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Nanostructured Semiconductors and Nanotechnology

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Nanostructured Semiconductors and Nanotechnology

Symposium held April 1–5, 2013, San Francisco, California U.S.A.

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PREFACE

Symposium R, "Nanostructured Semiconductors and Nanotechnology" was held April 1-5, 2013 at the 2013 MRS Spring Meeting in San Francisco, California.

The aim of the symposium was to review present and future trends of research on nanostructured semiconductors from fundamental issues of synthesis (epitaxy, nanofunctionalization, and self-assembly) to emerging applications in advanced devices (nanoelectronics, photovoltaics, nanophotonics, etc.). Special emphasis was placed on the modeling of nanostructured semiconductors, from their growth, nanostructuring, and self-organization to their physical properties related to nanostructuring and quantum confinement. The systems of interest include nanostructured thin films, one-dimensional (nanowires, nanotubes, etc.), and zero-dimensional semiconductors (quantum dots, nanocrystals, etc.) made of group IV and compound semiconductors. The nanocharacterization of individual nano-objects and the connection between atomic structure and composition with local electrical and optical properties was a special concern of this symposium. The symposium, and these proceedings, brought together the broad, multidisciplinary community of researchers who are interested in the field of nanostructured semiconductors and focused on the new opportunities for future high-impact science and technology related to such systems.

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