

Dynamics of ferroelectric switching of $[\text{H}_3\text{CNH}_3]_5[\text{Bi}_2\text{Br}_{11}]$.

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The switching behavior of the organic, order-disorder ferroelectric $[\text{H}_3\text{CNH}_3]_5[\text{Bi}_2\text{Br}_{11}]$ has been studied. It exhibits a complex behavior that arises from the different ferroelectric domain structures that dominate in different time scales. An analysis of the dynamics of the switching of $[\text{H}_3\text{CNH}_3]_5[\text{Bi}_2\text{Br}_{11}]$ using the theory of rates of reactions has shown that the activation volumes and energies associated with the switching nuclei of critical size are very different at low (10 Hz) and high (100 Hz) frequencies. In both cases, it was found that the contribution from the thermal fluctuations to the formation of the switching nuclei is much larger than the contribution from the work done by the applied electric field

Adres publiczny

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