Special Issue

Electronic and Magnetic Properties of Two-Dimensional Nanomaterials

Message from the Guest Editor

Electronic and magnetic properties are the two key aspects that determine the characteristics and potential applications of a material. The transition from 3D to 2D leads to dramatic changes in electronic band structure, electron correlation effects, magnetic exchange and anisotropy, quantum confinement effects, and electron–phonon interactions in materials. This gives rise to a wealth of exciting emergent electronic and magnetic properties that are unseen in the bulk form. Harnessing these unique characteristics of 2D materials presents new opportunities to develop next-generation microelectronic, spintronic, and quantum information technologies. We are pleased to invite authors to contribute to this Special Issue focusing on the latest theoretical and experimental developments in the electronic and magnetic properties investigation of 2D nanomaterials, as well as the related 2D materials synthesis, characterization, device fabrication, and the potential electronic applications.

Guest Editor

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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. We are proud of our increasing impact factor and ability to provide rapid decisions to authors.

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