Abstract Submitted
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Electronic and Magnetic Properties of the Interface Between a High-Tc Cuprate and CMR Manganite[1] JIAN LIU, University of Arkansas, J. FREELAND, B. KIRBY, M. KAREEV, H.U. HABERMEIER, G. CRISTIANI, J. CHAKHALIAN — Atomically controlled interfaces between two materials can give rise to novel physical phenomena and functionalities. Modern synthesis methods have yielded high-quality hetero-junctions of oxide materials with competing order parameters. Orbital reconstructions and covalent bonding has been shown to be important factors in the rational design of oxide heterostructures[1]. To clarify the role of superconductivity we study the interface between a high-temperature superconductor (PrY)Ba2Cu3O7 and CMR manganite La2/3Ca1/3MnO3 by resonant x-ray spectroscopy, magneto-optics and neutron reflectivity. The resulting data provide a hint of orbital changes and strong modification of magnetic structure in the heterojuction. [1]J. Chakhalian et al, Science, v. 318, 1155 (2007).

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