

Piezoelectric and dielectric properties of lead based relaxors

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Abstract

Recently complex systems, like single crystals of composition $(1-x)\text{Pb}(\text{BB})\text{O}_3 \times \text{PbTiO}_3$, have been shown to display huge piezoelectric coefficients. In the ferroelectric relaxors $\text{Pb}(\text{BB})\text{O}_3$, the dielectric constant is known to be strongly dependent on the chemical ordering of the B / B cations. In the present study, by measuring the d_{31} and d_{33} coefficients as a function of temperature, together with pyroelectric property, we investigate the influence of the cationic ordering on piezoelectric properties of lead based perovskite ceramics.