APPLICATION OF A COAXIALLY CONFIGURED SUB-MILLIMETER PULSE JET SPECTROMETER FOR INVESTIGATION OF WEAKLY BOUND DIMERS.

BLAKE A. McELMURRY, ZHONGCHENG WANG, ROBERT R. LUCCHESE, and JOHN W. BEVAN, *Chemistry Department, Texas A&M University, College Station, TX 77843-3255*; SERGEY P. BELOV, and IGOR I. LEONOV, *Institute of Applied Physics of Russia Academy of Sciences, Uljanova Str. 46, Nizhny Novgorod 603950, Russia*.

Recent investigations of low frequency bending transitions in Ar-HBr, Ar-HI, Ne-DCl and rotation-tunneling transitions in HBr dimer and HI dimer will be reported using a co-axially configured submillimeter pulsed jet spectrometer. These studies will be used characterize the potential and limitations of this spectrometer for the investigation of this type of weakly bound complex. Finally, the derived spectroscopic data will be utilized to generate morphed potentials for the specified dimers including a refined three dimensional potential for the Ar-HBr complex.