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The temperature dependence of the structure and magnetic properties of Mg-Mn-Co nanoferrites

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Abstract content
 (Max 300 words)

Mg_{0.25}Mn_{0.5}Co_{0.25}Fe₂O₄ and Mg_{0.5}Mn_{0.25}Fe₂O₄ nanoferrites were synthesized by the glycol-thermal technique. X-Ray diffraction (XRD) results revealed a single phase cubic structure for both as-prepared samples with an average grain size of about 8 nm. The magnetic properties of the nanoparticles were studied using a ⁵⁷Fe Mössbauer spectroscopy and Vibrating Sample Magnetometer (VSM). The samples were then annealed at 500 deg;C and 700 deg;C for 6 hrs argon atmosphere to investigate the effect of temperature on the structural and magnetic properties of the compounds. Our results show that the structure and magnetic properties depend on the annealing temperature.

Apply to be
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Level for award
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MSc

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

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Would you like to
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Yes

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