PROCEEDINGS OF SPIE

International Conference on Micro- and Nano-Electronics 2009

Kamil A. Valiev
Alexander A. Orlikovsky
Editors

5–9 October 2009
Zvenigorod, Russian Federation

Organized by
FTIAN – Institute of Physics and Technology, Russian Academy of Sciences (Russian Federation)

Sponsored by
Russian Academy of Sciences (Russian Federation)
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Cooperating Organization and Publisher
SPIE

Volume 7521

Proceedings of SPIE, 0277-786X, v. 7521

The papers included in this volume were part of the technical conference cited on the cover and title page. Papers were selected and subject to review by the editors and conference program committee. Some conference presentations may not be available for publication. The papers published in these proceedings reflect the work and thoughts of the authors and are published herein as submitted. The publisher is not responsible for the validity of the information or for any outcomes resulting from reliance thereon.

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Author(s), "Title of Paper," in *International Conference on Micro- and Nano-Electronics 2009*, edited by Kamil A. Valiev, Alexander A. Orlikovsky, Proceedings of SPIE Vol. 7521 (SPIE, Bellingham, WA, 2010) Article CID Number.

ISSN 0277-786X
ISBN 9780819479112

Published by
SPIE
P.O. Box 10, Bellingham, Washington 98227-0010 USA
Telephone +1 360 676 3290 (Pacific Time) · Fax +1 360 647 1445
SPIE.org

Printed in the United States of America.

Publication of record for individual papers is online in the SPIE Digital Library.

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Introduction

This volume contains selected papers from those presented at the International Conference on Micro- and Nanoelectronics 2009 (ICMNE-2009) which was held in Zvenigirod, Russia, October 5-9, 2009. The conference is a biannual event and continues the series of conferences focusing on current physical and technological problems in microelectronics and promising nanosized devices. Since 1992, the Institute of Physics and Technology of the Russian Academy of Sciences (FTIAN) has been the permanent organizer of the ICMNE conferences, and since 2003, the ICMNE has been an SPIE-affiliated conference.

The goals of the 2009 conference were to look forward to new concepts and technologies of integrated devices, and to join efforts of scientists in answer to the challenges of industry scaling down ICs to nanometer design rules. ICMNE 2009 featured a wide scope of presented papers in the urgent fields of the physics of micro- and nanostructures, techniques for its characterization, and bottleneck points in the technologies of micro- and nanoscale devices. The Conference focused on topical problems that were highlighted in the following sessions:

- Advanced Lithography
- Plasma Physics and Processing
- Structures for Photonics and Optoelectronics
- Thin Films
- Superconducting and Magnetic Structures
- Physics of Nanostructures
- Nanostructures Fabrication Techniques
- Micro- and Nanostructures Characterization
- Devices and ICs
- Simulation and Modeling

The scientific program comprised of a collection of invited and contributed papers from scientists employed at European and Siberian Regions of Russia, Eastern and Western Europe, and Asia. The invited lectures on current achievements and challenges in microelectronic and superconducting devices were delivered by scientists from USA, France, Belgium, Germany, Sweden, Japan, and Russia. The contributed presentations were made by speakers from academic institutions, universities, and industry. More than 80 contributions were discussed at oral sessions; the others were presented as posters.

Most of the papers at ICMNE are the results of latest investigations. We hope that helpful discussion of these works at the sessions of the conference and during personal contacts between attendees will promote the research activity in the

microelectronics community. Additional information about ICMNE can be found at the conference website http://www.icmne.ftian.ru/

Konstantin Rudenko
Dr. of Sci., Scientific Secretary of ICMNE 2009