Rapid Adiabatic Passage in a Rb gas with intense Frequency Chirped Laser Light

BRIAN KAUFMAN, TANNER GROGAN, TRACY PAL-TOO, MATTHEW WRIGHT, Adelphi Univ — We will discuss our progress toward using intense frequency chirped laser light to control the excitation of atoms in a room-temperature gas cell. We illuminate $^{87}$Rb atoms with a 1 GHz in 8 ns frequency chirped pulse of laser light covering the $5S_{1/2} F=1 \rightarrow 5P_{3/2}$ and explore the saturation behavior as intensity increases. We estimate that we are exciting over 90% of the atoms over 1 mm$^2$. 