

## 24. Influence of Zinc Source on Properties of Zinc Sulfide Thin Films

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### ABSTRACT

A nano-crystalline zinc sulfide (ZnS) thin films were prepared by chemical bath deposition technique (CBDT) using various zinc sources. Zinc sulfate, zinc chloride, zinc acetate and zinc iodide were used as zinc ion source whereas thiourea was used as sulfur ion source. Ammonia and TEA were used as complexing agents. All the physical conditions were kept constant while growing the films.

Prepared films were characterized by x-ray diffraction (XRD), scanning electron microscope (SEM) and UV-VIS spectrophotometer. All the films show pure cubic structure with nanometer grain size. The effect of various zinc sources on structural and morphological properties of the films have been studied for optoelectronic applications.

**Keywords:** *Zinc sulfide, CBD, nano-crystalline thin films.*