MICROWAVE SPECTRA OF THE O_2-HF COMPLEX

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Microwave spectra have been recorded for the complex O_2-HF. Spectra were readily located based on results of previous infrared work.[a] but yield spectroscopic constants of somewhat higher accuracy. The observed transitions show well resolved structure arising from the ^{1}H and ^{19}F nuclear spins. Magnetic super-hyperfine structure due to the interaction of the proton and fluorine nuclei with the spin magnetic moment of O_2 appear to be of comparable magnitude to the HF spin-spin interaction in at least some of the observed transitions. Progress on the simultaneous analysis of these hyperfine and super-hyperfine effects will be reported.

[a] W. A. Fawzy, C. M. Lovejoy, D. J. Nesbitt, and J. T. Hougen *J. Chem. Phys.* **117**(2), 693 (2002).