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Title:	Photoabsorption of carbon monoxide: A time-dependent quantum mechanical study.
Authors:	Sathyamurthy, N. (/jspui/browse?type=author&value=Sathyamurthy%2C+N.)
Keywords:	Cross-section values Isotopologues
Issue Date:	2012
Publisher:	IOP Publishing Ltd.
Citation:	Journal of Physics B: Atomic, Molecular and Optical Physics, 45 (18), art. no. 185101.
Abstract:	Photoabsorption cross-section values are computed for the $A1\Pi-X1\Sigma$ transition in $^{12}C^{16}O$ by a time-dependent quantum mechanical method. The computed oscillator strength values are shown to be in good agreement with the available experimental and theoretical values. The small differences between our computed oscillator strength values and the experimental results could be accounted for by the weak interactions between the $A1\Pi$ state and triplet states ($a^3\Sigma^+, e^3\Sigma^-$ and 3Δ) that cross the PEC of the A state near its minimum. Calculations for different isotopologues of CO ($^{12}C^{17}O$, $^{12}C^{18}O$ and $^{13}C^{16}O$) reveal a mass dependence that becomes more significant for higher vibrational levels.
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