Abstract Submitted
for the DAMOP20 Meeting of
The American Physical Society

Attosecond Electron Correlation and Molecular Resonance in *K*-shell Photoexcitation of Nitric Oxide[1] TARAN DRIVER, ELIO G. CHAMPENOIS, JAMES P. CRYAN, Stanford PULSE Institute/LCLS, SIQI LI, AGOSTINO MARINELLI, SLAC Natl. Accelerator Lab., PHILIPP ROSENBERGER, MATTHIAS F. KLING, MPQ/LMU Munich, LISA ORTMANN, ALEXANDRA LANDSMAN, The Ohio State University, THE LU00 COLLABORATION — Angular streaking is employed to resolve the attosecond electronic motion of nitric oxide (NO) irradiated with intense, sub-femtosecond, soft X-ray pulses from a free-electron laser.[2] We scan the incident photon energy through the O K-edge and measure the dynamics of the resultant photoemission. Below the edge we drive the O $1s \rightarrow 2p\pi^*$ core excitation and time-resolve the subsequent electron correlation-driven Auger decay. Above the K-edge we measure the photon energy-dependent dynamics determining the precise release time of the O K-shell electron into the continuum. We observe the attosecond time-delay associated with the O $1s \rightarrow 2p\sigma^*$ shape resonance previously identified in cross-section measurements.

[1]This work was supported by the U.S. Department of Energy, Office of Science, Basic Energy Sciences, Chemical Sciences, Geosciences, and Biosciences Division. Use of the Linac Coherent Light Source (LCLS), SLAC National Accelerator Laboratory, is supported by the U.S. Department of Energy, Office of Science, Office of Basic Energy Sciences under Contract No. DE-AC02-76SF00515.
[2]Duris, Li *et al.*, Nat. Phot. **14**, 30 (2020)

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Date submitted: 30 Jan 2020 Electronic form version 1.4