

## CO<sub>2</sub> line intensities near 1.6 μm by cavity ring-down spectroscopy

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Accurate parameters of the CO<sub>2</sub> transitions in the 1.6 μm region are needed for monitoring global CO<sub>2</sub> concentration in the atmosphere. Line intensities with relative uncertainty lower than 0.5% are required. However, discrepancies up to 3-10% have been reported between experimental data and calculated results [1-4]. We present measurements of the CO<sub>2</sub> lines in this region using frequency-locked cavity ring-down spectroscopy. Ro-vibrational transitions of the 30011-00001 band with line intensities in the order of 10<sup>-25</sup> to 10<sup>-24</sup> cm/molecule have been studied. We have been able to determine the line intensities with an accuracy of 0.5%, which fulfills the requirements for remote sensing applications. We also present a comparison among present results, HITRAN data, and recent calculations.

### Reference:

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