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THE NEXT GENERATION LIGHT SOURCE: FACILITY OVERVIEW AND APPLICATIONS FOR UNDERSTANDING CORRELATED MATERIALS

The Next Generation Light Source is a proposed high-repetition-rate soft X-ray FEL providing temporally and spatially coherent pulses with unprecedented brightness extending beyond 1 keV. Individual lasers/beamlines will be optimized for specific applications requiring e.g. high repetition rates, time resolution to the attosecond regime, high spectral resolution, tunability, and polarization control. This talk will provide a brief overview of the facility, and will discuss potential applications in photoemission as well as broader approaches for understanding correlated materials.