

Abstract Submitted
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Magnetic Properties of CoFe₂O₄ Nanopillars¹ HAIMEI ZHENG, RAJESH CHOPDEKAR, YAYOI TAKAMURA, T. ZHAO, Y. SUZUKI, R. RAMESH, Univeristy of California, Berkeley, F. ZAVALICHE, L. MOHADDES-ARDAHILI, S. SHINDE, S. OGALE, Univeristy of Maryland, College Park, D. SCHLOM, Pennsylvania State University — Ferrimagnetic CoFe₂O₄ spontaneously forms nanopillars embedded in a BaTiO₃ or BiFeO₃ matrix during thin film growth by pulsed laser deposition. Such thin film nanostructures show three dimensional heteroepitaxy. All the films have a large uniaxial magnetic anisotropy with an easy axis normal to the film plane. It is calculated that stress anisotropy is the main contribution to the anisotropy field. We studied the magnetic behavior of the CoFe₂O₄ nanopillars formed at different growth temperatures, with different film thickness and on various substrates.

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