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Preparation and Properties of Novel Energy Storage Materials

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Message from the Guest Editors

Dear Colleagues,

Ferroelectric and dielectric capacitors, as compared with batteries and other devices for electrical energy storage, excel in terms of specific power, compactness, cost-effectiveness, charge-discharge speed and temperature stability. These features have led to their use in a broad spectrum of applications in microelectronics and electric power systems.

A capacitor with a high recoverable energy density and energy storage efficiency requires a dielectric material that possesses a high permittivity, low hysteresis loss, low conductivity, and high breakdown field. However, attaining all these properties in a single dielectric material is challenging.

The aim of this Special Issue is to report new findings in dielectric ceramics related to synthesis, microstructure, properties, device performance and technological applications, including linear dielectrics, paraelectrics, ferroelectrics, relaxor ferroelectrics, superparaelectrics and anti-ferroelectrics.



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Message from the Editor-in-Chief

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