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).