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Design, Performance and Application Research of Smart Piezoelectric Materials

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Message from the Guest Editors

Dear Colleagues,

Piezoelectric phenomena and related materials are known to mankind for more than a century, with tremendous progress made with respect to both scientific understandings and practical applications. Much research effort has been devoted to establishing strategies to obtain a large piezoelectric response in oxide piezoelectrics by exploring mechanisms from the micro-scale to the atomic scale. These strategies have mainly included enhancing intrinsic atomic distortion, domain switching, phase boundary modulation, interface engineering, and defect manipulation, etc. Among these, phase boundary manipulation has been the most widely pursued approach with an immense amount of breakthroughs.

The aim of this Special Issue is to update the fundamental aspects of these strategies with a particular focus on their roles in promoting the performance of piezoelectrics, and inspire the potential discovery of new piezoelectric materials and structures. More importantly, we would like to stress the current challenges faced in piezoelectrics and provide an outlook of the existing strategies to tackle the current obstacles, so as to achieve breakthroughs in giant piezoelectricity.



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Special Issue



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Message from the Editor-in-Chief

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