Nanowires and Nanotubes—Synthesis, Properties, Devices, and Energy Applications of One-dimensional Materials

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Nanowires and Nanotubes—Synthesis, Properties, Devices, and Energy Applications of One-dimensional Materials

Symposium held April 9–13, 2012, San Francisco, California, U.S.A.

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PREFACE

Symposium N, "One-Dimensional Nanostructured Materials for Energy Conversion and Storage," and Symposium AA, "Inorganic Nanowires and Nanotubes–Synthesis, Properties, and Device Applications," were held April 9–13 at the 2012 MRS Spring Meeting in San Francisco, California.

One dimensional materials, such as nanowires and nanotubes consisting of elemental semiconductors, compound semiconductors, metals, and metal oxides, are emerging building blocks for integrated optical, electronic, magnetic, energy-generation devices with novel function and enhanced performance, including more efficient energy utilization. In addition, the feasibility of nanowires and nanotubes for health and biomedical applications has been demonstrated. This symposium proceedings volume represents the recent advances in synthesis, properties, devices, and energy applications of those one-dimensional materials. Each paper in this volume provides a glimpse of the exciting recent developments occurring in nanowires and nanotubes, starting from their synthesis, growth, characterization, and to their application, for instance, in electron devices, optoelectronic devices, solar cells, and energy storage and generation. We hope that these papers convey the breadth of exciting advancements happening in the area of nanowires and nanotubes.

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