Abstract Submitted
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Discerning the direct and indirect ionization processes in the photo-double-ionization of 1, 1-$C_2H_2F_2$ near and above threshold[1] B. GAIRE, I. BOCHAROVA, F.P. STURM, N. GEHRKEN, J. RIST, A. BELKACEM, TH. WEBER, Lawrence Berkeley National Laboratory, B. BERRY, M. ZOHRABI, I. BEN-ITZHAK, J.R. Macdonald Laboratory, Kansas State University, M. KEILING, A. MORADMAND, A. LANDERS, Department of Physics, Auburn University, T. JAHNKE, M. SCHOEFFLER, H. SANN, M. KUNITSKI, R. DOERNER, University of Frankfurt — We have studied the photo-double-ionization of 1, 1-$C_2H_2F_2$ near and above threshold using linearly polarized single photons (40 to 70eV). Kinematically complete experiments were achieved for the nondissociative ionization (NDI) and all ionic two body break up channels by measuring the electrons and recoil ions in coincidence with the COLd Target Recoil Ion Momentum Spectroscopy (COLTRIMS) method. Using electron-ion and electron-electron energy correlation maps as well as asymmetry parameters and relative angles between the emitted electrons, we were able to trace the electronic states involved and distinguish between the direct and indirect ionization mechanisms of the NDI and the fragmentation processes.

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