



Influence of Roughness Surfaces on Third-Order Nonlinear-Optical Properties of Erbium-Doped Zinc Oxide Thin Films

Submitted by Emmanuel Lemoine on Tue, 02/04/2014 - 16:14

Titre	Influence of Roughness Surfaces on Third-Order Nonlinear-Optical Properties of Erbium-Doped Zinc Oxide Thin Films
Type de publication	Article de revue
Auteur	Lamrani, Alaoui [1], El Jouad, Mohamed [2], Addou, Mohammed [3], T. Habbani, El [4], Fellahi, N. [5], Bahedi, K. [6], Touhami, M.-Ebn [7], Essaidi, Zacaria [8], Sofiani, Z. [9], Sahraoui, Bouchta [10], Meghea, Aurelia [11], Rau, Ileana [12]
Editeur	Taylor & Francis
Type	Article scientifique dans une revue à comité de lecture
Année	2008
Langue	Anglais
Date	2008
Numéro	6
Pagination	292 - 298
Volume	41
Titre de la revue	Spectroscopy Letters
ISSN	0038-7010
Mots-clés	nonlinear optical susceptibility [13], roughness surface [14], spray [15], Zinc oxide [16]
Résumé en anglais	<p>ABSTRACT Zinc oxide (ZnO) and erbium-doped zinc oxide (ZnO:Er) thin films were deposited on heated glass substrates using the spray pyrolysis technique. Third-order nonlinear-optical properties of the thin films have been investigated using the third harmonic generation (THG) at wavelength of 1064 nm in picosecond regime. The dependence of third-order nonlinear susceptibility and transmission characteristics on the thin films roughness has been evaluated. Third-order nonlinear optical susceptibility ($\chi(3)$) values of the studied materials were in the remarkable range of 10–2 esu. The morphologic properties of the deposited films have been analyzed using x-ray diffraction (XRD) and atomic force microscopy (AFM) and the luminescence properties by cathodoluminescence (CL). A correlation between optical properties and structural properties is given.</p>
URL de la notice	http://okina.univ-angers.fr/publications/ua2036 [17]
DOI	10.1080/00387010802286692 [18]
Lien vers le document	http://dx.doi.org/10.1080/00387010802286692 [18]

Liens

[1] [http://okina.univ-angers.fr/publications?f\[author\]=2567](http://okina.univ-angers.fr/publications?f[author]=2567)

[2] [http://okina.univ-angers.fr/publications?f\[author\]=2565](http://okina.univ-angers.fr/publications?f[author]=2565)

- [3] [http://okina.univ-angers.fr/publications?f\[author\]=21394](http://okina.univ-angers.fr/publications?f[author]=21394)
- [4] [http://okina.univ-angers.fr/publications?f\[author\]=2568](http://okina.univ-angers.fr/publications?f[author]=2568)
- [5] [http://okina.univ-angers.fr/publications?f\[author\]=2569](http://okina.univ-angers.fr/publications?f[author]=2569)
- [6] [http://okina.univ-angers.fr/publications?f\[author\]=2563](http://okina.univ-angers.fr/publications?f[author]=2563)
- [7] [http://okina.univ-angers.fr/publications?f\[author\]=2847](http://okina.univ-angers.fr/publications?f[author]=2847)
- [8] [http://okina.univ-angers.fr/publications?f\[author\]=2572](http://okina.univ-angers.fr/publications?f[author]=2572)
- [9] [http://okina.univ-angers.fr/publications?f\[author\]=2566](http://okina.univ-angers.fr/publications?f[author]=2566)
- [10] <http://okina.univ-angers.fr/bouchta.sahraoui/publications>
- [11] [http://okina.univ-angers.fr/publications?f\[author\]=2672](http://okina.univ-angers.fr/publications?f[author]=2672)
- [12] [http://okina.univ-angers.fr/publications?f\[author\]=2667](http://okina.univ-angers.fr/publications?f[author]=2667)
- [13] [http://okina.univ-angers.fr/publications?f\[keyword\]=5013](http://okina.univ-angers.fr/publications?f[keyword]=5013)
- [14] [http://okina.univ-angers.fr/publications?f\[keyword\]=5047](http://okina.univ-angers.fr/publications?f[keyword]=5047)
- [15] [http://okina.univ-angers.fr/publications?f\[keyword\]=5048](http://okina.univ-angers.fr/publications?f[keyword]=5048)
- [16] [http://okina.univ-angers.fr/publications?f\[keyword\]=4949](http://okina.univ-angers.fr/publications?f[keyword]=4949)
- [17] <http://okina.univ-angers.fr/publications/ua2036>
- [18] <http://dx.doi.org/10.1080/00387010802286692>

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