FIRST ANALYSIS OF THE ν_1 BAND OF HNO_3 AT 3551.766 CM^{-1}

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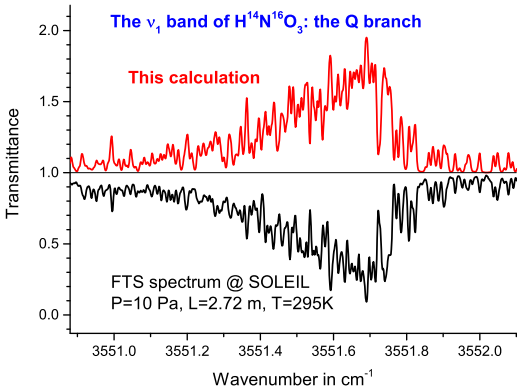

We present the first (preliminary) investigation of the ν_1 band (OH stretching mode) of Nitric acid (HNO_3) centered at 3551.766 cm^{-1} using high resolution Fourier transform spectra. These spectra were recorded in the 2.5 μm to 3.23 μm spectral regions on the spectrometer located on the AILES beamline of the SOLEIL synchrotron. Because of the large value of the Doppler linewidth (about 0.003 cm^{-1}) in the 2.8 μm region at 220 K or 296 K), the analysis was very complex and often uncertain and dubious. Furthermore, the ν_1 band is severely affected by numerous perturbations. Among these ones, unexpected line splittings were observed during all the analyses. Finally we have generated a preliminary list of "reasonable" line positions and intensities for the ν_1 band and of the ν_1+ν_9-ν_9 bands and ν_1+ν_7-ν_7 hot bands.