



Synthesis and Characterization of Semiconductor Nanomaterials

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Message from the Guest Editor

In recent decades, the synthesis and study of nanocrystalline semiconductors has become an important interdisciplinary research field. Great interest in this field is due to the unique chemical and electronic properties of semiconductor nanomaterials. The small size of nanoparticles leads to a difference in their physical, chemical and electronic properties relative to the corresponding bulk materials, due to an increase in the contribution of the surface properties and the manifestation of quantum-dimensional effects. In recent years, significant efforts have been made to develop the methods for the synthesis of nanocrystalline semiconductors that allow us to control both particle size and particle size distribution. It has become possible to synthesize a variety of nanocrystalline semiconductors, including the following most common families of semiconductor materials: group IV elements, II–VI, IV–VI, III–V compounds, binary and complex metal oxides, etc. Nanocrystalline semiconductors can be synthesized with different microstructure dimensionalities (0D, 1D, 2D; 3D).





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Message from the Editor-in-Chief

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