**The IXS Beamline: Capabilities and Opportunities***

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This contribution will present the current status and early commissioning results of the ultrahigh resolution inelastic x-ray scattering (IXS) beamline at NSLS-II, which has a design goal of sub-meV to the ultimate 0.1 meV resolution for inelastic x-ray scattering experiments on fast dynamics in exotic material systems ranging from soft matter, colloids, and biological materials with complexity and disorders in mesoscopic length scales, to systems in confined geometries such as surfaces, interfaces and in extreme pressure and temperature. The key instrument is a novel spectrometer with analyzer optics based on a highly-dispersive back-reflection optical system on a 5m scattering arm that covers a wide range of momentum transfer.

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