SELF-BROADENING COEFFICIENTS FROM FTIR MEASUREMENTS OF H_2O

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Self-broadening parameters have been extracted for selected transitions in the ν_1, $2\nu_2$ and ν_3 bands of water vapor observed between 2500–4200 cm^{-1}. The H_2O spectrum at room temperature in natural isotopic abundance has been recorded in this region at pressure–broadening–limited resolution with a Bruker FTS 120HR and a White–type cell adjusted to provide pathlengths of 64.5–288.5m. Sample pressures used were 0.007–29.7mbar (0.005–22.3 Torr). Broadening coefficients determined for transitions in the ν_2 band of water vapor in this study and earlier works[a] are comparable. The results of the broadening determinations are presented and discussed.

[a]J. -Y.Mandin, C. Camy-Peyret, and J. -M. Flaud, *J. Quant. Spectrosco. Radiat. Transfer* **26(6)**, 483–494 (1981).