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Synthesis, Structural Characterization and Magnetic Properties of $\text{Mg}_{1-x}\text{Zn}_x\text{Fe}_2\text{O}_4$ Nanoparticles

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Abstract content (Max 300 words)

Mixed zinc magnesium ferrite nanoparticles $\text{Mg}_{1-x}\text{Zn}_x\text{Fe}_2\text{O}_4$ with $0 \leq x \leq 1.0$ in step of 0.1 have been produced by centrifugation using the glycol-thermal method. The nanoparticles were synthesized at 200 deg;C using a stirred pressure reactor. Single-phase formation was confirmed by X-ray powder diffraction which revealed a well defined cubic spinel structure. According to calculations from Scherrer formula, the nanoparticles size ranged from 18 to 22 nm. The magnetic properties of the nanoparticles were studied using a ^{57}Fe Mössbauer spectroscopy and vibrating sample magnetometer (VSM).

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

yes

Level for award (Hons, MSc, PhD)?

MSc

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

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Would you like to submit a short paper for the Conference Proceedings (Yes / No)?

Yes

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