Abstract Submitted for the DAMOP06 Meeting of The American Physical Society

Light storage in coated vapor cells MICHAEL HOHENSEE, MA-SON KLEIN, DAVID PHILLIPS, IRINA NOVIKOVA, RONALD WALSWORTH, Harvard-Smithsonian — Rubidium vapor cells with walls coated with paraffins such as tetracontane can have very long coherence times due to the suppression of decoherence during wall collisions by the coating. We discuss behavior of characteristic ultra-narrow EIT spectra and the corresponding slow light in coated cells. Based on dynamical simulations we consider optimal conditions for storage and retrieval of optical information.

Ronald Walsworth

Date submitted: 27 Jan 2006

Electronic form version 1.4