The evolution of electronic structure of Bi$_2$Sr$_{2-x}$Bi$_x$CuO$_{6+\delta}$ revealed by ARPES ZHIHUI PAN, P. BISHAY, P. RICHARD, M. NEUPANE, Z. WANG, H. DING, Boston College, H.-H WEN, Institute of Physics and National Lab for Condensed Matter Physics China — Bi$_2$Sr$_{2-x}$Ln$_x$CuO$_{6+\delta}$ (Ln is a trivalent element) is a good candidate to investigate the effects of charge doping and potential disorder to the properties of the high-Tc cuprates. High-quality single crystals of Bi$_2$Sr$_{2-x}$Bi$_x$CuO$_{6+\delta}$ (Bi-Bi2201) have been synthesized over a wide substitution range ($0 < x < 0.6$) where the sample evolves from an overdoped superconductor to an insulator. We will report our ARPES results on the evolution of electronic structure of Bi-Bi2201.

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Date submitted: 14 Nov 2006

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