

Abstract Submitted
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Coherence in a strongly driven four-level molecular system JIANBING QI, Penn State University at Berks — We will present a detailed discussion of the coherence effect of a four-level molecular system driven by three lasers. A weak probe laser is used to probe a ground state to the first excited state. The response of the probe laser depends on the relative coupling strength of the two coupling lasers. The population spectra of the excited states display complex structures which are strongly affected by the driving lasers and detuning of the lasers. We used density matrix equations to derive analytical solutions for the probe absorption and the population spectra. We will also discuss the control of the population of the excited states by the coupling lasers.

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