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Slow and stored light in tetracontane-coated vapor cells MASON KLEIN, IRINA NOVIKOVA, DAVID PHILLIPS, 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. Here we report on the use of such cells (with an intrinsic coherence time of ground-state hyperfine and Zeeman transitions longer than 10 milliseconds) for slow- and stored- light. While spin-exchange reduces the ground-state coherence time in the measurements reported here, millisecond coherence lifetimes are observed in stored light measurements. Ongoing studies to optimize stored light efficiency in such cells will be presented.

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