

7. Optical properties of Zinc sulfide thin films prepared by spray pyrolysis

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ABSTRACT

Spray pyrolysis is simple and inexpensive method for depositing thin films on large area of glass substrate. The II-VI group semi-conductors are of great importance due to their applications in various opto-electronics devices. ZnS thin films have been prepared on pre-heated glass substrate by spray pyrolysis method. The temperature of the substrate was maintained at 350⁰C and was measured by pre-calibrated by thermo-couple. From reflectance and transmittance studies, the band gap (E_g) is calculated and was found to be 3.02 eV. This shows the direct transitions. Thickness of the films was calculated by using weighing method and was of the order of 0.216 μm . The colour of the film was whitish. Grain size was calculated from scanning electron micrograph was found to be of the order of 0.5 μm .