

Proceedings
of the International Scientific Workshop
Oxide Materials for Electronic Engineering
— fabrication, properties and application
OMEE-2009

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Editors of the Proceedings:

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Preface

The International Scientific Workshop “Oxide Materials for Electronic Engineering – fabrication, properties and application” (OMEE-2009) is the second of the international workshops of the same name been held in Lviv Polytechnic National University. The previous one, held in 2007, continued the fine tradition and succeeded as a regional workshop that joined researchers and engineers of several educational and scientific institutions of Lviv, engaged in technology, studying, and practical developments in the field of electronic engineering using oxide materials.

The OMEE-2009 Workshop program covered the topics of material science and technology, chemistry and physics of solid state, structure peculiarities on different scales, interconnection of chemical composition, structure, and properties of oxides, their modification under influence of external fields, developments of new methods of study, and new applications of oxide materials in variety fields of electronic engineering.

The following scientific topics (sections) were available in the Workshop:

- Fabrication technology of complex oxides;
- Crystal structure, twinning and microstructure of oxide compounds;
- Oxide materials for quantum- and optoelectronics;
- Scintillator materials and detectors of radiation;
- Defects, impurities and transport phenomena in oxide crystals;
- Magnetic and magneto-optic properties of oxides;
- Application of oxides in electronic engineering and transducer devices.

During the Workshop 120 participants from Ukraine, Poland, Germany, Russia, USA, Israel, United Kingdom, Latvia, Hungary, Portugal and Serbia have presented 135 contributions in the form of plenary lectures, oral or poster presentations.

In particular, the following plenary lectures (in alphabetical order of lecturers) have been presented:

K.-D. Becker (Germany)	<i>Spectroscopic Studies into the Reactivity of Solids</i>
A. Belous (Ukraine)	<i>Low-Loss Microwave Dielectrics for Different Frequency Regions</i>
H. Boysen (Germany)	<i>Disorder and Diffusion in Mayenite</i>
V.Ya. Gayvoronsky (Ukraine)	<i>Nonlinear Optical Characterization of KDP Crystal Doped With TiO₂ Nanocrystals</i>
V. Grachev (USA)	1. <i>Trace Impurities, Intrinsic and Radiation Defects in Oxide Materials</i> 2. <i>Mystery of Non-Equivalent Centers in Congruent and Stoichiometric LiNbO₃ and LiTaO₃</i>
M. Grinberg (Poland)	<i>High Pressure Evolution of Luminescence of the Pr³⁺ Doped Oxide Materials</i>
L. Kovács (Hungary)	<i>Hydroxyl Ion as a Probe of the Structure and Defects of Oxide Crystals</i>
V.B. Mikhailik (United Kingdom)	<i>Scintillators for Cryogenic Rare Event Searches</i>
W. Paszkowicz (Poland)	<i>High-Pressure X-Ray Diffraction Techniques: Application to Determination of the Equation of State of Selected Multicomponent Oxides</i>
V.K. Pecharsky (USA)	<i>Metamagnetism, Phase Coexistence and Metastability in Functional Magnetic Materials</i>

T. Prikhna (Ukraine)	<i>Nanostructural Superconducting Materials for Fault Current Limiters and Cryogenic Electrical Machines</i>
Z. Stević (Serbia)	<i>Construction and Characterisation of Double Layer Capacitors</i>
H. Szymczak (Poland)	<i>Giant Magnetocaloric Effect in Manganites</i>
O.D. Vasylyev (Ukraine)	<i>Ceramic Fuel Cell Electronic Device: Structure & Properties</i>
R. Vlokh (Ukraine)	<i>Partial Parity of Faraday Rotation</i>
P.Y. Zavalij (USA)	<i>Vanadium Oxide Extended Frameworks: Structural Chemistry and Applications</i>
Yu. Zorenko (Ukraine)	<i>Liquid Phase Epitaxy: A Beneficial Method for Development of Phosphors Based on Single Crystalline Films of Oxide Compounds</i>

After peer review procedure 51 papers were accepted for publication and are presented in this issue of *Acta Physica Polonica A*. The Guest Editors wish to thank the members of the International Program Committee and the referees who have ensured high scientific quality of the proceedings.

Guest Editors

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Ya.A. Zhydachevskii, A. Suchocki,
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During the Opening ceremony in the Assembly Hall of the Lviv Polytechnic National University