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## Optical echo-spectroscopy of highly doped Tm:YAG

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### Abstract

Two-pulse, stimulated and accumulated photon echoes are investigated for the first time in a highly doped crystal Tm: YAG containing 10 at.% Tm<sup>3+</sup>. The decay curves of the two-pulse and stimulated photon echoes generated at 793.15 nm on the transition 3H<sub>6</sub> (1)-3H<sub>4</sub> (1) of the impurity ions are measured in the absence of an applied magnetic field and parameters describing the energy and phase relaxation are determined. The dependence of the intensity of the accumulated photon echo on the number of excitation pulse pairs is investigated. © 2008 by Astro Ltd.

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### Keywords

Echo-spectroscopy, Phase memory, Photon echo, Spectral diffusion, Tm:YAG crystal