Abstract Submitted
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Time-resolved electron and ion imaging to investigate ultrafast structural dynamics in gas-phase halomethane molecules[1] F. ZIAEE, A. RUDENKO, D. ROLLES, JRML, Kansas State University, E. SAVELYEV, C. BOMME, R. BOLL, B. MANSCHWETUS, B. ERK, S. TRIPPEL, J. WIESE, J. KUPPER, DESY, Germany, K. AMINI, J. LEE, M. BROUARD, University of Oxford, UK, F. BRAUSSE, A. ROUZEE, Max-Born-Inistitute, Germany, P. OLSHIN, A. MERESHCHENKO, St. Petersburg State University, Russia, J. LAHL, P. JOHNSSON, Lund University, Sweden, M. SIMON, T. MARCHENKO, LCPMR, France — We investigate structural dynamics in halomethane molecules (CH_3I, CH_2IBr, and CH_2ICl) within a UV pump-IR probe scheme, in which the UV pulse initiates a photodissociation reaction, and the delayed IR-probe pulse ionizes the molecule. The produced electrons and ions are imaged by a double-sided velocity map imaging (VMI) spectrometer. Delay-dependent yields and momentum distributions of ionic fragments are recorded with the PImMS camera [1]. Simultaneously, angle-resolved electron spectra are recorded on the other side of the spectrometer. We observe large changes in the yield and kinetic energy of various fragment ions along with subtler changes in the electron spectrum, from which we extract dissociation dynamics of the molecule information. [1] K. Amini et al., Rev. Sci. Instrum. **86**, 103113 (2015)

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