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SELF- AND AIR-BROADENED LINE PARAMETERS OF METHANE IN THE 4100-4300 WAVENUMBERS RANGE

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In this study we present our latest measurement and theoretical results for self- and air-broadened transitions in the methane octad range. For this project we have used a set of 14 spectra of pure methane and lean mixtures of methane and air, recorded at the Jet Propulsion Laboratory. The spectra were analysed using a multispectrum fit program. We have measured the line positions, intensities, self- and air-broadened line width and pressure-induced shifts and their temperature dependencies and line mixing coefficients. The line positions and intensities have been compared with theoretical results. We will present comparisons of our results with database entries and previous studies.

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