

Special Issue

Semiconductor Heterostructures (with Quantum Wells, Quantum Dots and Superlattices)

Message from the Guest Editor

Numerous technologies have been developed for the manufacture of heterostructures—from basic liquid epitaxy at the initial stages to various modern technological platforms for the physicochemical synthesis of nanoheterostructures using different phases of substances in a wide range of growth conditions. The broadest possibilities of these precise technologies allow for developing devices based on new phenomena in heterostructures with unprecedented parameters of efficiency, sensitivity, and speed. The aim of this Special Issue is to present current state-of-the-art findings and progress in different fields of physics and technologies of semiconductor nanoheterostructures. Special attention will be paid to actual problems of theoretical and experimental studies of new physical properties and applicability of heterostructures including quantum wells, quantum dots as well as superlattices based on various material systems (III-V, III-N, II-IV etc.) We also welcome new ideas on the nanofabrication of such heterostructures with an accuracy of up to a few monolayers with controlled changes in the composition and elastic stress.

Guest Editor

Dr. Valentin Jmerik

Ioffe Institute, Saint Petersburg (ex Leningrad), Russia

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Nanomaterials
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
nanomaterials@mdpi.com

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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.

Editor-in-Chief

Prof. Dr. Eugenia Valsami-Jones

School of Geography, Earth and Environmental Science, University of
Birmingham, Birmingham B15 2TT, UK

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