

## Elaboration and Characterization of $Cd_xZn_{1-x}S$ Thin Films Deposited by Chemical Bath Deposition

**Authors :** Zellagui Rahima, Chaumont Denis, Boughelout Abderrahman, Adnane Mohamed

**Abstract :** Thin films of  $Cd_xZn_{1-x}S$  were deposited by chemical bath deposition on glass substrates for photovoltaic applications. The thin films  $CdZnS$  were synthesized by chemical bath (CBD) with different deposition protocols for optimized the parameter of deposition as the temperature, time of deposition, concentrations of ion and pH. Surface morphology, optical and chemical composition properties of thin film  $CdZnS$  were investigated by SEM, EDAX, spectrophotometer. The transmittance is 80% in visible region 300 nm - 1000 nm; it has been observed in that films the grain size is between 50nm and 100nm measured by SEM image and we also note that the shape of particle is changing with the change in concentration. This result favors of application these films in solar cells; the chemical analysis with EDAX gives information about the presence of Cd, Zn and S elements and investigates the stoichiometry.

**Keywords :** thin film, solar cells, transmission,  $cdzns$

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