Special Issue

Dielectric Ceramics for Capacitor Energy Storage

Message from the Guest Editor

Over the past decade, extensive efforts have been devoted to the development of high-performance lead-free dielectric capacitors, including ferroelectric ceramics, composite ceramics, and multilayer capacitors. For material systems, the dimensional engineering of the grain and electrical domains played an important role. The finer the ceramic grains, the higher the breakdown strength, which brings KNN-based ceramics with submicron grains into the hotspot of research. Relaxor ferroelectric materials with nanoscale electrical domains have also occupied most of the energy storage field. Recently, the strategy of introducing relaxor ferroelectrics into antiferroelectric systems, to reduce the electric domain size and improve the energy storage performance, has also been proven to be effective. This implies great potential for the dimensional engineering of electrical domains to improve the performance of antiferroelectric systems, which could open up a new chapter in antiferroelectric ceramics for energy storage. Both academic and industry experts will be interested in this Special Issue of Crystals.

Guest Editor

Prof. Dr. Haibo Zhang

School of Materials Science and Engineering, State Key Laboratory of Material Processing, Die & Mould Technology, Huazhong University of Science and Technology, Wuhan 430074, China

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Crystals
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
crystals@mdpi.com

mdpi.com/journal/crystals

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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.

Editor-in-Chief

Prof. Dr. Alessandra Toncelli
Department of Physics, University of Pisa, 56126 Pisa, PI, Italy

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