

Abstract Submitted
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Inelastic X-ray scattering study of the bond stretching phonon mode in $\text{Bi}_2\text{Sr}_{2-x}\text{Cu}_2\text{O}_{6+\delta}$ D. SIEGEL, University of California Berkeley, J. GRAF, LBNL, M. D'ASTUTO, IMPMC, A.Q.R. BARON, Spring-8, H. EISAKI, AIST, A. LANZARA, University of California Berkeley — The phonon dispersions of the single layer high temperature superconductor $\text{Bi}_2\text{Sr}_{2-x}\text{Cu}_2\text{O}_{6+\delta}$ along the $[\xi 0 0]$ direction have been determined by inelastic x-ray scattering. The two highest longitudinal phonon branches, associated with the Cu-O bond stretching and out-of-plane oxygen vibration, are clearly resolved for the first time. The comparison with $\text{La}_2\text{Sr}_x\text{Cu}_2\text{O}_0$ will be discussed.

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