells us completely different. It is not known from where and for what reason the wave properties of these solid particles arise; Strange "probabilities of their detection" arise, a strange "principle of uncertainty" arises. All this scientists force us to memorize by heart. And in parallel with this, on the contrary - there are quantum, discrete properties in such soft, flexible, plastic and continuous electric, magnetic, electromagnetic, intranuclear and other fields. Again invented completely inconceivable "equation" Schrödinger, which is also forced to learn by heart. Where, how it appeared, no one knows. But for some reason, there is a lack of quantum properties in the gravitational field. Well, it is something worse?! Further, unexpectedly, like snow on the head, a spin is found in the elementary particles. It is unclear for what reason it occurs. Again forced to memorize by heart that the spin is "inalienable," "internal," "purely quantum," and so on. Property of a proton and an electron. Well, learned. But still it is unclear why the spins of the proton and the electron are equal. Given that the mass of the electron is 1845 times (!) Less. Are they made of different materials?! Can the electron be porous, like a foam plastic? And so doctors and candidates begin to compose, that they say, there is an "electrical" component of matter, and there is a "gravitational" component. And what else? Electrical? And in general, they force students not to ask questions on this topic, but obediently learn what is written in the textbooks.

For history. It was 1973, spring. A.I. graduated from the third year of the institute. The field theory has already been passed. Maxwell's equations were studied and the students became acquainted with the way Maxwell's equations are easily transformed into a wave equation identical to the equation of sound propagation in a rail. That is, radio waves, light - it's transverse waves, like a transverse sound in a solid body. So what? Are there not many coincidences? The wave equation arises very often. Rock any pendulum, pull a string, hit the rail - and here it is, the wave equation. And how will the electrons and protons be drawn in such Elastic Cosmos? (This was Einstein's question).

And one day, looking at the mathematical handbook, A.I. noticed that the solution of the wave equation is not just sound. There are also localized solutions of the wave equation. True, these solutions are treated as some stationary "potentials". But A.I. then he realized that it is possible to transform these solutions into dynamic, vortex waves, circling, and here, in the spectrum of these solutions, elementary particles, protons, neutrons, electrons sit. Here sits all quantum physics and in general all physics! Unfortunately, only 23 years later it was possible to return to this idea. On this way, enormous difficulties had to be overcome. But never A.I. Did not doubt that he would return and prove the correctness of his hypothesis of the Elastic Universe.

So, we are putting forward our new statement based on the new author's interpretation of the well-known mathematical solutions of the wave equation. The statement about the possibility of **localized wave formations in an elastic medium**. Not to be confused with solitons, which are vortex motions of SUBSTANCE and do not possess the main fundamental property: the ability to layer itself onto itself (see further) and as a result to a new redistribution of internal energy from the periphery to the center. Different from the formal mathematical solution.

And already from this statement follows a very plausible and proved below hypothesis that **all elementary particles are localized vortex waves in the cosmic "jelly"** through which they (according to Einstein) would have to "wade through". But it will not be difficult for them now. And in general, waves are not to be scoured.

This hypothesis easily describes both elementary particles and ball lightning and even lightning and all kinds of matter, fields and interactions. So, electromagnetic waves

under the new hypothesis are simply waves of the type of transverse sound in this ether - jelly. If we take into account the gravitational field as a field of stationary elastic stresses in cosmic jelly, then a single, comprehensive theory of all fields and all elementary particles appears. There are no contradictions with the existing theories, in particular with the theory of relativity of Einstein. Because the very notions of "emptiness" and "solid body" are discarded, which lie both in the basis of the Einstein model and all the experiments confirming it and interpreting the results of these experiments. Because the choice of a system of concepts and definitions for description simply changes.

The detailed formulation.

This formulation was expounded even when the Elastic Universe was still a hypothesis. Therefore, it may have some disadvantages.

The date of publication of this model should be considered April 1997. It was then that the article with the hypothesis and the main arguments was sent to 30 scientific institutes of the USSR, the RAS, the Russian Academy of Natural Sciences and 10 editions of Russian scientific journals. More than a dozen reviews were received. But, probably the proposed model turned out to be too unusual for perception and has not yet been confirmed. Apparently for this reason, at the stage of the hypothesis (from 1997 to 2003), no scientist and no magazine recognized it as real. As the authors are beginning to understand now, there have been and are many such "alternatives", so no one ever seriously and does not take into account such hypotheses. Also as inventors of perpetual mobile phones, antigrav mobile phones and energy producers from the vacuum. The idea would have been buried for many years if it had not been for the paid scientific publishing house Sputnik Plus, created in 2001.

Now very few people believe that this Ecumenical Continuum is firm and resilient. Although the number of speakers about the universe is very large, nobody understood the essence before us. But now the number of believers and even the understanding gradually increases.

The diverse scientific conjectures about the heaping up of all sorts of "electron-positron pairs" in vacuum, as well as all kinds of "strings" and "branes" - these are unsubstantiated working hypotheses, these are still-born fantasies, this is not true. It's like the way in childhood we assumed that inside the wall radio live little people and they talk and sing. And they play on the strings and drum into the brane. It can be said that it is here, through the "strings" and "branes," that the wave equation is torn to the consciousness of the scientist as a single formula of the universe. But so far it can not break (if we do not take into account our discoveries).

Axiomatic physics is coming! The theory of the Absolute, strictly proved by mathematics, is coming. The theory of the Elastic Universe is coming with absolutely precise formulas for the internal arrangement of elementary particles and a rigorous explanation of all existing physical phenomena and paradoxes.

The universe was arranged quite differently than all the best minds of Mankind had expected until February 2003. And more accurately: one of the hypotheses of the 19th century, which were mentioned at the outset, all rejected and spinned, seemingly hopelessly stupid and ridiculous at first glance, was absolutely correct. This is a hypothesis, mentioned by Einstein, and even earlier researchers, but immediately rejected by all of them. This is the hypothesis of a jelly-like universe. Einstein rejected this hypothesis. However, now, in the light of new ideas about the possibility of localized electromagnetic fields, there is a very plausible hypothesis that all the elementary particles that make up "solid bodies" are oscillations of the jelly itself, through which they would have to "wade through". But it will not be difficult for them now. This hypothesis easily describes both elementary particles and ball lightning and a flash

zipper. In the same way as electromagnetic waves under the new hypothesis are simply waves of the type of transverse sound in this ether-jelly. If we take into account the gravitational field as a field of elastic stresses in cosmic jelly, then a single, comprehensive theory of all fields and all elementary particles appears. There are no contradictions with Einstein's model here. Because the very notion of a "solid body" is discarded, which lies both in the basis of the Einstein model, as well as in all the experiments confirming it, and in interpreting the results of these experiments. Because the choice of concepts and definitions for the description of the universe simply changes.

The enormous speed of light does not allow us to consider the ether as soft, as one might think of the term "jelly-like". Here something is stronger. The authors propose to name the elastic ether as follows: ГУКУУМ. This is kind of like the name of the famous researcher of the elasticity of Hooke. The latter term is similar to the word VACUUM. But invented by the authors because always the vacuum was considered only emptiness. Now it turns out that this is not the case and the element of the gukuum can vibrate, and the gukuum itself can strain and deform, waves can propagate through it and localized oscillations allowed by mathematics exist in it. In essence, the vacuum is a gukuum without any vibrations, stresses and deformations in it. That is, without material objects in our understanding.

We also do not mind that the universal gukuum would be simply called GUK. But we all know that names and nicknames in History are stitched by accident, so they are ready for any turns.

A further exposition is devoted to the deepening and detailing of the hypothesis and the subordination of the philosophical base to it.

Gukuum never arose, and will never disappear, but has always existed and will always exist. Mussable stories about the "primary explosion" - no more than a local episode in a very limited area of the infinite universe. Our relationship with the universe is a relationship with infinity both in time and in space.

Between the infinitesimal particles of the gukuum there is no interaction, except the forces of elastic cohesion. For this reason, he does not face any "gravitational collapse", no compression to the point, in contrast to frequent stellar collapse and subsequent explosions.

In gukuum there is no internal friction, damping, which is indirectly evidenced by the phenomena of superfluidity and superconductivity, as well as huge distances, flying through photons.

Gukuum does not absorb or emit energy, although the question of "zero" internal stress remains open.

If we look more closely, we can understand that the source of the wave equation in gukuum is the conservation law.

Equations of state gukuum are the same as equations of state of an elastic body, and all possible solutions of these equations - really exist in the kinds that people observe.

These are electromagnetic, gravitational and all other fields, and also material particles - protons, neutrons, etc.

Electromagnetic waves are transverse elastic waves in gukuum. If electromagnetic waves do not have a physical explanation and are described only from the standpoint of mathematical formalism, in the model of gukuum electromagnetic waves get a simple physical meaning. It's just a "transverse cosmic sound".

A later remark (!). It can be added to what has been said that the actual electromagnetic waves, spherically propagating in space like waves on water from a fallen stone, most likely do not exist. That is, at the micro-level, electromagnetic waves exist, but they exist only in the form of some spatially localized wave impulses, pellets. These pellets move in space at the speed of light. At the same time, they keep their size

and shape. These pellets in the light range are called photons. So they can be called and in all ranges. When there are many photons, they superimpose the effect of a continuous wave. But when they are few and they fly from the abyss of the cosmos, it is possible to register single light photons with an adapted eye. You can register radio-photons or X-ray photons or any other.

The hardness of the gukuum is very high, (or its density is very small), which is why the speed of propagation of electromagnetic waves in it is very high.

Elementary particles are localized, vortex waves in a gukuum, with a total rotation (spin). The origin of the zero spin will be described later.

The gravitational field is the field of longitudinal stresses. The formation of the gravitational field around the particle is explained by the fact that a standing localized wave limited in a small volume creates a "bubble" effect in a solid that strains the entire environment. Therefore, elementary particles have mass. One can prove that such "bubbles" are always attracted. This clarifies the meaning of the law of universal gravitation.

Recently, another version of the gravitational field appeared. It will be stated later.

Gravitational "curvature" of space, which mathematicians and astronomers note - it is the deformation of the gukuum (or tension in it). True, with the greatest hardness of the gukuum, rather, it is not so much a curvature, but only a presence of elastic strains, wishing to distort it. Perhaps there are no deformations at all, but there is only a stress game! But this is even more intense in the already strong picture of the surrounding surrealism, so it's hardly worth worrying about.

Antimatter. The existence in nature of matter and antimatter is explained by a different configuration of standing vibrations (variants of choice of signs, orientations and constant coefficients in the solution). All interconversion of matter and antimatter is the transition of wave vortices in gukuum from one species to another, including **annihilation** with the release of light quanta. Thus, the mutual transformations of **matter-light-antimatter-again the substance** passes from the category of fantastic abstractions to the category of completely understandable mutual transformations of various types of wave vortices in Gukuum. Antimatter is a state in which a substance is capable of entering into an annihilation reaction and moving from one class of solutions of the wave equation to another class. And despite the fact that such a state of matter - "antimatter" - is quite rare and unlikely, it is easy to understand why antimatter is so small in the universe. In the existing physics, this phenomenon has not yet been explained.

A purely electric and purely magnetic field is nothing more than the continuation of these "particles" themselves. And the imposition of trillions of such microfields. Elementary particles are "smeared out" in space. Recall the Schrödinger equation with its "particle detection probabilities". The electric or magnetic fields created on a macro scale are ordered superimpositions of smeared electrons or protons.

If we consider the stress tensor in an elastic body, then the presumably gravitational field corresponds to the diagonal terms, and to the electric and magnetic ones, some of the others and their combinations. It is necessary to specify only, to whom - what. More precisely, the electric and magnetic fields are already derived quantities from the elements of the stress tensor in Gukuum. These formulas are, they are obtained from comparisons of the **vector potential** theories in electromagnetism and Gukuum theory, based on the wave equation for **displacement** in gukuum. These are absolutely related quantities.

Concerning the dual, particle-wave nature of elementary particles. These particles are near, at short distances and from the inside have wave properties, this is definitely a wave. But in macrophysics, these **localized wave objects** fly, collide and are reflected exclusively as particles, but are absorbed and emitted by quantum laws. This is

mathematics, it requires the cross-linking of solutions for the interaction of wave vortices. And it stitches together in a discrete way. It is known that a discrete spectrum of solutions is formed in the wave equation under the imposition of boundary conditions or other additional conditions.

Here, the cause of the fact that the gravitational field is not quantized is immediately clarified (similar statements are found). In the future it will be shown that for the gravitational field $\text{rot } \mathbf{W} = 0$ is mandatory (instead of $\text{div } \mathbf{W} = 0$ for electromagnetism). This leads to a solution with a continuous spectrum, but it is unique and uninteresting. All quantum phenomena inevitably arise, and in a natural way, from the solution of the wave equations and taking into account the boundary conditions.

The fields of elementary particles (which in essence are the particles themselves) are inhomogeneous and oscillatory (with a terribly high frequency), in contrast to the existing classical representations. And only according to statistics Coulomb fields are created. And **single electrons or single protons do not necessarily repel each other. It is possible that this depends on the orientation of their spins.** Is it not strange that lightning strings, chains of electrons or ions form when lightning strikes, when they should just scatter one space apart in different directions, since they are so strongly repelled by Coulomb ?! The ability of electrons to align themselves with long chains is also manifested in conductors when voltage is applied to the ends.

Electromagnetic induction - this phenomenon is also physically not explainable within the framework of active physics, although formally follows from Maxwell's equations. It becomes clear within the framework of the Gukuum model. Electric current is a movement of identically oriented electrons. And when the orientation is identical, the peripheral parts of the electrons create a certain nonzero resultant field at a distance from the conductor. This is the magnetic field.

All **Newton's laws** and other laws of classical mechanics and electrodynamics, in general all macro physics - in no way are subject to change in the light of the model of gukuum. The great principle of the "**minimum of the action integral**" or simply the "**principle of action**" of theoretical mechanics, incomprehensible but formidable, now accepted as an axiom, is one of the integral forms that follow from the original wave equation, Hooke's law. This principle also confirms the above hypothesis.

The famous formula of Lord Kelvin $E = mc^2$ is nothing more than a tautology, since both mass and energy in the new theory are measures of the volumetric energy of deformation (stresses) of the gukuum. They differ only in a constant coefficient c^2 , reflecting in what units this energy is measured.

The atom is an inside, a **nucleus** consisting not of a bunch of protons and neutrons (as described and modeled up to now), but, possibly, from interpenetrating localized oscillations of the gukuum, which are very intense, which corresponds to the gravity of protons and neutrons. And around this nucleus and, perhaps, there are oscillations through it, more liquid and smeared around it - these are electronic clouds. If you look at the images of **electronic clouds** that modern chemists paint to explain the different valencies of atoms and look at pictures of known spherical functions, then it's easy to see that these pictures are very similar to each other. This is another confirmation of the proposed model. Similarly, all the wave functions drawn in quantum mechanics for the "detection probabilities" of electrons and other particles are just these electrons and other particles themselves, smeared in space. Although now they are given the meaning of certain "probabilities".

Concerning the **global structure of the universe**. It also perfectly agrees with the theory of the elastic universe. The universe consists, according to publications, of very large bubbles, each one billion light years across, whose walls are made up of millions of stars and galaxies. These bubbles are inflated from the inside by light radiation. Outside of themselves, they create an anti-gravity field (see the next paragraph), which

repels the rest of the bubbles. Therefore, such a "foam" does not collapse, but stably exists, with small local "cosmic catastrophes" (like **the Big Bang**).

To designate a new reality, we had to come up with a new word. This word also echoes the **continuum**. The question of the continuum is mutually related to the question of the singularity in fields and particles. This requires a separate study. So far it is known that a proton and a neutron contain cores.

Finally, continuing the theme of **antigravitation**. Knowing how the gravitational field is arranged, it is possible to create in the macroscale (by means of an accurately calculated design of various magnetic windings, capacitors, etc. and current supply) such a "thick" of oscillations that would create (at least in a local space region) a "gravitational field On the contrary. " Those. So that the body placed in this area of space would not be attracted to the Earth, but would be repelled. Thus, in principle, **mobile anti-gravity devices** are possible (along with the previously mentioned cosmic "balloon"), which, quite possibly, will have the appearance of flying saucers held on three or more anti-gravity beams as on legs.

The ball lightning observed in nature is perhaps a sample of other classes of solutions of the wave equation in gukuum.

There is also the assumption that the **earth's magnetic field** is also a ball lightning, of giant dimensions, inside which the Earth is contained. Several circumstances testify to this. In particular, the movement of the magnetic poles. That is, it is possible that such huge fireballs fly freely in space, and sometimes they seem to dress on planets. If the dimensions fit well and the trajectories coincide.