EPR AND MAGNETIZATION STUDIES OF THE $LaMn_{0.46}Co_{0.54}O_3$ AND $HoMn_{0.49}Co_{0.51}O_3$ SINGLE CRYSTALS

P. Aleshkevych[a], M. Baran[a], S. V. Shiryaev[b], R. Szymczak[a] and H. Szymczak[a]

[a]Institute of Physics, Polish Academy of Sciences, al. Lotnikow 32/46, 02-668 Warsaw, Poland

[b]Institute of Solid State and Semiconductor Physics, National academy of Science of Belarus, P. Brovki Str. 17, 220072 Minsk, Belarus

The electron paramagnetic resonance spectra of Mn^{4+} and Co^{2+} ions in the orthorhombic $LaMn_{0.46}Co_{0.54}O_3$ and $HoMn_{0.49}Co_{0.51}O_3$ single crystals grown by the electrodeposition method have been studied at 9.2 GHz. The observed fine structure was fitted using spin-Hamiltonian with S=3/2, confirming Mn^{4+} assignment. The temperature-induced spin reorientation accompanied with enhancing of Ho magnetic moment was found at T≈28K in $HoMn_{0.49}Co_{0.51}O_3$. The overall results of magnetization studies and EPR indicate on presence of both ferro- and antiferromagnetic interactions at low temperatures.

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9.7 cm

13.4 cm

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Corresponding author :

P. Aleshkevych

Address for correspondence :

Institute of Physics,
Polish Academy of Sciences,
al. Lotnikow 32/46, ON3.5
02-668 Warsaw,
Poland

Email address :

pavloa@ifpan.edu.pl