Abstract Submitted
for the DAMOP19 Meeting of
The American Physical Society

Internuclear-distance and angle dependence of strong-field ionization rates of UV-dissociated halomethanes. F. ZIAEE, K. BORNE, KANKA RAJU P., Kansas State University, R. FORBES, Stanford University, B. KADERIYA, Y. MALAKAR, T. SEVERT, I. BEN-ITZHAK, A. RUDENKO, D. ROLLES, Kansas State University — The dependence of the strong-field ionization rates of iodine-containing halomethanes on the iodine-carbon internuclear-distance and the orientation of molecular bonds with respect to the polarization direction of an infrared laser field is investigated utilizing a UV pump-NIR probe technique. Excitation at 258 nm initiates a resonant single-photon absorption cleaving the carbon-iodine bond. A subsequent NIR laser pulse ionizes the dissociating molecule at different delays. Measuring single and double ionization rates as a function of pump-probe delay allows the determination of their internuclear-distance dependence. Furthermore, by determining the delay-dependence of the fragment ion angular distributions, the gradual transition of the ionization from the molecular to the atomic limit is probed. *Supported by the U.S. Department of Energy under grant no. DE-FG02-86ER13491.*

Farzaneh ziaee
Kansas State University

Date submitted: 06 Feb 2019 Electronic form version 1.4