THE NO VIBRATIONAL FUNDAMENTAL BAND: TEMPERATURE DEPENDENCE OF N_2-BROADENING COEFFICIENTS, M. N. Spencer, C. Chackerian, Jr., L. P. Giver and L. R. Brown

Rovibrational spectra of the vibrational fundamental of nitric oxide have been recorded under N_2-broadening conditions at 0.0056 cm^{-1} resolution using the Solar McMath FTS at the Kitt Peak National Observatory. The temperature range for the experiments was 296 K to 183 K. The 30 cm absorption eel! used for the measurements is cooled with a helium compressor and can operate at temperatures down to 60 K; vibration isolation of the cell allows its use with high performance Fourier Transform Spectrometers. From these spectra, N_2-broadened line widths have been determined thru $|m| = 16.5$. Qualitative as well as quantitative discrepancies are observed between our experimental determinations of the temperature dependence of the broadening and theoretical calculations made by Houdeau *et al.* [J. Chem. Phys. 79, 1634 (1983)]. However, our measurements are in reasonable agreement with experiments carried out by Ballard *et* ***al.*** [J. Mol. Spectrosc. **127**, 70 (1988)].

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