INVESTIGATION OF THE ν_4 and $2\nu_2$ bands of $^{14}NH_3$

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The line positions and intensities of ammonia are being measured and analyzed between 1200 and 2100 cm^{-1} in order to improve the molecular database in planetary applications. For this laboratory spectra are being obtained at 0.005 cm^{-1} resolution using the Fourier transform spectrometers located at Orsay and at Kitt Peak National Observatory in Arizona. The observed data contain transitions of the ν_4 fundamental band near 1626.3 and 1627.4 cm^{-1} (for s and a inversion states respectively) and the $2\nu_2$ overtone band near 1597.5 and 1882.1 cm^{-1} (for s and a inversion states respectively). These measurements are being modelled using the theoretical approach applied previsously to $3\nu_2$ and ν_2+ν_4 bands of $^{14}NH_3$ in the 4 micron region[a]. Preliminary results will be shown.
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[a] I. Kleiner, G. Tarrago and L. R. Brown, J. Mol. Spectrosc., 173, 120 (1995)