Special Issue

Low-Dimensional Materials and Related Heterostructures: Promises for Next-Generation Optoelectronic & Electrical Devices

Message from the Guest Editors

Low-dimensional materials, including 0D, 1D, and 2D materials and their hybrid heterostructures, have been increasingly attracting interest for next-generation optoelectronic and electrical devices. This is due to their unique optical, magnetic, dielectric, electrical, and optoelectronic properties. In addition, the electronic structures and optical properties of low-dimensional materials could be easily modulated via chemical compositions, stacking order, external electric/magnetic field, light, doping, substrates, etc. However, theoretical and experimental studies on electronic, optical and magnetic properties for those low-dimensional hybrid materials have not been sufficiently explored yet. In this Special Issue, we encourage submissions from researchers who are working on computational, theoretical and experimental studies of novel low-dimensional materials for optoelectronic and electronic devices, ranging from materials synthesis and characterization, and device fabrications to optoelectronic and electromagnetic simulations (multi-scale computational simulations) and thermal management.

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