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STUDY OF ALUMINUM DOPED ZNO THIN FILMS DEPOSITED ON GLASS SUBSTRATE FOR AN APPLICATION OF H_2 AND NH_3 GASES SENSING

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ABSTRACT

This paper presents the structural properties of ZnO and ZnO: Al (2, 4, 6 and 8)%. nano structurethin films deposited at 450 ^{o}C on glass substrates by chemical spray pyrolysis in thichness (150±5 nm). The structure of ZnO and ZnO: Al is nano-structure films were found to exhibit as hexagonal wurtzite structure. The structural details and microstructure were obtained from X-ray diffraction shows that the increase of Aluminum concentration caused to decrease the grain size, interplaner spacing. The surface Morphology of the films was studied by using the Scanning Electron Microscopy (SEM), Atomic Force Microscopy (AFM), and the Transmission electron microscopy (TEM), sensitivity of films increases with the increase of Al concentration and substrate temperature.

KEYWORDS: Zno: Alnanostructures, Aluminum Doped, And Structural Properties