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Synthesis and magnetic properties of Sn-doped CoFe₂O₄ nanoferrites

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Abstract content (Max 300 words) **Formatting & Special chars**

CoSn_xFe_{2-x}O₄ (x = 0.5 and 1.0) nanoparticles have been synthesized by glycol-thermal route. The compounds have been characterized by X-ray diffraction, transmission electron microscopy, FTIR, Mössbauer spectroscopy and SQUID measurements. XRD data confirm single phase formation and particle size of about 10 nm. The Mössbauer spectra recorded at about 300 K is indicative of ordered magnetic spin phase. Magnetization data show superparamagnetic nature of the compounds. The evolution of the properties as a function of grain size and sample measuring temperature is also presented. The magnetic properties have been explained on the basis of particle size and Sn concentration.

Apply to be considered for a student award (Yes / No)?

yes

Level for award (Hons, MSc, PhD, N/A)?

MSc

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

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