Special Issue

Ferroelectric Materials and Thin Films: Recent Advances and Future Perspectives

Message from the Guest Editors

Ferroelectric and dielectric materials continue to attract significant research interests due to their multifunctionality, scalability, and potential for integrated applications in microelectronic, electromechanical, and photonic systems. This Special Issue focuses on recent developments in thin film ferroelectrics and dielectric ceramics, emphasizing structure–property relationships, domain dynamics, and emerging device functionalities. The Special Issue encompasses a wide range of materials, including linear dielectrics, paraelectrics, ferroelectrics, relaxor ferroelectrics, anti-ferroelectrics, and superparaelectrics. Particular attention is given to the roles of multipolar domain configurations and nanoscale domain interactions in controlling dielectric, ferroelectric, and electromechanical responses. Contributions in this Special Issue highlight both fundamental studies and application-driven research, including integration with semiconductor platforms, the exploration of 2D ferroelectrics, and environmentally benign lead-free compositions. Together, these works reflect the ongoing progress and future directions in ferroelectric thin film science and technology.

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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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