

PREFACE

This special issue of the Journal PROBLEMS OF ATOMIC SCIENCE AND TECHNOLOGY contains the scientific papers and conclusions presented at the IAEA Technical Meeting (TM-34567) on Accelerator Simulation and Theoretical Modeling of Radiation Effect (SMoRE) held in Kharkov, Ukraine, from 9 to 13 June 2008. This event was hosted by the National Research Center “Kharkov Institute of Physics and Technology” (NSC KIPT).

The Technical Meeting (TM) was aimed at exploring the capabilities and knowledge base in radiation effects and mechanisms of material damage. The TM was attended by 26 international experts and chaired by Academician I. M. Neklyudov, General chair of the meeting and Director General of the host organization (NSC KIPT). The scientific secretaries responsible for this technical meeting were Mr. A. Zeman and Mr. V. Inozemtsev from IAEA.

The meeting provided an active platform for close interaction between experts from different R&D communities which can contribute significantly to the effective implementation of new tools and the development of new advanced materials. The overall objective was to provide a forum to exchange ideas and information through scientific presentations and brainstorming discussions on “Accelerator Simulation and Theoretical Modeling of Radiation Effects”. The overview of the research activities connected to the radiation effects and mechanisms of material damage which are carried out by different countries was presented.

The outcome of the meeting is the proceedings of scientific papers that give an overview of nuclear based techniques, modeling methods as well as experimental methodologies which can be applied in the development of radiation resistant materials. This scientific review also provides the summary on characterisation of the key features of the structural materials and their properties which are necessary to increase of the performance levels of nuclear reactors.

*The IAEA scientific secretaries of the meeting and Editorial Board
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