Special Issue

Functional Materials: Piezoelectric, Ferroelectric, Pyroelectric, and Dielectric Energy Storage

Message from the Guest Editors

Ferroelectric ceramics are polycrystalline solid solution functional materials with piezoelectric effects, pyroelectric effects and ferroelectric properties at the same time. These types of material is electrical, mechanical, thermal, optical, and magnetic, and have a coupling effect between them. They have a wide range of applications in the piezoelectricity, pyroelectricity, electrocaloric effect, energy storage, electro-optical, magneto-electricity. Precise control of the chemical compositions and domain structures of ferroelectric materials and research on the intrinsic relationship of "compositions/microstructures, boundary conditions/interfacial effects, and polarization characteristics" will help to promote the use of ferroelectric/piezoelectric ceramics in the fields of electronics and information, artificial intelligence, aerospace, environment (electrocaloric cooling, photocatalysis, piezoelectric catalysis, pyroelectric catalysis, etc.) and energy (dielectric high-power energy storage, piezoelectric–pyroelectric energy harvesting, solar cells, abnormal photovoltaics, etc.), among other innovative applications.

Guest Editors

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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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