Synthesis of ZnO thin films using spray pyrolysis method

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Abstract

Zinc Oxide (ZnO) is a semiconducting multifunctional material that has various applications such as gas sensors, electrode material etc. and it can be tuned according to our requirement by doping or surface modification. It also has many advantages over alternate materials. ZnO thin films are well known for the properties like non-toxicity, good electrical, optical and piezoelectric behavior, great stability in plasma atmosphere and its low cost production by using spray pyrolysis technique. Therefore, to understand the effect of temperature on structural properties of ZnO thin films, a series of films were deposited using spray pyrolysis technique. The films were made at three different temperatures and the films were studied structurally using x-ray diffraction and morphology was studied using SEM and EDAX.

Keywords: zinc oxide, thin films, spray pyrolysis

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