Optical and Structural Properties of Electrodeposited thin films Cu2O.

D.Lakhdari, O.Belgharbi, H. Dehdouh.

Abstract: Polycrystalline Cu2O layers have been prepared by cathodic reduction of an alkaline cupric sulfate solution on transparent conducting glass. X-ray diffraction (XRD) study revealed the formation of single cubic Cu2O films. The nanocrystallite size is about 28 nm. The as-deposited films thickness was estimated at approximately 6µm. The effect of pH solution on the structure is studied. Scanning electron microscopy image shows the pyramid structure of Cu2O thin film deposited at -0.555V versus SCE. The band gap of the film was estimated from transmittance spectra to be about 2.34eV.

Keywords: electrodeposition, optical properties, Structural properties., Cu2O