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Angular Dependance of Auger electrons from N_2 JAMES CRYAN, JAMES GLOWNIA, The PULSE Institute for Ultrafast Energy Science, SLAC Nat. Acc. Lab., Menlo Park, CA 94025 USA, N.A. CHEREPKOV, State University of Aerospace Instrumentation, 190000 St. Petersburg, Russia, P.H. BUCKSBAUM, The PULSE Institute for Ultrafast Energy Science, SLAC Nat. Acc. Lab., Menlo Park, CA 94025 USA, R.N. COFFEE, The Linac Coherent Light Source, SLAC Nat. Acc. Lab., Menlo Park, CA 94025 USA, LCLS AMO 02709 COLLABORATION[1]
— One of the primary goals for x-ray free electron lasers (xFELs) is the study of x-ray interactions in the molecular-frame. Impulsive molecular alignment can be used to bring the molecular frame into the laboratory frame without perturbing the electronic states. We present molecular frame Auger electron spectra corresponding to quasi-bound final states of N_2^{2+}. We compare experimental and calculated angular distributions of Auger electrons and find good qualitative agreement. These and potential future measurements could lift ambiguity in previous KLL-Auger energy assignments.

[1]www.pulse.slac.stanford.edu/amo02709

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