

Studies on Physico-Chemical Properties of Indium Sulfide Films Deposited under Different Deposition Conditions by Chemical Bath Deposition

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Abstract : Indium sulfide films have been deposited using chemical bath deposition onto glass and indium tin oxide coated glass substrates. The influences of different deposition parameters viz. substrate and pH have been studied. The films were characterized by different techniques with respect to their crystal structure, surface morphology and compositional property by means of X-ray diffraction, scanning electron microscopy, Energy dispersive spectroscopy and optical absorption. X-ray diffraction studies revealed that amorphous nature of the films. The scanning electron microscopy of as deposited indium sulfide film on ITO coated glass substrate shows random orientation of grains where as those on glass substrates show dumbbell shape. Optical absorption study revealed that band gap varies from 2.29 to 2.79 eV for the deposited film.

Keywords : chemical bath deposition, optical properties, structural property, Indium sulfide

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