

FLUORESCENCE EXCITATION SPECTROSCOPY OF THE NH_2 $A^2A_1 - X^2B_1$ SYSTEM IN THE REGION 290-430 NM

J. XIN, *Department of Physics and Engineering Technologies, Bloomsburg University, Bloomsburg, PA 17815*;
H. FAN, I. IONESCU, C. ANNESLEY, AND S. A. REID, *Department of Chemistry, Marquette University, Milwaukee, WI 53233*.

The fluorescence excitation spectrum of the NH_2 $^2A_1 - ^2B_1$ system has been measured in the region from 290 to 430 nm under jet-cooled conditions using a pulsed discharge source. A total of fourteen bands involving the pure bending states $(0, \nu'_2, 0)$ were observed and analyzed, including ten bands not previously measured to our knowledge. The spectra are largely free from rotational perturbations at the low N values accessed in this experiment, and the molecular constants were obtained from a least squares fit to the determined spin-rovibronic term values. The derived constants are in good agreement with theoretical predictions incorporating the effects of orbital angular momentum on the spin-rotational fine structure.