

## RECENT PROGRESS IN THE NEAR INFRARED SPECTROSCOPY OF CO<sub>2</sub><sup>a</sup>

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We have begun a systematic reinvestigation of the CO<sub>2</sub> spectrum in the 4000 - 9000 cm<sup>-1</sup> range using the McMath-Pierce Fourier transform spectrometer at the Kitt Peak National Solar Observatory. Fits to more than 100 vibrational bands illustrate that it is possible to obtain rms uncertainties as low as  $2 \times 10^{-5}$  cm<sup>-1</sup> for strong bands and uncertainties better than  $2 \times 10^{-4}$  for all bands with  $S_v^0 > 0.01 \times 10^{-22}$  cm<sup>-1</sup>/(molecule cm<sup>-2</sup>). We will also present the first analysis of several <sup>18</sup>O<sup>12</sup>C<sup>18</sup>O and <sup>16</sup>O<sup>13</sup>C<sup>18</sup>O bands. All results will be compared to the data available in the HITRAN database and evaluated relative to the needs of atmospheric remote sensing.

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