^{14}N HYPERFINE SPLITTINGS IN THE MICROWAVE SPECTRUM OF FOUR ISOTOPOMERS OF N_2O-HCl

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In the previously reported microwave spectrum of N_2O-HCl [a], the hyperfine splittings due to the quadrupolar ^{14}N nucleus were not resolved. The spectra of all three of the HCl-containing isotopomers from the previous study ($^{14}N_2O$-$H^{35}Cl$, $^{14}N_2O$-$H^{37}Cl$, $^{15}N^{14}NO$-$H^{35}Cl$) plus that of the additional isotopomer $^{15}N^{14}NO$-$H^{37}Cl$ have been recorded under higher resolution that permits the full analysis of the nuclear electric quadrupole hyperfine structure for both chlorine and nitrogen. These data provide additional information regarding the angular properties of the complex as well as giving insight into the nature of electric field gradient perturbations accompanying complex formation.

[a] D. J. Pauley, M. A. Roehrig, L. Adamowicz, J. C. Shea, S. T. Haubrich, and S. G. Kukolich, J. Chem. Phys. 94, 899 (1991).