

To the memory of Professor V.I. Zubov

N.P. Tretyakov, I.V. Zubov and N.V. Zubova



Vyacheslav Ivanovich Zubov, a world-known Russian theoretical physicist, passed away on March 18, 2011 in Moscow. He was born on June 17, 1944 in the southern part of Russia and graduated from M.V. Lomonosov's Moscow State University in 1967. In 1971 V.I. Zubov defended the Ph.D. (Candidate of Sciences) thesis "Some problems in the statistical theory of the crystalline state" and in 1986 he obtained his second academic degree (Doctor of Sciences) after thesis "The statistical theory of strongly anharmonic crystals". From 1970 to 1992 V.I. Zubov was a postgraduate student at the Moscow P. Lumumba Peoples' Friendship University (PFU) where he worked as a programmer and then as a lecturer and a professor of theoretical physics.



Professors and graduate students of the Theoretical Physics Faculty are in front of P. Lumumba PFU in Moscow, 1981. The Chief of the Department of theoretical physics Prof. Ya.P. Terletskiy and Prof. V.I. Zubov are in the first row in the center.

Prof. Zubov was a scientific supervisor to more than two dozen postgraduate students from Russia, Brazil, Mexico, Peru, Syria, India and some other countries. Since 1992 to 2004 he worked at the Federal University of Goiás in Goania (Brazil) where he went on with his scientific researches. The Faculty of Physics M.Sc. in the Federal University of Goiás was founded under his leadership where the formed scientific and educative tradition was carried on. In 2005-2006 Prof. Zubov worked at the Federal University of Sergipe in Aracaju (Brazil) where he continued his own scientific research activities and tutoring students.

Since 2006 Prof. Zubov came back to Moscow and continued his scientific research fighting against severe illness until the last day of his life. His last article was published on October 2010. In 2009 he had participated in his last International Conference on Carbon in Troitsk (the Moscow region). The book "Who's Who in Science and Engineering" for 1996-1997 and for 1998-1999 contains more detailed information about Prof. V.I. Zubov and his scientific activities.

During his life Prof. Zubov took part in numerous scientific conferences getting involved his pupils. He has published over 150 papers in Russian and international scientific journals such as Physical Review, Physica Status Solidi, Solid State Communications, European Physical Journal, Revista de Investigacion de Fisica, Moletronica, Journal of Physical Chemistry, Internet Electronic Journal Nanociencia et Fullerenes, Nanotubes and Carbon Nanostructures and others.



The participants of the 14th Peruvian Symposium on Physics, Trujillo, Peru, 2003



The International Conference on Solid Physics in Caxambu, Brazil, 2005.

Professor of PFU in Moscow Yakov Petrovich Terletskiy was a teacher and scientific partner to V.I. Zubov. Together they had developed a fundamentally new direction in the statistical theory of the crystalline state. This is a development and generalization of Vlasov's approach to obtain effective equations for the particle distribution function of crystalline systems. Initially, a direct application of the self-consistent field method to crystalline systems has led to a number of contradictions. V.I. Zubov and Y.P. Terletskiy had drawn attention to the possibility of using of statistical distribution functions, asymmetric to identical particles. They proposed to use asymmetric probability density approximation of multiplicativity for crystals. The development of this approach has led to creation of the quasi-classical correlation method of nonsymmetrized self-consistent fields (KNSP) suitable for crystals with strong anharmonicity.

Later Prof. Zubov has elaborated the widely developed KNSP approach by applying it to the calculations of structural, dynamical and thermodynamic properties of various simple and complex solids. As an approval of the method, the properties of solidified inert gases, which as common are treated as "reference materials" in statistical physics, have been calculated in detail with a high precision, and it coincided well with experimental results. This success paved the direction to application of the method for establishing of new properties of a wide range of systems. In the 80s and 90s Prof. Zubov and his students had successfully explored the KNSP surface properties of anharmonic crystals and ultra-dispersed systems. Also, successful investigations of the properties of some metals had been made during this period. In the 90s Prof. Zubov and his postgraduate students had studied properties of quasi crystals and fullerenes.

The approach created and developed by V.I. Zubov is in fact a completely new method of calculation of thermo physical properties of solids, providing many new results. The obtained results are employed and V.I. Zubov's articles are cited and referenced by many researchers.

It should be noted that Prof. Zubov had, for sure, a gift of the scientific foresight. His theoretical findings and surmises have often been experimentally confirmed. He was one of the first who started to deal with the ultrafine structures, now called nanostructures. In collaboration with N.N. Besperstov, M.A. Kitaev, I.D. Morokhov in the 80s he had received a patent for ultrafine metal powders by electrical explosion. Unfortunately, these works remained uncalled that time.

Prof. Zubov was devoted to developing of science and professionally and personally he was tightly connected with Latin American scientists.

Prof. Zubov was a loyal, reliable and loving husband, father, and grandfather. He was a kind and truly generous person, always ready to help people. Zubov was a really gifted scientist with a strong character and moreover, socially and politically active man.

On March 18 of 2011 V.I. Zubov's heart had stopped beating. His memory will remain in the hearts of his students, colleagues, friends, and family.

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