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Characterization of Quantum Effects in Nanomaterials, Nano-Devices, and Nanophotonics

Guest Editor:

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Deadline for manuscript submissions:
closed (30 June 2023)

Message from the Guest Editor

Quantum effects, as we know, are relatively prominent in small-scale physical elements. In accordance with this, quantum properties of materials and electronic devices cannot be ignored as their size reaches to the nanometer range. The elucidation of quantum effects in quantum dots, quantum wells, nanowires, qubits, nanorobots, and superconducting quantum interference devices is important to understanding their optical and electronic properties.

This Special Issue focuses on quantum effects in nanomaterials, nano-devices, nanoelectronic circuits, and other nanosystems. Quantum theory and its experimental verification, incorporated with nanophotonics and nano-optics, are of further particular interest. Research papers and reviews which characterize quantum properties of carbon nanotubes, graphenes and graphene-based materials, superconducting nano-devices, nano-biomaterials, etc. are welcome. Authors are also encouraged to submit articles related to various nanoscience issues which cannot be explained in the realm of classical mechanics.

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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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