



Preparation of Magnetite (Fe_3O_4) Thin Films by Sol- Gel Method and its Characterization

C. Manoharan¹, R. Sakthi Murugan^{2*}, A. Dhanalakshmi²

¹Department of Physics, Annamalai University, India

²Department of Physics, IFET college of Engineering, Villupuram, India

Abstract : Thin films can be defined as a thin material layers ranging from fractions of nanometres to several micrometres in thickness. Thin film deposition techniques are divided into two broad categories, physical methods and chemical methods. The different deposition techniques are discussed briefly and the review of the literature related to the present study was discussed under this chapter. Materials and methods used for the preparation of Fe_3O_4 films are discussed in detail. The techniques used to characterize the thin film like UV- Visible; FTIR, XRD and SEM with EDS are discussed. The procedure for the preparation of Fe_3O_4 thin films are discussed in detail. The prepared thin films were subjected to UV-Visible, FTIR, XRD, SEM with EDS, thickness and susceptibility measurements. The obtained results from the above characterization techniques are interpreted with the available literature.

R. Sakthi Murugan *et al* /International Journal of ChemTech Research, 2016,9(6),pp 400-408.
