

Abstract Submitted
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Momentum Imaging of the Dissociation Dynamics for Double Photoionization of NH₃ RICHARD STROM, Auburn University, JOSHUA WILLIAMS, DEMITRI CALL, DYLAN REEDY, University of Nevada, Reno, MARIAM WELLER, GREGOR KASTIRKE, Goethe University Frankfurt, ALLEN LANDERS, Auburn University — We have measured the dissociation of Ammonia, NH₃, in the gas phase, following double photoionization of a 61.5eV soft X-Ray photon produced by the Advanced Light Source (ALS) at Lawrence Berkeley National Laboratory. The momentum of the resulting fragments and the photoelectrons were measured in coincidence using a Cold Target Recoil Ion Momentum Spectroscopy (COLTRIMS) technique. The dissociation dynamics of both the two and three body break up corresponding to several potential energy surfaces were observed. These different states show distinct differences in the electron energy, kinetic energy release, and bond angles during the fragmentation. Using this technique, we are able to determine the orientation of the molecule in three dimensions following both two and three body breakup. We show the results using a combination of analysis software presenting both energy and momentum figures.

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