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Optical, Physical, Chemical Characteristics and Functional Modulation of Novel Quantum Materials

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Message from the Guest Editors

The primary goal of this Special Issue is to contribute to the knowledge and development of quantum materials by investigating their optical, physical, and chemical characteristics. Researchers aim to deepen their understanding of these materials at the quantum level and uncover new ways to modulate their functional properties, with the overarching aim being to facilitate advancements in technology and materials science through the innovative use of quantum phenomena.

This Special Issue encompasses a diverse set of topics including topological quantum materials, quantum dots and nanomaterials, 2D materials and heterostructures, quantum materials for quantum information processing, machine learning in quantum materials research, quantum sensing and metrology, and energy harvesting and storage.

We welcome submissions of review articles and original research articles on the theoretical study of quantum materials and innovation in applications and devices and the synthesis and characterization of materials.



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Special Issue



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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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