Abstract Submitted
for the DAMOP11 Meeting of
The American Physical Society

Electron wave-packet interference in atomic photoionization by a single few-cycle IR laser pulse[1] AIHUA LIU, UWE THUMM, James R. Macdonald Laboratory, Kansas State University, JAMES R. MACDONALD LABORATORY, KANSAS STATE UNIVERSITY TEAM — We analyze recently measured [1] interference patterns in the momentum-resolved single-ionization photoelectron spectra from helium by comparing the interference of contributions to calculated photoelectron spectra that originate from a few selected sub-IR-cycle time intervals during the laser-atom interaction. For contributions from just two time intervals that are centered at successive maxima of the laser-electric field with lengths of a few attoseconds, our calculation reproduce the measured interference structure in the momentum-resolved spectra.

[1] R. Gopal *et al.*, Phy. Rev. Lett. **103**, 053001 (2009).

[1]Supported by NSF and the US DOE.

Aihua Liu
James R. Macdonald Laboratory, Kansas State University

Date submitted: 04 Feb 2011 Electronic form version 1.4