

Abstract Submitted
for the MAR05 Meeting of
The American Physical Society

Exploring the influence of out-of-plane impurities on the electronic structure of BSCCO-2212 K. MCELROY, JINHO LEE, LASSP, Cornell University, H. EISAKI, AIST, Japan, S. UCHIDA, University of Tokyo, Japan, J. C. DAVIS, LASSP, Cornell University — Nonstoichiometric atoms (NSA) are universally found in the High-Tc superconductors. BSCCO-2212 (the most studied of these compounds on the nanoscale) shows inhomogeneity (K. M. Lang et al Nature 2001) and the effects of weak scattering of low energy quasiparticles in much of its phase diagram (K. McElroy et al, Nature 2003; cond-mat/0406491). However, the interaction of these nanoscale low energy phenomena with the NSA is unknown. We report on scanning tunneling microscope (STM) experiments that identify these NSA and characterize their effects on the low energy electronic structure.

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Date submitted: 02 Dec 2004

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