Magnetic Property Study of Nickel Cerium Doped Zinc Ferrite Nano Particles

Abstract

Nano-particles of polycrystalline Zn Fe2 O4 doped with, Ni and Ce (Zn Niy Cex Fe2-x-y O4, where x =0.01, 0.012, 0.014, 0.016, y=0.003) was prepared by sol-gel auto combustion route. The microwave sintered ferrite was characterized and the nano size was confirmed by XRD and the SEM monographs. The EDAX studies confirm the composition of Ni, Ce doped Zn-ferrites and VSM studies show the behaviour of coercivity and Saturation magnetization. The permittivity increased with the increase in Ni-Ce doping concentration.

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Index Terms

Computer Science
Applied Sciences

Keywords
Ce-Ni doped Zn ferrite; Low permittivity Nanomaterials; Sol-gel route