

SPECTRA AND ASSIGNMENTS OF HOT METHANE UP TO 1000 K IN THE 1–2 μm REGION

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Infrared absorption spectra of hot methane up to 1000 K were recorded with a high-resolution Fourier transform spectrometer in the 5200–9300 cm^{-1} spectral region. The experimental observations were compared to the predictions of variational calculations. Preliminary quantum number assignments were made for the observed features. Generally good agreement was found between observations and calculations particularly in the Tetradecad region, from 2.1 to 1.6 μm . Spectra in the Icosad (1.6–1.3 μm) and Triacontad (1.25–1.1 μm) regions suffered from some interference from a hot water impurity.