

FT MICROWAVE SPECTROSCOPY OF THE H₂O-O₂ COMPLEX

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Rotational transitions of a van der Waals complex, H₂O-O₂, in the ³B₂ ground vibronic state have been observed using a pulsed nozzle Fourier-transform microwave spectrometer for the first time. Six transitions observed in the frequency region between 8 - 30 GHz have been assigned to the rotational and fine structure components of the H₂O-O₂ complex, and are analyzed to obtain the rotational, centrifugal distortion, and spin-spin coupling constants. Each of the observed transitions is further split into several hyperfine components due to the water protons. Analysis of the hyperfine structure is in progress. The structure of the complex is considered to be C_{2v}.