SLIT-JET INFRARED LASER SPECTROSCOPY OF RADICALS FORMED IN A LASER VAPORIZATION CLUSTER SOURCE

R. S. WALTERS, and D. J. NESBITT, *JILA, Department of Chemistry and Biochemistry, University of Colorado, Boulder, CO. 80309*.

The first results from a new experiment combining a laser vaporization cluster source and a high resolution infrared laser spectrometer are reported. Small organometallic clusters containing laser-ablated Mg and Al atoms are studied via high resolution infrared absorption spectroscopy in the C-H region. Direct infrared measurements on these metal-molecular complexes and other radicals generated in the ablation cluster source reveal detailed information on electronic and geometric structures and provide significant new insights into the unique metal-ligand chemistry possible inside laser plasmas