

Doping Evolution of Mass Renormalization Effects in Bi2201 Superconductors Revealed by VUV Laser-Based ARPES

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We have carried out VUV laser-based angle-resolved photoemission (ARPES) on $Bi_2(Sr_{2-x}La_x)CuO_{6+\delta}$ (abbreviated as La-Bi2201) and $(Pb_yBi_{2-y})Sr_2CuO$ (abbreviated as Pb-Bi2201) samples with different dopings. We find that the mass renormalization effect along the $(0,0) - (\pi,\pi)$ nodal direction is strongly dependent on the hole doping level. Possible implications of the observation will be discussed.