



Annealing effect on physical properties of evaporated molybdenum oxide thin films for ethanol sensing

Submitted by Christian Bernède on Sun, 07/21/2019 - 15:12

Titre	Annealing effect on physical properties of evaporated molybdenum oxide thin films for ethanol sensing
Type de publication	Article de revue
Auteur	Touihri, Saad [1], Arfaoui, A. [2], Tarchouna, Y. [3], Labidi, A. [4], Amlouk, Mosbah [5], Bernède, Christian [6]
Editeur	Elsevier
Type	Article scientifique dans une revue à comité de lecture
Année	2017
Langue	Anglais
Date	1er Fév. 2017
Pagination	414-424
Volume	394
Titre de la revue	Applied Surface Science
ISSN	0169-4332
Mots-clés	Annealing [7], Crystalline structure [8], Molybdenum oxide [9], Optical properties and gas sensor [10], Thermal evaporation [11]
Résumé en anglais	<p>This paper deals with some physical investigations on molybdenum oxide thin films growing on glass substrates by the thermal evaporation method. These films have been subjected to an annealing process under vacuum, air and oxygen at various temperatures 673, 723 and 773 K. First, the physical properties of these layers were analyzed by means of X-ray diffraction, Raman spectroscopy, scanning electron microscopy (SEM) and optical measurements. These techniques have been used to investigate the oxygen index in MoOx properties during the heat treatment. Second, from the reflectance and transmittance optical measurements, it was found that the direct band gap energy value increased from 3.16 to 3.90 eV. Finally, the heat treatments reveal that the oxygen index varies in such molybdenum oxides showing noticeably sensitivity toward ethanol gas.</p>
URL de la notice	http://okina.univ-angers.fr/publications/ua19981 [12]
DOI	10.1016/j.apsusc.2016.10.139 [13]
Lien vers le document	https://www.sciencedirect.com/journal/applied-surface-science/vol/394/su... [14]

Liens

- [1] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=21449>
- [2] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=38265>
- [3] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=38266>
- [4] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=38267>

- [5] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=38268>
- [6] <http://okina.univ-angers.fr/c.bernede/publications>
- [7] <http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=7121>
- [8] <http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=29197>
- [9] <http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=18078>
- [10] <http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=29198>
- [11] <http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=4960>
- [12] <http://okina.univ-angers.fr/publications/ua19981>
- [13] <http://dx.doi.org/10.1016/j.apsusc.2016.10.139>
- [14] <https://www.sciencedirect.com/journal/applied-surface-science/vol/394/suppl/C>

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