Special Issue

Lead Free Piezoelectric Materials for Clean and Sustainable Energy

Message from the Guest Editors

Piezoelectric materials can convert electric energy to mechanical energy and vice versa. These materials have found many applications in actuators, sensors, energy harvesting tools, etc. One of the key questions in the development of eco-friendly piezoelectric is how to achieve high piezoelectricity and large hysteresis-free electrostrain responses in a facile and effective manner. The thermal stability of piezoelectric properties is also a topic of concern. Considering lead toxicity, at present there is interest in developing piezoelectric materials that are biocompatible and more environmentally friendly. Over the past six decades, lead-based ceramics have gained much attention due to their excellent piezoelectric properties and high Curie temperatures. Their giant piezoelectric responses are due to the existence of a morphotropic phase boundary (MPB). The scientific community is interested in understanding the mechanism responsible for such large piezo responses, which remains unclear despite more than six decades of investigation.

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Clean Technologies (ISSN 2571-8797) is an international, open access journal of novel scientific research on technology development aimed at reducing the environmental impact of human activities. *Clean Technologies* publishes reviews, regular research papers, communications and short notes which show a significant advance in the development of sustainable technology that reduces energy consumption, environmental pollution and/or the use of water and nonrenewable resources. Our aim is to encourage scientists to publish their experimental and theoretical research in detail as open access, serving a trustable base of advance for the scientific community.

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