

Abstract Submitted
for the DAMOP18 Meeting of
The American Physical Society

Ultrafast Detection of Ring Currents in Molecules¹ TENNESSE JOYCE, AGNIESZKA JARON-BECKER, JILA and Department of Physics, University of Colorado, Boulder — After interacting with a circularly polarized femtosecond laser pulse, atoms and molecules frequently exhibit persistent ring currents. The currents can be as strong as several milliamps, and they induce impressive local magnetic fields up to several Tesla. It has been conjectured that such currents could remain coherent for picoseconds or longer, although the prediction has not been verified experimentally. We discuss several schemes for attosecond time-resolved measurements of ring currents, which would provide a powerful tool for exploring the evolution of molecular symmetry and chirality.

¹This work was supported by NSF JILA Physics Frontier Center (Grant No. PHY1734006).

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Date submitted: 26 Jan 2018

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