

Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Structural **and** **Dielec-**
tric Properties of $\text{CoFe}_2\text{O}_4\text{-Ba}_{0.90}\text{La}_{0.067}\text{Ti}_{0.91}\text{Zr}_{0.09}\text{O}_3$ composite thin films.

EDUARDO DELGADO, Universidad del Valle, CARLOS OSTOS, Universidad Nacional, MARIA MARTINEZ, LOURDES MESTRES, Universidad de Barcelona, DAVID LEDERMAN, West Virginia University, PEDRO PRIETO, Centro de Excelencia en Nuevos Materiales — $\text{CoFe}_2\text{O}_4\text{-Ba}_{0.90}\text{La}_{0.067}\text{Ti}_{0.91}\text{Zr}_{0.09}\text{O}_3$ (CFO-BLZT) composite thin films were grown via RF oxygen magnetron sputtering from a CFO-BLZT mixed target on electrically-conducting single-crystal Nb-doped SrTiO_3 (100) substrates at 1033 K. From scanning electron microscopy coupled with energy dispersive analysis of x-rays we determined that the CFO and BLZT were phase separated. X-ray photoemission spectroscopy showed that the TiO_6 octahedron in the perovskite structure was modified by the lanthanide incorporation. The dielectric characterization showed that the samples were ferroelectric at room temperature. The ferroelectric hysteresis loops measured as a function of magnetic field showed that these samples are multiferroic.

Eduardo Delgado
Universidad del Valle

Date submitted: 27 Nov 2007

Electronic form version 1.4