

Abstract Submitted
for the DAMOP13 Meeting of
The American Physical Society

Direct observation of strong-field enhanced ionization in CO and N₂¹ WEI LAI, CHUNLEI GUO, The Institute of Optics, University of Rochester — Enhanced ionization (EI) of molecules has been predicted as a common process in molecular dissociative ionization in strong fields over two decades ago. However, direct evidence for EI has only been found in I₂ and H₂. In this work, we perform the first direct study of EI in CO and N₂. We find a new dissociation channel in each of these two molecules following double ionization that has not been previously resolved. Interestingly, EI occurs only in the newly discovered channels with a lower kinetic energy release but, surprisingly, does not happen in the commonly-seen dissociation channels that were previously assigned undergoing EI.

¹This research was supported by the US Air Force Office of Scientific Research.

Wei Lai
The Institute of Optics, University of Rochester

Date submitted: 29 Jan 2013

Electronic form version 1.4