Abstract Submitted
for the DAMOP10 Meeting of
The American Physical Society

Observation of electromagnetically induced transparency and electromagnetically induced absorption in warm Rb vapor using a single linearly polarized laser SAMIR BALI, PETER HARNISH, ERIC WILLIAMS, Dept. of Physics, Miami University — We have observed electromagnetically induced transparency (EIT) and electromagnetically induced absorption (EIA) in room temperature Rubidium. EIA was observed on $F_g = 3 \rightarrow F'$ transitions in ^{85}Rb and on $F_g = 2 \rightarrow F'$ transitions in ^{87} Rb. EIT was observed 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. Good signal-to-noise was obtained by using a single linearly polarized laser and a magnetic field collinear with the laser beam passing through the atomic sample. We discuss the dependence of the EIT and EIA signals on the polarization direction of the incident laser beam.

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Date submitted: 28 Jan 2010 Electronic form version 1.4