

Characterization of nanostructured CdS film deposited at low growth rate using CBD technique

ABSTRACT

Cds film was deposited by chemical bath deposition (CBD) on commercial glass substrate at the constant bath temperature 72 o C. The deposition time was varied from 1 to 4 hours. The film growth rate varies from 0.89 nm to 0.26 nm. It was found that the adhesion was very good for all film deposition times. Film thickness was measured by ellipsometer and ranges from 52.7 to 56 nm for all deposition times. XRD analyses show that the film was cubic with crystallite size from 38 to 45 nm. The optical energy band gap (E_g), Urbach energy (E_{oo}) and absorption coefficient (α) was calculated from the transmission spectral data.

Keyword: CBD,; CdS; Optical properties