

## OSCILLATOR STRENGTHS AND PREDISSOCIATION RATES FOR RYDBERG TRANSITIONS IN CO BETWEEN 930 AND 935 Å<sup>a</sup>

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CO is used as a probe of astronomical environments ranging from planetary atmospheres and comets to interstellar clouds and the envelopes surrounding stars near the end of their lives. One of the processes controlling the CO abundance and the ratio of its isotopologues is photodissociation. Accurate oscillator strengths and predissociation rates for Rydberg transitions are needed for modeling this process. We present initial results of a survey to obtain the necessary data for transitions in <sup>12</sup>C<sup>16</sup>O, <sup>13</sup>C<sup>16</sup>O, and <sup>13</sup>C<sup>18</sup>O. Data on a series of overlapping bands between 930 and 935 Å were acquired at the DESIRS beam-line on the SOLEIL synchrotron. A VUV Fourier Transform Spectrometer provided a resolving power of about 300,000; this resolution greatly aided our ability to disentangle absorption from the overlapping bands. Absorption bands were analyzed by synthesizing the profiles with codes developed independently in Meudon and Toledo. The synthetic spectra were based on tabulated spectroscopic data. Each synthetic spectrum was adjusted to match the experimental one in a non-linear least-squares fitting procedure with the band oscillator strength and the line width (instrumental, thermal, and predissociation) as free parameters. We will compare our results to previous ones and will describe future directions for this effort.

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