THEORETICAL LINE STRENGTHS AND TRANSITION MOMENTS IN THE $\tilde{A}\ ^2B_1 \leftarrow \tilde{X}\ ^2A_1$ ELECTRONIC TRANSITION OF NH_2

P. R. BUNKER, *Steacie Institute for Molecular Sciences, National Research Council of Canada, Ottawa, Ontario K1A 0R6, Canada*; W. P. KRAEMER, *Max Planck Institute for Astrophysics, Postfach 1523, D-85740 Garching, Germany*; PER JENSEN, *FB 9 - Theoretische Chemie, Bergische Universität, D-42097 Wuppertal, Germany*.

In a recent publication, Kawakita *et al.*[a] call for theoretical calculations of transition moments and line strengths associated with the $\tilde{A}\ ^2B_1 \leftarrow \tilde{X}\ ^2A_1$ electronic transition of NH_2; they need such data in order to improve their analysis of cometary spectra involving this electronic transition. We have used the RENNER program system[b] to provide the results required. The RENNER calculations are based on *ab initio* calculations of the potential energy surfaces and the electronic dipole moments and transition moments.[c] We have optimized the potential energy surfaces in a least-squares fit to experimentally derived term values.

[a]H. Kawakita, J. Watanabe, D. Kinoshita, S. Abe, R. Furusho, H. Izumiura, K. Yanagisawa, and S. Masuda, *Publ. Astron. Soc. Japan* **53**, L5-L8 (2001).

[b]See, for example, P. Jensen, G. Osmann, and P. R. Bunker, *in: "Computational Molecular Spectroscopy"* (P. Jensen and P. R. Bunker, eds.), Wiley, Chichester, 2000, and references therein.

[c]P. Jensen, T. E. Odaka, W. P. Kraemer, T. Hirano, and P. R. Bunker, *Spectrochim. Acta Part A* **58**, 763-794 (2002).