

THE ROTATIONAL SPECTRUM OF THE PYRROLE-AMMONIA COMPLEX

HEINRICH MÄDER, CHRISTIAN RENSING, FRIEDRICH TEMPS, *Institut für Physikalische Chemie, Universität Kiel, Olshausenstr. 40, D-24098 Kiel, Germany.*

The rotational spectrum of the weakly bound pyrrole-ammonia complex has been observed in the frequency range from ca. 3 to 14 GHz using molecular beam Fourier transform microwave (MB-FTMW) spectroscopy. The assignment of the spectra of two isotopomers (pyrrole- ^{15}N and pyrrole- ^{14}N) was facilitated by initial *ab initio* predictions. Tentative assignments from broadband scans were finally confirmed with application of a novel double resonance technique.

A total of about 15 *a*-type rotational lines for each isotopomer was observed, exhibiting hyperfine structures due to ^{14}N nuclear quadrupole coupling. From the spectra, rotational and centrifugal distortion constants as well as ^{14}N nuclear quadrupole coupling constants were derived. The results are presented and discussed.