



Contribution ID: 11

Type: **not specified**

## Manipulation of the orbital angular momentum of soft X-ray beams

*Wednesday 15 April 2026 15:00 (30 minutes)*

Production and manipulation of orbital angular momentum (OAM) of coherent soft X-ray beams is demonstrated utilizing consecutive diffractive optics. OAM addition is observed upon passing the beam through consecutive fork gratings. The OAM of the beam was found to be decoupled from its spin angular momentum (SAM). We argue that practical implementation of angular momentum control by consecutive devices in the X-ray regime opens new experimental opportunities, such as direct measurement of the beam's OAM without resorting to phase-sensitive techniques, including holography. We also briefly discuss and compare vortex magnetic dichroism measurements in the THz and x-ray ranges.

**Presenter:** KIRYUKHIN, Valery (Rutgers University)

**Session Classification:** Session 3