

Abstract Submitted  
for the OSF15 Meeting of  
The American Physical Society

**Time-resolved UV-IR Pump-stimulated Emission Pump Spectroscopy: Probing Collisional Relaxation of  $8p^2P_{3/2}$  Cs I<sup>1</sup>** MD SALAH UDDIN, Miami University — We describe and use a time-resolved pump-stimulated emission pump spectroscopic technique to measure collisional relaxation in a high-lying energy level of atomic cesium. Aligned  $8p^2P_{3/2}$  cesium atoms were produced by a pump laser. A second laser, the stimulated emission pump, promoted the population exclusively to the  $5d^2D_{5/2}$  level. The intensity of the  $5d^2D_{5/2} \rightarrow 6s^2S_{1/2}$  cascade fluorescence at 852.12 nm was monitored. The linear polarization dependence of the  $6s^2S_{1/2} \rightarrow 8p^2P_{3/2} \rightarrow 5d^2D_{5/2}$  transition was measured in the presence of argon gas at various pressures. From the measurement, we obtained the disalignment cross section value for the  $8p^2P_{3/2}$  level due to collisions with ground-level argon atoms.

<sup>1</sup>National Science Foundation (Grant No. NSF-PHY-1309571)

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Date submitted: 27 Aug 2015

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