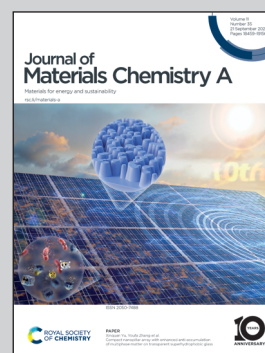


Showcasing research from Dr. Manwen Yao, Cangjin Li, School of Materials Science and Engineering, Tongji University, Shanghai, P.R. China.

An effective strategy for enhancing energy storage density in $(\text{Pb}_{1-1.5x}\text{Gd}_x)(\text{Zr}_{0.87}\text{Sn}_{0.12}\text{Ti}_{0.01})\text{O}_3$ antiferroelectric ceramics

Antiferroelectric materials play an important role in pulsed-power capacitors. In our work, $(\text{Pb}_{1-1.5x}\text{Gd}_x)(\text{Zr}_{0.87}\text{Sn}_{0.12}\text{Ti}_{0.01})\text{O}_3$ antiferroelectric ceramic is prepared by tape casting technology. A remarkable high energy storage performance is obtained by co-optimising the breakdown strength, phase-switching electric field together with the maximum polarization. This work proposes a simple strategy to boost the energy storage density of antiferroelectric materials for the applications of high-performance pulsed-power capacitors.

As featured in:



See Manwen Yao *et al.*,
J. Mater. Chem. A, 2023, **11**, 18689.