



Third order non linear optical properties of ZnO:Al thin films prepared by spray pyrolysis

Submitted by Emmanuel Lemoine on Tue, 02/04/2014 - 16:35

Titre	Third order non linear optical properties of ZnO:Al thin films prepared by spray pyrolysis
Type de publication	Communication
Type	Communication avec actes dans un congrès
Année	2009
Langue	Anglais
Date du colloque	2009
Titre du colloque	11th International Conference on Transparent Optical Networks, ICTON '09
Titre des actes ou de la revue	ICTON '09
Pagination	1 - 3
Auteur	Bahedi, K. [1], Addou, Mohammed [2], El Jouad, Mohamed [3], Sofiani, Z. [4], Bayoud, S. [5], Bouaouda, M. [6], Sahraoui, Bouchta [7], Essaidi, Zacaria [8]
Pays	Portugal
Editeur	IEEE Computer Society
Ville	Açores
ISBN	978-1-4244-4825-8 / 978-1-4244-4827-2
Mots-clés	Al [9], Al concentration [10], Aluminium [11], Aluminum [12], aluminum doped zinc oxide thin films [13], crystallinity [14], doping profiles [15], Electron optics [16], heated glass substrates [17], II-VI semiconductors [18], nonlinear optical susceptibility [19], Nonlinear optics [20], optical films [21], optical harmonic generation [22], Optical microscopy [23], pyrolysis [24], reactive chemical pulverization [25], scanning electron microscopy [26], semiconductor doping [27], semiconductor growth [28], semiconductor thin films [29], SiO ₂ [30], spray coating techniques [31], Spray pyrolysis [32], Spraying [33], Sputtering [34], temperature 450 degC [35], THG [36], Thin films [37], Third harmonic generation [38], third order nonlinear optical properties [39], wide band gap semiconductors [40], X-ray diffraction [41], zinc compounds [42], Zinc oxide [43], zinc oxide thin films [44], ZnO [45], ZnO:Al [46]
Résumé en anglais	In this study, zinc oxide (ZnO) and aluminium doped zinc oxide (ZnO:Al) thin films were deposited by reactive chemical pulverization spray pyrolysis technique on heated glass substrates at 450degC. X-ray diffraction (XRD), scanning electron microscopy (SEM) and third harmonic generation (THG) are used to characterize their structure , morphology and nonlinear optical properties as a function of Al concentration (0, 3, 5, 7 at %). The intensity of third order non linear optical susceptibility increase by incorporation of aluminium. A strong value of susceptibility $\chi^{(3)}$ was found for films with a good crystallinity.
Notes	Date du colloque : 06/2009

URL de la notice <http://okina.univ-angers.fr/publications/ua2130> [47]
DOI [10.1109/ICTON.2009.5185153](https://doi.org/10.1109/ICTON.2009.5185153) [48]
Lien vers le document en ligne <http://dx.doi.org/10.1109/ICTON.2009.5185153> [48]

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