

PREFACE

This issue of the Journal PROBLEMS OF ATOMIC SCIENCE AND TECHNOLOGY, Series: 'Nuclear Physics Investigations' contains the communications presented at the 3rd International Conference on Quantum Electrodynamics and Statistical Physics (QEDSP2011). The Conference was held in Kharkov, Ukraine, from August 29 to September 02, 2011. It took place at the National Science Center "Kharkov Institute of Physics and Technology" (NSC KIPT) and Karazin Kharkov National University.

The Conference QEDSP2011 was organized by the Akhiezer Institute for Theoretical Physics of NSC KIPT together with the National Academy of Sciences of Ukraine, NSC KIPT and in collaboration with Karazin Kharkov National University.

The First International Conference on Quantum Electrodynamics and Statistical Physics (QEDSP2001) was also held in Kharkov, from October 30 to November 3, 2001. The QEDSP2001 was dedicated to the ninetieth anniversary of academician Alexander Illich Akhiezer, outstanding scientist in theoretical physics and the founder of the Institute for Theoretical Physics of NSC KIPT. The 2nd International Conference on Quantum Electrodynamics and Statistical Physics (QEDSP2006) was held in Kharkov, from September 19 to September 23, 2006. The present 3rd Conference QEDSP2011 commemorated the centennial of A.I. Akhiezer.

The main topics covered by the Conference QEDSP2011 were: quantum field theory, QED processes at high energies, theory of elementary particles, cosmology, theory of irreversible processes, phase transitions and diffusion processes in condensed matter and gases, and nonlinear dynamics and chaos.

About 120 participants from Ukraine and 25 participants from Armenia, Belarus, Brazil, France, Germany, Italy, and Russia attended the Conference QEDSP2011. As previously, many young physicists from Ukraine and other countries actively participated at this Conference. The Scientific Program of the Conference included 102 oral and 78 poster presentations. This issue publishes 80 presentations made at the Conference QEDSP2011.

The members of the Organizing Committee and the Editorial Board are very grateful to all those who helped them in the organization of the Conference and preparation of this issue.

*Organizing Committee of QEDSP2011 and Editorial Board,
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