Spin-coated Tin-doped NiO thin films for third order nonlinear optical applications

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Mots-clés	NiO thin film [7], Sn doped NiO [8], Sol–Gel spin-coating [9], Structural; THG [10]
Résumé en anglais	A self-made spin-coater was employed to deposit pure and Sn doped nickel oxide thin films on glass substrates. The tin doping impact on the structural, linear and nonlinear optical properties of the spin-coated NiO thin films was studied. The XRD analysis showed that undoped and Sn doped NiO thin films have a cubic structure and are preferentially oriented along the (200) direction. The increase of doping concentration leads to a modification in the values of certain parameters such as the crystallite size and the structural strain as well as affecting the nonlinear optical properties of the doped nickel oxide thin films. The values of the third order nonlinear optical susceptibility, found to be between 2.25 × 10−21 m2/V2 and 3.13 × 10−21 m2/V2, were obtained and analyzed depending on the concentration of the doping.
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Liens

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