DETECTION OF HI-Ar BY (2+1) REMPI SPECTROSCOPY

T. SUZUKI, H. KATAGANAGI, *Institute for Molecular Science, Myodaiji, Okazaki 444, Japan*; M. C. HEAVEN, *Department of Chemistry, Emory University, Atlanta, GA 30322*.

ArHI was detected by spectroscopic means for the first time. A vibrationally resolved (2+1) REMPI spectrum was recorded for the $g^3\Sigma^-(0^+)$ - $X^1\Sigma^+(0^+)$ transition. Analysis of this data yielded stretching vibrational constants for the g state, and estimates for the van der Waals bond strengths in the g and X states. The ground state is weakly bound, and ab initio calculations predict a linear HI-Ar geometry. The implications of these results for studies of the one-atom cage effect in RgHX complexes are considered.