



Contribution ID: 262

Type: **Student Poster**

## **Polarized Photoelectrons from Converging Vector Waves**

*Tuesday, 8 November 2022 17:00 (2h 30m)*

We investigate the photoelectron spin characteristics when hydrogenic ions are centro-symmetrically irradiated with converging vector waves — a non-paraxial form of structured light. A photon with given total angular momentum  $j$  and azimuthal mode number  $m$  generates photoelectrons with both helicities, in contrast to the fixed helicity produced by left- or right circularly polarized light. The angular distribution of the degree of polarization is broadly tunable through the radiation mode numbers, and the opposite helicities can be extracted in synchronism.

### **Acknowledgments**

This work was supported by the U.S. Department of Energy and Naval Research Laboratory 6.1 Base Funds.

**Primary authors:** YOUNIS, Daniel (University of Rochester, Department of Physics & Astronomy); Dr HAFIZI, Bahman (U.S. Naval Research Laboratory); Dr GORDON, Daniel (U.S. Naval Research Laboratory)

**Presenter:** YOUNIS, Daniel (University of Rochester, Department of Physics & Astronomy)

**Session Classification:** Poster Session and Reception

**Track Classification:** Poster Session: WG7 Poster: Radiation Generation and Advanced Concepts