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Laser absorption spectroscopy of methane at 1000 K near 1.7 μm : A validation test of the spectroscopic databases

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Highlights

- A tubular furnace is combined with a diode laser absorption spectrometer
- Spectra of methane are recorded at 964 K near 1.65 μm
- The gas temperature is constant within a few K along the absorption pathlength
- The 2-Temperature method is applied to identify high J transitions up to $J=20$
- Comparisons with the HITRAN2016, MeCaSDa, TheoReTS and ExoMol lists are discussed

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