

STRUCTURAL CHARACTERIZATION OF ZINC SULPHIDE THIN FILMS WITH PANI FOR OPTOELECTRONIC DEVICES

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ABSTRACT

In the present investigation thin film of Zinc Sulphide with Polyaniline deposited onto it has been characterized for their structural properties. Polyaniline is used in different fields viz. microelectronic sensors, anticorrosion coatings, electro chromic devices, electroluminescence devices, low noise field effect transistors and for non linear devices. It exhibits insulating to metallic state or vice-versa. ZnS is the II–VI family semiconductor having wide band gap 3.65 eV at room temperature. It is an attractive semiconductor material especially in electronic and optoelectronic application. The structural characterization has been carried out in terms of their SEM & XRD studies. The SEM studies show a very interesting different type of morphology. The peaks in the XRD patterns confirm that ZnS film has a poly crystalline hexagonal wurtzite crystal structure.

KEYWORDS: PANI, SEM, XRD, Wurtzite

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