

## A study on the fabrication of ZnS via various solution based thin film deposition processes

배은진, 정지영, 이두형, 류시옥\*, 이태진, Chih-Hung Chang<sup>1</sup>  
영남대학교; <sup>1</sup>오레곤주립대학교  
(soryu@ynu.ac.kr\*)

Zinc sulfide (ZnS) is an important semiconductor material with a wide energy band gap ( $E_g=3.65$  eV) which can be used for the fabrication of optical and electrical devices such as light-emitting diodes, photo- and electro- luminescent devices, modulator, n-window layers for thin film heterojunction solar cells, photoconductor, and photovoltaic devices.

In our study, we have investigated Zinc sulfide(ZnS)thin film deposition by various deposition methods such as chemical bath deposition(CBD), successive ionic layer adsorption and reaction(SILAR), continuous flow reaction(CFR), and modified-continuous flow reaction(Spin-CFR) processes. we have used Zinc chloride( $ZnCl_2$ ) and sodium sulfide( $Na_2S$ ) as starting materials which are well known in this process area. Based on the our study, we may control the physical and chemical properties of ZnS thin films in terms of thickness, partical size, and stoichiometry.