

Abstract Submitted
for the MAR06 Meeting of
The American Physical Society

Laser ARPES on the cuprate superconductor Bi2212 JAKE KORALEK, University of Colorado and NIST, FRASER DOUGLAS, NICK PLUMB, University of Colorado, ZHE SUN, University of Colorado and the Advanced Light Source, MARGARET MURNANE, HENRY KAPTEYN, STEVE CUNDIFF, University of Colorado and NIST, Y. AIURA, K. OKA, H. EISAKI, AIST, DAN DESSAU, University of Colorado and NIST — We use 6 eV photons from the fourth harmonic of a Ti:Sapphire laser to perform ARPES on the cuprate superconductor Bi2212. The very low photon energy improves momentum resolution and reduces extrinsic background, offering the clearest picture yet of the single electron spectral function. We will present detailed analysis of the temperature dependence of the nodal spectral lineshapes and compare the predictions of Fermi liquid theory and marginal Fermi liquid theory to what is seen in the data. We will also discuss recent laser ARPES results for overdoped and underdoped Bi2212.

jake koralek
University of Colorado and NIST

Date submitted: 04 Dec 2005

Electronic form version 1.4