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Observation of Electromagnetically Induced Transparency and Dark Fluorescence in a Lithium Molecule JIANBING QI, Department of Physics and Astronomy, Penn State Berks, Tulpehocken Road, Reading, PA 19610, A. MARJATTA LYYRA, Physics Department, Temple University, Philadelphia, PA 19112 — We observed the electromagnetically induced transparency and dark fluorescence in a Lithium molecule. We used density matrix methods to simulate the response of an open molecular three-level system to the action of a strong coupling field and a week probe. The analytical solutions obtained under the steady state condition are in excellent agreement with the experimental spectra. We show that the coherence is remarkably preserved even when the coupling field was detuned far from the resonance transition.

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