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Electrical and Structural Characterization of $Ba(In,Sb)_yTi_{1-2y}O_3$ With y = 0.05 and 0.10[1] OSCAR GUERRERO, JERRY CONTRERAS, The University of Texas Pan American, DANIEL POTREPKA, FRANK CROWNE, U.S. Army Research Lab, AURTHUR TAUBER[2], Geo-Centers Inc., STEVEN TIDROW, The University of Texas Pan American — $Ba(In,Sb)_{0.05}Ti_{0.90}O_3$ and $Ba(In,Sb)_{0.10}Ti_{0.80}O_3$ are investigated through temperature dependent electrical and structural characterization. The material is electrical characterized from 10 Hz to 2 MHz for dielectric constant, tunability, dissipation factor and figure of merit over the temperature range -50 °C to 125 °C. In addition, lattice parameters and structural changes of the material are reported as a function of temperature as obtained using x-ray diffraction and Rietveld refinement. Properties of these electric-field tunable materials are discussed in terms of ferroelectrics, non-relaxor versus relaxor behavior, and a ferroelectric dipole-like glass state.

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