

Abstract Submitted
for the DAMOP09 Meeting of
The American Physical Society

Influence of femtosecond dephasing on CARS coherence in various approximations VLADIMIR MALINOVSKY, MagiQ Technologies, Inc., New York, NY 10016 — We discuss adiabatic passage implementations to maximize CARS coherence without making an assumption of adiabatic elimination of detuned excited electronic states. Also we analyze influence of fast femtosecond dephasing in the molecular samples on the results of proposed schemes. It is shown that the adiabatic method allows achieving chemical sensitivity with high resolution and can be used to obtain CARS signal with efficiently suppressed background in molecular systems with coherence times of several hundred of femtoseconds.

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Date submitted: 23 Jan 2009

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