

## PREFACE

This issue of the Journal **PROBLEMS OF ATOMIC SCIENCE AND TECHNOLOGY** consists of two parts and contains communications presented at the 2-d International Conference on Quantum Electrodynamics and Statistical Physics (QEDSP2006). The Conference was held in Kharkov, Ukraine, from September 19 to September 23, 2006. It took place at the National Science Center “Kharkov Institute of Physics and Technology” (NSC KIPT).

The Conference QEDSP2006 was organized by the Akhiezer Institute for Theoretical Physics of NSC KIPT together with the National Academy of Sciences of Ukraine, NSC KIPT and Karazin Kharkov National University.

The First International Conference on Quantum Electrodynamics and Statistical Physics (QEDSP2001) was held in Kharkov also, from October 30 to November 3, 2001. The QEDSP2001 was dedicated to the ninetieth anniversary of academician Alexander I. Akhiezer, outstanding scientist in theoretical physics and the founder of the Institute for Theoretical Physics of NSC KIPT.

The main topics covered by the Conference QEDSP2006 were: quantum field theory, elementary particle theory, high-energy electrodynamics in matter, QED processes in strong fields, nonlinear dynamics, kinetic theory, phase transitions in condensed matter, and physics of quantum liquids. Several contributions were devoted to various applications of statistical physics, cosmology, quantum computers etc.

About 110 participants from Ukraine and 20 participants from Armenia, Belarus, Chile, France, Japan, Iran, Italy, Russia, and Spain attended the Conference QEDSP2006. The Conference had a remarkable feature due to an active participation in its work of many young physicists from Ukraine and other countries. The Scientific Program of the Conference included 73 oral and 75 poster presentations.

This issue includes more than 80 presentations made at the Conference. Part I contains the papers on quantum field theory, elementary particle theory and quantum electrodynamics. Papers devoted to the statistical physics, kinetic theory, phase transitions, nonlinear dynamics and physics of quantum liquids are included in Part II.

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 QEDSP2006 and Editorial Board  
National Science Center "Kharkov Institute of Physics and Technology"  
Kharkov, Ukraine, 2007*

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