

Abstract Submitted
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Synthesis and Characterization of Iron doped Zinc Oxide Nano-Particles BENJAMIN LEWIS, ALEKSEY FYLYPIV, PETER LEMAIRE, RAHUL SINGHAL, Department of Physics Engineering Physics, Central Connecticut State University, New Britain CT 06050 — Magnetic nanoparticles are of great interest because of their applications in various fields such as memory storage devices and biomedical imaging. Magnetic nanoparticles (MNP) of Iron doped Zinc Oxide ($\text{Zn}_{1-x}\text{Fe}_x\text{O}$) with different doping concentration ($x = 0.01, 0.03, 0.05, 0.07$ and 0.09) were effectively synthesized via the co-precipitation method. The optical properties of the samples were characterized by Fourier Transform Infrared Spectroscopy (FTIR) and UV-visible spectroscopy. The thermal characterizations of the synthesized nanoparticles were carried out using differential scanning calorimetry (DSC) and thermogravimetric analysis (TGA). The results obtained will be presented.

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