

Dependence of the time of the appearance of a Stark echo response on irreversible relaxation of a system

Akhmedshina E., Nefed'ev L., Garnaeva G.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© 2016, Pleiades Publishing, Ltd. The dependence of the time of the appearance of a Stark (gradient) echo response on the irreversible transverse relaxation time of a system in the nanosecond range and on the width of the excitation region of an inhomogeneously broadened line has been investigated. It has been shown that the use of nonresonant laser pulses with an artificially created spatial inhomogeneity makes it possible to determine the relaxation time in the nanosecond range from the time of the appearance of a Stark (gradient) echo response, which is a more accurate method than the method of determining the relaxation time from the decay of the intensity by varying time intervals of the exposure to inhomogeneous electromagnetic fields.

<http://dx.doi.org/10.1134/S0030400X16090022>
