

Abstract Submitted
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Isotope effect on the nodal kink energy in Bi2212 J.F. DOUGLAS, University of Colorado, Boulder, H. IWASAWA, Tokyo University of Science, National Institute of Advanced Industrial Science and Technology, K. SATOU, H. EISAKI, Y. YOSHIDA, H. BANDO, National Institute of Advanced Industrial Science and Technology, T. SAITOH, Tokyo University of Science, A. INO, M. TANIGUCHI, Hiroshima University, M. ARITA, K. SHIMADA, H. NAMATAME, Hiroshima Synchrotron Radiation Center, Hiroshima University, T. MASUI, S. TAJIMA, Osaka University, S. UCHIDA, University of Tokyo, Y. AIURA, National Institute of Advanced Industrial Science and Technology, D.S. DESSAU, University of Colorado, Boulder — Using low energy angle resolved photoemission spectroscopy (le-ARPES), we have observed an energy shift of the nodal kink upon substitution of ^{18}O for ^{16}O in optimally doped ($T_c \sim 92\text{K}$) $\text{Bi}_{2.1}\text{Sr}_{1.9}\text{CaCu}_2\text{O}_{8+\delta}$. Studying several samples of each isotope, we find that the kink energy decreases by 3.22 ± 0.72 meV upon ^{18}O substitution, in good agreement with the energy shift one would expect from a phononic mode. This strongly supports the view that the nodal dispersion kink arises from electronic coupling to a phonon mode.

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