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Rapid high-resolution spin- and time-resolved ARPES CHIU-YUN LIN, Department of Physics, University of California, Berkeley, KENNETH GOTLIEB, Graduate Group in Applied Science and Technology, University of California, Berkeley, CHRIS JOZWIAK, ZAHID HUSSAIN, AARON BOSTWICK, Advanced Light Source, Lawrence Berkeley National Laboratory, ALESSANDRA LANZARA, Department of Physics, University of California, Berkeley and Material Science Division, Lawrence Berkeley National Laboratory, ADVANCED LIGHT SOURCE, LAWRENCE BERKELEY NATIONAL LABORATORY COLLABORATION, GRADUATE GROUP IN APPLIED SCIENCE AND TECHNOLOGY, UNIVERSITY OF CALIFORNIA, BERKELEY COLLABORATION — A high-efficiency spin- and angle-resolved photoemission spectroscopy (spin-ARPES) spectrometer, coupled with a lab-based 6 eV laser, will be presented in this talk. Combining time-of-flight(TOF) energy measurements with low-energy exchange scattering spin polarimetry, spin-TOF ARPES achieves unprecedented measurements of near-EF physics rapidly. In addition, the successful integration of the spectrometer with the pulsed laser system demonstrates its potential for simultaneous spin- and time-resolved ARPES with pump-probe based measurements.

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