Special Issue

Nanowires and Quantum Dots

Message from the Guest Editors

Nanostructured materials such as quantum dots (zero-dimensional objects) and nanowires (exhibiting in extreme cases one-dimensional quantum behavior) attract great attention due to their intrinsic properties. A combination of one-dimensional and zero-dimensional semiconductor nanostructures may open new horizons in solid state physics and in various applications. In the frame of this Special Issue, different topics will be highlighted. For quantum dots, papers on the Stranski–Krastanow growth mechanism as well as droplet epitaxy fabrication methods are welcomed. Nanowires of different semiconductor materials grown by both top–down and bottom–up approaches will form a significant part of the issue. New types of the hybrid structures such as “quantum dot-in-a-nanowire” or “quantum well-in-a-nanowire” will also be covered. Finally, we will consider the recent progress in fabrication and properties of the so-called “crystal phase quantum dots”, where the charge confinement is defined by a crystal phase change in chemically homogeneous nanowire.

Guest Editors

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Deadline for manuscript submissions

closed (28 July 2022)

Nanomaterials

an Open Access Journal by MDPI

Impact Factor 4.4
CiteScore 8.5
Indexed in PubMed

mdpi.com/si/51753

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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

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