

## OPTICAL STARK SPECTROSCOPY OF YTTRIUM DICARBIDE, YCC

ALEXANDRA JANCZYK and TIMOTHY C. STEIMLE, *Department of Chemistry and Biochemistry, Arizona State University, Tempe, Az, 85287-1604.*

Yttrium dicarbide is the only gas-phase metal dicarbide to be detected via an optical spectroscopic technique<sup>1</sup>. Here we report on our preliminary analysis of the optical Stark spectrum of the YCC. Numerous branch features in the  $K'=1-K''=0$  sub-band of the  $3^1_0 A^2 A_1-X^2 A_1$  transition near  $13225 \text{ cm}^{-1}$  were recorded in the presence of a variable static electric field. A near linear tuning of the spectral features is observed indicating a near degeneracy of the asymmetry components of the excited state. The linear tuning was modeled to give  $\mu = 1.5656 \text{ D}$  for the (0,0,1) vibrational level of the  $A^2 A_1$  state.

---

<sup>1</sup> T.C.Steimle, A.J.Marr, J.Xin, A.J.Merer, K.Athanassenas and D.Gillett, *J.Chem. Phys.*, 106, 2060 (1997).