



Contribution ID: 10

Type: **not specified**

X-ray spin-orbit conversion with resonant magnetic scattering

Wednesday 15 April 2026 14:30 (30 minutes)

Photon spin-orbit conversion occurs when a photon's spin angular momentum is converted to orbital angular momentum. This has been observed in the infrared and visible light regimes when scattering from subwavelength birefringent structures. However, the fabrication of such structures for x-ray wavelengths is not feasible. Here, we propose that x-ray spin orbit conversion (XSOC) can be achieved with resonant scattering from an appropriately designed magnetic structure. We have measured scattering from an artificial magnetic vortex structure with circularly polarized light to explore XSOC in the scattering process.

Presenter: MCCARTER, Margaret (University of Kentucky)

Session Classification: Session 3