

Abstract Submitted  
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**Low Temperature Magneto-transport Measurements on Multilayered Manganite Films**<sup>1</sup> M. SPENCER, P. BHUPATHI, S. H. YUN, A. BISWAS, Y. LEE, Department of Physics, University of Florida, Gainesville, FL 32611-8440 — We have performed out-of-plane resistance measurements on a micro-fabricated multilayered manganite thin film structure down to 50 mK. The structure is composed of a 26 nm thick  $(\text{La}_{0.4}\text{Pr}_{0.6})_{0.67}\text{Ca}_{0.33}\text{MnO}_3$  (LPCMO) film on top of a 60 nm thick  $\text{La}_{0.67}\text{Ca}_{0.33}\text{MnO}_3$  (LCMO) layer grown on an (110)  $\text{NdGaO}_3$  (NGO) substrate. Two gold electrodes were deposited on the LPCMO layer and the exposed LPCMO layer was then etched by ion plasma etching technique. We observed an upturn in resistance below 30 K for various current excitations ranging from 0.2 to 100  $\mu\text{A}$ . Based on the electric and magnetic field dependence of the resistance, we attribute the upturn to the disorder-induced static phase separation of the LPCMO thin film at low temperature.

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