

Laser ARPES on Many-Body Effects in Cuprate Superconductors

Xingjiang Zhou

National Lab for Superconductivity Institute of Physics

Chinese Academy of Sciences Beijing 100190, China

XJZhou@aphy.iphy.ac.cn

The Vacuum Ultraviolet (VUV) laser-based angle-resolved photoemission spectroscopy (ARPES) has unique advantages such as super-high energy resolution (better than 1 meV), high momentum resolution, super-high photon flux and enhanced bulk sensitivity [1]. We have carried out laser-ARPES studies on many-body effects[2,3], energy gap[4] and Fermi surface topology [5] in high-Tc cuprate superconductors. In this talk, I will discuss some latest results on many-body effects in Bi2201 and Bi2212.

References:

- [1]. Guodong Liu et al., Review of Scientific Instruments 79 (2008) 023105.
- [2]. W. T. Zhang et al., Phys. Rev. Lett. 100 (2008) 107002.
- [3]. W. T. Zhang et al., Phys. Rev. Lett. 101 (2008) 017002.
- [4]. J. Q. Meng et al., Phys. Rev. B . 79 (2009) 024514.
- [5]. J. Q. Meng et al., Nature 462 (2009) 335.