

Abstract Submitted  
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**Time-Resolved ARPES Study of Non-Equilibrium Quasiparticle Dynamics in Cuprate Superconductors** CHRISTOPHER SMALLWOOD, University of California, Berkeley; Lawrence Berkeley National Laboratory, JEFF GRAF, CHRIS JOZWIAK, Lawrence Berkeley National Lab, HIROSHI EISAKI, University of Tokyo; CREST, Japan Science and Technology Agency; RIKEN (The Institute of Physical and Chemical Research), ROBERT KAINDL, Lawrence Berkeley National Lab, DUNG-HAI LEE, ALESSANDRA LANZARA, University of California, Berkeley; Lawrence Berkeley National Laboratory — We use Time- and Angle-Resolved Photoemission (TR-ARPES) to measure the relaxation dynamics of low energy excitations in the cuprate superconductor Bi-2212. We find an as-yet unreported temperature dependence in nodal quasiparticle spectral weight which is sensitive to the critical temperature. We also find possible evidence for non-thermal transient electronic behavior.

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