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Rare earth substitutions in Mg_{0.5}Co_{0.5}Fe₂O<sub>4</su nano-ferrites synthesized by Glycol-thermal method

Thursday, 12 July 2012 17:30 (2 hours)

Abstract content
 (Max 300 words)

Single phase Mg_{0.5}Co_{0.5}(RE)_{0.1}Fe_{1.9}O₄ nanoferrites (where RE= La, Ce, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Yb and Lu) were successfully synthesized by glycol-thermal method from high-purity metal chlorides. The as-prepared samples were characterized by powder X-ray diffraction (XRD). The average grain sizes deduced from XRD data were found in the range 9 – 14 nm. The magnetic properties were deduced by ⁵⁷Fe Mössbauer spectroscopy and vibrating sample magnetometer (VSM). The dependence of the structural and magnetic properties are correlated with the number of the RE 4f electrons and the de Gennes factor.

Apply to be
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MSc

Main supervisor (name and email)
and his / her institution

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