

Study on ZnS Thin Films Prepared by RF Magnetron Sputtering

황동현, 안정훈, 손영국

부산대학교 재료공학과

We studied the structural and optical characterization of zinc sulfide (ZnS) thin films by RF magnetron sputtering on glass substrates. The substrate temperature was varied in the range of 100°C to 400°C. The XRD analyses indicated that ZnS films had cubic structures with (111) preferential orientation and grain size varied from 20 to 60 nm, increasing with substrate temperatures. The optical properties were carried out by UV-visible spectrophotometer. Transmission measurement showed that the films had more than 70% transmittance in the wavelength larger than 400 nm, and the absorption edge shifted to shorter wavelength with the increase of substrate temperatures.

Keywords: ZnS thin film RF magnetron sputtering Cd-free buffer layer