

Synthesis and characterization of oxides, application in medicine

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Abstract :

Tin doped zinc oxide (TZO) and indium oxide In_2O_3 thin films were deposited on glass substrate, by chemical spray pyrolysis.

The structural, optical and electrical properties of (TZO) thin films as a function of different concentration ratio of Sn and Zn were investigated . X-Ray diffraction results revealed that all the films had an hexagonal Wurtzite structure with (002) preferred orientation. The maximum transmittance is equal to 80% for undoped and 0.2 at. % Sn doped thin films.

XRD analysis of In_2O_3 material show a polycrystalline character which characterized by (222), (400) and (440) principal orientations, indicating a cubic structure. The best cristallinity of indium oxide is obtained for indium concentration in the spray solution equal to 0.04mol.l^{-1}

Optical studies confirm that In_2O_3 and ZnO have good applications in medicine.