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Structure, morphology and optical properties of zinc oxide (ZnO) doped with different concentration of magnesium oxide (ZnO: MgO) thin film

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In this study, Zinc Oxide thin film and doped with deferent content of Mg Oxide is prepared by chemical Spray Pyrolysis (CSP) deposit on glass substrate. Structural, Morphology and Optical properties of all thin films Examined by different technique, i.e. X-ray diffraction (XRD), Atomic Force microscopy (AFM), Scanning Electron Microscopy (SEM) and (UV-VIS) Spectroscopy. (XRD) analysis for ZnO film confirmed the hexagonal Wurtzite with a polycrystalline structure and a preferred orientation along the (002) plane. By Atomic Force Microscopy the morphology of the thin films investigated and show the roughness, RMS and surface skewness (Ssk) of the surface. Scanning Electron microscopy (SEM) results indicate good uniformity and a dense surface with spherical and irregular shape grains. When the MgO content in ZnO thin film increase the roughness



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