

Concept of Global Material Corpuscular Elastic Medium of Crystalline Structure

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It is generally known that the Modern Physics has been in a difficult situation full of contradictions for a long time. Unfortunately, the situation is not improving in due course, but on the contrary being more aggravated.

At present, the most important sections of the Modern Physics – Electrodynamics, Quantum Mechanics, Theory of Relativity – are described using theories based on a powerful modern and effective mathematical tool but not containing well-composed, logically grounded and substantial fundamental physical ideas and theses in essence.

The physical bases of theories of the said sections in essence are various conclusions and interpretations, which are made and formulated proceeding from the results of the mathematical description and analysis of the effects actually observed.

The fundamental physical basis of Electrodynamics is deemed to be the field concept, which is considered as a qualitatively new, peculiar type of material at the higher ideological level. The fundamental contradictions between Classical Electrodynamics and Quantum Optics are overcome simply by postulating the wave-particle coexistence of light.

Peculiarities of effects and processes of Quantum Mechanics are actually simply postulated, explained by some specific features of microparticles and the wave-particle coexistence of substance. The physical essence of Quantum Mechanics is substituted by its different interpretations.

The Theory of Relativity, which is merely mathematical, was created by A. Einstein based only on the definite number of postulates (principles) and in fact is completely devoid of the physical sense and content.

At the same time, the said sections of the Modern Physics have accumulated the sufficient number of reliable facts and results up to the present, which may and should serve as grounds for the critical review of these sections, their more precise essential definition and filling with a deep physical sense.

Based on the systematic complex analysis of the knowledge accumulated up to the present, observed effects and established views in Electrodynamics, Quantum Mechanics and Theory of Relativity, it was found possible to suggest and develop a concept, according to which the global material corpuscular elastic medium (ether) exists in the environment, in which all objective processes and effects of the Megacosm, Macrocosm, and Microcosm take place.

The theses of principle of this concept are the following:

The suggested ether as all known material media is to be corpuscular and to consist of a great number of particles in a volume unit having the ultimate but very little mass and being moving.

Ether particles have the positive or negative equal electric (elementary) charge, and ether as a whole and in every minor volume contains the equal number of negatively and positively charged particles, thus remaining neutral.

The structure of the suggested model of the elastic electric ether as solid macrobodies is to be crystalline. The particles charged positively and negatively (etherons), continuously moving and having the weight of $\sim 10^{-36}$ kg, are positioned in the crystal lattice of this ether. They electrically interact and locate on the lattice sites in order to provide the local and general electric neutrality of the medium in a stable stationary condition. It is possible for neutral etherons moving continuously and actually freely to exist in the lattice space (neutrino?).

The great elasticity of such medium in relation to the mutual shift of etherons caused by powerful forces of the electric interaction and the next-to-nothing inertance caused by very little mass of ether particles provide for spreading different disturbances in the ether medium at a huge but ultimate speed in accordance with the principle of short-range interaction.

Taking into consideration the fact that any solid body, liquid or gas is not continuous but consists of the aggregate of very little particles (atoms and molecules) at considerable in comparison to their size distances apart as applied to the suggested ether model and structure, we may suppose that such ether as medium pierces a solid body, liquid and gas, that means that ether particles and substance particles (of solid body, liquid or gas) are mutually positioned and transfer in the space between them when moving.

Proceeding from the suggested concept it seems possible to reveal the physical essence of the theses of principle of Electrodynamics, Quantum Mechanics and Theory of Relativity in the most general kind in the following way.

The electric, magnetic, electromagnetic and gravitational fields are different types of disturbance of the ether medium by electric charges, direct and alternating currents, macro- and megabodies accordingly.

Various kinds of radiation that means electromagnetic waves are regulated ether disturbance resulted in the shift of etherons under the influence of moving electrically charged microparticles, which is spread in this elastic medium according to the short-range interaction principle at a huge but ultimate speed.

Peculiarities of effects and processes of the microcosm, which are described by Quantum Mechanics and show first of all in their quantization and in the wave-particle coexistence, are caused by the fact that the movement of microparticles always takes place in the global material medium with the regulated crystalline structure and is inevitably followed by a oscillatory process that means de Broglie waves.

The special theory of relativity in essence considers and describes a mechanical movement and wave processes in the material medium of homogeneous corpuscular ether, using the inertial frames of references, and the general theory of relativity describes a mechanical movement and wave processes in the medium of inhomogeneous ether, where such inhomogeneity is caused by sky megabodies in the medium.

In conclusion, it seems necessary to note the following most general theses, which may be significant.

Proceeding from the suggested concept, we may suppose that in case of its prospects it will be possible and necessary to study and develop as the unified theory of formation and existence of the ether medium on the whole as the unified theory of different disturbances in such medium (unified field theory).

It is possible that the suggested global material medium (ether) and different interactions in it are such objective material structures and processes, which generally and considerably define the “dark” matter and energy, which are much spoken about lately.

It is possible that the material corpuscular ether suggested in the concept is the medium, in which matter particles now called elementary ones are born and disintegrate as a result of different interactions, and medium particles themselves are the quarks, which are still unfound.

If the suggested concept of the global material corpuscular elastic medium of the crystalline structure proves to be positive and prospective, then the sphere of further consideration and study of different physical and other processes and effects in such global medium can sufficiently widen as applied to various sections of the Modern Physics and other natural sciences.

This report is prepared on the basis of the material set forth in the following my books published up to the present:

V.O. Shakhov. Ether – Medium of Universe Existence – Moscow: Sputnik+ Company, 2003.

V.O. Shakhov. Physical Essence of Key Aspects of Nonrelativistic Quantum Mechanics – Moscow: Sputnik+ Company, 2005.