

Chemical bath deposition of NiSe thin films from alkaline solutions using triethanoleamine as complexing agent

ABSTRACT

The nickel selenide thin films were prepared onto microscope glass slides by chemical bath deposition technique. The X-ray diffraction and scanning electron microscopy have been used for their structural and morphological characterization. The X-ray diffraction result shows that thin films have a polycrystalline and rhombohedral structure. The scanning electron microscopy micrograph shows the thin films cover the glass substrate completely and consisted of irregular shaped grains. The optical properties of thin films were determined from analysis of measured absorbance spectrum. The nickel selenide thin films exhibited direct band gap transition with band gap energy of 1.8 eV.

Keyword: Chemical bath deposition; Nickel selenide; Photovoltaic cells; Thin films