

Abstract Submitted
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Magnetoresistive Core-Shell Nanowires BO LEI, CHAO LI, CHONGWU ZHOU, University of Southern California — Magnetoresistive $\text{La}_{0.67}\text{Sr}_{0.33}\text{MnO}_3$ nanowires have been synthesized and studied using pulsed laser deposition with MgO nanowires working as the template. Transport studies on these novel nanowires revealed a remarkable metal-insulator transition at 325 K, accompanied by room-temperature colossal magnetoresistance 10 percent under 1 T magnetic field. Furthermore, shape-induced magnetoresistance was observed for magnetic fields applied parallel or perpendicular to the nanowire. In addition, polycrystalline $\text{La}_{0.67}\text{Sr}_{0.33}\text{MnO}_3$ have been obtained by tuning the synthesis condition, leading to a low-field magnetoresistance up to 16 percent at 0.06 T.

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