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Low-Dimensional Semiconductor Nanomaterials: Preparation, Characterization, and Application

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Message from the Guest Editors

Low-dimensional semiconductor nanomaterials, including nanoparticles (0D); nanoribbons, nanowires and nanorods (1D); and atomic layered materials (2D), normally have exotic properties in electronics, optics and magnetics due to the quantum confinement effect. With the deep understanding of the exotic properties of low-dimensional semiconductor nanomaterials through the intensive and extensive fundamental studies of various nanostructure preparation and characterization approaches, related technology on the basis of using nanomaterials is thus becoming significant for its potential to change the daily lives of human beings.

The aim of this Special Issue is to elucidate the state-of-the-art of this fast-growing field of research from both fundamental and application perspectives. The topics of interest include, but are not limited to, the following: (1) Nanostructure preparations of semiconductor materials and studies of the relevant novel properties in electronics, optics and magnetics; (2) Nanofabrication of semiconductor devices based on advanced nanotechnology; (3) Fundamental studies of novel physical properties of surfaces and interfaces of 2D semiconductor nanomaterials.



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Message from the Editor-in-Chief

Nanoscience and nanotechnology are exciting fields of research and development, with wide applications to electronic, optical, and magnetic devices, biology, medicine, energy, and defense. At the heart of these fields are the synthesis, characterization, modeling, and applications of new materials with lower nanometer-scale dimensions, which we call “nanomaterials”. These materials can exhibit unusual mesoscopic properties and include nanoparticles, coatings and thin films, metal-organic frameworks, membranes, nano-alloys, quantum dots, self-assemblies, 2D materials such as graphene, and nanotubes. Our journal, *Nanomaterials*, has the goal of publishing the highest quality papers on all aspects of nanomaterial science to an interdisciplinary scientific audience. All of our articles are published with rigorous refereeing and open access.

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