

Special Issue

Dynamics of Phase Transformations in Materials with Perovskite Structure

Message from the Guest Editor

Advances in the dynamics of phase transformations in materials with a perovskite structure are attracting growing attention due to their profound impact on functional properties such as ferroelectricity, piezoelectricity, dielectric response and multiferroicity. Perovskite materials undergo complex structural phase transitions driven by temperature, pressure, electric fields and compositional variations. Recent developments in in situ characterization techniques and theoretical modeling have revealed nanoscale phase coexistence and metastable states that govern electromechanical and dielectric responses. By tailoring lattice strain, defect chemistry and compositional disorder, researchers can engineer the free-energy landscape to stabilize desirable phases and enhance functional properties. This rapidly evolving field bridges solid-state chemistry, materials science and computational modeling, opening new pathways for designing high-performance perovskite-based devices for electronics, energy conversion and storage, sensing and next-generation smart systems.

Guest Editor

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Message from the Editorial Board

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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