Special Issue

Electronics in Nanomaterials and Nanostructures

Message from the Guest Editor

Nanomaterials and nanostructures exhibit nanoscale dimensions in one to three dimensions, with easily tunable electronic properties, facile electron emission, and interesting electron-related characteristics. Electrons emitted from low-dimensional nanomaterials and structures show spatial confinement, excellent momentum monochromaticity, and favorable integration potential, which can find important applications in vacuum metrology and mass spectrometry, electron beam devices, light emission and displays, and X-ray tubes. Practical applications of nanoelectronics still face many challenges, including material interfacial bonding, electron uniformity and consistency, electrode configuration and optimization, etc. Compared to macroscopic materials, the nanometer thickness in certain dimensions allows electrons to easily penetrate the material, enabling the acquisition of surface structural information to study low-dimensional surface/interface phenomena.

Researchers and practitioners from various disciplines are invited to contribute original research articles, reviews, and perspectives that explore nanomaterial applications in electronics.

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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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