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RESOLUTION OF THE NEW THEORY OF MICROWORLD

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Announcement. It is impossible to ascertain the resolution of the old theory of microworld. The resolution of the new theory of microworld exceeds the resolution of the modern electron microscopes millionfold minimum.

Faraday was the founder of the existing knowledge concerning electricity and magnetism. Maxwell, the mathematician and his contemporary, was the first was who participated in the description of the electric phenomena and processes and the magnetic ones, which were observed by Faraday. Maxwell obtained the equations, which are considered to solve all the problems connected with electricity and magnetism still [1].

$$rot\overline{E} = -\frac{1}{C}\frac{\partial \overline{B}}{\partial t}, \qquad (1)$$

$$div\overline{E} = 4\pi\rho, \qquad (2)$$

$$rot\overline{B} = \frac{1}{C}\frac{\partial \overline{E}}{\partial t} + \frac{4\pi}{C}\overline{I}, \qquad (3)$$

$$div\overline{B} = 0. \qquad (4)$$

Here: $\overline{E} = \overline{E}(\overline{r}, t)$ is electric field strength;
$\overline{B} = \overline{B}(\overline{r}, t)$ is magnetic field strength;
$\frac{1}{C}\frac{\partial \overline{E}}{\partial t}$ is displacement current;
$\frac{4\pi}{C}\overline{I}$ is conduction current.

It is considered that Maxwell equations describe a propagation of the so-called electromagnetic waves. A model of Maxwell electromagnetic wave is given in Fig. 1 [1].

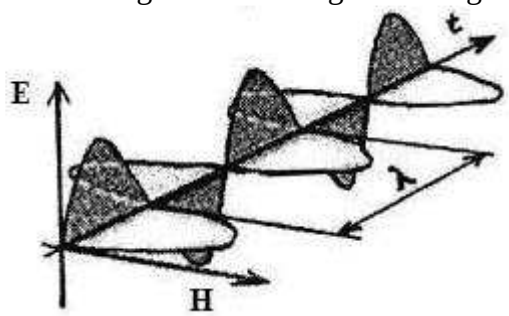


Fig. 1. Diagram of the electromagnetic wave

As it is clear, Maxwell equations (1-4) are represented in partial derivatives. Partial derivatives are taken according to time and a coordinate usually, but as these both variables are changed synchronously in the implementation of any process, the mathematicians have decided to leave one of the parameters (for examples, time *t*) unchanged and to differentiate with respect to the coordinate $\overline{r}$, the second parameter, without further ado in order to facilitate a gain of the equations, which describe this process. But it does not take place in reality. In reality, the coordinate $\overline{r}$ and time *t* are changed simultaneously; that's why one cannot leave the coordinate $\overline{r}$ constant when the equation is differentiated with respect to time *t* and one cannot stop time *t* when the equation is differentiated with respect to the coordinate $\overline{r}$. Such process does not exist in reality, because time cannot be stopped, and the non-permanent coordinate is always time function [1].

Thus, an elementary analysis of Maxwell equations shows that the rules, which distort reality, are laid in the process of their solution as time cannot be stopped and the coordinate of the displacement of any object in space is always time function. We see that Maxwell equations are at

variance with the procedure of their acquisition and solution, but we cannot express the essence of this contradiction clearly. A question arises: do Maxwell equations describe reality or mysticism? [1].

Surely, the approximate methods of the solution of Maxwell equations can give a result, which coincides with the experiment. The essence of this coincidence is in the fact that the approximate methods of the solution of Maxwell equations are based on the use of Fourier series. This method is used when the results of in the experimental data are processed. It means that the physical essence of the electromagnetic wave is not given in the process of the experimental data processing. This wave can have various physical fillings, which are not registered by the measuring instruments. Under such conditions, a coincidence of the experimental result with the theoretical one can be fortuitous, and its interpretation can be completely erroneous. The fact that Maxwell equations describe only a part ($10^{-4}\ldots10^{6}$ m) of the whole scale ($10^{-18}\ldots10^{6}$ m) of the so-called electromagnetic radiation (Table 1), and they fail to describe its remaining part ($10^{-4}\ldots10^{-18}$ m). Why? The answer is given below.

Table 1. Bands of changes of radii r (wavelengths λ) and masses m of electromagnetic radiations

Bands	Radii (wavelengths), $r=\lambda$, m	Masses m, kg
1. Low-frequency band	$3\cdot10^{6}...3\cdot10^{4}$	$0.7\cdot10^{-48}...0.7\cdot10^{-46}$
2. Broadcast band	$3\cdot10^{4}...3\cdot10^{-1}$	$0.7\cdot10^{-46}...0.7\cdot10^{-41}$
3. Microwave band	$3\cdot10^{-1}...3\cdot10^{-4}$	$0.7\cdot10^{-41}...0.7\cdot10^{-38}$
4. Relic band	$r=\lambda\approx1\cdot10^{-3}$	$2.2\cdot10^{-39}$
5. Infrared band	$3\cdot10^{-4}...7{,}7\cdot10^{-7}$	$0.7\cdot10^{-38}...0.3\cdot10^{-35}$
6. Light band	$7.7\cdot10^{-7}...3.8\cdot10^{-7}$	$0.3\cdot10^{-35}...0.6\cdot10^{-35}$
7. Ultraviolet band	$3.8\cdot10^{-7}...3\cdot10^{-9}$	$0.6\cdot10^{-35}...0.7\cdot10^{-33}$
8. Roentgen band	$3\cdot10^{-9}...3\cdot10^{-12}$	$0.7\cdot10^{-33}...0.7\cdot10^{-30}$
9. Gamma band	$3\cdot10^{-12}...3\cdot10^{-18}$	$0.7\cdot10^{-30}...0.7\cdot10^{-24}$

Let us pay attentions to Louis de Broglie famous wave equation [1]

$$y = A\sin 2\pi(\nu t - x/\lambda)\ . \tag{5}$$

The mathematical symbols, which make this equation, are well known: λ is wavelength, ν is wave frequency, t is time, x is the coordinate. It is clear that the coordinate x and time t in the equation (5) in the same way as in Maxwell equations (1-4) are the independent variables. It is at variance with the reality. Where has such contradictory equation, which describes reality supposedly, come from?

The ideas concerning the wave nature of various phenomena were easily recognized as the authentic ones, because they result from the observed formation and propagation of the waves on the water surface (Fig. 2) [1].

Let us suppose that an ocean wave has propagated at the distance of 1000 km. Does the equation (5) make it possible to determine time, which is required for this wave to propagate at the distance of 1000 km? There is no answer. Let us put the next question: at what distance will the wave be in a minute after its formation? There is no answer again. Why? The answer is clear. In this equation, the coordinate x and time t are independent variables. Let us take another approach to this equation and put the next question: at what moment beginning from the wave formation

has its amplitude become equal to $+Y_A$? The equation (5) gives us innumerable quantity of the distances x where the amplitude has the same value $+Y_A$. Let us put the next question: why does not Louis de Broglie equation (5) allow us to determine the coordinate x of the wave at the specified instant in time t? The answer is obvious. It is because the equation (5) makes it possible to determine only an ordinate of the wave, to which a large quantity of the coordinates x_i corresponds from the beginning of its formation; in these coordinates, the ordinate $-Yi$, in which we are interested in, has one and the same value [1].

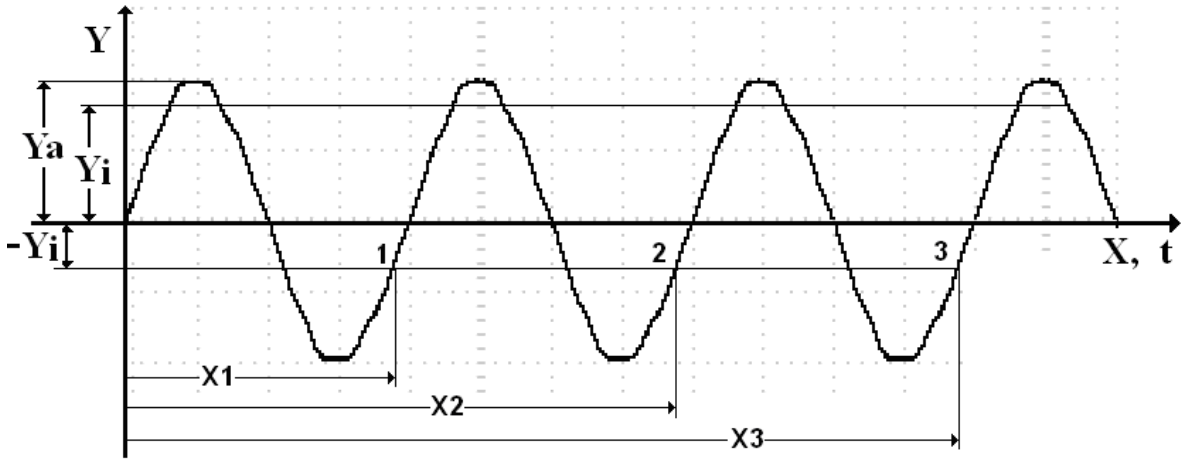


Fig. 2. Diagram to the analysis of independence of the coordinate x and time t

Now, we have come to the main question: can Louis de Broglie equation (5) be used for a description of the electromagnetic wave motion? The answer is univocal: no, it cannot, because we shall fail to determine the number of the propagating waves (it is called a wave packet) theoretically; it means that we cannot know the coordinates of the center of this packet at any instant in time. It come out that a result of our analysis resembles a guess-work [1].

The next famous equation, which describes the structures of the atoms and their nuclei, is Schrodinger equation [1].

$$\frac{h^2}{8\pi^2 m}\left(\frac{\partial^2\psi}{\partial x^2}+\frac{\partial^2\psi}{\partial y^2}+\frac{\partial^2\psi}{\partial z^2}\right)-P\psi=\frac{h}{2\pi i}\frac{\partial\psi}{\partial t}. \qquad (6)$$

It is easy to see that the coordinates and time are independent variables in this equation (6) as well; it is at variance with the reality where the coordinate is always a time function. Nevertheless, orthodox people are proud of the fact that the old theory of microworld describes the structures of its inhabitants with the help of Schrodinger equation, which makes it possible to determine only a probabilistic position of the electron in the atom and the elementary particles in its nucleus. Thus Schrodinger equation describes the position of the electrons in the atoms (Fig. 3) [1].

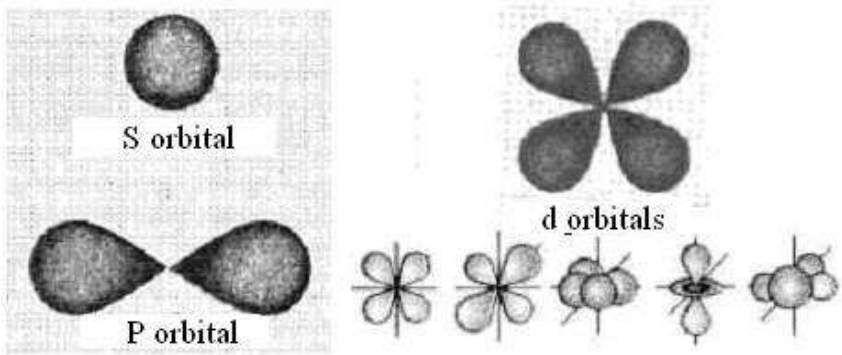


Fig. 3. Forms of the electron clouds

As it is clear (Fig. 3), the forms of the electron clouds have little in common with the forms of the orbits; that's why the chemists have called them the orbitals without further ado. In Fig. 4, the models of the atoms resulting from Schrodinger equation (6) are given [1].

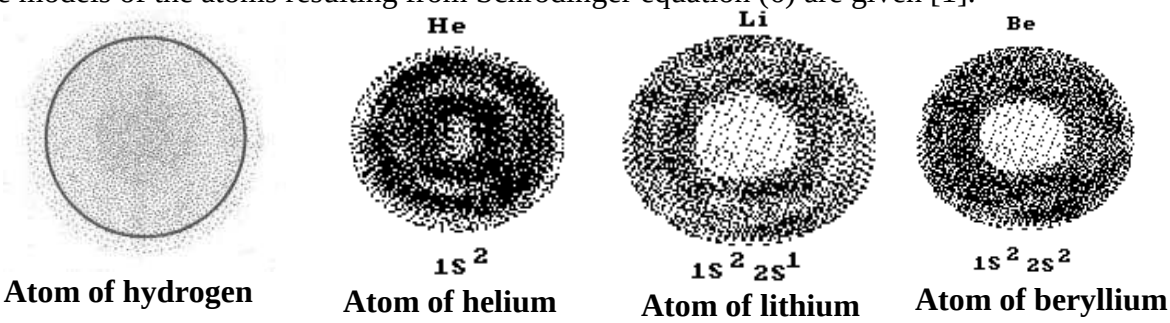
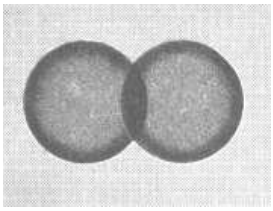
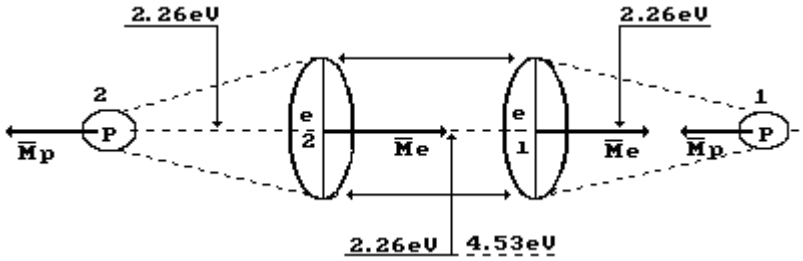


Fig. 4. Models of the atoms of hydrogen, helium, lithium and beryllium resulting from the old theory of microworld, Schrodinger equation

In Fig. 5, a, the hydrogen molecule model, which results from the old theory of microworld, Schrodinger equation, is given; in Fig.5, b, the hydrogen molecule model, which results from the new theory of microworld, is given [1].



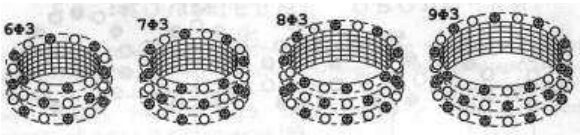
a) the old model of the hydrogen molecule with the covalent bond



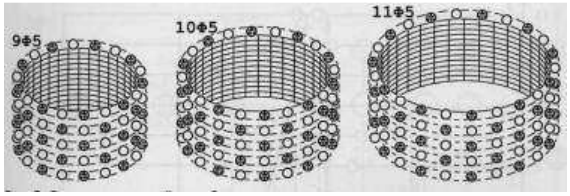
b) the new model of the hydrogen molecule with the covalent bond

Fig. 5. The old and the new models of the hydrogen molecule with the covalent bond

The latest achievements of the old theory of microworld in the discovery of the structures of the atomic nuclei are given in Fig. 6 [2]. As the author notes, the dark spots and the bright ones on the nuclei rings are the intermittent protons and the neutrons [2]. The way, in which the rings are interconnected as well as the protons and the neutrons in these rings, is a sealed book. Nevertheless, it seems to satisfy the orthodox people [2].



a)



b)

Fig. 6. External ring shells of the atom nuclei

The astonishing results originate from the probabilistic Schrodinger equation. The atoms (Fig. 4) are the misty spots; the nuclei (Fig. 6) are the rings of the unknown nature, which hold the intermittent protons and neutrons with an inexplicable bond between them. It is a fairy tale and nothing more.

Where is reality? As global errors are abundant, there is the only way out: we should return to the analysis of the initial notions and axioms, which serve as a basis for the human achievements in the perception of surrounding environment, and check completeness of the axioms, which lay in the foundation of the existing knowledge, which has become covered with many contradictions [1].

From the analysis being described, the contradictions result; incomprehension of the criterion significance of the connection between space, matter and time, the primary elements of creation, is their main cause. The philosophers discuss the philosophical essence of the space, matter and time unity long ago; but the physics-theoreticians fail to pay attention to the criterion significance of this unity in the evaluation of authenticity of the processes of the description of the material object motion in space [1].

Space, matter and time unity points out to the fact that an interconnection between matter, space and time should be reflected in all mathematical models, which describe changing reality. This rule, which is quite simple by sight, has remained unnoticed neither by the mathematicians, nor physicists [1].

All phenomena and processes in Nature take place within the framework of the Unity Axiom. The processes of the displacement of any object in space are inseparable from time flow. All displacements are time functions. If we ignore this fact, we shall get an approximate or completely distorted notion concerning a phenomenon or a process being studied as it results from Maxwell equations, Louis de Broglie equation and Schrodinger equation [1].

Let us pay attention to the fact that till the middle of the 19th century the cognition process took place within the framework of the Unity Axiom. It was violated when a transition to the microworld behavior description with the help of the wave theories took place. No attention was paid to the fact that all experiments, which were performed by man, took place and take place within the framework of the Unity Axiom beyond his will. It is natural that a correct interpretation of the results of these experiments is possible only with the help of the theories and mathematical models, which operate within the framework of the Unity Axiom as well [1].

If we use the mathematical models and theories, which operate outside the framework of the Unity Axiom, for example, equations (1-6), for an interpretation of the experimental results, we shall get an approximate notion concerning the phenomenon being studied at best and a completely distorted notion at the worst [1].

It is known that the notion of the photon was introduced into science later than the notion of electromagnetic radiation; everything, which was connected with the notion of the photon, was developed in parallel with the things, which were connected with than the notion of electromagnetic radiations (Table 1). Nobody began to think about the physical essence of the distinguishing features of natural formations, which are present in these notions. We have already analyzed the physical essence, which is present in the notion of electromagnetic radiation. Let us see what is in the notion of the photon?

An analysis of all existing mathematical models, which describe the photons, results in the following magnetic model (Fig. 6, a). It is a formation, which is localized in space, not Maxwell wave (Fig. 1). The equations of the motion of the center of mass M of the photon within the framework of the Unity Axiom, which obliges its coordinates to be the time functions, are as follows [1]:

$$x = Ct + 0.067r\sin 6\omega_0 t; \tag{7}$$

$$y = 0.067r\cos 6\omega_0 t \ . \tag{8}$$

It results from these equations that the center of mass *M* of the photon (Fig. 7, a) circumscribes a curtate cycloid with a very small amplitude [1]

$$A = \rho_M = \frac{r}{2}(1-\cos\frac{\alpha}{2}) = 0.067r\,, \tag{9}$$

and average velocity of the center of mass *M* of the photon (though it is changed) remains constant and equal to C (Fig. 7, b) [1].

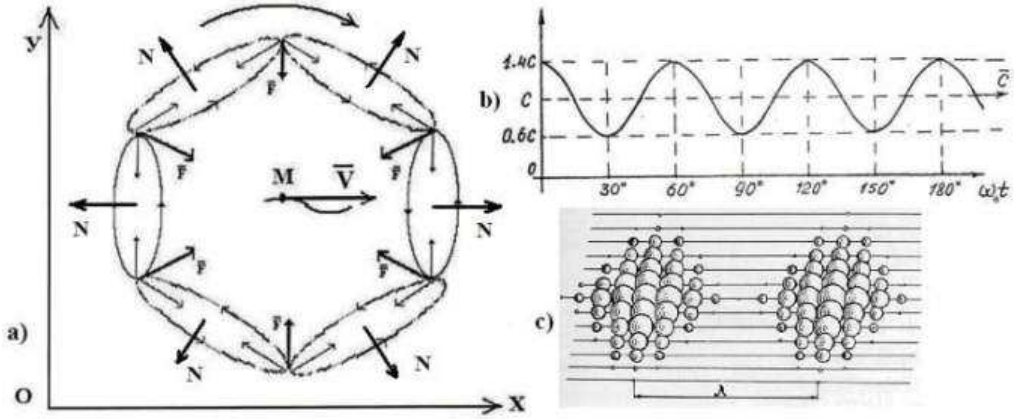


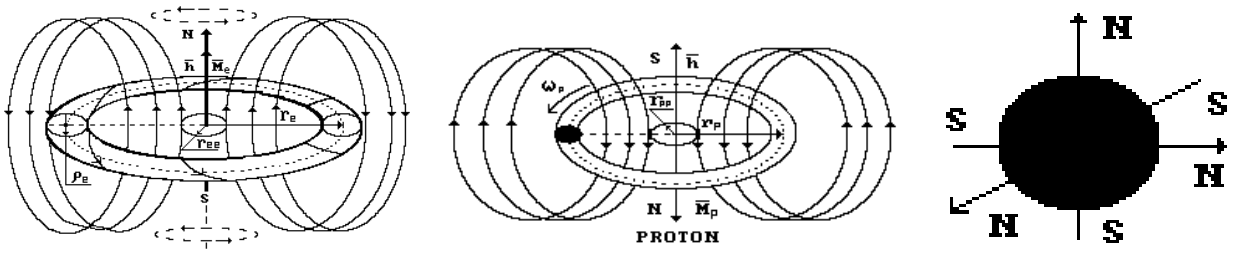
Fig. 7. Diagram of the annular magnetic fields of the photon and a graph of the change of its center of mass *M*

Now, let us put a naive question to the model of the photon (Fig. 7, a) and the theory, which describes it within the framework of the Unity Axiom. As the photons of all frequencies and radii move in space with one and the same uniform velocity, center-of-mass velocity of the photon <u>should not depend on its radius</u> *r*. Does it result from the equations of motion (7) and (8) of the center of mass of the photon. The answer is in the following formula of the center of mass *M* of the photon, which is derived from the equations (7) and (8) automatically [1].

$$V_M = \sqrt{(dx/dt)^2 + (dy/dt)^2} =$$
$$= \sqrt{C^2 + 0.85C^2\cos 6\omega_0 t + 0{,}18C^2} = \sqrt{\frac{1.18 + 0.85\cos 6\omega_0 t}{\varepsilon_0 \cdot \mu_0}}. \tag{10}$$

As it is clear (10), center-of-mass *M* velocity of the photon does not depend on its radius, which is changed in the interval of 15 orders of magnitude ($10^{-3}\ldots10^{-18}$ *m*). The rest interval ($10^{-3}\ldots10^{6}$ *m*) forms an aggregate of the photons (Fig. 7, c), which are reflected from an aerial and are polarized in the plane of incidence and the reflecting plane and thus orientate the free electrons of the aerial by its resultant polarized field and form electric potential in it; this potential is measured and processed by a receiving device [1].

The proton and the neutron, the next important inhabitants of microworld, are given in Fig. 8 [1].



a) model of the electron **b) model of the proton** **c) model of the neutron**

Fig. 8. Diagrams of the structures: a) of the electron; b) of the proton; c) of the neutron

The electron (Fig. 8, a) is a hollow torus with two revolutions: in relation of the central axis and in relation to the ring axis of the torus. It has two magnetic poles: the north pole N and the south pole S. The vectors of its spin $\overline{h}$ and magnetic moment $\overline{M}_e$ are directed along the central axis and coincided according to the direction. The proton (Fig. 8, b) is a solid torus. The vectors of its spin $\overline{h}$ and magnetic moment $\overline{M}_P$ are directed along the revolution axis as well, but contrariwise. The neutron has six magnetic poles, which are situated along the coordinate axes (Fig. 8, c). The electromagnetic structures of the electric, the proton and the neutron are described by dozens of mathematical models, which include nearly 30 constants. We shall see later on how the given structures of the proton and the neutron participate in the formation of the structures of the atom nuclei, and the structures of the electron and the proton implement its functions in the atom formation superbly [1].

The laws, which form the atoms, are hidden in experimental spectroscopy, the largest experimental data array. The process of the interaction of the electron with the atom nucleus results from it. As the new theory of microworld has the law of formation of the spectra of the atoms and the ions and binding energies E_b of the electrons with the protons of the nuclei, not only calculates the spectra of all atoms and ions, but discloses physics of the linear interaction of the electrons of the atoms with the protons of their nuclei. The new law of formation of the spectra of the atoms and the ions has the simple form [1]

$$E_f = E_i - \frac{E_1}{n^2}. \tag{11}$$

A mathematical model of the formation of binding energies of the electrons with the protons of the nuclei is even simpler [1]

$$E_b = \frac{E_i}{n^2} = \frac{E_1}{n^2}. \tag{12}$$

The law of formation of the spectra of the atoms and the ions in case of the interlevel passes of electrons has the form, which similar to the orthodox one, but with another physical content of the terms before the brackets [1]

$$E_f = E_1 \cdot \left[\frac{1}{n_1^2} - \frac{1}{n_2^2}\right]. \tag{13}$$

In the given formulas, E_f are energies of the emitted or absorbed photons; E_i are energies of ionization of the atoms; E_1 are binding energies of the electrons with the nucleus, which correspond to the first energy levels. The calculation results of the spectra of some atoms according to the given formulas (11) and (12) are specified [1].

Table 2. Spectrum of the hydrogen atom spectrum

Values	n	2	3	4	5	6
E_f (exp)	eV	10.20	12.09	12.75	13.05	13.22
E_f (theor)	eV	10.198	12.087	12.748	13.054	13.220
E_b (theor)	eV	3.40	1.51	0.85	0.54	0.38

Table 3. Spectrum of the first electron of the helium atom

Values	n	2	3	4	5	6
E_f (exp)	eV	21.22	23.09	23.74	24.04	24.21
E_f (theor)	eV	21.22	23.09	23.74	24.05	24.21
E_b (theor)	eV	3.37	1.50	0.84	0.54	0.37

Table 4. Spectrum of the first electron of the boron atom

Values	n	2	3	4	5	6	7
E_f (exp)	eV	4.96	6.82	7.46	7.75	7.92	8.02
E_f (theor)	eV	4.96	6.81	7.46	7.76	7.93	8.02
Values	n	8	9	10	11	12	13
E_f (exp)	eV	8.09	8.13	8.16	8.18	8.20	8.22
E_f (theor)	eV	8.09	8.13	8.16	8.18	8.20	8.22
Values	n	14	15	16	17	18	19
E_f (exp)	eV	8.23	8.24	8.25	8.25	8.26	...
E_f (theor)	eV	8.23	8.24	8.25	8.25	8.26	...

Table 5. Spectrum of the third electron of the beryllium atom

Values	n	2	3	4	5	6
E_f (exp)	eV	123.7	140.4	146.3	149.0	150.5
E_f (theor)	eV	123.7	140.5	146.3	149.0	150.5
E_b (theor)	eV	30.22	13.43	7.56	4.84	3.36

Table 6. Spectrum of the first electron of the carbon atom

Values	n	2	3	4	5	6
E_f (exp)	eV	7.68	9.67	10.37	10.69	10.86
E_f (theor)	eV	7.70	9.68	10.38	10.71	10.88
E_b (theor)	eV	3.58	1.58	0.89	0.57	0.39

Table 7. Spectrum of the second electron of the oxygen atom

Values	n	2	3	4	5	6
E_f (exp)	eV	14.12	25.83	29.81	31.73	32.88
E_f (theor)	eV	14.12	25.79	29.87	31.76	32.78
E_b (theor)	eV	21.00	9.33	5.25	3.36	2.33

Table 8. Binding energies E_b of the electron of the hydrogen atom e_H and the electrons (1, 2, 3, 4) of the beryllium atom Be with the nucleus at the time when all of them are in the atom

n	1	2	3	4	5	6	7	8	9
e_H	13.6	3.40	1.51	0.85	0.54	0.38	0.28	0.21	0.17
1	16.17	4.04	1.80	1.01	0.65	0.45	0.33	0.25	0.20
2	16.17	4.04	1.80	1.01	0.65	0.45	0.33	0.25	0.20
3	16.17	4.04	1.80	1.01	0.65	0.45	0.33	0.25	0.20
4	16.17	4.04	1.80	1.01	0.65	0.45	0.33	0.25	0.20
n	10	11	12	13	14	15	16	17	18
e_H	0.14	0.11	0.09	0.08	0.07	0.06	0.05	0.05	0.04
1	0.16	0.12	0.10	0.08	0.07	0.06	0.05	0.05	0.04
2	0.16	0.12	0.10	0.08	0.07	0.06	0.05	0.05	0.04
3	0.16	0.12	0.10	0.08	0.07	0.06	0.05	0.05	0.04
4	0.16	0.12	0.10	0.08	0.07	0.06	0.05	0.05	0.04

The laws of formation of the spectra of the atoms and the ions (11), (12) and (13) and Tables 2-8 show that show that there are no energy of orbital motion of the electrons in the atoms and there

are only energies of linear interaction of the electrons with the protons of the nuclei. The spectrum of four electrons of the beryllium atom (Table 8) proves a linear interaction of its electrons with the protons of the nucleus; it proves an arrangement of the protons (white balls) on the surface of the nucleus automatically (Fig. 9) [1].

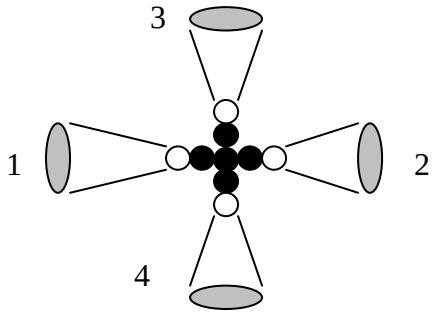


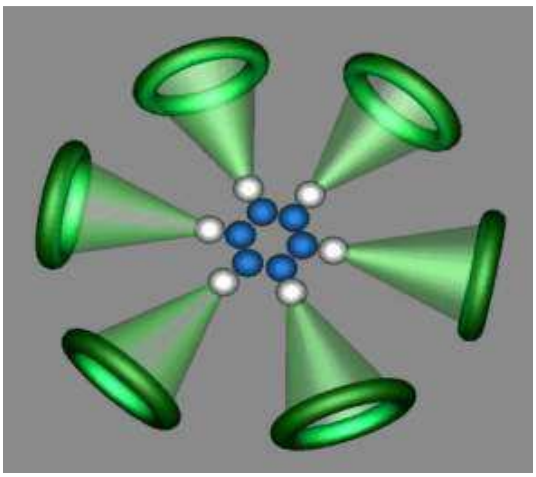
Fig. 9. Diagram of the structure of the nucleus and the atom of beryllium:
1, 2, 3 and 4 are the numbers of the electrons

The structure of the nucleus of the beryllium atom (Fig. 9) explains a cause of the existence of its stable nuclei only with five neutrons and four protons. With the specified quantity of the neutrons and the protons in the nucleus, it can have only such structure, which is shown in Fig. 9. If the protons and the neutrons are presented in a simplified way in the form of the spherical formations, it is clear that the central neutron has four contacts with the adjacent neutrons in plane [1].
A symmetric structure of the nucleus of the carbon atom, which is in a diamond (Fig. 10, a), proves that the central neutron has six contact poles. Other neutrons have the same number of the contact poles, but not all their contacts participate in the interactions [1].

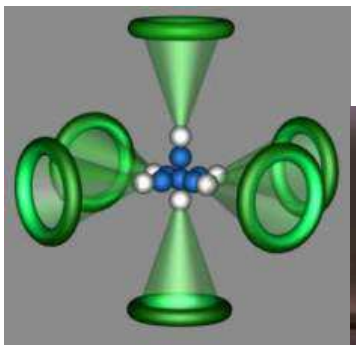
a) **b)**

Fig. 10. Structural diagrams of the nucleus of the carbon atom: a) diagram of the spatial nucleus (diamond); b) diagram of the flat nucleus (graphite)

As the atom electrons interact with the protons of the nuclei linearly, strength of diamond results from the structure of the spatial nucleus of the diamond atom (Fig. 10, a); this strength is stipulated by an ideal spatial symmetry of the nucleus and the resulting ideal spatial symmetry of the atom, which is an ideal point of the lattice of the diamond [1].
A flat structure of the carbon atom, graphite, results from a structure of the flat nucleus (Fig. 10, b) of the carbon atom (Fig. 11). A comparison of the nuclei (Fig. 10) and the atoms (Fig. 11) of one and the same chemical element, carbon, which is represented in the form of graphite and diamond, explains the causes of their different strength. Laminar graphite (Fig. 11) writes on paper, and diamond, which consists of the utmost symmetric spatial carbon atoms (Fig. 11), cut glass [1].
In Fig. 11, the models of the atoms of graphite, diamond, nitrogen, oxygen and the molecule and the cluster of water resulting from the new theory of microworld, which is based on the Unity Axiom, are given. There exists the video-world, in which a revolution of the electrons interacting linearly with the protons of the atom nuclei is shown атомов
http://www.micro-world.su/index.php/2012-01-27-15-57-34

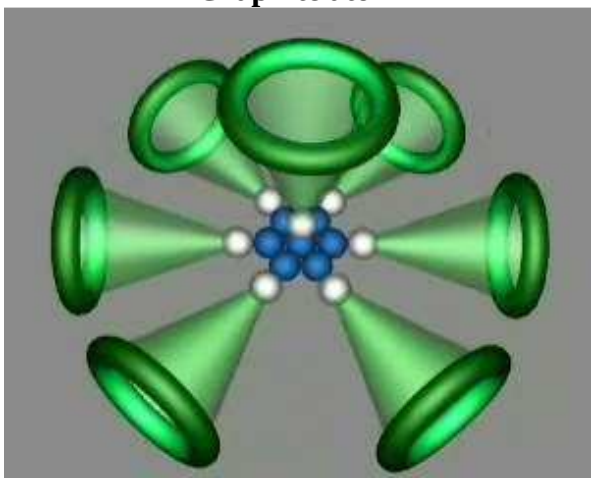


Graphite atom

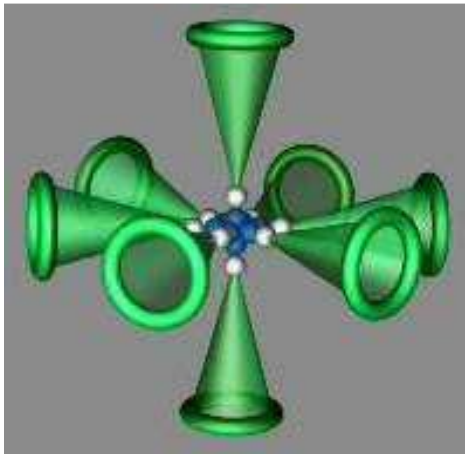


Diamond atom

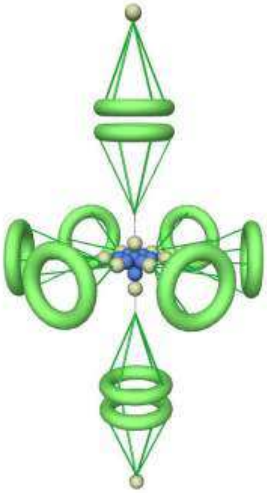
Diamond



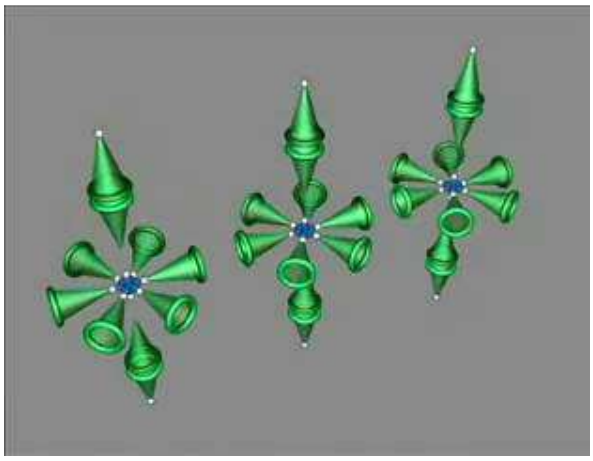
Nitrogen atom



Oxygen atom



Water molecule



Cluster of three water molecules

Fig. 11. The nuclei and the atoms of graphite, diamond, nitrogen, oxygen and water molecule and its cluster

In Figs 12 and 13, one can see the photos of the clusters of graphene and benzene and their theoretical structures resulting from the new theory of microworld, which resolution exceeds the resolution of the modern electron microscopes millionfold (Figs 12, 13) [1].

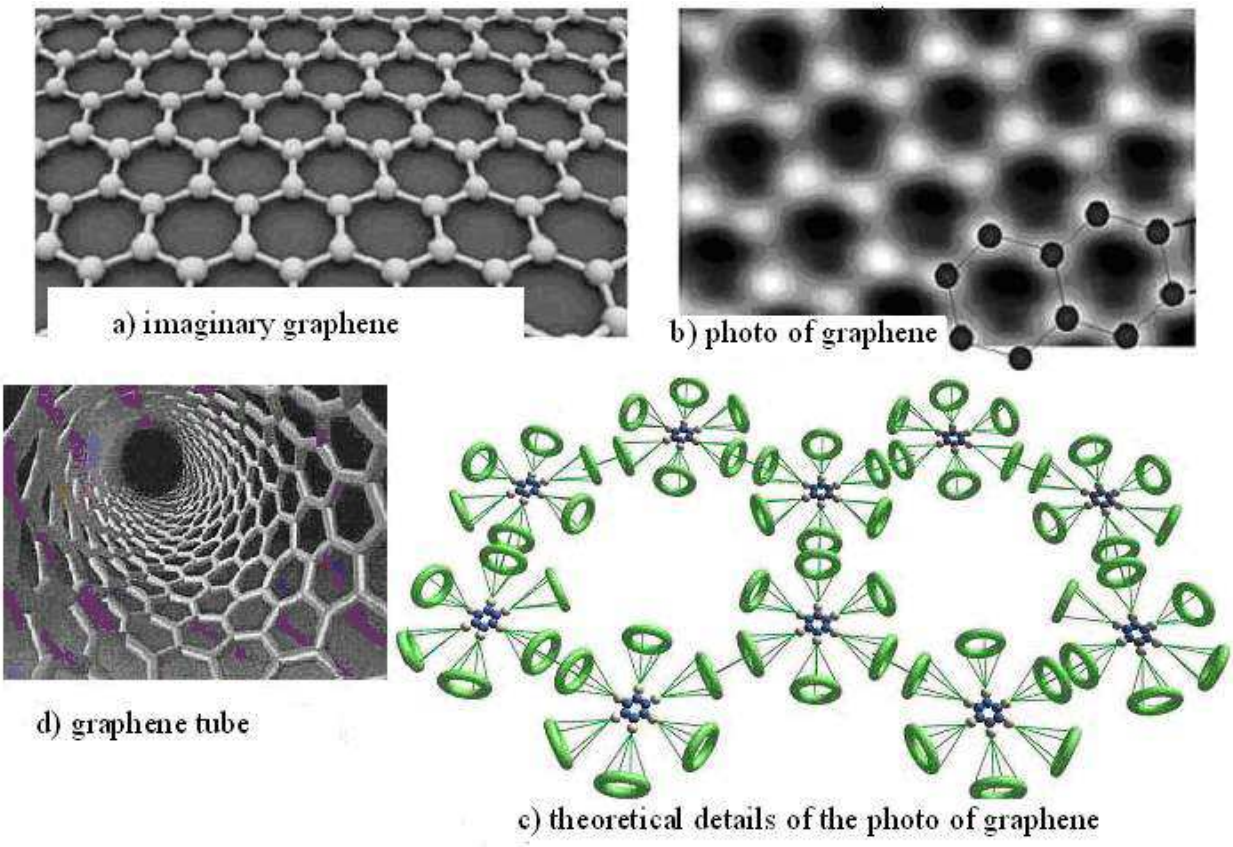


Fig. 12. Photo of graphene and its theoretical structure where the atomic nucleus structures can be seen

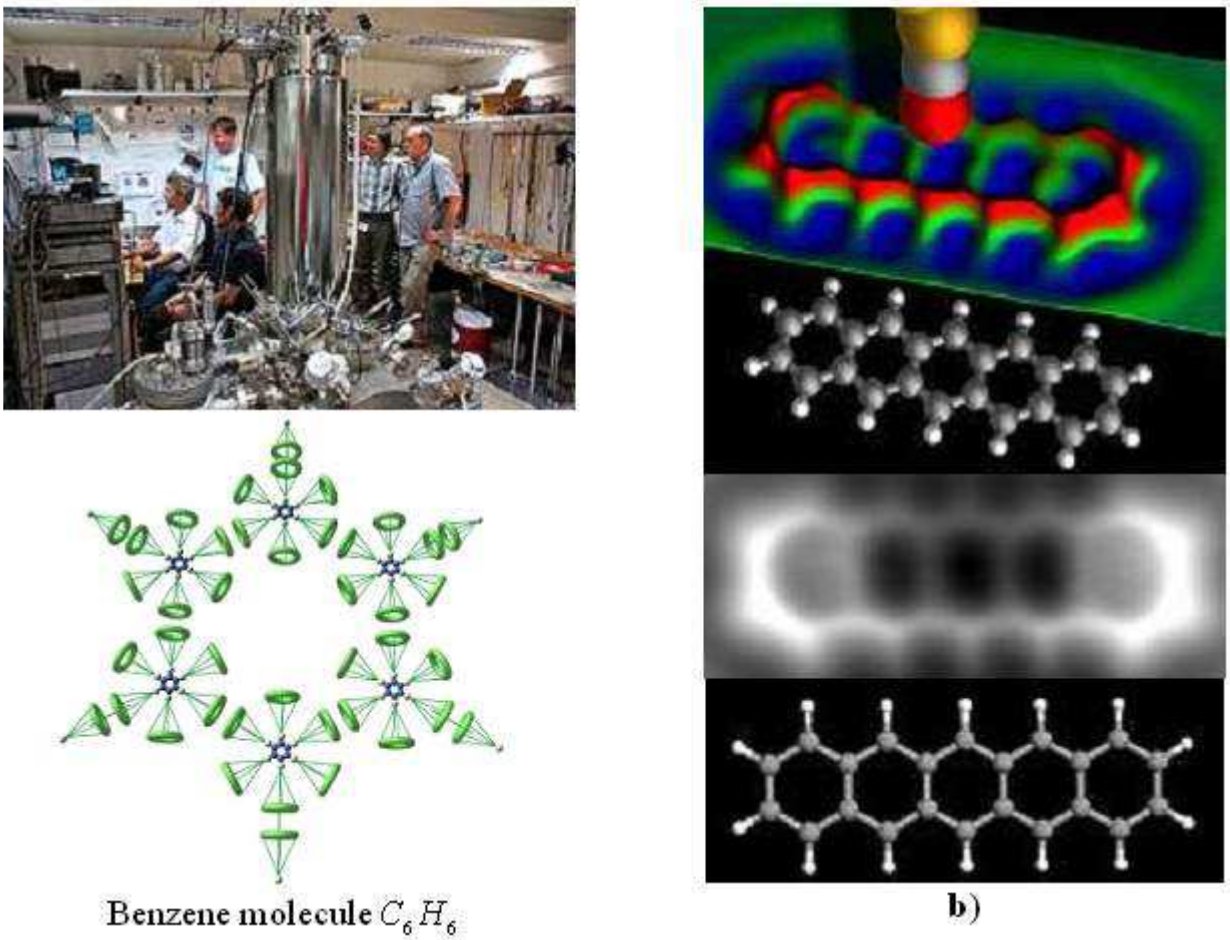


Fig. 13. Leftward: the theoretical structure of benzene; rightward: photo of the benzene clusters

Let us pay attention to the white spots of the photo of graphene (Fig. 12, b). They are the graphite atoms, which dimensions are nearly 10^{-8} *m*. The new theory of microworld presents them (Fig. 12, c) in the form of the distinct atoms with the distinct structures of the nuclei, which dimensions are nearly 10^{-15} *m*. It appears from this that the resolution of the new theory of microworld exceeds the resolution of the modern electron microscopes by 10^{7} orders of magnitude (Fig. 12, b) [1].

We are glad to inform that some Russian chemists have already taken interest in the new theory of microworld and have agreed that the electrons have no orbital motions in the atoms. The linear structure of the water molecule (Fig. 14, a) and the angular one (Fig. 14, b) have evoked special interest in them.

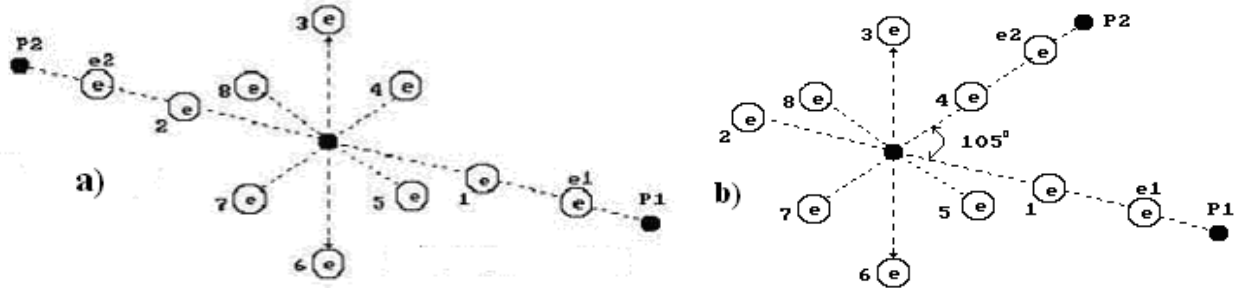


Fig. 14. Structures of the water molecule: a) the linear structure; b) the angular structure

The linear structure of the water molecule (Fig. 14, a) is implemented in the water crystals in the form of the snowflakes (Fig. 15). The protons (P) of the hydrogen atoms of six linear water molecules join in with six ring electrons of the oxygen atom of the base water molecule and form six-radial structures, which grow and become more complicated and form a large variety of the forms of six-radial structures of the crystals and water clusters (Fig. 15).

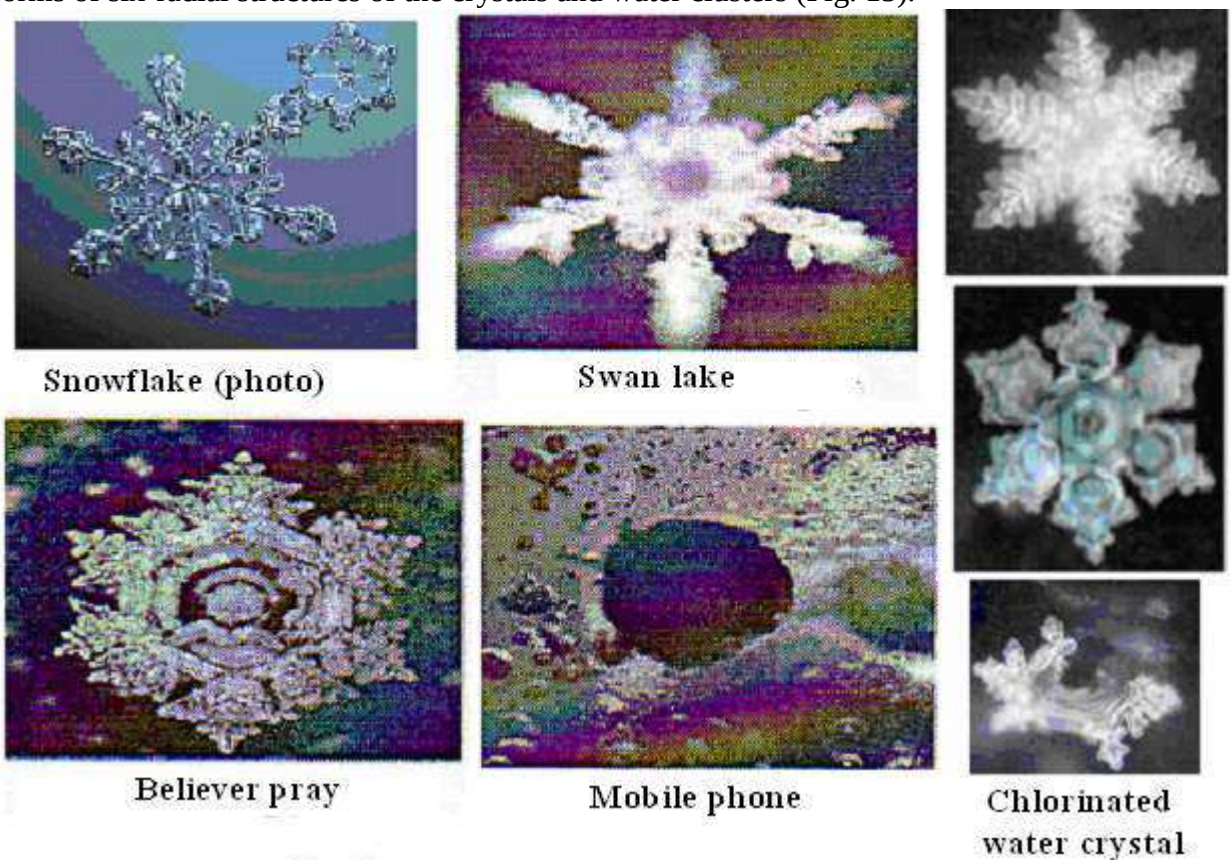
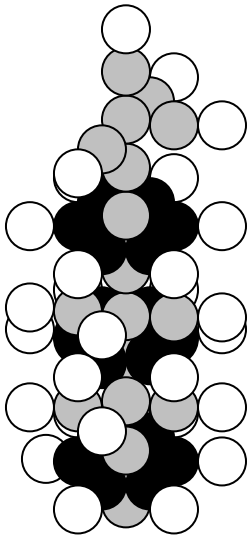


Fig. 15. Crystals of the water molecules: the Russian photo of the snowflake; the Japanese photos, according to them, of the crystals being formed by music, the voice of the prayer and the mobile phone

Now, let us give the copper atom nucleus structure resulting from the new theory of microworld (Fig. 16) [1].



a)

b)

Fig. 16. a) the copper atom nucleus model;
b) possible electronic architectonics of the surface of the multielectron atom

Let us pay attention to the fact that the neutrons (the dark balls) and the protons (the bright balls) are arranges in the nucleus according to strict rules, which can be understood only in the process of a subsequent construction of the nuclei beginning from the nucleus of hydrogen atom, the simplest nucleus [1].

CONCLUSION

The analysis of the microworld inhabitant models, which result from the old theory of microworld (Figs 1, 3, 4, a and 5) and the mathematical models, which describe them, shows almost complete lack of information concerning the resolution of from the old theory of microworld. All formations resulting from its old theory are illegible images, which can be given almost any size. The photographs of some inhabitants of microworld (Figs 12, 13) show that the resolution of the modern electron microscopes is $10^{-6}\ldots10^{-8}$ *m*.

The new theory of microworld reproduces the images at the photos with greater circumstantiation. It presents the nucleus structures wit the resolution of 10^{-15} m. It means that the resolution of the new theory of microworld exceeds the resolution of the modern electron microscopes millionfold minimum.

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