PATHOLOGY OF CELLS AND LIVING ORGANISM PHOTONIC ANALYSIS

V.P. ROMBAKH

Catastrophes Prevention Research Laboratory

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Sciences win if they use methods and facts borrowed from each other. Each such contact is a step forward. But at the moment when there is a move ahead, there are always the remaining people, demanding to stop the violation of unwavering rules established by their science.

L. Pasteur

Abstract

The article aims to create a method and device for detecting pathological changes in the cells of a living organism, using the emission of photons due to the atomic reaction in them. It is showing that the sensitivity of modern equipment for the study of ultra-weak radiation is sufficient to detect viruses.

Introduction

Today, when a virus, previously unknown, caused a pandemic that swept almost all countries, we physicists must find the reasons for its occurrence and inhibiting. Light, in the modern sense, is not only the visible region but the entire electromagnetic spectrum. All processes in nature occur as a result of atomic reactions due to the exchange of electrons and photons (particles of electromagnetic energy). The number of photons in the universe is millions of times greater than the number of other particles. They come to us billions of years after radiation in the stars, without changing their frequency during this time. Photons irradiated from the atoms of the Sun, after eight minutes fall on the Earth, without which life on it is impossible. The birth of viruses and their influence is impossible without the emission and absorption of photons.

It was experimentally established [1] that atomic reactions occurring in the cells of plants and living organisms are accompanied by the emission of photons. The frequency of these photons exceeds the frequency of the photons of vacuum-ultraviolet radiation. It is comparable with the frequency x radiation, which is caused by the action of electrons accelerated by an electric field.

This article is devoted to the study of pathological changes in the cells of a living organism using electromagnetic radiation of atoms in the spectral region, in which the photon frequency

exceeds the frequency of ultraviolet photons. It has been showing that the sensitivity of modern equipment for the study of ultra-weak radiation is sufficient to detect viruses

Atomic reactions in cells

Photographs of processes in inorganic matter, plant cells, and living organisms, show that the simplicity of the experiment and its absolute reliability is due to the atomic reaction. The frequency of a photon emitted by an atom and its polarization is due to the arrangement of energy levels. The atomic reaction is the result of a change in the configuration of the electron shell due to the transition of electrons from one energy level to another. Such transitions are accompanied by the emission or absorption of photons that are not in the atom. The photon is a unique particle, the rest mass, and charge of which are equal to zero. In all cases, an atomic reaction occurs as a result of the exchange of atoms by electrons and photons. The exception is an atomic reaction called *K*-capture. The electron of *K* shell, located closest to the nucleus of an atom, contains two electrons for all atoms except hydrogen. The nucleus of some atoms, attracting electrons, absorbs (captures) the electron from this shell. One of the protons in the nucleus reacts with the electron, in which a neutron is formed. But this is not atomic, but a nuclear reaction. The core charge decreases by one. The missing electron on the *K* level is replaced by an electron from a higher level at which the photon is emitted. *K*-capture was detected on one of the potassium isotopes:

$$^{40}_{19}K + e^{-} \rightarrow {}^{40}_{18}Ar + \nu_{e.}$$

Potassium atoms in the cell play an important role in its normal functioning. The potassium isotope turns into an isotope of argon (inert gas) and a neutrino.

Ionization potential of atoms (eV)

*	**	1	2	3				
+1	H	13.59844						
+1	Li	5.39	75.64	122.45				
+4	C	11.26	24.38	47.89	64.49	392.10	489.99	
-3	N	14.53	29.60	47.45	77.47	97.89	552.07	667.05
-2	O	13.61	35.12	54.94	77.41	113.90	138.12	739.29
+1	Na	47.28	71.62	98.91	138.40	172.18	208.50	264.25
-1	Cl	12.97	23.81	39.61	53.46	67.80	97.03	114.19
+1	K	4.34	31.63	45.81	60.91	82.66	99.40	117.56
+2	Ca	6.11	11.87	50.91	67.27	84.50	108.78	127.20
+3	Fe	7.90	16.19	30.65	54.8	75.00	99.10	124.98

The table shows the ionization potentials of ten elements that make up the mass of the cells of a living organism. The first column (*) describes the valency of the atoms that make up the molecules when we were analyzing the chemical reactions, which occur at the macro level. We restrict

ourselves only to the ionization of 10 electrons for atoms that have more of them. The photon energy of 124 eV is conventionally accepted since this is the high-frequency boundary of the vacuum ultraviolet. Still, the experiment is carrying out in the air, and the film is placing in a rubber container. The region of the electromagnetic spectrum located above the vacuum ultraviolet, in which the photon frequency is $10^{17} \div 10^{1}8$ Hz, is "assigned" to soft X-ray radiation. But in our case, there is no sizeable potential difference accelerating electrons. It allows us to formulate a hypothesis that the mechanism of photon emission in a cell is different from X-ray formation. This fact of the existence of such a phenomenon in nature is fundamental.

Experiment Results

A container with a color film KODAK 400 is located on the author's head around the circumference at the level of forehead. The twelve photographs are showing in Fig. 1, illustrates the electromagnetic radiation of atomic reactions of processes occurring in the head.

Let me analyze the photographs shown in Fig. 1. Frame 1 illustrates the absorption of radiation by the material of the body of the hearing aid shown in Fig. 2. The left luminous spot is caused by radiation from the battery, the right source of radiation is probably some kind of component of the apparatus, in which radiation with a higher energy density occurs. The discrepancy between the shape of the shadow and the shape of the body is due to the density of the material filling the corpus.

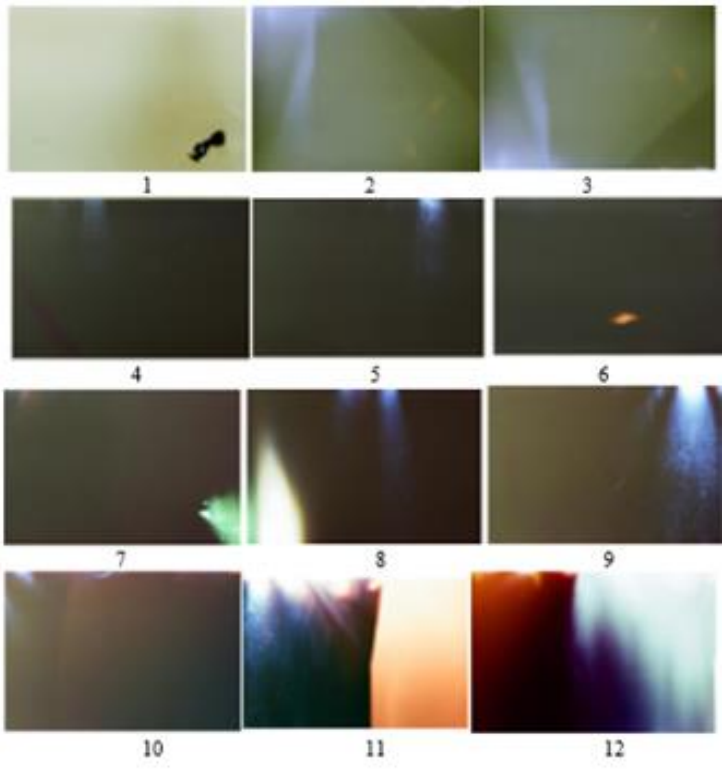

Fig. 1

Fig. 2

Note that special studies were performed with currents in the battery, alternating and direct currents, chemical reaction during corrosion, phase transformations. In all cases, radiation was observed.

Photos 2-5 and 7-12 illustrate the fan-shaped radiation that has been repeatedly observed in all photographs of objects containing water. Frame 8 was located on the back of the head.

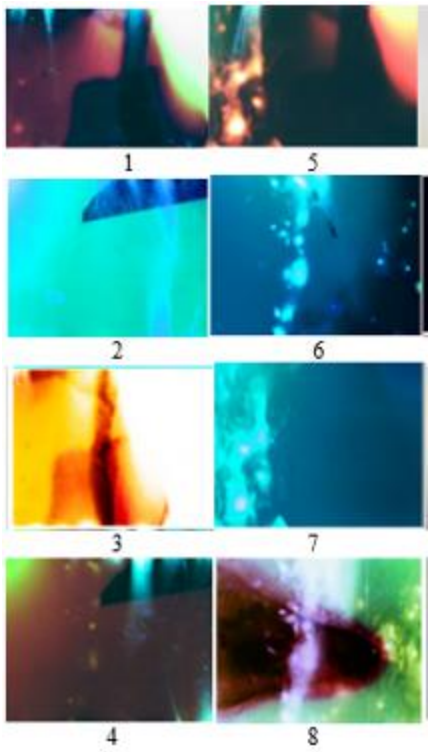

Fig. 3

Photos shown in Fig. 4 illustrate electromagnetic radiation from the lower back of the author to the left side of the spine (frame 3) in the region L4-L5 of the vertebrae between which the nerve was pinched.

The eight photographs are shown in Fig. 3 illustrates the upper part of the author's spine starting from the cervical vertebrae (frame 1), which makes up ~ 37% of its length. Fan-shaped radiation is observed on three frames (1, 4, 5) of 28. Frames 2 and 4 have both similarities and differences. Two strictly identical frames were not observed. This means that the atomic processes in each vertebra have their own distinctive features.

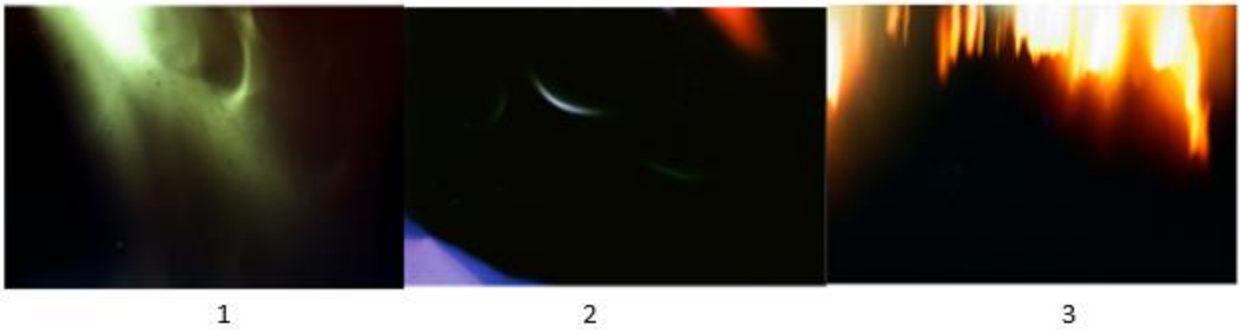

Fig. 4

Photos shown in Fig. 4 illustrate electromagnetic radiation from the lower back of the author to the left side of the spine (frame 3) in the region L4-L5 of the vertebrae between which the nerve was pinched.

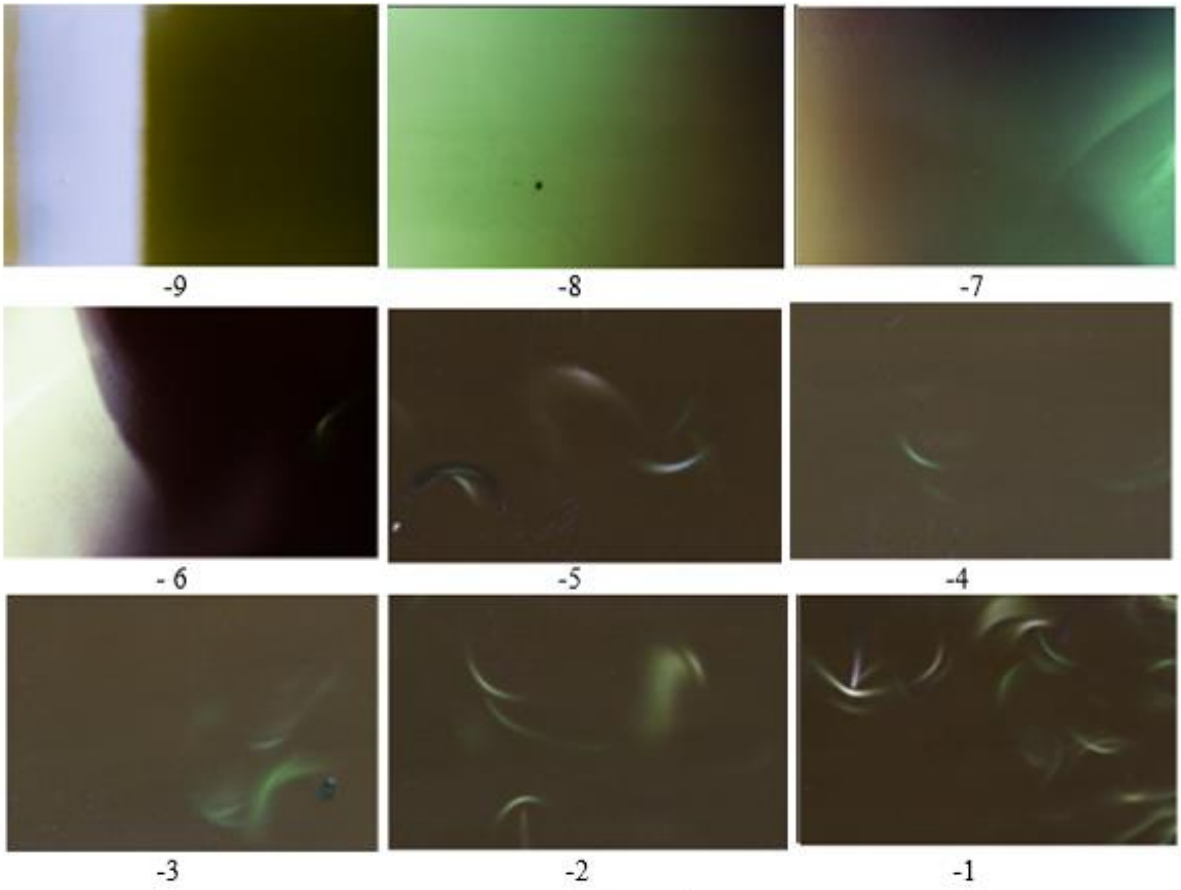

Fig. 5

These photographs indicate that local homogeneous areas are forming in the body, the energy processes in which are identical. This conclusion is grounding the fact that the color of such a zone does not change. It means that the response of the photographic material is due to the action of photons having the same frequency, possibly polarization. The appearance of a region of a different color is possible only if the frequency of the photons is different. This change occurs as a result of a change in the energy transition in the same atom in another molecule or photons are emitted by an atom of another chemical element.

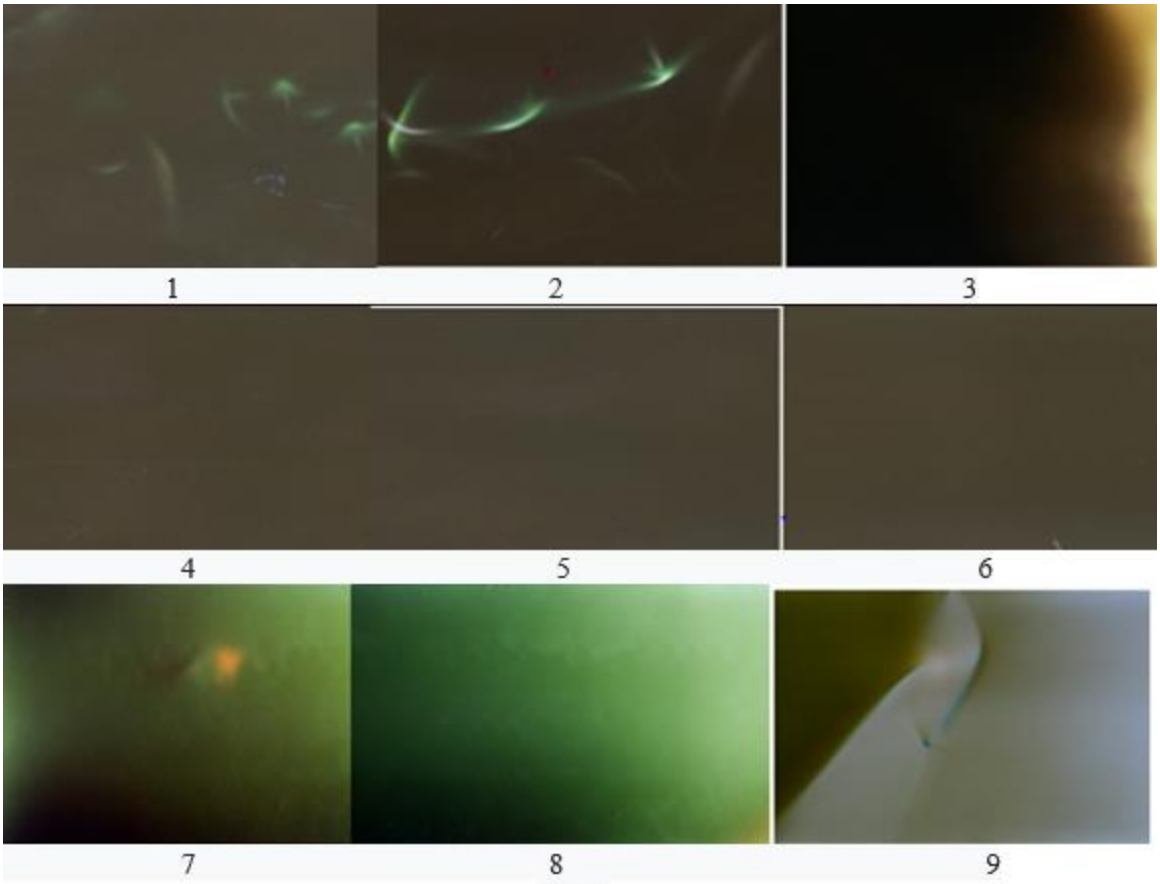

Fig. 7

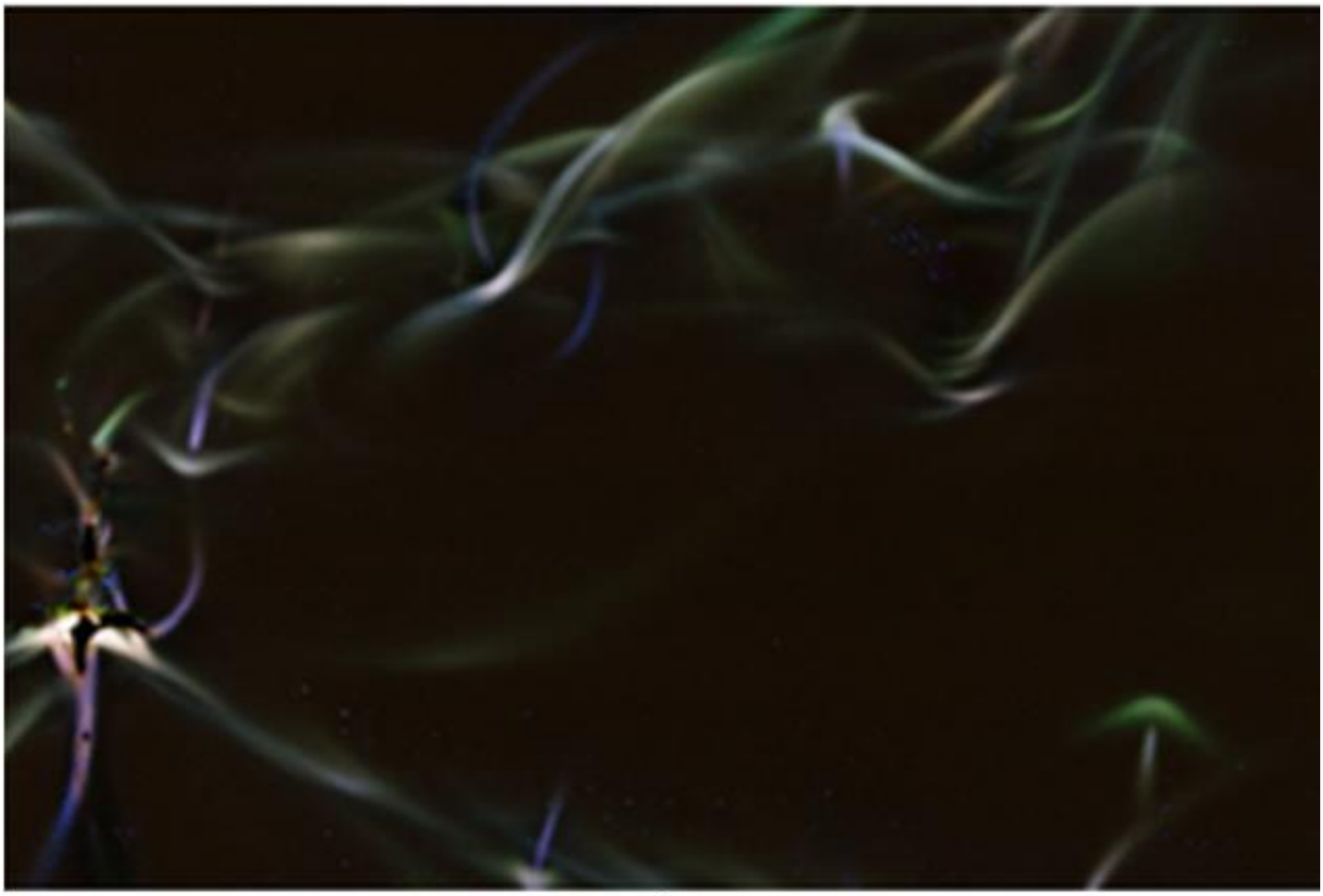

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Fig. 6

A container with the film was located around the chest of the author at the level of the heart. Nineteen photographs are shown in Fig. 5 - Fig. 7 are used as an example to demonstrate the ability to search and research the virus. The frames are shown in Fig. 5 illustrate the radiation to the left of the heart shown in Fig. 6.

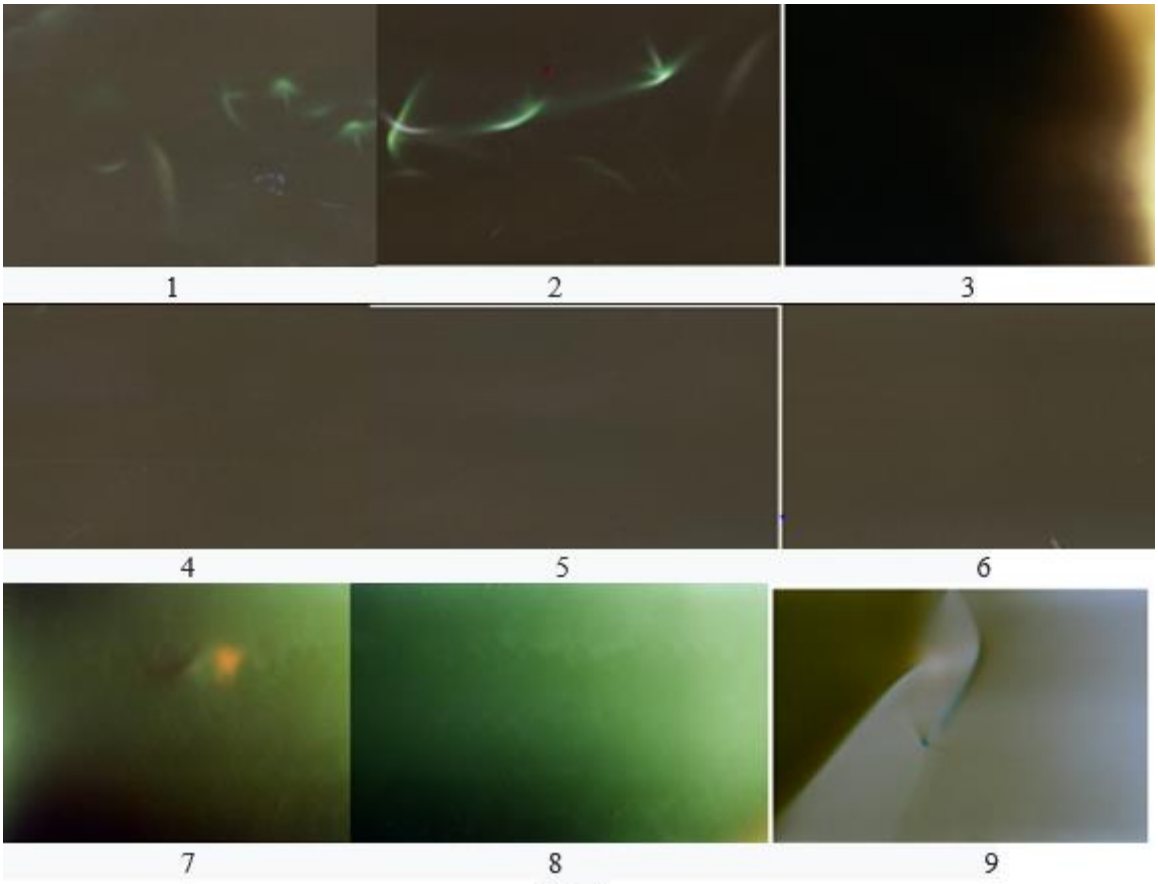


Fig. 7

The frames are shown in Fig. 7 illustrates the area to the right of the heart in such a way that frame 3 captures radiation from the suture formed after the bypass operation.

We will analyze the photos, using mainly those that can be identifying. We can unambiguously identify the heart, the three stents in the blood vessels, and the vessels themselves. Let's pay attention to three colors: white blue and green in different parts of the vessels. As you know, white light is a composite of red, green, and blue. The color that the photograph illustrates is due to the photon frequency increasing from red to ultraviolet. Unfortunately, the film's photosensitivity to red, especially to infrared radiation, is low. All the colors that the photographs illustrate are due to the photochemical reaction caused by high-frequency photons, conventionally called p-radiation in [1]. The color change from red to purple is due to an increase in the frequency of p-photons. The red color, due to the photochemical reaction, manifests itself in white. We can conclude that the intensity of p-radiation in blood vessels is higher than beyond. It is especially intense in the region of the heart.

Photos are shown in Fig. 1, Fig. 3 and Fig. 4, like many others, point to the advantage of the method of monitoring viruses based on atomic reactions over other methods.

These photographs indicate that local homogeneous areas are formed in the body, the energy processes in which are identical. This conclusion is based on the fact that the color of this region does not change. This means that the response of the photographic material is due to the action of photons having the same frequency, possibly, and/or polarization.

The appearance of a region of a different color is possible only if the frequency of the photons is different. This change occurs as a result of a change in the energy transition in the same atom or photons are emitted by an atom of another chemical element.

1. If for the study of cells and the search for viruses is carried out using electronic, atomic force microscopes, then as a result of mechanical, electronic or electromagnetic exposure and vacuum, the property of the test sample is changed.

2. The use of the non-invasive method is based on the fact that external exposure is excluded. Virus-infected cells in the body emit photons with a different frequency and/or polarization than healthy ones.

3. The atoms that make up the virus emit photons whose frequency and/or polarization differs from the frequency of both healthy cells and diseased cells.

A container with the film was located around the chest of the author at the level of the heart. The five photographs are shown in Fig. 5 and Fig. 6 are used as an example to demonstrate the ability to search and research the virus. Frame 1 (Fig. 5) is located to the left of the heart shown in frame 2. Frames 1-3 (Fig. 6) is located to the right of the heart so that frame 3 accumulates the radiation from the suture formed after the bypass operation.

A photograph (Fig. 5, frame 2) is shown in Fig 5 (2) for analysis. We see blood vessels of various diameters, figures (Fig. 7, frames 1-4) and orderly located luminous point formations (Fig. 7, frame 5).

We draw attention to the fact that figures 1 and 3 are mirror-symmetric, the color of blood vessels and point formations varies.

It is known that the diameter of blood vessels varies from 25 mm (aorta) to 5 μm (capillary). The above photographs were taken on KODAK 400 photographic films. Modern methods make it possible to investigate super-weak luminescence, the intensity of which is tens of thousands of times less.

This means that modern methods can detect viruses by their radiation.

The spectrum of electromagnetic radiation allows us to study the energy processes in vessels by changing their color (emission spectrum) and the brightness of the radiation (number of photons).

White color is a combination of red, green and blue. We see in the photograph Fig. 5 (2) vessels of white, blue and green color, even though the blood in them is red. Vascular luminescence is caused by redox reactions ($Fe^{2+} \leftrightarrow Fe^{3+}$, the conversion of ferrous iron to ferric and vice versa) that occur in them. The formation of Fe^{1+} and Fe^{4+} ions is already a pathology. The reaction $Fe^{2+} \rightarrow Fe^{3+}$ is accompanied by the absorption of energy, while the reaction

Therefore, the photon energy is higher than in the transition $Fe^{3+} \rightarrow Fe^{2+}$and above 124 eV. The mechanism for forming the arcuate figures shown in Fig. 5- Fig. 7, we will try to explain based on comparative analysis, using photographs captured in different places of the chest.

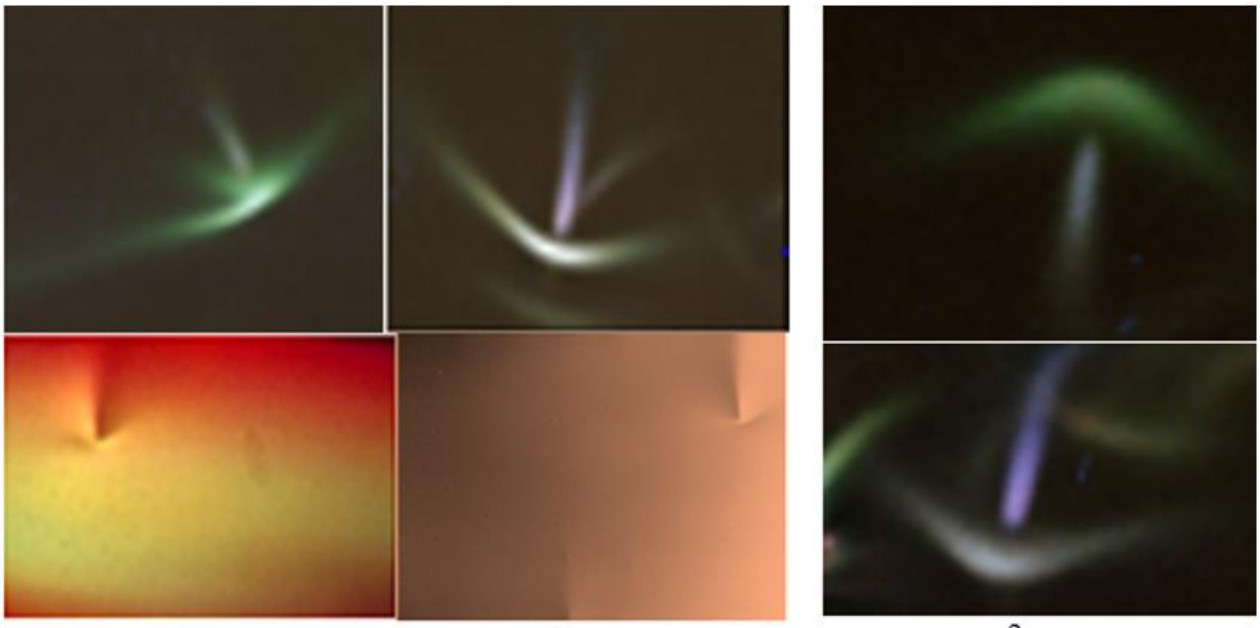


Fig. 8

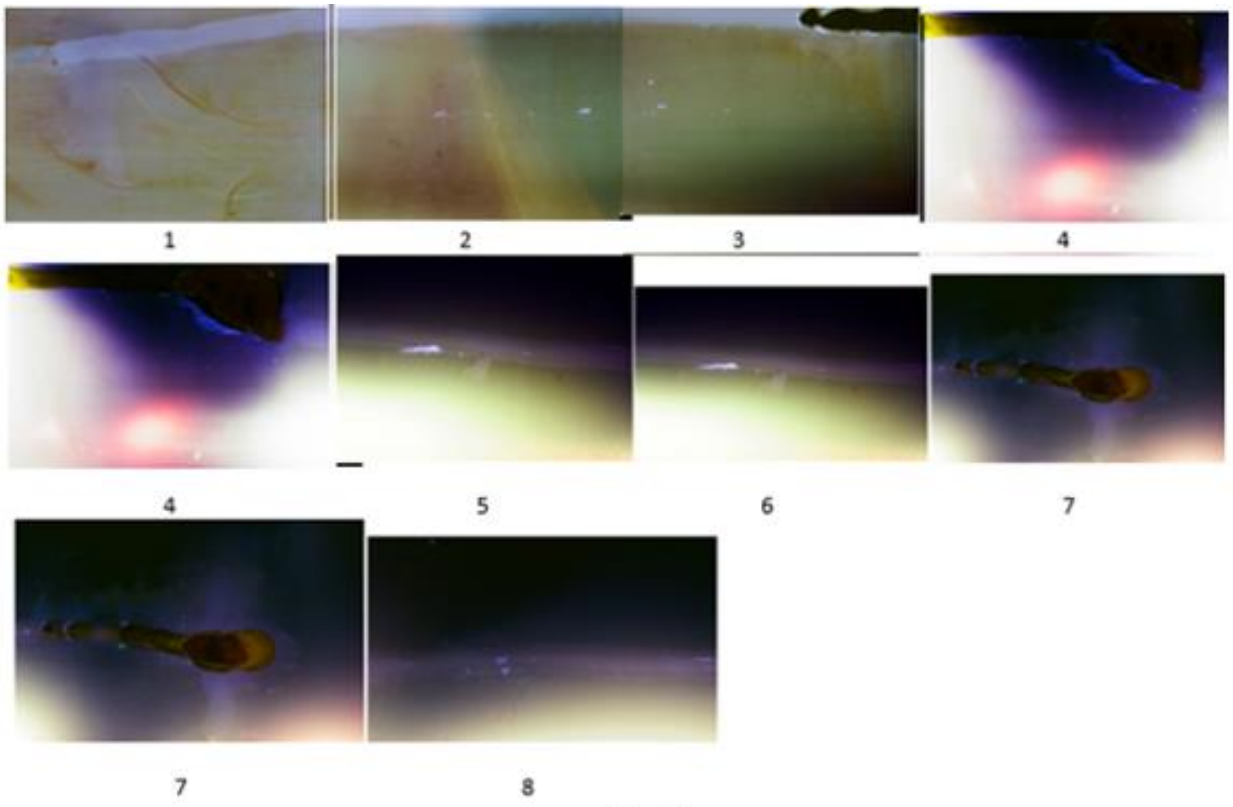


Fig. 9

Fig. 9 illustrates electromagnetic radiation in the genesis and development of larvae of green flies (Calliphoridae) in fish. Frames 4 and 7 are used twice for demonstration. Let us pay attention to the blue-violet color of the region in which the larva formed, which indicates the high energy of the emitted photons.

Justification of the possibility of using photon analysis of the processes in cells

I. Experimental grounding

1. The analysis of the results is basing on an empirical study performed by one person on primitive equipment at a low cost of each photo (~ $ 1), in a short time.
2. The experiments were performing on KODAK 400 film. The sensitivity of modern photographic materials is tens of thousands of times higher, which allows the use of high-speed photography.
3. Modern digital methods allow measuring the power of a source up to 10^{-13} watts, Photon energy, is measured with an accuracy of 10^{-4} eV.
4. A cell in its study is not exploding to external influences.

II. **Theoretical grounding**

The dimensions of the cell or virus are such that all the processes in them can be explained only from the standpoint of quantum mechanics or quantum electrodynamics because other laws apply in this area. The high energy of photons, n-radiation indicates that the electron was excluded not from valence, but deeper energy levels during excitation. In an X-ray machine, such an electron is removing using another electron accelerated by an electric field, the potential difference in which reaches 100 kV.

The table below shows the X-ray wavelength and the energy of the emitted photons.

The wavelength of photons and their energy when electrons will be removing in the atom of *Fe* from level *K*

Line designation	$K\alpha 1$	$K\alpha$	$K\beta 1$	$K\beta 5$
Wavelength	0.1936041(3)	0.1939973(3)	0.1756604(4)	0.174423(15)
Energy	6404.0062(99)	6391.0264 (99)	7057.175(16)	7108.26(60)

Tere it is necessary to pay attention to the accuracy of the measurement, which is unattainable by other methods.

In the experiments, as a result of which the photographs were obtained, the external voltage was not used. Naturally, the question arises: how is the electron removed?

R. Feynman answered: other laws applicable in the nano region. Therefore, it is necessary to look for other reasons based on the experiment.

1. We observe an intense glow of blood vessels, which weakens with distance from the heart, like a decrease in pressure. Therefore, even a small change in pressure, according to the criterion of classical mechanics, leads to noticeable changes in the radiation intensity.

2. Redox reactions in the bloodstream result from changes in charge of ions. The emission of photons accompanies such changes. From classical electrodynamics, these changes should be accompanied by low-frequency photons. But contrary to this, the frequency of emitted photons is several orders of magnitude higher. Such a significant difference can be explained by an increase in the number of ionized atoms and the degree of ionization. It means that other elements are also subject to ionization. But most of the blood is water, formed from two hydrogen ions and an oxygen ion.

The unique role of water in the body and its properties is the subject of numerous studies that are not considered in this article. Instead, we take into consideration the work of J. C. Maxwell [2], devoted to soap bubbles, in which he notes that there is a thin layer between the liquid and the vapor, probably one-millionth of a millimeter, whose properties differ from both the properties of the liquid and the vapor. He notes that van der Waals obtained a value of 0.0000003 mm = 0.3 nm for this layer. Consequently, Maxwell in 1873, drew attention to the area that today is called nanoscale. This fact does not detract from Feynman's merits, for he not only drew attention to it but also demonstrated how to use it.

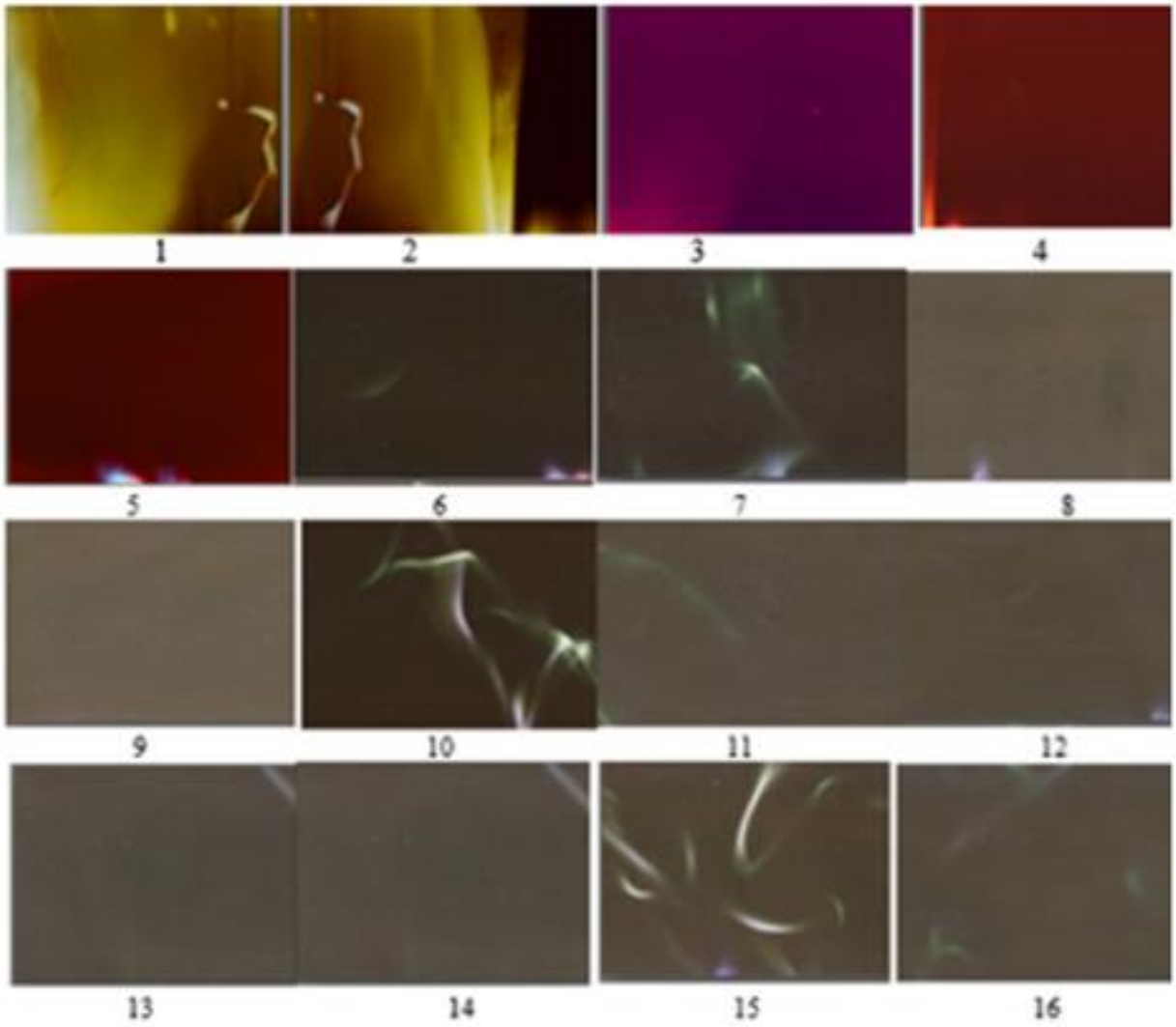


Fig. 10

3. The role of water in human life is so significant that any new information about its properties is of particular importance. The discovery of fullerene, graphene, carbon nanotubes played an essential role in modern science, but the region between vapor and liquid, noted by Maxwell, remained unexplored.

An experiment designed to verify this Maxwell conclusion was performing as follows.

A plastic pipe 1 cm in diameter was placed inside another plastic pipe with a diameter of 5 cm so that the axis of pipes coincided. The space between the tubes that filled with water, which has been frozen to -12° C. The experiment was done during two stages. First step. The inner tube has filled with water through which steam is passed. Second phase: water has been removed, but the steam supply rate increased to increase the speed of ice melting. Each stage was recorded on a separate part of the film located in a spiral on top of the device.

Fig. 10 illustrates p-radiation due to the interaction of steam and water. This interaction occurs at the boundary of the bubble, recorded at 16 frames. Fig. 11 illustrates p-radiation due to the interaction of water and ice.

4. Note. Note that the photons passed through the walls of two plastic tubes with a total thickness of 5 mm and a rubber container 2 mm thick. The emission of photons from water during corrosion, impact, on the surface of metal subject to deformation, the bottom of the reservoir is described in [1].

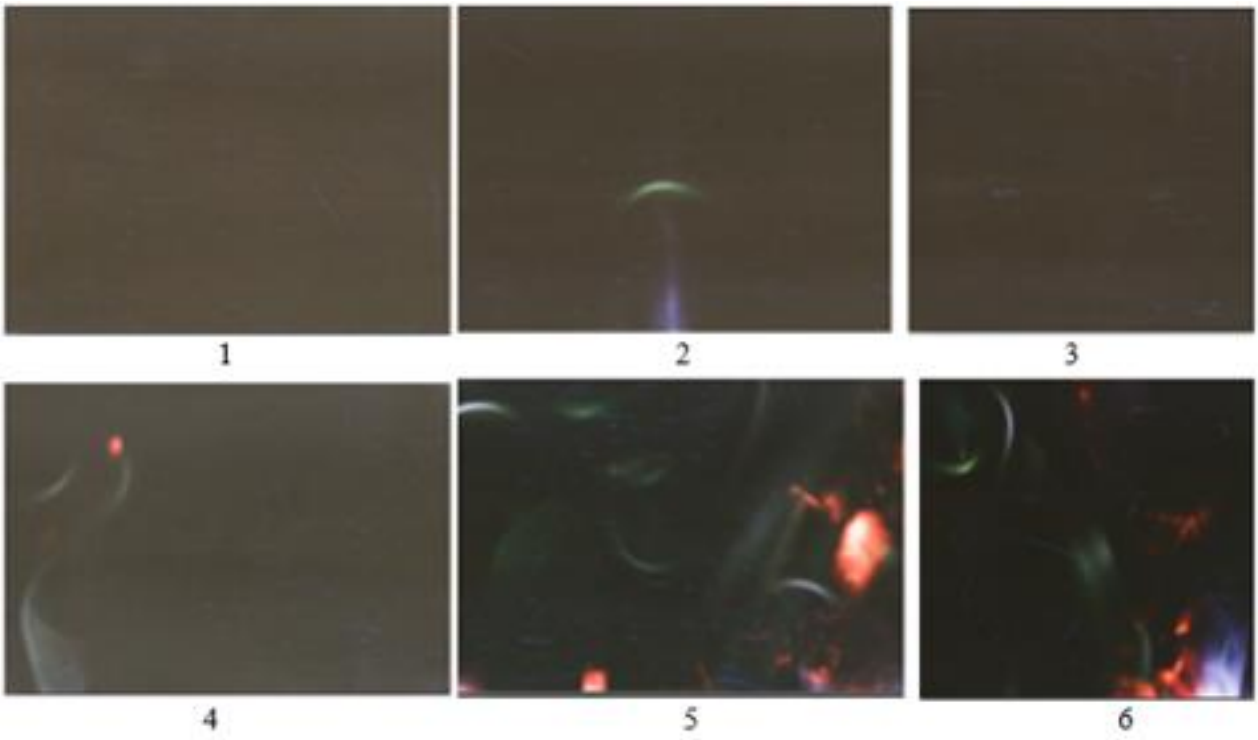


Fig. 11

4. Note. Note that the photons passed through the walls of two plastic tubes with a total thickness of 5 mm and a rubber container 2 mm thick. The p-radiation of photons from water during corrosion, impact, on the surface of metal subject to deformation: on the bottom of the reservoir filled with water, is described in the book [1].

5. An analysis of the experimental results allows us to formulate a hypothesis that the features of water are because the excitation of atoms in the nanoscale takes place with the participation of protons. The idea of proton participation in the cell has formulated by G. N. Petrakovich [3]. However, the hypothesis of a thermonuclear reaction in a cell is erroneous. The biofield he writes about consists of two fields: electromagnetic and gravitational. A thermonuclear result in celestial objects becomes possible only if its mass is determined, at which the force of gravitational

compression exceeds the repulsive force of atomic nuclei. Atoms, under these conditions, approach each other at such a distance that electrons are captured, and a neutron star will be formed. A neutron star with a higher mass turns into a black hole. A study of celestial objects in the infrared allowed us to find those of them whose mass is insufficient for a thermonuclear reaction.

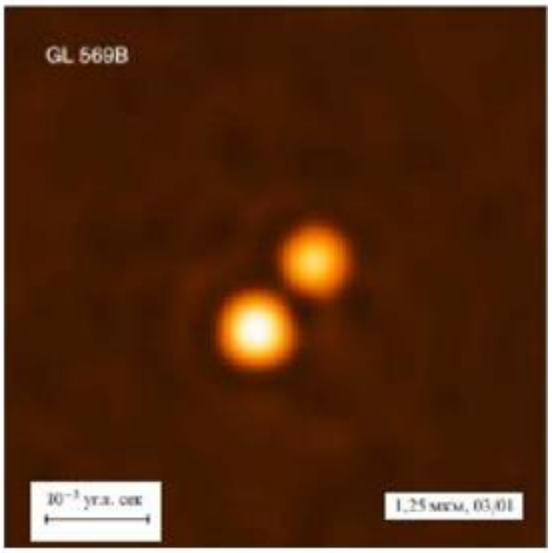


Fig. 12

Such objects are called brown dwarfs. The brown dwarf system G1 569B is illustrated in Fig. 12 according to a photograph taken from the work of Yu. Yu. Balega [4]. The radiation wavelength is 1.3 μm. Photon energy is equal $9.5 \cdot 10^{-3} eV$.

6. The nature and mechanism of atomic reactions in celestial and biological objects are identical. A cell, like a celestial object, is heterogeneous. Photons, electrons, atoms, and molecules pass through the boundary of the inhomogeneity or reflected from it. It leads to the fact that dynamic processes in regions having a heterogeneity boundary proceed differently. A clear border of areas with different colors, including point ones, confirms this conclusion. Thetis means that the spectrum of its radiation can detect the virus.

7. The basis of physics is the fundamental laws based on which a description of natural phenomena is giving. The purpose of this article can be achieved only when biophysics has mastered the energy method implemented by nature.

"Biophysics is a highly integrated discipline that can encompass nearly all aspects of biomedical science, from the interaction of various forms of energy with biologically relevant molecules *to the mechanical forces involved with limb movement in an intact orga*nism. What makes biophysics uniquely different from other disciplines of biomedical science is its approach to problems. Simply, the biophysicist examines biological systems through the eyes and tools of a physicist. The biophysicist is trained to understand the underlying interactions of energy and matter in living organisms or molecules and to use highly quantitative physical, statistical, and modeling methodologies to understand complex phenomena."[5].

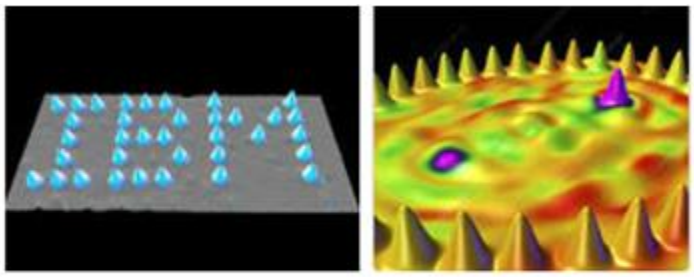
The phrase in italics needs clarification. We consider a phenomenon that is associated with atomic reactions. In physics, among the fundamental interactions, there are no mechanical ones, but there are strong (nuclear), electromagnetic, weak, and gravitational ones. We neglect all forms of interaction except electromagnetic if we do not consider nuclear reactions in cells. Thus, K-capture by one of the potassium isotopes is also possible in the cell. The likelihood of such an event is minimal, but there is no evidence that one act will not lead to pathology of the cell, and then the entire organ.

Mathematical interpolation of the phenomena of the macrocosm to nano-regions is unacceptable.

Nanotechnology is a technical application of Feynman's idea of about the possibility of controlling individual atoms, formulated by him in a lecture given in 1959.

Feynman, realizing that his idea can be perceived as a fantasy, gave only one arithmetic example. If a letter is made from five atoms, then the entire British encyclopedia can be written on a crystal whose size is less than a speck in the eye. He pointed out that electron microscopes with a resolution of 100 times higher than existing ones are needed to control atoms.

The first three letters, which are showing in Fig. 13, 1, were "written" by atoms in 1989. An ellipse of iron atoms on the surface of copper, shown in Fig. 13, 2, is called quantum corral.



1 2

Fig. 13

Publications on the creation of new corals and devices indicate that work in both the experimental and theoretical directions does not stop.

The peculiarity of the coral shown in Fig 13, 2, is that in the right focus of the ellipse formed by Fe atoms, there is a *Co* atom. It led to the fact that a maximum of electron density appeared in the left focus, despite the absence of a *Co* atom there.

A quantum theory of this phenomenon, called a quantum mirage, has been developed. A detailed analysis of the use of this phenomenon in biophysics is the subject of a separate study, for nature manipulates the atoms in the cell earlier than D. Eigler, and his colleagues managed. We confine ourselves to the fact that the emission of photons accompanies the interaction of atoms in a quantum corral and a cell, as evidenced by the results of experiments described in [1].

The identity and difference of the emission spectrum of quantum coral, plant cells, and living organisms can only be established experimentally.

The results of the study of the physical properties of membranes are described in [6], fragments of which are cited (●), and commented (○) to demonstrate the possibility of using atomic reaction monitoring to detect pathologies.

All processes in nature are due by the movement of atoms (ions), electrons, and photons. The analysis of these processes in the cell is especially essential.

● "In a series of experiments on the axon of the squid, it was shown:

1) the formation of the action potential is associated with the transfer of Na and K ions through the membrane; 2) the membrane conductivity for these ions varies depending on the size of the membrane potential and time ... Later, Hodgkin and Huxley proposed a *mathematical model*

that describes the change in conductivity and, therefore, the currents of Na^+ and K^+ ions through the process of membrane excitation ... It is assumed that potassium ions can pass through the channel if *four singly charged particles simultaneously* reach their place under the influence of an electric field. [6] (Italics mine).

○ A mathematical model is only useful if it is based on the laws of nature. The behavior of particles in a cell can be described only from quantum mechanics, taking into account all experimental facts. The experiment showed that the processes in the cell are accompanied by the emission of photons with energy exceeding 124 eV. The emission of such photons is possible only as a result of ion recombination. Still, for this, the atom must be ionized by removing the electron, but not from the valency, but from a deeper level, or due to the forced emission of 30-40 K ions. Should happen in which neutral potassium atoms form. The likelihood of such a mechanism is minimal.

The formation of Na^+ and K^+ ions is since the electron cloud appears above the boundary of the inhomogeneity. At the same time, the corresponding potential difference in the cell is necessary to remove the electron from deeper levels, which was not observed in the cell. The way out of this seeming impasse is that all processes occur in water, whose nano-scale properties differ from those outside it. At the boundary of the nanodroplet of water, there is also a cloud of electrons, which "supplies" the hydrogen atom, turning into an elementary proton particle.

● "Consider the energy of the pores. As it was establishing above, two opposing forces act on the portion face, one of which - the linear edge tension of the pore perimeter - contributes to many pores, the second force - the surface tension of the bilayer - causes pore compression. Edge energy generates proportional energy and increases total energy."

○ Photon analysis (FA) is based on the fact that energy processes are due to the interaction of atoms. Griffith performed an energy analysis based on the mechanical properties of the surface in 1920 before the creation of quantum mechanics. However, this model did not allow predicting those changes in material properties that lead to destruction. A deeper understanding of the surface energy from the standpoint of quantum mechanics made it possible to create a laser. (See Z. Alferov, H. Kroemer. J. Kilby, Nobel Prize in Physics, 2000) in which the accumulation of energy and its stimulated emission occurs. Nevertheless, Maxwell (the creator of classical electrodynamics) wrote about such a structure 127 years before, Feynman (one of the creators of quantum electrodynamics) said 40 years before. However, in nature, such a structure, called a cell, was created earlier. There is no doubt that the application of quantum electrodynamics to the analysis of processes in the cell

will help to understand the mechanism of maintaining body temperature, the high coefficient of beneficial effects of the cell. All these processes are due to electromagnetic interaction, which is characterized by the number 1/137. It is possible that the quantum electrodynamics of a cell will make it possible to understand the nature of this mysterious number.

● “A living organism is an extremely complex system, not always available for an exact physical experiment.”

○ Photon analysis (FA) allows you to expand the capabilities and improve the accuracy of a physical experiment.

● “An important role was played by the analog electric model of an excitable membrane in the studies of Hodgkin and Huxley.”

○ FA allows replacing an electric model with an atomic one.

●"The biological membrane can be considered as an electric capacitor ..."

○ FA allows us to consider the membrane as a source of photons, using which normal functioning or pathology is evaluated.

● “X-ray diffraction analysis allows one to detect ordering in the arrangement of atoms and determine the parameters of ordered structures (for example, the distance between crystallographic planes).”

○ FA does not need an external radiation source; it allows you to get more complete information about the energy processes in the cell, intact X-ray photon.

● “In an electron microscope, instead of a light beam, a beam of electrons dispersed to high speeds is sent to the object under study. The disadvantage of electron microscopy is the deformation of a living object in the process of research. Before the start of electron microscopic studies, the cell goes through many stages of pre-treatment: dehydration, reinforcement, ultra-thin section, treatment of the preparations with substances that scatter electrons well (for example, gold, silver, osmium, manganese, etc.). At the same time, the studied object changes significantly.” [6].

○ FA lacks these shortcomings.

8. Six differences in photon analysis are sufficient to demonstrate the advantages of the method based on monitoring atomic reactions from other known methods.

9. Atomic processes, as described in [1], are accompanied by intense p-radiation. Using this radiation allows you to study the cells of living organisms without disturbing the processes occurring in them. The peculiarity of the coral shown in Fig 13, 2 is that in the right focus of the

ellipse formed by Fe atoms, there is a Co atom. It led to the fact, that a maximum of electron density appeared in the left focus, despite the absence of a Co atom there.

A quantum theory of this phenomenon, called a quantum mirage, has been developed.

A detailed analysis of the use of this phenomenon in biophysics is the subject of a separate study, for nature manipulates the atoms in the cell earlier than D. Eigler, and his colleagues managed. We confine ourselves to the fact that the emission of photons accompanies the interaction of atoms in a quantum corral and a cell, as evidenced by the results of experiments described in [1].

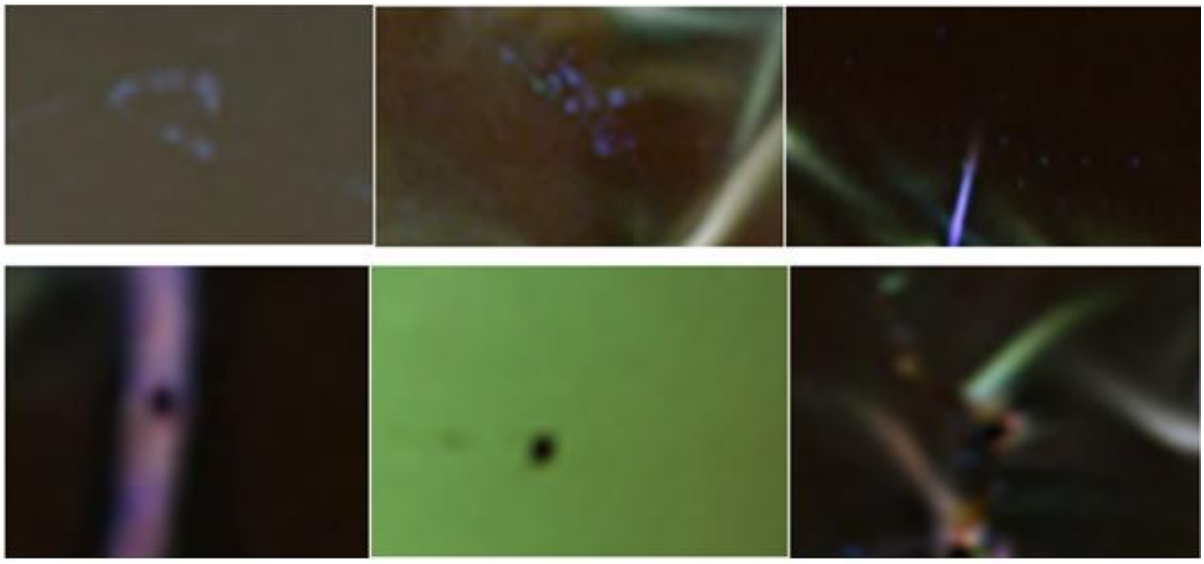


Fig. 14

The photographs are showing in Fig. 14 illustrates dark and colored structures in blood vessels and the lungs. The size of these structures is commensurate with the extent of giant viruses. Note that they are fixed on the film without retouching. The role of these structures is unknown, but they are easy to detect.

9. Photon analysis of the results does not exclude the possibility of studying processes in organs, both simultaneously with other methods and independently of them.

10. The successful use of an X-ray microscope, vacuum spectrometers, and devices for the non-invasive determination of oxygen and carbon dioxide in the blood give us confidence that there are no fundamental obstacles to creating a microscope for studying p-radiation from cells of living organisms. This will create devices for analyzing the spectral composition of p-radiation from normal and pathological cells, bacteria, and viruses.

11. The quantum theory of star formation processes is much better developed in astrophysics than in biology, especially in virology. Photon analysis of processes in the cells of a living organism does not exclude the possibility of using other methods.

12. Analysis of the emission spectrum of the virus at its birth and development allows you to find methods by which the reaction slows down or is inhibited, turning the virus into a vaccine.

13. N. S. Sventitsky developed spark and arc generators of direct and alternating current for spectral analysis. The generator, in which a spark is formed when the source voltage is 12 volts, was designed by the author on the recommendation N. S. Sventitsky for the study of the radiation spectrum. The experiment was carried out in 1962. A capacitor bank made it possible to create a spark with a current strength exceeding 2000 amperes. The emission spectrum during the discharge between the copper electrodes turned out to be continuous. The experiment was considered useless by us, and its result was not published.

Copper alloy rod was destroyed by contact with a rotating stone. Fragments of destruction fell on the surface of the container with photographic film, on which radiation was recorded, which caused the photochemical reaction.

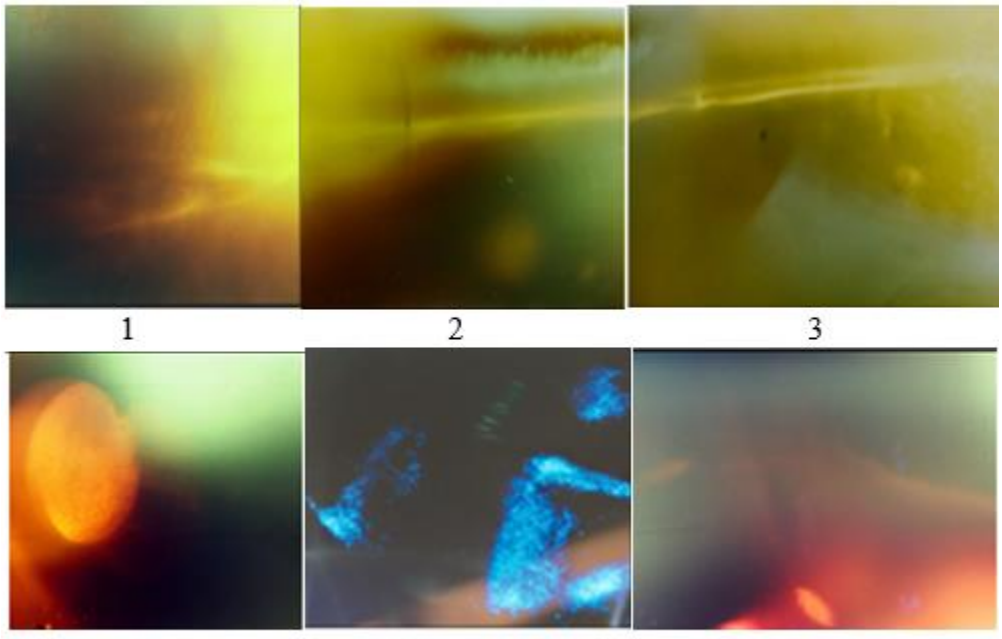


Fig. 15

Frames 1-3 shown in FIG. 15 illustrate p-radiation. Bright white stripe due to radiation from an Sn-Pb alloy wire, which is located inside the container. This radiation arose as a result of the absorption of photons emitted by copper atoms. Frame 4 illustrates the radiation of a washer used

as a screen for photons emitted by copper atoms. An aluminum foil cut in the shape of the letter E was irradiated with photons emitted by iron atoms. Iron particles are formed during the destruction of the alloy. Frame 5 illustrates the emission of single-layer, four-layer, and eight-layer samples. Box 6 illustrates the sequential deposition on the surface of the particles of copper and iron formed during the destruction. The color of the Sn-Pb alloy wire inside the container has changed.

14. These photographs are presented in order to show that the photons studied by the atoms of one molecule can be absorbed by the same atoms in another molecule. The number of such combinations is not limited. This is due to the diversity of plant cells and living organisms. However, for each individual it is limited; it is already used in biotechnology.

Rapid and painless detection of pathological cells and viruses will become possible when the difference between the p-radiation spectrum of these cells from the normal one is detected.

We must take into account the fact that coronavirus is not the last test of humanity on the path to survival. The use of radiation in the process of virus nucleation and its development will help to detect new viruses and put them a barrier before they become dangerous.

15. The fundamentals of spectral analysis were laid by Bunsen and Kirchhoff in 1859, but before that, infrared radiation detected a wavelength longer than the wavelength of visible radiation, and ultraviolet radiation was in the short-wavelength region. Hertz's confirmation of the existence of electromagnetic waves has shown that the spectrum in the long direction is practically unlimited. X-ray discoveries, Becquerel, Rutherford showed that there are short-wave regions called x-rays and gamma radiation. Each of the areas of the electromagnetic spectrum has found practical application. There is no doubt that electromagnetic radiation in the region between ultraviolet and X-rays will also be used.

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