OVERTONE JET SPECTROSCOPY OF ETHYLENE

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We have recorded the slit-jet cooled overtone absorption spectrum of ethylene between 3000 and 7000 cm^{-1}, at a spectral resolution of 0.02 cm^{-1}, using a Fourier transform interferometer[a]. 11 bands are observed, some not reported before. They are all vibrationally identified and for the first time rotationally analysed. Anharmonic and Coriolis-type perturbations are considered. The vibrational energy pattern in ethylene is discussed.

[a] R. Georges, M. Bach and M. Herman, Mol. Phys., 90 (1997) 381.