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Enhanced dielectric properties and discharged energy density of composite films using submicron PZT particles

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Abstract

Flexible dielectric composite films are highly desirable materials with potential application in capacitors due to their high energy density and discharged efficiency. However, agglomeration induced by the large surface energy of nanoparticles and their large dielectric losses are unfavorable to the improvement of energy density. Submicron lead zirconate titanate (PZT) particles have shown great potential as filler in achieving a high energy storage capacity because of their excellent dielectric properties and good dispersion. In this work, calcined PZT particles were used to prepare PZT/polyvinylidene fluoride (PVDF) composite films. The results showed that

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