

MEDIUM RESOLUTION TRANSMISSION MEASUREMENTS OF CO₂ AT HIGH TEMPERATURE

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ABSTRACT. Medium resolution transmissivities of CO₂ were measured at temperatures between 300 K and 1550 K for the 4.3, 2.7 and 2.0 μm bands. Measurements were made with a new drop tube design, which guarantees a truly isothermal high-temperature gas column. Data were collected with an FTIR-spectrometer, allowing for much better spectral resolution than most previous high-temperature measurements. The measured data were compared with two line-by-line and two narrow band databases. The data show some discrepancies with high-resolution databases at higher temperatures, indicating missing and/or incorrectly extrapolated spectral lines.