

PRECURSORS AND MEDIUM EFFECT ON ZINC OXIDE NANOPARTICLES SYNTHESIZED BY SOLGEL PROCESS

A. VANAJA¹ & K. SRINIVASA RAO²

¹Department of Physics, Lingayya's University, Old Faridabad, Haryana, India

²Department of EIE, K. L. University, Vaddesawaram, A. P., India

ABSTRACT

The paper deals with the synthesis and characterization of ZnO Nanoparticles using XRD, SEM and FTIR. Stable OH free Zinc oxide (ZnO) Nanoparticles were synthesized by Sol-gel method by varying precursors in different mediums. The characterizations were performed using powder X Ray diffraction (XRD) for studying the crystal structure of ZnO, Scanning electron microscopy (SEM) for capturing the images that contains the topographical information of nanoparticles and Fourier Transform Infrared (FTIR) Spectroscopy for identifying the name of chemical groups and bonds. The results, analysis and interpretations of four types of ZnO Nanoparticles (ZnO-1, ZnO-2, ZnO-3 and ZnO-4) were discussed.

KEYWORDS: FTIR, Nanoparticles, SEM, XRD, Zinc Oxide