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Yujie Yang [*1], Fanhou Wang[1], Juxiang Shao[1], Duohui Huang[1], Hui He[2], A.V. Trukhanov[3, 4], S.V. Trukhanov[3, 4]

[1]Computational Physics Key Laboratory of Sichuan Province, School of Physics and Electronic Engineering, Yibin University, Yibin 644007, P. R. China

[2]College of Physics Science and Technology, Yangzhou University, Yangzhou 225002, P. R. China

[3]SSPA "Scientific and practical materials research centre of the NAS of Belarus", P. Brovki str.19, Minsk 220072, Belarus

[4]National University of Science and Technology MISIS, Leninskii pr. 4, Moscow 119049, Russia

Abstract

This is first report on Nd-NbZn co-substituted M-type Ca-Sr hexaferrites with nominal compositions $Ca_{0.4}Sr_{0.6-x}Nd_xFe_{12.0-x}(Nb_{0.5}Zn_{0.5})_xO_{19}$ (x = 0.00-0.32) fabricated by the conventional solid-state reaction method. X-ray diffractometer (XRD), Fourier transformer infrared (FTIR) spectroscopy, field emission scanning electron microscopy (FE-SEM), physical property measurement system-vibrating sample magnetometer (PPMS-VSM) were employed to characterize M-type calcium-strontium hexaferrites. XRD patterns of the hexaferrites with Nd-NbZn content (x) of $0.00 \leq x \leq 0.16$ showed the single M-type hexaferrite phase. However, for the hexaferrites with Nd-NbZn content (x) ≥ 0.24, the impurity phase (α-Fe_2O_3)

[*] Corresponding author. Tel: +86 831 3531171, Fax: +86 831 3531161.
E-mail address: loyalty-yyj@163.com (Y.J. Yang).