

Abstract Submitted  
for the MAR10 Meeting of  
The American Physical Society

**Coupling an epitaxial quantum dot a fiber-based external-mirror microcavity** ANDREAS MULLER, EDWARD FLAGG, MICHAEL METCALFE, Joint Quantum Institute, NIST and Univ. of Maryland, JOHN LAWALL, Atomic Physics Division, National Institute of Standards and Technology, GLENN SOLOMON, Joint Quantum Institute, NIST and Univ. of Maryland — Single InAs semiconductor quantum dots were coupled to an open optical microcavity. It consists of a Bragg reflector grown underneath the quantum dot layer, and a micromirror external to the semiconductor sample. This cavity is fully spectrally tunable with a piezoelectric actuator and a single quantum dot can be conveniently positioned at an antinode of the cavity field. Fabrication of the micromirror at the tip of a single-mode fiber permits efficient light collection into a well-defined collection mode.

Andreas Muller  
Joint Quantum Institute, NIST and Univ. of Maryland

Date submitted: 21 Nov 2009

Electronic form version 1.4