

## CO MULTIPHOTON DISSOCIATIVE IONIZATION THROUGH $B^1\Sigma^+$ STATE

WEN LI, SRIDHAR LAHANKAR and ARTHUR G. SUITS, *Department of Chemistry, Wayne State University, Detroit, MI 48317 (email to W.L.: wenli2@ic.sunysb.edu).*

High resolution kinetic energy spectra of  $O^+$  and  $C^+$  are obtained for the first time from CO multiphoton dissociative ionization. DC slice and megapixel imaging techniques were used to acquire high quality images. The intermediate CO  $B^1\Sigma^+$  state was reached using resonant two-photon excitation (around 230nm). At least 5 photons were found to contribute to the production of carbon and oxygen cations. All peaks were assigned by comparing the images at different excitation wavelengths tuned to different rotation lines of  $B^1\Sigma^+$  state. Angular and kinetic energy distributions were used to identify distinct pathways involving photodissociation of  $CO^+$  produced by direct ionization or autoionization, and ionizing excited neutral fragments.

