

Abstract Submitted  
for the DAMOP14 Meeting of  
The American Physical Society

**EIT-based quantum memory** GLEB ROMANOV, IRINA NOVIKOVA,  
College of William and Mary — Efficient and long-living quantum memory is an important component of quantum repeaters. Quantum memory can be based on the effect of Electromagnetically Induced Transparency (EIT), which is an effect where one electromagnetic field (control) creates a window of transparency in a resonant atomic media for another electromagnetic field (probe). By adjusting the control field, one can control the dispersion seen by the probe field. This allows for observation of stored light by mapping the probe field onto the long-lived atomic coherence. In this report I will describe our progress towards improving the efficiency and storage time for the EIT-based quantum memory.

Gleb Romanov  
College of William and Mary

Date submitted: 31 Jan 2014

Electronic form version 1.4