

Abstract Submitted
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Interactions of cold atoms and ultrafast laser pulses¹ MICHELLE STEPHENS, KYLE TAYLOR, University of Wisconsin - Stevens Point, JACOB BERG, UUniversity of Wisconsin - Stevens Point, JOSEPH HOTTENSTEIN, HAI NGUYEN, CHRISTOPHER VERZANI, University of Wisconsin - Stevens Point, UWSP TEAM — We report experimental progress of the interaction between cold trapped atoms and ultrafast laser pulses. At the University of Wisconsin Stevens Point, we use a Spectra-Physics Millennia laser to pump a KM Labs Ti:Sapphire laser which produces pulses with duration of about 30 fs at a wavelength of 800 nm at a repetition rate of 1 kHz. Investigations of the interactions of these ultrafast laser pulses with 300 micro K Rb atoms produced in a magneto optical trap are underway. We look for various processes of molecular photo-association which include formation, distribution of populations, and alignment. The diagnostic system and the specific photo-association process will be described in detail.

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