

The Microwave and Far Infrared Spectra of Acetaldehyde-d1 in $\nu_t=2$

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Abstract : Experimental and theoretical investigations of the microwave and far infrared spectra of CH₃COD are reported. Two hundred twelve lines were identified in the far infrared spectrum recorded using the Canadian synchrotron radiation light source. Two thousand one hundred and sixty-eight lines in $\nu_t=0,1$ and 216 in $\nu_t=2$ have been measured in the microwave spectrum obtained using the fast scan submillimeter spectroscopic technique. A global analysis of the new data and of already available microwave lines has been carried out and yielded values for rotation-torsion parameters. The unitless weighted standard deviation of the fit is 1.6. 46 parameters and 216 lines were identified.

Keywords : CH₃COD, torsion, the microwave spectra, far infrared spectra high resolution

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