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Low-field magnetoresistance in sol–gel derived $\text{La}_{2/3}\text{Sr}_{1/3}\text{MnO}_{3-\delta}$ thick films

In-Bo Shim^{a,*}, Hi Min Lee^a, Key Taeck Park^a, Bo Wha Lee^b, Chul Sung Kim^a

^a *Department of Electronic Physics, Kookmin University, Seoul 136-702, South Korea*

^b *Department of Physics, Hankuk University of Foreign Studies, Kyungki 449-791, South Korea*

Abstract

Thick films of $\text{La}_{2/3}\text{Sr}_{1/3}\text{MnO}_{3-\delta}$ were fabricated on thermally oxidized Si(100) and polycrystalline aluminum oxide by a screen printing method. The maximum low-field magnetoresistance (MR) ratio, 0.68%, was obtained at 300 K for the sample which was sintered at 1100°C, that is an MR ratio of 0.0015%/Oe in the 450 Oe field region. We propose that this MR ratio is enough to fabricate device, which can be used as a low-cost magnetic sensor. © 2002 Elsevier Science B.V. All rights reserved.

Keywords: Low-field MR; Sol–gel; Magnetic sensor; Grain boundary
