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Local Structure and Phase Transitions of Ferroelectric Materials

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Message from the Guest Editors

The phase transition temperature of a ferroelectric substance is usually defined by the change in crystal structure. Since the interaction between dipoles is a long-range correlation, the polarization mechanism of ferroelectrics can be strictly determined by the average structure. However, useful ferroelectric and piezoelectric properties have been found for substances whose polarization mechanism is difficult to understand only by using the average structure as represented by relaxor ferroelectrics. For this group of materials that are only partially ordered, we must clarify not only the average structure but also the local structure.

We invite researchers to contribute to this Special Issue, which intends to serve as a unique multidisciplinary forum covering the broad aspects of science, technology, and application of ferroelectric materials modulated by local structure. Potential topics include, but are not limited to:Relaxor ferroelectrics and related materials

- Domain engineering and domain modulated phenomena
- Ferroelectric nanocrystals
- Observations inside ferroelectric domains
- Artificial nanostructures
- Observation methods for nanoscale structures

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Message from the Editor-in-Chief

Welcome to *Crystals*, the journal dedicated to the fascinating world of crystallographic research! Crystals are more than mere decorative elements; they hold the key to understanding the fundamental structure of matter. Our mission is to explore the crucial significance of this research across various fields. From medicine to technology, chemistry to geology, crystals play a vital role. Their structure provides insights into new advanced materials, innovative drugs, and groundbreaking technologies. Through *Crystals*, we delve into the microscopic world to discover solutions that will shape the future. Join us on a journey through the *Crystals*, where science merges with beauty and innovation.

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