Special Issue

Dielectrics and Nanodielectrics

Message from the Guest Editors

Dielectrics are universal materials with various piezoelectric, ferroelectric, electrostrictive, electrocaloric, and electrostatic functions, among others. Since the concept of nanodielectric interfaces was proposed, there has been a broad interest in exploring nanodielectrics as a potential new generation of electrically insulating materials with outstanding properties, especially for electronic and energy-related applications. The rational combination of matrix and nanofillers of nanodielectrics plays a crucial role in performance enhancement, such as suppressing partial discharge and space charge, improving dielectric constant and breakdown strength, as well as increasing energy storage and conversion capability. This Special Issue aims to present the state-of-the-art research progress in the fields of dielectrics and nanodielectrics. The scope of this Special Issue includes, but is not limited to, polymer-based, ceramic-based, fluid-based insulating nanocomposites, with their properties focused on electrical insulation strength, energy storage and conversion capacities, and operational stability, etc.

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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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