



## Influence of the Deposition Parameters on the Optical and Structural Properties of Copper Oxide doped Co Thin Films Deposited by RF Sputtering

H.EL AAKIB,

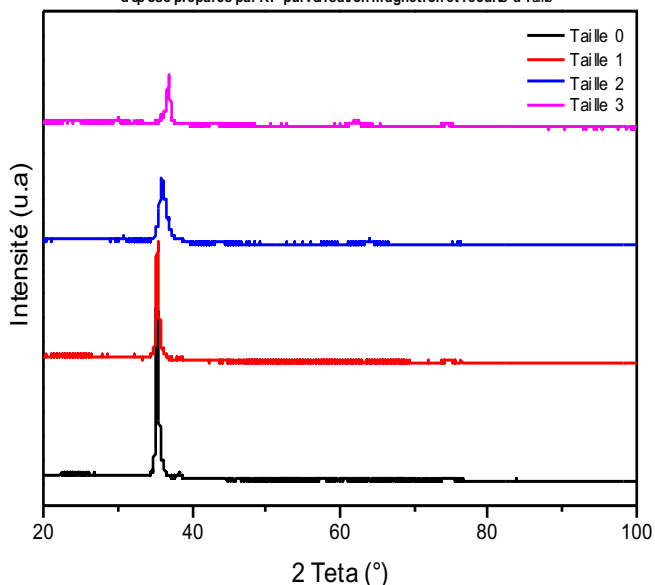
LNEE, Faculté des Sciences Semlalia, Université Cadi Ayyad

E-mail : hind.elaakib@gmail.com

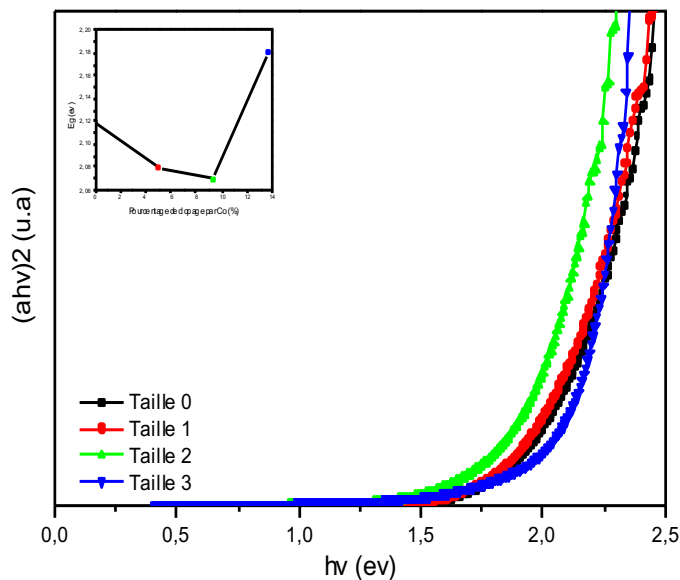
### Abstract:

In this work,  $\text{Cu}_x\text{Co}_y\text{O}_z$  thin films were fabricated by depositing CuO doped Co by reactive RF sputtering on glass and silicon substrates using a pure Cu target in an argon-oxygen atmosphere. The films were prepared under 30%  $\text{O}_2$  partial pressure. In addition, the doping percentage was also varied to evaluate the influences of these parameters on the structural, photothermal and optical properties of the obtained films. It is found that Co doping considerably influences the structural (X-ray diffraction (XRD)), morphological (scanning electron microscopy (SEM, MET)), and optical (ultraviolet/visible spectroscopy (UV/vis), Infra-rouge (I.R) and Raman) properties of the films. XRD experiments evidence that the crystallite size of the films decreased with increasing Co doping. SEM images reveal that the grain size of the nanostructures decreased with increasing doping concentration. By UV/vis analysis, it's found that Co doping has a decreasing effect on band gap energy.

Diffraction des rayons X (XRD) des films minces d'oxyde de cobalt non dopés et dopés Co d'oposé préparés par RF-pulvérisation magnétron et recuits à Tamb



Spectres de loi de Tauc des films minces d'oxyde de Cuivre dopé Cobalt en fonction de différents % de Co



Contribution:

Oral