

The energy storage capacity of polymer dielectrics benefits from the depressed hysteresis losses, which delivers the solid foundation for the high charge-discharge efficiency ...

The development of polymer dielectrics with both high energy density and low energy loss is a formidable challenge in the area of high-temperature dielectric energy storage. ...

In the research field of energy storage dielectrics, the "responsivity" parameter, defined as the recyclable/recoverable energy density per unit electric field, has become critically important for ...

Abstract Metallized film capacitors towards capacitive energy storage at elevated temperatures and electric field extremes call for high-temperature polymer dielectrics with high ...

This review explores the critical role of polymer film capacitors in EV traction and charging systems, and by analyzing their operational principles, identifies the unique ...

Polymer dielectrics are key for capacitors in energy applications but are hard to improve for high temperatures. This work uses artificial intelligence to design fillers with a large ...

In the case of dielectric energy storage devices, excessive pursuit of giant electric fields means greater exposure to high temperatures and insulation damage risk. Ferroelectric thin film ...

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