

Abstract Submitted  
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**Photoionization of endohedral fullerenes using soft x-ray coincidence spectroscopy**<sup>1</sup> RAZIB OBAID, HUI XIONG, University of Connecticut, UTUQ ABLIKIM, Kansas State University, SVEN AUGUSTIN, Max-Planck-Institut für Kernphysik, KIRSTEN SCHNORR, University of California, Berkeley, ANDREA BATTISTONI, THOMAS WOLF, Stanford University, ANN MARIE CARROLL, RENE BILODEAU, University of Connecticut, TIMUR OSIPOV, Linac Coherent Light Source, SLAC National Accelerator Laboratory, DANIEL ROLLES, Kansas State University, NORA BERRAH, University of Connecticut — Endohedral fullerenes are a model system to understand the reorganization dynamics of highly charged molecular systems with delocalized electronic clouds in the multiphoton excitation regime. Previous experiments at the Linac Coherent Light Source (LCLS) using free-electron laser (FEL) and ultrafast IR laser pulses studied this feature in Ho3N@C80. The question remains whether these dynamics can be studied in the site-specific single photo-ionization regime. Ho3N@C80 is particularly interesting since the inner molecule, Ho3N, is unstable in its natural form. The presence of the encapsulating cage, with the charge exchange characteristics of Holmium, stabilizes the whole molecule. In this study, we will present the charge fragmentation dynamics of this species in the single photoionization process of inner shell electrons (4d) of Holmium using the Advanced Light Source (ALS) at LBNL. Photoion-photoion correlation data, alongside with qualitative electron data will be presented.

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