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Angle resolved photoemission spectroscopy study of $HgBa_2CuO_{4+\delta}$ I.M. VISHIK, Massachusetts Institute of Technology, N. BARISIC, Service de Physique de l'État Condense; University of Minnesota; Vienna University of Technology, Y. LI, Peking University, GUICHUAN YU, University of Minnesota, XUDONG ZHAO, State Key Lab of Inorganic Synthesis and Preparative Chemistry; University of Minnesota, W.S. LEE, SLAC National Accelerator Laboratory, W. MEEVASANA, Suranaree University of Technology, T.P. DEVEREAUX, SLAC National Accelerator Laboratory, M. GREVEN, University of Minnesota, Z.-X. SHEN, Stanford University; SLAC National Accelerator Laboratory — $HgBa_2CuO_{4+\delta}$(Hg1201) is a model cuprate for scattering, optical, and transport experiments, but angle-resolved photoemission spectroscopy (ARPES) data are still lacking owing to the absence of a charge-neutral cleavage plane. We report on progress in achieving the optimal experimental conditions where quasiparticles can be observed in the near-nodal region. The superconducting gap, Fermi surface, and nodal kink were measured and quantified by ARPES for the first time in Hg1201, providing a crucial momentum space complement to other experimental probes.

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