Photosensitivity of pulsed laser deposited Ge-Sb-Se thin films

Submitted by Georges Boudebs on Sat, 03/14/2015 - 10:50

Titre Photosensitivity of pulsed laser deposited Ge-Sb-Se thin films

Type de publication Article de revue

Auteur Olivier, M. [1], Nemec, P. [2], Boudebs, Georges [3], Boidin, R. [4], Focsa, C. [5], Nazabal, Virginie [6]

Editeur Optical Society of America

Type Article scientifique dans une revue à comité de lecture

Année 2015

Langue Anglais

Date Jan-01-2015

Numéro 4

Pagination 781-793

Volume 5

Titre de la revue Optical Materials Express

Résumé en anglais Pulsed laser deposition was used to prepare amorphous thin films from (GeSe2)100-x (Sb2Se3)x system, where x is varying from 0 to 60. Fabricated films present a good morphology with no cracks nor breaks and relatively low roughness. To study their photosensitivity under irradiation with energy close to band gap, a comparison of their optical properties (refractive index and band gap energy) before and after irradiation is performed in both, as-deposited and annealed states. In linear regime, annealed films seem to be photostable when x≥30. In nonlinear regime, highest photoinduced threshold intensity values were found for films with x = 10, 16.7 and x = 30, 40. Thus, the highest photostability in both, linear and nonlinear regimes of irradiation, was observed for layers with x = 30 and 40. Finally, the structure of the films is discussed based on Raman scattering spectroscopy results.


DOI 10.1364/OME.5.000781 [8]

Lien vers le document http://dx.doi.org/10.1364/OME.5.000781 [8]

Titre abrégé Opt. Mater. Express

Liens
[8] http://dx.doi.org/10.1364/OME.5.000781

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