

Editorial

We have great pleasure in presenting the new edition of *Optica Applicata*, which gives account of some latest achievements of a number of research centres in Poland. The papers are an obvious evidence of significant growth of interest in the technological development of fabrication of advanced test and device structures and progress in methods used to characterize semiconductor structures, metals, dielectrics and thin films. The advancement of investigation into the structures and devices taking advantage of the quantum effects deserves special attention. We would like to emphasize the fact that much work was done in co-operation with recognized research centres from different countries. For the sake of convenience this issue has been divided into three parts: surface physics, thin film structures and modern semiconductor and other materials.

The theoretical and experimental results of research conducted by many Polish laboratories and Centers of Excellence are presented. Majority of the topics concern surface and thin-film structures. Some papers are devoted to the technology of III–V and other compound materials, including the latest results related to the new techniques, growth and characterization of low-dimensional structures. Special attention is given to papers presenting the latest and advanced measuring methods for surface examination and modification, especially on nanometric scale.

A number of the papers presented are devoted to application of technological research performed and characterization of advanced device structures. In the focus of interest of many authors is the analysis of the physical and thermal phenomena occurring in such devices, with some research in this area being carried out with the aid of computer modelling.

It is worth mentioning that a considerable number of the papers are the result of research conducted by young scientific workers, Ph.D. students and students representing many research centres in Poland.

The Guest Editor would like to express his strong belief that the material presented will contribute to further development of research in the field of surface physics as well as modelling and characterization of thin-film structures.

The articles contained in this issue were selected from the invited and contributed papers presented at the *Surface Physics and Thin-Films Structure Seminar* organised by The Faculty of Microsystem Electronics and Photonics Wrocław University of Technology, Polish Vacuum Society in Szklarska Poręba, Poland on May 17–21, 2005. This Seminar was supported by the Center of Advanced Materials and Nanotechnology Wrocław University of Technology, Cephona Centre of Excellence (ITE, Warszawa), NANOMET Centre of Excellence (Silesian University of Technology, Gliwice).

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Guest Editor