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Doping-dependence of CDW Order in Bi2201, Measured by Phase-Sensitive STM[1] TATIANA A. WEBB, YANG HE, Harvard University, MICHAEL C. BOYER, Clark University, ERIC W. HUDSON, Pennsylvania State University, MOHAMMAD H. HAMIDIAN, Harvard University, The University of California at Davis, JENNIFER E. HOFFMAN, Harvard University — The cuprate phase diagram shows a charge density wave (CDW) dome within the pseudogap regime and intersecting the superconducting dome. However, there are important variations among members of the cuprate high-Tc family that can yield deep insight into how the phases interact. Here, we use scanning tunneling microscopy to investigate the doping dependence of the CDW order in $(Bi,Pb)_2(Sr,La)_2CuO_{6+\delta}$ (Bi2201). Sublattice-resolved phase sensitivityallows us to disentangle electronic components with different intra-unit cell symmetry. The energy and doping dependent evolutions show a connection with the superconducting and pseudogap phases.

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