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ARPES study on Tl-based Cuprates WEI-SHENG LEE, KIYOHISA TANAKA, Stanford University & SIMES, SLAC, INNA VISHIK, Stanford University, DONGHUI LU, ROB MOORE, Stanford University & SSRL, SLAC, HIROSHI EISAKI, AKIRA IYO, AIST, Japan, THOMAS DEVEREAUX, ZHU-XUN SHEN, Stanford University & SIMES, SLAC — Here we report the angle-resolved photoemission measurements on nearly optimally multi-layer Tl-based superconducting copper oxides, including $Tl_2Ba_2CaCu_2O_8$ (Tl-2212), $TlBa_2Ca_2Cu_3O_9$ (Tl-1223), and a comparison to the data of single layer $Tl_2Ba_2CuO_6$ (Tl-2201). Consistent with other optimally-doped cuprates, a hole-like Fermi surface and sharp quasi-particle peak in the superconducting state is observed. The renormalization effect due to the coupling of bosonic modes is also observed, which exhibits intriguing materials dependence. Implications of the observed material dependent renormalization effect will also be discussed.

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