

HIGH ACCURACY LINE INTENSITIES FOR NEAR-INFRARED CARBON DIOXIDE BANDS

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The near-infrared bands of carbon dioxide (CO₂) play an important role in point source as well as remote sensing measurements. Here we have measured high accuracy line intensities for the (30012)←(00001), (30013)←(00001), and (30014)←(00001) bands near 1.6 μm. Three separate cavity ring-down spectrometers were employed: a frequency-agile, rapid scanning spectrometer and two frequency-stabilized spectrometers. Through this combination of instruments, we have reached relative combined standard uncertainties as low as 0.1% for the band intensities. I will discuss these measurements as well as comparisons to existing spectroscopic models and databases. Finally, I will present the results of atmospheric retrievals using these line intensities.