Abstract Submitted
for the DAMOP08 Meeting of
The American Physical Society

Cavity QED with trapped neutral atoms SOO KIM, MICHAEL GIBBONS, CHUNG-YU SHIH, PEYMAN AHMADI, MICHAEL CHAPMAN, Georgia Institute of Technology — Cavity QED systems consisting of neutral atoms coupled to high-finesse optical micro-cavities have important applications to quantum information processing. We have developed an experiment with trapped atoms in a high finesse cavity in the strong coupling regime. We have demonstrated deterministic loading and storage of individual atoms delivered from a magneto-optic trap to the resonator using an atom conveyor [1]. We will also discuss future applications. [1] K.M. Fortier et al., *Phys. Rev. Lett.* **98**, 233601 (2007).

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Date submitted: 04 Feb 2008 Electronic form version 1.4