

Frequency-Temporal Correlation of Inhomogeneous Broadening for Different Modes of Excitation of Stimulated Photon Echo

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Abstract

© 2015, Springer Science+Business Media New York. The correlation coefficient for isochromatic curves of a laser-excited inhomogeneously broadened line is found to depend on the excitation region. The correlation between the isochromatic curves of an inhomogeneously broadened line over different time intervals in spatially inhomogeneous external electric fields is studied. It is shown that the efficiency with which the stimulated photon echo is locked for different schemes of excitation of the resonance transition depends on the gradients of the spatially inhomogeneous external electric fields and on the width of the excitation region for the inhomogeneously broadened line.

<http://dx.doi.org/10.1007/s10812-015-0033-z>

Keywords

Correlation coefficient of inhomogeneous broadening, Information "locking", Inhomogeneously broadened line, Optical storage devices, Spatially inhomogeneous electric field, Stimulated photon echo