OVERTONE JET SPECTROSCOPY OF ETHYLENE

M. BACH, R. GEORGES, and M. HERMAN, Laboratoire de Chimie Physique Moléculaire, CP160/09, Université Libre de Bruxelles, B-1050, Belgium; A. PERRIN, Laboratoire de Photophysique Moléculaire, Batiment 210, Université PARIS 11, Campus d’ORSAY, 91405 ORSAY CEDEX, FRANCE.

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.