**Abstract**

Transition metal sulphides exhibit excellent optical, photo electrical and thermoelectric properties. These materials have attracted much attention because of its applications in the field of electroluminescence devices, light emitting displays, cathode material for rechargeable lithium battery, magnetic devices, dye degradation and optical sensors. In the present work, iron doped Nickel sulphide nanopartciles are synthesized using chemical precipitation method. Nickel chloride and Ferric chloride are used as precursors and sodium sulphide as a stabilizing agent. The synthesized nanoparticles are characterized using FT-IR, XRD, SEM, UV-Vis, and PL studies. The presence of function groups are confirmed from FT-IR spectral analysis. The XRD analysis shows the crystalline nature of nanoparticles and the average nano-crystalline size is calculated using Debye – Scherrer formula. The morphology of the samples is analyzed using scanning electron microscope. The optical properties are characterized using UV-Vis spectral analysis and PL study. The synthesized nanoparticles may be used as a catalyst for degradation of organic dyes.