

A MOLECULAR BEAM OPTICAL STARK STUDY OF THE [15.8] AND [16.0] $^2\Pi_{1/2} - X^4\Sigma^-$ (0,0) BAND SYSTEMS OF RHODIUM MONOXIDE, RhO.

JAMIE GENGLER, TONGMEI MA, TIMOTHY C. STEIMLE, *Department of Chemistry and Biochemistry, Arizona State University, Tempe, AZ 85287*; ALLAN G. ADAM, *Department of Chemistry, University of New Brunswick, Fredericton, NB E3B 6E2*.

A supersonic molecular beam sample of rhodium monoxide, RhO, has been generated using a laser ablation/chemical reaction generation scheme and probed using near natural line width limited optical Stark spectroscopy utilizing laser induced fluorescence detection. Stark splittings in the $^5R_{11}(0)$ and $^5R_{11}(1)$ lines of the [15.8] and [16.0] $^2\Pi_{1/2} - X^4\Sigma^-$ (0,0) transitions were observed upon application of static electric fields up to 2400 V/cm. Comparisons of the determined field-free molecular parameters is made with previous work^{a,b,c}. Progress on the analysis of the Stark effect will be reported.

^aR.F. Heuff, W.J. Balfour, and A.G. Adam, *J. Mol. Spectrosc.* **216**, 136-150 (2002).

^bR.H. Jensen, S.G. Fougère, and W.J. Balfour, *Chem. Phys. Lett.* **370**, 106-111 (2003).

^cR.F. Heuff, S.G. Fougère, and W.J. Balfour, *J. Mol. Spectrosc.* **231**, 99-107 (2005).