



## Absolute measurement of the nonlinear refractive indices of reference materials

Submitted by Emmanuel Lemoine on Wed, 10/29/2014 - 11:44

Titre	Absolute measurement of the nonlinear refractive indices of reference materials
Type de publication	Article de revue
Auteur	Boudebs, Georges [1], Fedus, Kamil [2]
Editeur	American Institute of Physics
Type	Article scientifique dans une revue à comité de lecture
Année	2008
Langue	Anglais
Date	2008/05/15
Numéro	10
Volume	105
Titre de la revue	Journal of Applied Physics
ISSN	1089-7550
Mots-clés	Dispersion [3], Nd:YAG lasers [4], refractive index [5], Silica [6], Spatial analysis [7]
Résumé en anglais	<p>We report absolute measurements of the nonlinear refractive index on carbon disulfide (CS<sub>2</sub>) and fused silica. These materials are commonly used as standard references in nonlinear optical experiments. To obtain more accurate values than those usually used, we have combined the z-scan method inside a 4-f imaging system (in order to analyze the spatial distortion of the diffracted pump beam) with the "Kerr shutter" experiment (to evaluate the temporal pulse width durations for three different wavelengths such as 1064, 532, and 355 nm). We obtained surprisingly n<sub>2</sub> values one order of magnitude less than the one usually taken into account in the picosecond regime and a more significant dispersion of the nonlinear refraction index. Experimental and simulated Z-scan transmittance profiles as well as acquired autocorrelation functions in the Kerr-gating experiments are presented here in order to validate our measurements.</p>
URL de la notice	<a href="http://okina.univ-angers.fr/publications/ua5120">http://okina.univ-angers.fr/publications/ua5120</a> [8]
DOI	10.1063/1.3129680 [9]
Lien vers le document	<a href="http://dx.doi.org/10.1063/1.3129680">http://dx.doi.org/10.1063/1.3129680</a> [9]

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