

To the Memory of Our Contributors

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V.I. Belinicher *et al.*, Invariant Spin Coherent States and the Theory of a Quantum Antiferromagnet in a Paramagnetic Phase, JETP Lett. 72, 521 (2000).

Prof. Viktor Iosifovich Belinicher, an outstanding theoretical physicist, Doctor of Physics and Mathematics, a Leading Research Scientist at the Institute of Semiconductors SD RAS, Professor at Novosibirsk State University, perished at the age of 56 in the fatal Tel Aviv–Novosibirsk airplane accident that occurred on October 4, 2001.

V.I. Belinicher was a multiskilled theorist and made tangible contributions to various fields of physics. Elaboration of the theory of bulk photovoltaic effect has become his major achievement. V.I. Belinicher initiated experimental observation of the polarization-dependent effects in semiconducting crystals without an inversion center. This activity culminated in the discovery of a surface analogue of the bulk photovoltaic effect (surface photocurrent) and in the development of the theory of this effect. The resonant light drag effect is one of the more unusual phenomenon that was discovered and explained by V.I.B. and co-workers.

A sizable contribution was made by V.I.B. to the theory of hydrodynamic turbulence. In collaboration with V.S. L'vov, he formulated the scale-invariant form of this theory. The substitution of variables, found by them (currently known as the Belinicher–L'vov transformation), allowed the divergence to be eliminated in all orders of perturbation theory.

From the late 1980s and up to the last time, V.I. Belinicher was active in the problems of strongly correlated electronic systems, in particular, high- T_c superconductors. V.I.B. developed three major directions in this field: construction of a realistic electronic model for the copper oxide plane and use of this model for the calculation of the observed properties of high- T_c superconductors; spin-polaron aspect of high- T_s superconductivity and the nature of superconducting state; and the microscopic theory of two-dimensional antiferromagnetism. In particular, V.I.B., together with his collaborators, solved the problem of low-energy properties of the three-band Hubbard model, which is ordinarily used in the description of a system of copper oxide planes.

V.I. Belinicher was a brilliant theorist and mastered the most sophisticated methods of theoretical physics. He was highly self-exacting. V.I. did not accept double standards and evaluated his own works and the works of other authors only on the “Hamburg scale.” He always endeavored to elevate the level of his work and, although was led to solve various problems in his life, he endeavored (especially in the last years) to concentrate on the most complex and fundamental physical problems. Viktor Iosifovich was highly active and had many projects. The tragedy over the Black Sea abruptly ended his activity which was in full swing.

L.I. Leonyuk *et al.*, New Scenario for the Decay of Spin-Peierls State in CuGeO_3 : Fe. Onset of a Quantum Critical Point. JETP Lett. 73, 31 (2001).

Lidiya Ivanovna Leonyuk died on September 23, 2000 during her 50th year after serious illness. The scientific community lost an outstanding specialist in solid-state physics, crystallography, and crystal growth. Her last works were devoted to superconducting cuprates, compounds with ladder structure, and low-dimensional magnets and were a remarkable source of ideas, which have already make a great impact and continue to do so on current studies in these fields. L.I. Leonyuk, Doctor of Physics and Mathematics, the Director of the Laboratory of Crystal Growth at the Geological Department of Moscow State University, the author of more than 200 publications and two books, will be forever kept in the memory of her collaborators, who knew her as a remarkable enthusiastic scientist, an excellent experimenter, a women of unique cordiality, and a colleague, the scientific discourse with whom will now be sadly missed.

Translated by V. Sakun