

Dmitry Vasilievich Shirkov 1928-2016

Dmitry Vasilievich Shirkov passed away on 23 January in his 88th year, after a severe and long illness. Shirkov was an academician of the Russian Academy of Sciences and a world-renowned theoretical physicist. He was honorary director of JINR's N N Bogoliubov Laboratory of Theoretical Physics.



Shirkov

Shirkov achieved many fundamental results in various fields of theoretical physics. He elaborated methods to solve the kinetic equation describing the processes of neutron diffusion and moderation - of great importance in the theory of nuclear reactors. In quantum field theory, he developed the renormalisation group method, which remains one of his most significant achievements. Shirkov also made a significant contribution to constructing the general theory of the scattering matrix, and to developing a rigorous formulation of the method of renormalisation of ultraviolet divergences. These results were included in the book *Introduction to the Theory of Quantized Fields*, co-authored with N N Bogoliubov. The book is a classic of theoretical physics and is distributed in numerous countries. In his second book, *Dispersion Theories of Strong Interactions at Low Energies*, co-authored with V A Meshcheryakov and V V Serebryakov, Shirkov developed a new method to describe the low-energy scattering of strongly interacting particles. The application of quantum field theory methods to the theory of superconductivity was published in the book *A New Method in the Superconductivity Theory*, which Shirkov wrote together with N N Bogoliubov and V V Tolmachev.

Shirkov initiated the development of analytical calculation systems on computers at JINR. Studies in this direction led to the world-famous results obtained by Dubna theoreticians in calculations of higher orders in perturbation theory in chromodynamics and supersymmetry theories.

Shirkov was fully devoted to science and had a rare sense of purpose and commitment. He demanded a lot from himself and his colleagues at the laboratory, and at the same time he remained a kind and thoughtful person. His passing is an irreparable loss to the world of science.

- *JINR.*