Abstract Submitted
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Direct Photo Double Ionization of Water and Subsequent Fragmentation D. REEDY, Auburn University, B. GAIRE, Lawrence Berkeley National Laboratory, A. GATTON, J. SARTOR, Auburn University, B. BERRY, Kansas State University, M. WELLER, T. BAUER, P. BURZYNSKI, K. HENRICHS, R. DORNER, University of Frankfurt, J.B. WILLIAMS, University of Nevada, Reno, TH. WEBER, Lawrence Berkeley National Laboratory, A.L. LANDERS, Auburn University — We have measured and imaged the dissociation of water in the gas phase following direct double photoionization by a 57 eV photon. The dissociation left the dication in a range of several energetically available excited states. The momenta of the resulting dication fragments and photoelectrons were measured in coincidence with Cold Target Recoil Ion Momentum Spectroscopy (COLTRIMS). The different states of the dication result in marked differences in photoelectron energies, kinetic energy release, and bond angle at the time of the fragmentation, as well as leaving the neutral oxygen fragment in one of several indirectly observed excited states.

Allen Landers
Auburn University

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