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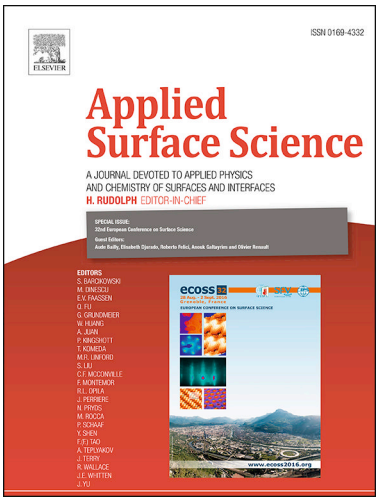

Full Length Article

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Magneto-optical properties of Ce^{3+} and Tb^{3+}-doped silico-phosphate sol-gel thin films

C. R. Stefan[1], M. Elisa[*1], I. C. Vasiliu[1], B. A. Sava[2], L. Boroica[2], M. Sofronie[3], F. Tolea[3], M. Enculescu[3], V. Kuncser[3], A. Beldiceanu[4], A. Volceanov[5], M. Eftimie[5]

*E-mail: astatin18@yahoo.com; Tel: +40724165908; Fax: +404574522

[1]*National Institute of R & D for Optoelectronics INOE 2000, 409 Atomistilor Str., 77125, Magurele, Jud. Ilfov, Romania*

[2]*National Institute for Laser, Plasma and Radiation Physics, POB MG-7, 77125 Magurele, Romania*

[3]*National Institute of Materials Physics, POB MG-7, 77125, Magurele, Romania*

[4]*S.C. ProOptica S.A., 67 Gheorghe Petrascu Str., Bucharest, Romania*

[5]*University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, 1 Polizu Str., Bucharest, Romania*

Abstract

Ce^{3+} and Tb^{3+}-doped silico-phosphate films were obtained by using the sol-gel method, followed by the spin-coating deposition on silicon substrate. The homogeneity of the films was investigated by the conoscopy method. It was observed that the analysed films are isotropic but relatively inhomogeneous due to the specificity of the deposition technique. The morphology of the sol-gel films was investigated by Scanning Electron Microscopy and Atomic Force Microscopy. The elemental composition was determined by Energy Dispersive X-ray analysis. The magneto-optical investigations evidenced the capability of Ce and Tb-doped films of less than 2 μm thickness to produce measurable Kerr rotations of 1 mdeg/T and 0.28 mdeg/T, respectively.