Bulletin of the Russian Academy of Sciences: Physics 2008 vol.72 N1, pages 60-64

Incoherent photon echo in spectroscopy of optically dense impurity media

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Abstract

The possibility of using incoherent photon echo in spectroscopy of optically dense impurity media is considered. A theoretical approach to description of this phenomenon is presented. The experimental data on incoherent photon echo in ruby at liquid-helium temperature, with transport of an excitation pulse through a fiber, are reported. The spectral dependence of the echo intensity is studied. The decay curve for an incoherent echo signal is investigated, and the phase relaxation time is found to be 98 ns. © Allerton Press, Inc. 2008.

http://dx.doi.org/10.1007/s11954-008-1015-6