

Special Issue

Novel Low-Dimensional Materials and Heterostructures for Nanoelectronics and Spintronics Application

Message from the Guest Editors

In recent decades, extensive research on low-dimensional materials has led to a breakthrough in both their fundamental material science and their practical applications. Thin films, monolayers and multiple heterostructures based on low-dimensional materials are often found to possess unique physical properties compared to their bulk counterparts. In particular, their electronic, magnetic, transport and optical properties are highly relevant to nanoelectronics, spintronics, photovoltaics and related areas, and novel applications in areas such as fast memory processing, energy storage, flexible nanodevices and quantum computers have been suggested. At the same time, the real application of nanomaterials requires an understanding of aspects such as their physical and chemical stability, their interfacial effects and effective property tuning methods. Thus, there is a need for further advanced experimental works and detailed theoretical studies. The main goal of this Special Issue is to highlight current progress in the study of low-dimensional materials and heterostructures, with a focus on their contribution to nanoelectronics, spintronics and related fields.

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About the Journal

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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