Abstract Submitted
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An Automated, High-Throughput System for GISAXS and GIWAXS Measurements[1] ERIC SCHAIBLE, Lawrence Berkeley National Laboratory, JESSICA JIMENEZ, JEMA Scientific, Inc., EUN HEE LIM, University of California at Santa Barbara, MATTHEW CHURCH, JEMA Scientific, Inc., CHRISTINA YEE, University of California at Berkeley, POLITE STEWART, ALASTAIR MACDOWELL, DULA PARKINSON, ED DOMNING, LEE YANG, Lawrence Berkeley National Laboratory, STEVEN ALVAREZ, University of California at Berkeley, ALEXANDER HEXEMER, Lawrence Berkeley National Laboratory — Grazing incidence small-angle X-ray scattering (GISAXS) and grazing incidence wide-angle X-ray scattering (GIWAXS) are important techniques for characterizing thin films. In order to meet rapidly increasing demand, the SAXSWAXS beamline at the Advanced Light Source (beamline 7.3.3) is implementing a fully automated, high-throughput system to conduct SAXS, GISAXS and GIWAXS measurements. An automated robot arm will transfer samples from a holding tray to a measurement stage. Intelligent software will align each sample in turn, and measure each according to user-defined specifications. Users will be able to mail in trays of samples, and will be able to monitor and control their experiments remotely. Data will be pipelined to the NERSC supercomputing facility, and will be available to users via a web portal that facilitates highly parallelized analysis.

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Eric Schaible
Lawrence Berkeley National Laboratory

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