LINE INTENSITIES OF CH_3OH[a] AT 400 cm^{-1}

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Line intensities of methanol (CH_3OH) have been measured between 300 and 500 cm^{-1} . This room temperature absorption spectrum was recorded with a Bruker IFS 125 HR Fourier transform spectrometer located at the Jet Propulsion Laboratory, at resolutions between 0.0014 and 0.0050 cm^{-1}, using a 20.1 cm glass cell with wedged high density polyethylene windows. This work has been undertaken to investigate the apparent incongruity in rotational temperature diagrams derived from astronomical observations of methanol, which may be due to not including the vibration-, torsion- and K-dependence of the dipole moment in the rotational intensities. The results from this study will support the analyses of astronomical observations taken from orbit by the Herschel HIFI instrument.

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