THE $\tilde{X} \leftarrow \tilde{A}$ SEP SPECTRA OF JET-COOLED THIOPHOSGENE

PRAVEEN D. CHOWDARY, BRENT STRICKLER, SANDRA LEE and MARTIN GRUEBELE, *Department of Chemistry, University of Illinois, Urbana, IL 61801*.

The $\tilde{X} \leftarrow \tilde{A}$ stimulated emission pumping of $SCCl_2$ made over 100 new vibrational transitions accessible from 7000 – 8000 cm^{-1} above the $\tilde{X}$ state zero point energy.[a] We report anharmonic constants that fit all the 482 currently assigned vibrational energy levels. A spectral autocorrelation analysis shows that the onset of free energy flow has not been reached at 8000 cm^{-1}, in accordance with higher energy $\tilde{B}$ state SEP data and a theoretical analysis. The available experimental data and computational results are both compatible with less fragmentation among the observable interior states of $SCCl_2$.

[a] P. D. Chowdary, B. Strickler, S. Lee and M. Gruebele, Chem. Phys. Lett. 434, 182 (2007).