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I.O. Troyanchuk, M.V. Bushinsky, D.V. Karpinsky, V.V. Sikolenko, S.A. Gavrilov, M.V. Silibin, A. Franz, C. Ritter



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I.O. Troyanchuk ^{a,b,*}, M.V. Bushinsky ^b, D.V. Karpinsky ^{a,b}, V. V. Sikolenko ^{c,d},
S.A. Gavrilov ^a, M. V. Silibin ^a, A. Franz ^e, C. Ritter ^f

^a National Research University of Electronic Technology “MIET”, 124498 Zelenograd,
Moscow, Russia

^b Scientific-Practical Materials Research Centre NAS of Belarus, 220072 Minsk,
Belarus

^c Joint Institute for Nuclear Research, 141980 Dubna, Russia

^d REC "Functional nanomaterials" Immanuel Kant Baltic Federal University, 236041
Kaliningrad, Russia

^e Helmholtz Zentrum Berlin, Hahn-Meitner-Platz 1, 14109 Berlin, Germany

^f Institute Laue Langevin, 38042 Grenoble, France

* Corresponding author:

E-mail: troyan@physics.by

Tel: +375 17 284 11 33

Abstract

$\text{La}_{1-x}\text{Sr}_x\text{Mn}_{0.5}\text{Co}_{0.5}\text{O}_3$ ($x \leq 0.75$) perovskites have been studied as a function of temperature by neutron powder diffraction (NPD), magnetization and magnetoresistance measurements. The NPD data show that $x=0.15$ and 0.5 compounds are stoichiometric, so the Sr^{2+} doping transforms Co^{2+} ions into the Co^{3+} ones, whereas manganese ions remain in the $4+$ oxidation state as in the parent ferromagnetic

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