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Evolution of the electronic structure from the insulator to the superconductor in Bi2212 cuprates KIYOHISA TANAKA, TEPPEI YOSHIDA, Univ. of Tokyo, KYLE MICHAEL SHEN, DONGHUI LU, WEI-SHENG LEE, Stanford Univ., HAJIME YAGI, ATSUSHI FUJIMORI, Univ. of Tokyo, ZHI-XUN SHEN, Stanford Univ., . RISDIANA, TAKENORI FUJII, ICHIRO TERASAKI, Waseda Univ. — We have performed angle-resolved photoemission study of $Bi_2Sr_{2-x}La_xCaCu_2O_{8+\delta}$ (Bi2212) cuprates from the lightly-doped to the underdoped region, which can be achieved by a recent progress in sample synthesis. We found that the lower Hubbard band (LHB) of the parent insulator is gradually shifted upward with hole doping without changing the global dispersions, which indicates a shift of the chemical potential with hole doping. This behavior is analogous to that in $Ca_{2-x}Na_xCuO_2Cl_2$ (Na-CCOC) but is different from $La_{2-x}Sr_xCuO_4$ (LSCO), where the LHB stays well below the chemical potential and does not move in the underdoped region. The details of the electronic structure for different families of cuprates will also be compared from the viewpoint of doping dependence of the quasiparticle band and the k_F position and the observed difference will be discussed.

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