

## **Morphological characterization of Cus thin films by atomic force microscopy.**

### **ABSTRACT**

The aim of the study was to investigate the influence of solution concentration on the morphological properties of chemically deposited copper sulphide thin films. Atomic force microscopy studies of CuS thin films grown on microscope glass slides at different solution concentrations have been carried out from 0.05 to 0.2 M of copper sulfate, thiourea and tartaric acid solutions. Atomic force microscopy images revealed that the films deposited using 0.05 M of solution concentration had incomplete coverage of material over the surface of substrate. The thin films deposited using 0.1 M showed higher number of CuS with homogeneous surface. On the other hand, when the thin films were deposited with 0.2 M of solution concentration, the number of grains reduced with the bigger grain size could be observed.

**Keyword:** Atomic force microscopy; Chemical bath deposition; Copper sulphide; Thin films.