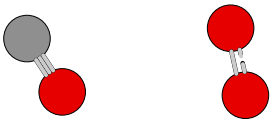
# MICROWAVE OBSERVATION OF THE VAN DER WAALS COMPLEX $O_2$-CO

FRANK E MARSHALL, THOMAS D. PERSINGER, DAVID JOSEPH GILLCRIST, NICOLE MOON, STEVE ALEXANDRE NDENGUE, RICHARD DAWES, G. S. GRUBBS II, *Department of Chemistry, Missouri University of Science and Technology, Rolla, MO, USA*.



FTMW spectroscopy has long been known to be a powerful tool in characterizing van der Waals complexes.[a] Along with this, advances in microwave technology and computing have made complicated spin-interaction systems much easier to observe and characterize. One such system, $O_2$-CO has been observed for the first time on a CP-FTMW spectrometer operational in the 6-18 GHz region. Preliminary observations and calculations indicate a slipped-parallel structure. High level calculations are ongoing, including the construction of a 4D potential energy surface. Rotational assignments, along with any observed fine structure due to the $^3\Sigma$ ground state of $O_2$ will be discussed.

[a] Stewart Novick, *Bibliography of Rotational Spectra of Weakly Bound Complexes*