Abstract Submitted
for the DAMOP07 Meeting of
The American Physical Society

Barium ion trap cavity QED ADAM STEELE, LAYNE CHURCHILL, PAUL GRIFFIN, MICHAEL CHAPMAN, Georgia Institute of Technology — We have constructed a barium ion trap cavity QED system that is designed to reach the strong coupling regime. Strong coupling between a single atom and an optical cavity is an important paradigm for quantum optics and an important element for quantum information processing. We have confined laser cooled chains of barium ions in a linear Paul trap. These ions will be coupled to a mode in a high finesse optical cavity resonant with the $S_{1/2} \rightarrow P_{1/2}$ transition at 493 nm. We present our progress towards this integration of ion trap and cavity QED technologies.

Adam Steele
Georgia Institute of Technology

Date submitted: 02 Feb 2007 Electronic form version 1.4