Near-infrared Kerr nonlinearity of Pb(PO3)2–WO3 glasses

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Résumé en anglais	We report measurements of the nonlinear refractive index, n 2 , and the nonlinear absorption coefficient, α 2 , of Pb (PO 3) 2 – WO 3 glasses. The measurements were performed using 100 fs (17 ps) laser pulses at 800 nm (1064 nm). Positive values of n 2 ~ 10 − 19 m 2 / W and negligible α 2 were measured. The results show that the nonlinearity is faster than 100 fs and it is observed an increase of n 2 with the increasing of the WO 3 amount in the samples. The Boling, Glass, and Owyoung model, based on the semiclassical harmonic oscillator model, was used to predict the values of n 2 , with basis on the values of the linear refractive index of the samples.
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