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INNOVATIONS IN NATURAL SCIENCES - THE FACTOR OF DEVELOPING SCIENCE

In the 20th century, hopes began to be placed on Nanotechnology. At the heart of hope lay a seeming opportunity to solve problems with the production of new materials, using controlled construction of the microstructure and forecasting the course of technological processes. The scientific community has become convinced that "nanotechnologies", as they were advertised, cannot ensure the mass production of the necessary products and materials, and the basis of obtaining innovative materials are the usual physicochemical or chemical processes associated with phase transitions. In 2016, a law on chemistry was lobbied in the US Congress (Chemical and Engineering News, 2016, American Chemical Society) and a group was created whose task is to explain to senators the importance of chemistry for industrial production and the economy as a whole. Great efforts are being made to solve pressing problems in current areas of chemical technology. The increase in the number of experimental data, which are considered anomalous, causes an increasing attention to the experimental solution of actual problems. This leads to an unjustified increase in labor costs. This circumstance should dictate the need for the development of deep fundamental research in all aspects of natural science. The reason for the lack of effort in basic research lies in the presence of a crisis in the natural sciences. The Kazakh-British Technical University conducted research in a fundamental direction, which was designated by M Faraday. It is shown that the microstructure of inorganic aqueous solutions and oxide melts has a molecular structure, and these fluids have electronic conductivity type. The phenomenon of coacervation of oxide melts under the influence of alternating electromagnetic fields and mechanical vibrations; anisotropy of the conductivity of melts, etc., revealed an anomalously high electrophoretic mobility of solid particles in melts, etc. The possibility of using the discrete nature of the flow of elementary particles - electrons for the organization of unusual chemical reactions is shown. A hypothesis about heat transfer between material objects with the help of elementary particles - "heating rods" was put forward and substantiated. The calculated mass of the "heat" - 5.15-10-36 kg. The calculated speed of the "heat source" in vacuum is close to the speed of light and, depending on the temperature, is 3.0. 107 - 3.0. 108 m /s.

Biography

Suleimenov E N Graduated from the Kazakh Mining and Metallurgy Institute, Metallurgy Faculty in 1960 with a Specialty of Metallurgical Engineer in the area of non-ferrous, rare and precious metals. He was a Candidate of Technical Sciences (1970), Senior Research Associate (1981), Doctor of Technical Sciences (2005), Fellow of the International Informatization Academy (November, 2004) and a Member of the European Academy of Natural Sciences (January, 2007). After Graduation, he was assigned to work in the Institute of Metallurgy and Ore Beneficiation of the Academy of Sciences of Kazakh SSR. During the work in IMOB performed job duties of a Senior Laboratory Technician (1960-1961), Engineer (1961-1963), Junior (1963-1971) and Senior (1972-1986, 1995-2000) Research Associates, Research Team (multidisciplinary) Leader (1985-1995), Head of laboratory (2004-2005), head of department (2005-2006), Deputy Director for science (2000-2004), Acting Director of the Institute of Metallurgy and Ore Benefication (2004). He also has teaching experience. In 1969-1971, he worked as a Senior Teacher at the department of metallurgical processes and furnaces theory of the Kazakh Polytechnical Institute named after V.I. Lenin. In 1995-1996, (combined duties) he worked as an Assistant Professor at the Department of non-organic substances technology of the Kazakh National Technical University named after K I Satpaev. During the teaching activity he held courses in general metallurgy for metallurgy students, non-ferrous metallurgy plants mechanical equipment students, chemical and environmental engineers. He has developed and held courses in energy technology processes, plasma chemistry etc. He held a practical course in the metallurgical processes theory. Held short courses of lectures on melted slags theory and new processes in heavy non-ferrous metals metallurgy. He is serving as the Deputy Head of the Advanced Materials and Technologies Laboratory of the Kazakh-British Technical University since 2009.

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