Abstract Submitted
for the DAMOP07 Meeting of
The American Physical Society

Slow and Stored light optimization procedure. IRINA NOVIKOVA, College of William & Mary, ALEXEY V. GORSHKOV, Harvard University, DAVID F. PHILLIPS, Harvard-Smithsonian Center for Astrophysics, ANDERS S. SORENSEN, QUANTOP, Danish National Research Foundation Centre of Quantum Optics, MIKHAIL D. LUKIN, Harvard University, RONALD L. WALSWORTH, Harvard-Smithsonian Center for Astrophysics — Optimization of slow and stored light for high fidelity retrieval of input pulses requires tailoring of the input probe field shape or the applied control field used in the slow or stored light process. We present an experimental procedure for the optimization of probe and control field profiles in EIT-based stored light to achieve maximum storage and retrieval efficiency for a given optical depth. The details and limitation for application of this procedure in a Rb vapor cell are discussed.

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Date submitted: 29 Mar 2007 Electronic form version 1.4