

Abstract Submitted
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Laser-ARPES Study on Electron Scattering in Overdoped Bi2201 Superconductor YING DING, LIN ZHAO, LI YU, CHENG HU, XUAN SUN, JING LIU, PING AI, GUODONG LIU, Beijing National Laboratory for Condensed Matter Physics, Institute of Physics, Chinese Academy of Sciences, Beijing 100190, China, CHUANGTIAN CHEN, ZUYAN XU, Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, Beijing 100190, China, XINGJIANG ZHOU, Beijing National Laboratory for Condensed Matter Physics, Institute of Physics, Chinese Academy of Sciences, Beijing 100190, China, INSTITUTE OF PHYSICS, CHINESE ACADEMY OF SCIENCES COLLABORATION, TECHNICAL INSTITUTE OF PHYSICS AND CHEMISTRY, CHINESE ACADEMY OF SCIENCES, BEIJING 100190, CHINA COLLABORATION — We will present our high resolution angle-resolved photoemission (ARPES) measurements on heavily overdoped $\text{Bi}_2\text{Sr}_2\text{CuO}_6$ superconductors. With substitution of lead (Pb) and high oxygen pressure annealing, overdoped and heavily overdoped Pb-doped $\text{Bi}_2\text{Sr}_2\text{CuO}_{6+x}$ (Pb-Bi2201) single crystals have been prepared. Laser-based ARPES measurements with high energy and momentum resolutions have been carried out to study the electron scattering rate as a function of momentum and temperature for Pb-Bi2201 with different doping levels. The implication of these results on understanding the anomalous normal state properties of the high temperature cuprate superconductors will be discussed.

Ying Ding
Chinese Academy of Sciences (CAS)

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