

# ATOMS AND MOLECULES

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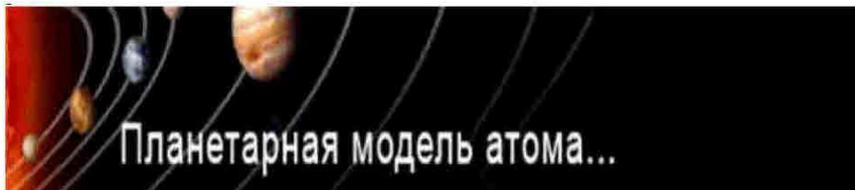
If our understanding of fundamental principles is incorrect then any extrapolation of that understanding will induce further misunderstandings – Joseph A Rybczyk

JK: The basic theories of both quantum mechanics and broken-symmetry math are illogical and produce numerous incorrect answers.

**Announcement.** Experiments performed in 2009 offers alternative logical theories for models of atoms, molecules and clusters. Check out the logic for yourself.

In 1911, Rutherford proposed a planetary model of the atom. Unfortunately a version of this is still being taught in school textbooks on Physics and chemistry (Fig-1).

## *Planetary Motion Atoms*



## *Electron orbital atom*

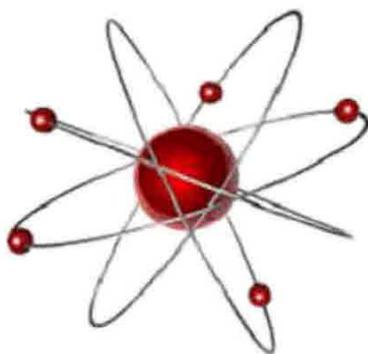


Fig-1: Theory of orbital motion of electrons around protons and neutrons

In, 1993, professor Kanarev publish his book “Analysis of Fundamental Problems of Modern Physics”. Professor Kanarev’s model is logical and agrees with modern experiments.

Analysis of Fundamental Problems of Modern Physics  
 Анализ фундаментальных проблем современной физики

**Ф. М. КАНАРЁВ**

# АНАЛИЗ ФУНДАМЕНТАЛЬНЫХ ПРОБЛЕМ СОВРЕМЕННОЙ ФИЗИКИ

**Краснодар, 1993**

Fig-2: analysis of fundamental problems of physics

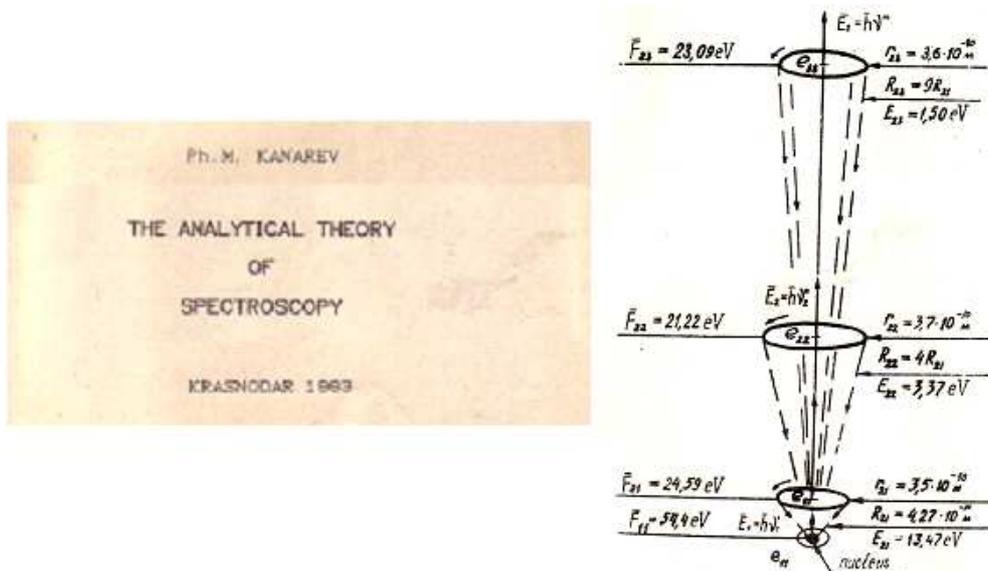


Fig-3: brochure cover of our linear model of the interaction of the 2<sup>nd</sup> helium electron with the helium proton (1993)

The original data on spectra of atoms produced some incorrect answers. Current data has corrected these values; second electron helium atom (fig. 3) two values of the electron excitation energy, equal 20, 23, and 96eV 01eV were removed.

For more than 100 years, physicists and chemists have experimentally recorded the spectral lines of atoms and ions. The Schrodinger equations used in the theoretical calculation provide an answer for “only” a hydrogen-like spectrum of atoms (nucleus and one electron). Using Kanarev’s equations, any level can be theoretically predicted. Kanarev’s equations were published in 1993 in Russia.

$$E_f = E_i - E_1/n^2 \tag{1}$$

Here  $[E_{\text{photon}} = \hbar f]$  - energy absorbed or emitted;  $[E_i = \hbar f_i]$  -ionization energy equal to the energy of the photon absorption after which an electron breaks its bond with the proton and becomes free;  $(E_1)$  -energy equal to the energy of an electron the atom kernel context at the time of his stay in the first energy level;  $n$  -number of the energy level at which an electron.

This means that more than two million of the numerical values of spectral lines (fig. 4) atoms and ions are able to work in theoretical calculations.

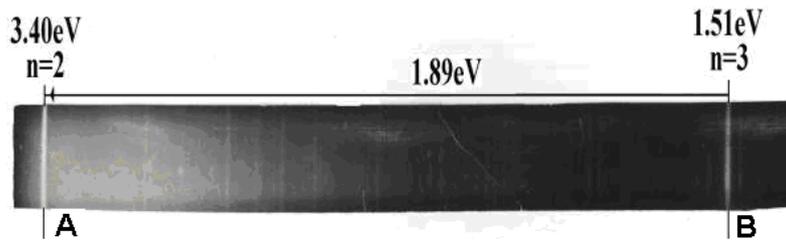


Fig-4: Hydrogen atom spectrum 2<sup>nd</sup> ( $n = 2$ ) and 3<sup>rd</sup> ( $n = 3$ ) energy levels of the electron

Kanarev’s equation accurately describes the principles of formation of electrons, protons and neutrons to from atoms (Fig-5b), atoms (Fig-5,a,c) and molecules (Fig-5d).

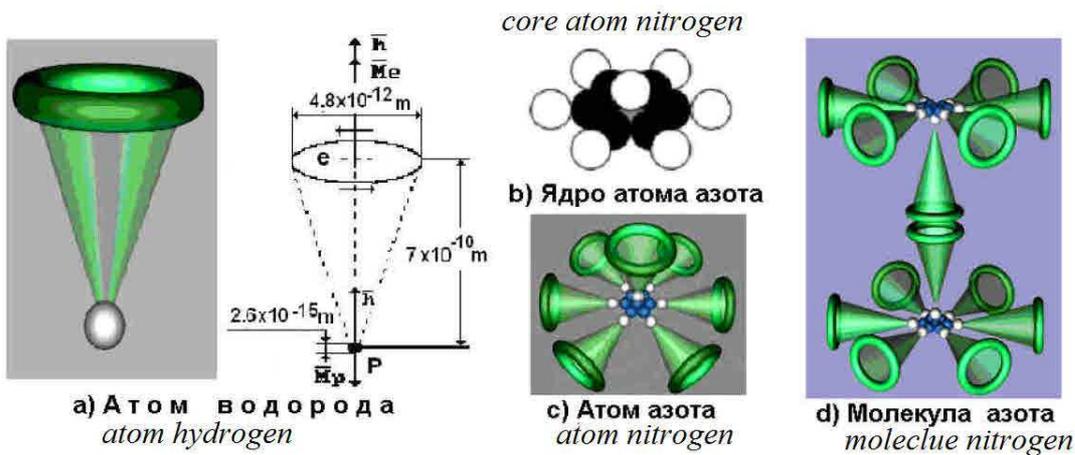


Fig-5: a) hydrogen atoms b,c) nitrogen atom d) nitrogen molecule

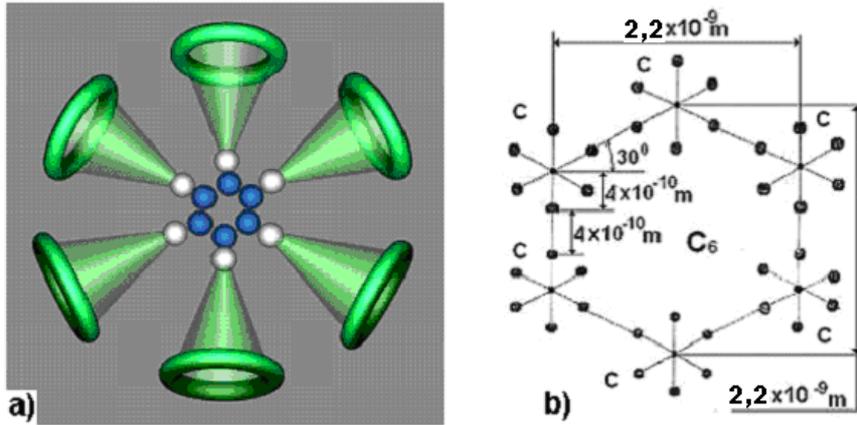


Fig- 6: a) carbon atom ; b) carbon molecules

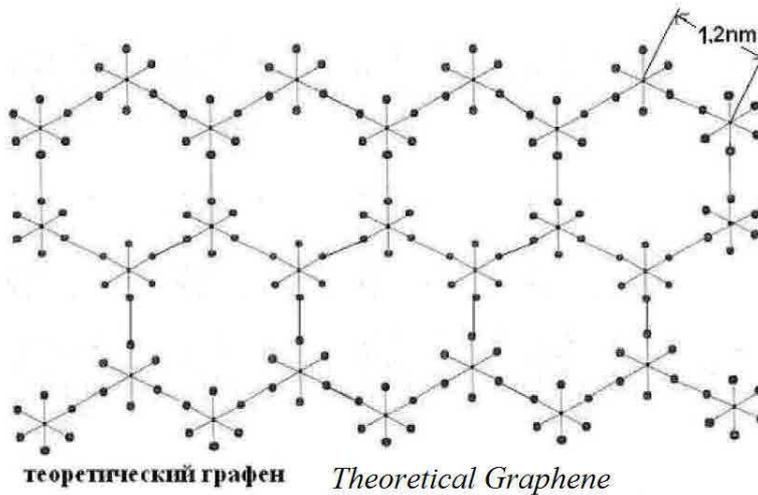


Fig-7: Graphene cluster

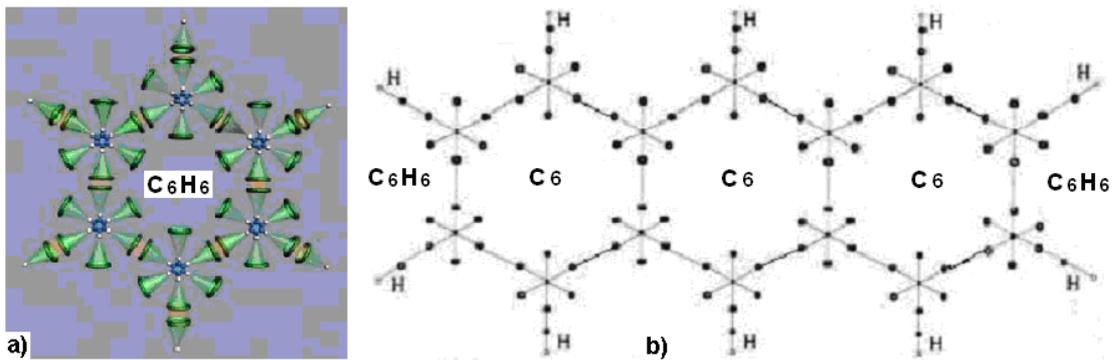


Fig-8: benzene molecules);

b) cluster of benzene

In 2009, European experimentalists confirmed Kanarev's theories of the straight line alignment of electrons with protons.

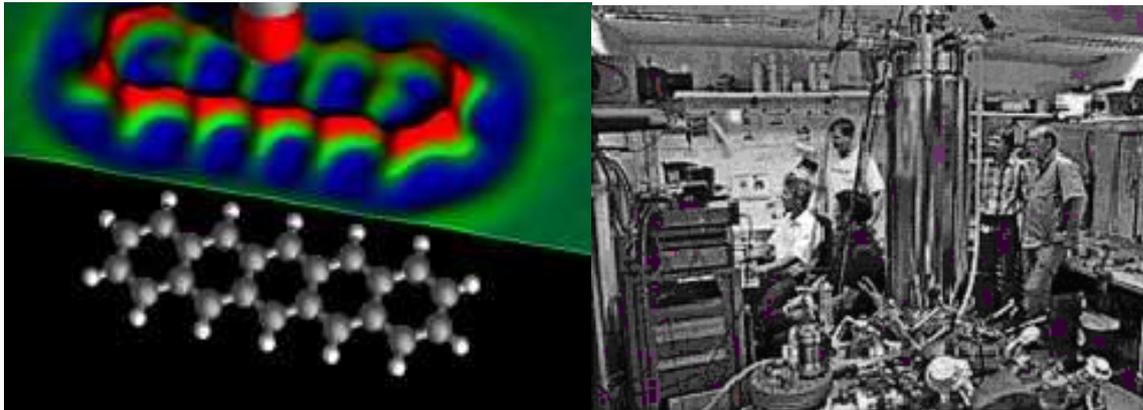


Fig- 9: a) scanning microscope photo of a benzene cluster      b) laboratory

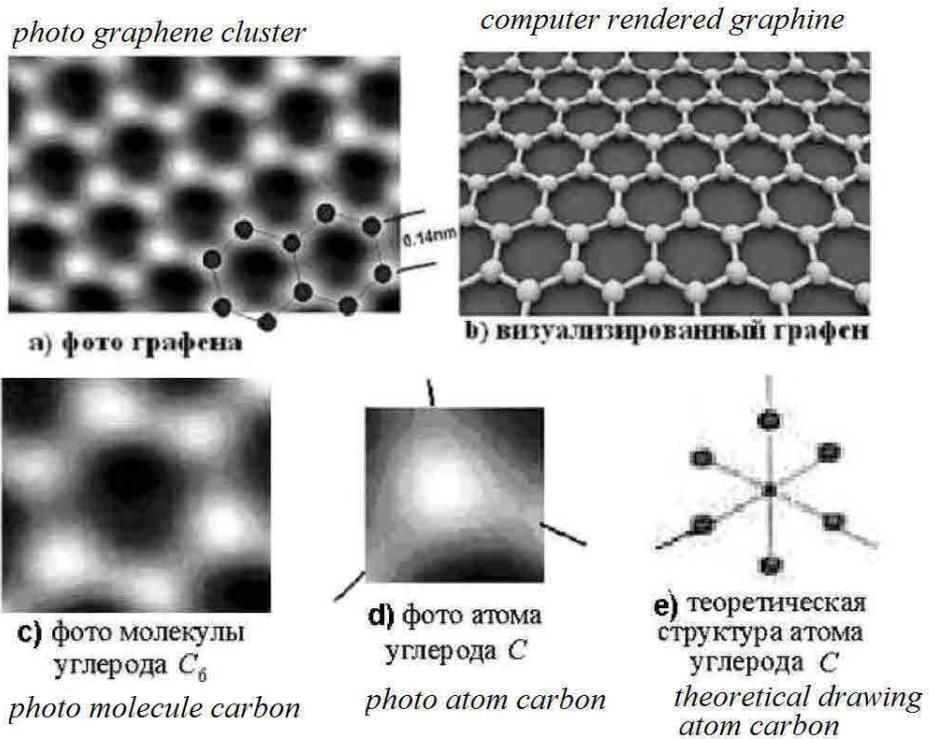


Fig-10: a) photo Graphene cluster; bc) computer visualization cluster Graphene; with photo Graphene molecules); d) photo Atom Graphene; e) theoretical structure carbon atom

The 2009 information from the scanning microscope allows the calculation of the dimensions of the carbon atom, the molecules, as well as the size of the components of the molecule ( $C_6H_6$ ) and its cluster.

Table-1: For the hydrogen atom, ( $E_b$ ) between proton and electron, and distance  $R_i$  between them

Job WIP value.	(n)	2	3	4	5
$E_f$ (exp)	EV	10.20	12.09	12.75	13.05
$E_f$ (theory)	EV	10.198	12.087	12.748	13.054
$E_B$ (theory)	EV	3.40	1.51	0.85	0.54
$R_i$ (theory)	<10meters	4.23<10m	9.54<10m	16.94<10m	26.67<10m

The actual distance between the white spots (carbon atoms) is ( $1.2 < 9m$ ) (fig. 7), not ( $0.14 < 9m$ ) (fig. 10) as the authors state (a small difference). They have overstated the resolution of the microscope by a factor of 10. However, we are obliged to recognize the achievements of the experimenters.

If the temperature at which the sample in the experiment were known, the discrepancies between theory and experimental values could be reduced

Looking at the protrusions on the outer contour of the benzene clusters of benzene, these are the hydrogen atoms. The hydrogen atoms are the points on the external contour of the cluster of benzene.

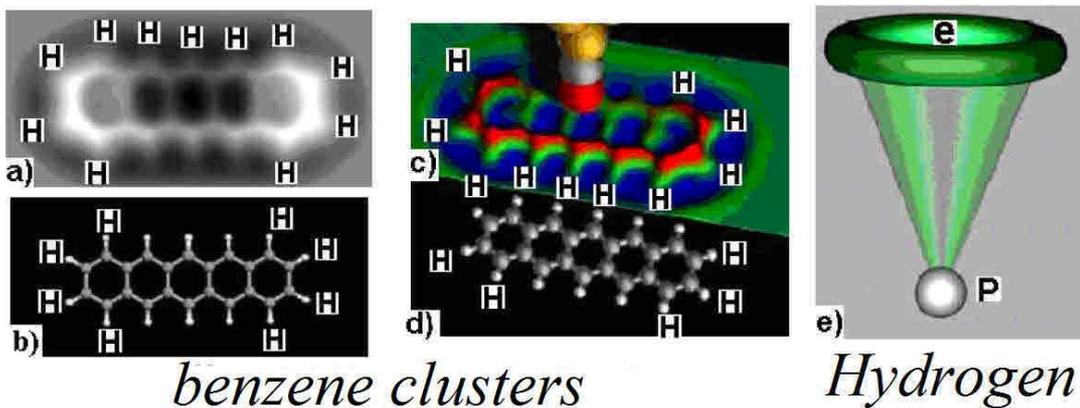


Figure 11: a) benzene clusters; b,c,d) modeled benzene clusters ; e) hydrogen atom

When an electron approaches a proton, the charge attraction pulls them together. The magnetic repulsion keeps them apart.

**There is no orbital movement of electrons. The basic theory of quantum mechanics is illogical and incorrect!**

The protons and neutrons are three orders of magnitude smaller than the electron. Protons are magnetically aligned with protons. Electrons are charge attracted and magnetically repelled and are located on its axis with a proton, at a considerable distance from the geometric center of the electron.

In Fig-8, the benzene molecule's and its cluster's protons are represented by dots and lines connecting protons with the electrons of hydrogen and carbon. A linear relationship between benzene clusters (Fig-11a,c) convincingly proves that electrons in atoms interact linearly with protons. **There are NO electron orbitals or clouds!**

What is surprising is that the current Russian research and education authority still does not accept Kanarev's logical theory of electrons, protons and neutrons. Russian text books still promote electron orbitals and clouds. This is very disappointing as it keeps teaching current student this illogical and incorrect theory.

Scientific thinking of the current young generation of physicists and chemists would be able to solve more complex physical and chemical task. For example, they could verify the accuracy of the size of atoms defined by the experimenters using the electron microscope.

A statement by the manufacturers of the electronic microscopes that their microscopes allow you to take pictures of individual atoms is incorrect. Even though their achievements are impressive, their resolution is less than their claim.

Taking into account this theoretical distance between protons of kernels (fig. 10) and electrons of the atoms will be equal  $[4.23 < 10m \Rightarrow 0.423 < 9m]$  (table 1). This value is greater than the experimental value of  $[0.14 < 9m]$  shown in their photo (fig. 10).

To validate the values  $[0.14 < 9m = 1.4 < 10m]$  submitted by authors, you must have the structure of a carbon atom and its spectrum. The structure of a carbon molecule is presented in Fig-6b. The first carbon atom electron spectrum is in the Table-2.

Table-2: Range of 1<sup>st</sup> electron of a carbon atom

The value of the	(n)	2	3	4	5	6
$E_f$ Experimental	EV	7.68	9.67	10.37	10.69	10.86
$E_f$ (Theory)	EV	7.70	9.68	10.38	10.71	10.88
$E_B$ (Theory)	EV	3.58	1.58	0.89	0.57	0.39

Kanarev's theory allows the calculation of any level of the electron's bonding energy in any atom. Considering the ionization energy ( $E_H = 13.6eV$ ) of the hydrogen atom, the following equation is able to calculate the bonding energy ( $E_b$ ) of any electron ( $l$ ) of any atom corresponding to any energy level ( $n$ ).

$$E_b \approx \frac{E_H l}{n^2} = \frac{(13.6)(1)^2}{2^2} = 3.4eV \quad (2)$$

The flat carbon atom is symmetric. The binding energy ( $E_b$ ) of each of the 6 electrons with a proton on the 2<sup>nd</sup> energy levels is calculated using equation (2). Again, Table-1 shows the experimental equal the theory values.

Unfortunately, school and university textbooks on Physics and chemistry still teach an incorrect theory of electrons orbits around the nucleus. Kanarev's logical model of electrons, protons and neutrons agrees with experiments.

Officials of the education authorities of Russia developed "fact-resistant-brains" still strongly believe in illogical and incorrect and illogical orbitals and clouds of electrons. In 2013, In order shut down any dissenting voice to their authority, these authorities shut down my financing. I continue to offer them its intellectual assistance

<http://www.micro-world.su/index.php/2013-05-16-19-02-15/1424-2016-02-17-06-20-32> .

To date, they remain silent. The Russian authorities continue to implement scientific educational shame.

If Kanarev's theories were implemented 20 years ago, the current generation of scientists would not be studying incorrect and illogical orbital motion of electrons in atoms.

#### CONCLUSION

Kanarev's theories in physics and chemistry should be adopted by all nations.

<http://www.micro-world.su/> K.F.M., 21.02.2016.