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**Double ionization of spatially aligned D<sub>2</sub> by fast highly charged ions**<sup>1</sup> A.L. LANDERS, A. AL-NASER, J.A. TANIS, Department of Physics, Western Michigan University, Kalamazoo, MI 49008, E. WELLS, Department of Physics, University of Virginia, Charlottesville, VA 22904, T. OSIPOV, I. ALI, I. REISER, K.D. CARNES, I. BENITZHAK, P. RICHARD, C.L. COCKE, J.R. Macdonald Laboratory, Kansas State University, Manhattan, KS 66506 — Double ionization of D<sub>2</sub> molecules by 19 MeV F<sup>8+</sup> ions was studied using a COLTRIMS approach. Fast imaging detectors, a supersonically cooled gas jet, and the time focusing properties of the KSU LINAC (producing ~400 ps pulses) are combined to fully measure the vector momenta of the charged fragments produced in these ionizing collisions. The molecular alignment at the time of the collision is determined *a posteriori*. Preliminary results indicate that the double ionization cross section shows some dependence on molecular orientation relative to the ion beam. Analysis of the correlated electron and recoil momenta is underway.

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Prefer Oral Session  
 Prefer Poster Session

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