

Sem, Edax and UV-visible studies on the properties of Cu₂S thin films.

ABSTRACT

Cu₂S thin films were produced by simple chemical bath deposition technique at various bath temperatures ranging from 55 °C to 75 °C. For chemical bath deposited thin films, copper sulphate solution was employed as Cu²⁺ source while thiourea solution provided the S²⁻ ions. The morphological, compositional and optical properties were investigated using scanning electron microscopy, energy dispersive analysis of X-ray and UV-Visible spectrophotometer, respectively. The grain size and average atomic ratio of Cu/S increased when the bath temperature was increased from 55 °C to 75 °C. The films deposited at 75 °C indicated high absorbance as compared with other bath temperatures.

Keyword: Edax; Sem; UV-visible; Cu₂S; Thin films.