Abstract Submitted
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Electromagnetically induced transparency and absorption in warm Rb vapor via the Hanle effect: Analysis of observed spectra[1] JASON BARKELOO, JOHN CAMENISCH, WILLIAM KONYK, BRADLEY WORTH, AMANDA DAY, PERRY RICE, SAMIR BALI, Department of Physics, Miami University — We have observed electromagnetically induced transparency (EIT) and electromagnetically induced absorption (EIA) in room temperature Rubidium vapor, by coherent population trapping on the Zeeman substates formed by a magnetic field co-linear with a laser beam passing through the vapor. We have observed EIA on $F_g = 3 \rightarrow F'$ transitions in ^{85}Rb and on $F_g = 2 \rightarrow F'$ transitions in ^{87} Rb. We have observed with good signal-to-noise ratio EIT on $F_g = 2 \rightarrow F'$ transitions in ^{85}Rb and, for the first time, on $F_g = 1 \rightarrow F'$ transitions in ^{87} Rb. However, certain unexpected features are revealed in the observed spectra, the origins for which remain unclear. We report on our progress toward modelling and understanding the observed EIT and EIA spectra.

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