SPECTROSCOPY OF THE $A - X$ TRANSITIONS OF NH-He AND OH-He

J. HAN, G. KERENSKAYA, and M. C. HEAVEN, *Department of Chemistry, Emory University, Atlanta, GA 30322*.

The NH-He van der Waals complex was characterized via laser excitation of bands associated with the NH $A^3\Pi - X^3\Sigma^-$ transition. It was demonstrated that the ground state supports a bound level with a rotational constant of B''= 0.334(2) cm^{-1}. These results are in agreement with the predictions of recent high-level theoretical calculations. Spin-orbit predissociation of the excited complex was observed, and the spectra yield insights regarding the NH(A)+He potential energy surfaces.
Features of the OH-He complex have been observed in conjunction with the $A^2\Sigma^+ - \mathrm{X}^2\Pi$ 0 - 0 transition. The partially resolved bands have been interpreted using the theoretical results of Lee, McCoy, Toczylowski and Cybulski (JCP, 113, 5736, (2000)).