

ROTATIONAL SPECTRA OF THE Kr-H₂O VAN DER WAALS COMPLEX

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Rotational spectra of the Kr-H₂O van der Waals complex were measured between 4 and 19 GHz using a pulsed jet cavity Fourier transform microwave spectrometer. The isotopomers studied include those of H₂O, HDO, D₂O, H₂¹⁷O, and H₂¹⁸O with 6 different isotopes of Kr. Tunnelling splittings were observed for all isotopomers with the exception of Kr-HDO. Transitions of complexes with ⁸³Kr, D₂O, HDO, and H₂¹⁷O showed nuclear hyperfine structure due to the quadrupole moments of ⁸³Kr, D, and ¹⁷O, respectively. Rotational and centrifugal distortion constants were determined and used to calculate structural parameters.