

Abstract Submitted
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High resolution copper M-Edge resonant inelastic X-ray scattering at MERLIN LEWIS WRAY, YI-DE CHUANG, Lawrence Berkeley National Laboratory — The Advanced Light Source MERLIN RIXS spectrometer (beamline 4.0.3) is a new user endstation for resonant inelastic X-ray scattering at the Advanced Light Source. I will discuss new scientific explorations that are expected to be possible with the system, including preliminary data obtained during the commissioning period on cuprate samples. Because very few previous studies have been performed at the M-Edge, the presentation will review how M-Edge scattering data at MERLIN resemble and differ from the more broadly studied transition metal K- and L-edges, including critical parameters of the excitation process such as fitted intermediate state lifetimes, X-ray penetration depth, spin-orbit coupling and scattering intensity for different types of excitation mode.

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