

ABSOLUTE LINE INTENSITIES FOR THE ν_6 BAND OF H₂O₂

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The purpose of this work was to obtain reliable absolute intensities for the ν_6 band of H₂O₂. This work was undertaken because strong discrepancies exist between the different ν_6 band intensities which are presently available in the literature ^{a b}.

The method which was used in the present work is to use Fourier transform spectra of H₂O₂ recorded at Giessen in a spectral range (370-1270cm⁻¹) which covers both the R-branch of the torsion-rotation band at low wavenumber and the P-branch of the ν_6 band at high wavenumber.

- From the low wavenumber data, the partial pressure of H₂O₂ present in the cell during the recording of the spectra was determined by calibrating the observed absorptions in the torsion-rotation band with intensities computed ^c by using the permanent H₂O₂ dipole moment measured by Stark effect ^d.
- In the high frequency range, this value of the partial pressure of H₂O₂ was used to measure absolute line intensities in the ν_6 band.

Finally, the line intensities in the ν_6 band were fitted using the theoretical methods described in detail in our previous works ^{a,c}.

^aA. Perrin, A. Valentin, J.-M. Flaud, C. Camy-Peyret, L. Schriver, A. Schriver, and Ph. Arcas, *J. Mol. Spectrosc.* 171, 358 (1995).

^bR. May, *J. Quant. Radiat. Transfer.* 45, 267 (1991).

^cA. Perrin, J.-M. Flaud, C. Camy-Peyret, R. Schermaul, M. Winnewisser, J. Y. Mandin, V. Dana, M. Badaoui, and J. Koput, *J. Mol. Spectrosc.* 176, 287 (1996).

^dE.A. Cohen, and H.M. Pickett, *J. Mol. Spectrosc.* 87, 582 (1981).