HIGH-RESOLUTION FOURIER TRANSFORM SPECTRA OF NO_2 AND O_3 IN THE 12500-40000 CM^{-1} RANGE AT ATMOSPHERIC TEMPERATURES AND PRESSURES

SUSANNE VOIGT, JOHANNES ORPHAL, JOHN P. BURROWS, *Institute of Environmental Physics, University of Bremen, P. O. Box 33 04 40, D-28334 Bremen, Germany*.

Spectra of NO_2 and O_3 in the 12500–40000 cm^{-1} range were recorded with resolutions up to 0.5 cm^{-1} using a Fourier Transform Spectrometer BRUKER IFS 120 HR. As the spectra are important reference data for atmospheric remote sensing, for each of the gases, spectra were recorded at temperatures between 203 and 293 K and at total pressures (with N_2) of 100 and 1000 mbar. The major advantage of the FTS is the high accuracy of the wavenumber calibration, which is essential for the determination of atmospheric concentrations of O_3, NO_2, and other trace gases from UV-visible spectra of the earth's atmosphere.