



Optical and structural properties of new chalcogenide glasses

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Résumé en anglais	<p>New class of chalcogenide glasses has been prepared in the GeS₂-In₂S₃-CsI system with regard to their potential non-linear properties. The study of glass-forming region was undertaken to select glassy compositions, which present high non-linear (NL) optical properties with a low two-photon absorption. Thermal analyses, structural examination by Raman spectroscopy, non-linear optical measurements were investigated as a function of CsI contents. Introduction of CsI has shifted the band-gap edge towards the blue region of the absorption optical spectrum and therefore has limited the two-photon absorption. Their NL refractive index n_2 are 60 times higher than silica glasses without any NL absorption. Moreover, second harmonic signal was observed in thermally poled samples similar to silica glass. However, this second order non-linearity is not temporally stable.</p>
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