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Low-Dimensional Semiconductor Structures

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Low-Dimensional Semiconductor Structures

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PREFACE

This MRS Proceedings book contains the papers presented in Symposium 7E: "Low-Dimensional Semiconductor Structures" at XXII International Material Research Congress, IMRC 2013, and in Symposium 6B: "Low-Dimensional Semiconductor Structures" at XXI International Material Research Congress, IMRC 2012, which were held in Cancun, Mexico on August 11-15, 2013 and August 12-16, 2012, respectively.

"Low-Dimensional Semiconductor Structures" represent one of the most intensively developing areas of modern semiconductor physics. It is well known that low-dimensional systems, such as quantum dots, quantum wells, nanocrystals, nanosheets, nanorods and nanowires, as well as metamaterials constitute a firm basis for advanced physics with applications in optoelectronics, microelectronics, photonics and spintronics, as well as biology and medicine. The "Low-Dimensional Semiconductor Structures" symposia are annual forums addressed to the fundamental and applied aspects of physics of low-dimensional systems, including the theory, modeling, preparation, characterization and simulation of electronic low-dimensional semiconductor structures with the whole range of their possible future applications. Both theoretical and experimental contributions have been chosen for the publication in this MRS Proceedings volume.

The grand part of papers presented in this MRS Proceedings book belongs to the symposia's speakers—the leading specialists defining the scientific and technological progress in nanoscience. Novel physical phenomena in nano-scale structures have been revealed and are applied in lasers and optical amplifiers, light-emitting diodes, photodiodes and solar cells, memory devices, biological luminescence markers, etc. The papers included in the volume conform to the subject "Low-Dimensional Nanostructures for Optoelectronics, Biology and Memory Devices."

We would like to thank all of the contributors to this MRS Proceedings volume for their excellent presentations and papers, as well as the reviewers for their important and careful job to ensure the publication of high quality.

On behalf of both Symposium's organizers

Tetyana V. Torchynska

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