

Characterization of (Cu, Sn) Doped TiO₂ Thin Films Prepared by Sol Gel Method.

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Abstract :

In this work, optical and structural characterizations of Cu and Sn-doped TiO₂ thin films are presented. Titanium dioxide doped with Cu (2 at.%) and Sn (2 at.%) were deposited on glass substrates by spin coating method. The obtained films were then annealed at 400°C in air for 1 hour. X-ray diffraction measurements revealed nanocrystalline structure with the anatase and rutile phases. (SEM) and (AFM) observations were used to investigate the surface morphology of the films. The position of the fundamental absorption edge and optical band-gap energy were determined from optical transmission measurements.