Special Issue

Advances in Heat Transfer and Property Characterization of Nano Materials

Message from the Guest Editors

Recently, many new nanomaterials have been discovered and show promising potential applications in nanoelectronics, novel sensors, energy storage devices, etc. At nanoscales, special attention should be paid to experimentation and simulation. The characteristic dimension of samples is several nanometers, much smaller than the size of sensors. New designs of nanosensors or non-contact measurement techniques with high resolution are essential for an accurate characterization of nanomaterials. On the other hand, some newly discovered nanomaterials, such as layered graphene with a twisted angle, Mxenes, transition metal sulfide, black phosphorus, etc., have unique electronic structures and a complex coupling effect between charge and heat transportation. This introduces new challenges to the traditional molecular dynamics simulation method, as more accurate and intrinsic molecular information should be given using advanced first-principle calculation or artificial intelligence algorithm. This Special Issue welcomes papers focused on, though not limited to, heat transfer, property characterization, and device fabrication of nanomaterials.

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Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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