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Synthesis, characterization and dielectric properties of new BLnZT nanostructured ferroelectric thin films¹ P. PRIETO, M.E. GOMEZ, E. DELGADO, Universidad del Valle, C. OSTOS, Universidad Nacional — In this work we have investigated the synthesis and ferroelectric properties of $\text{Ba}_{1-y}\text{La}_{2y/3}\text{Ti}_{1-x}\text{Zr}_x\text{O}_3$ (BLZT) compounds maintaining the stoichiometry and perovskite structure. In order to obtain the BLZT, conventional ceramic method and a novel oxalate-peroxide process were compared. By using powder X-ray diffraction the ranges of solid solution for the two methods are built-up and compared. The morphology of pure BLZT is studied by SEM. The composition is determined by ICP. Samples showed dielectric constants significantly higher than PZT compounds. BLZT films were deposited by RF-magnetron sputtering under high-oxygen pressure on different substrates at 873 K. The films reveal [001] epitaxial reflections corresponding to perovskite single-phase compounds, showing stoichiometries corresponding to BLnZT (Ln=Nd, La). Ferroelectric measurements through hysteresis P-E curves were obtained in $\text{Ba}_{0.90}\text{La}_{0.067}\text{Ti}_{0.91}\text{Zr}_{0.09}\text{O}_3$, capacitor structures showing clear ferroelectric behavior with P_r , P_s and E_c of $11.9 \mu\text{C}/\text{cm}^2$, $36.8 \mu\text{C}/\text{cm}^2$ and $38.6 \text{ kV}/\text{cm}$, respectively

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P. Prieto
Universidad del Valle

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