



Optical, morphological and electrical studies of thermally vacuum evaporated CdTe thin films for photovoltaic applications

Submitted by Mihaela Girtan on Fri, 11/28/2014 - 10:53

Titre	Optical, morphological and electrical studies of thermally vacuum evaporated CdTe thin films for photovoltaic applications
Type de publication	Article de revue
Auteur	Toma, O. [1], Ion, L. [2], Girtan, Mihaela [3], Antohe, S. [4]
Editeur	Elsevier
Type	Article scientifique dans une revue à comité de lecture
Année	2014
Date	Jan-10-2014
Volume	108
Titre de la revue	Solar Energy
ISSN	0038-092X
Résumé en anglais	<p>Cadmium telluride (CdTe) semiconductor thin films were obtained by thermal vacuum evaporation (TVE) on optical glass substrates. The optical characterizations of CdTe thin films were made by spectroscopic ellipsometry (SE) and optical spectrophotometry. The optical constants (refractive indices and extinction coefficients) were obtained for CdTe thin films of different thicknesses. High absorption coefficients of order 10^5 cm^{-1} and suitable optical bandgaps values of 1.5 eV were obtained. The surface morphology of the obtained films was investigated by Atomic Force Microscopy (AFM) and Scanning Electron Microscopy (SEM) techniques. The influences of post-deposition thermal treatment on CdTe morphological properties were discussed. The current-voltage characteristics of CdTe films were recorded at temperatures in the range 150-280 K. An electrical analysis of the conduction mechanisms specific for different voltage ranges was also employed.</p>
URL de la notice	http://okina.univ-angers.fr/publications/ua5588 [5]
DOI	10.1016/j.solener.2014.06.031 [6]
Lien vers le document	http://dx.doi.org/10.1016/j.solener.2014.06.031 [6]
Titre abrégé	Solar Energy

Liens

- [1] [http://okina.univ-angers.fr/publications?f\[author\]=9348](http://okina.univ-angers.fr/publications?f[author]=9348)
- [2] [http://okina.univ-angers.fr/publications?f\[author\]=9517](http://okina.univ-angers.fr/publications?f[author]=9517)
- [3] <http://okina.univ-angers.fr/mihaela.girtan/publications>
- [4] [http://okina.univ-angers.fr/publications?f\[author\]=9518](http://okina.univ-angers.fr/publications?f[author]=9518)
- [5] <http://okina.univ-angers.fr/publications/ua5588>

[6] <http://dx.doi.org/10.1016/j.solener.2014.06.031>

Publié sur *Okina* (<http://okina.univ-angers.fr>)