PRESSURE BROADENING AND SHIFT COEFFICIENTS FOR WATER IN THE 2.5 μm REGION

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The pressure broadening and pressure-induced shift coefficients due to water and nitrogen have been determined for water transitions in the 2.5 μm region. The temperature dependence of the widths and shifts has also been determined for selected transitions in this region. The line parameters have been obtained from the analysis of room temperature recordings of the spectrum of pure water and recordings of the spectra of heated water/nitrogen mixtures. Up to nine spectra were fitted simultaneously with a multispectrum nonlinear least-squares fitting technique [a]. Results have been compared with values available in the literature.

[a] D. Chris Benner, C. P. Rinsland, V. Malathy Devi, M. A. H. Smith, and D. Atkins, JQSRT 53, 705-721 (1995).