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The self-energies and bosonic spectrum of high T_c cuprate from laser-based ARPES. JIN MO BOK, JONG JU BAE, HAN-YONG CHOI, Sungkyunkwan Univ, LI YU, X. J. ZHOU, Institute of Physics, Chinese Academy of Science, CHANDRA M. VARMA, University of California, Riverside — While phonon mediated conventional superconductors are revealed by comparing tunneling and neutron scattering experiment, high T_c cuprate which has d-wave symmetry is still in debate. Laser-based AREPS can provide both momentum and energy dependence of spectral function that enables self-energy extraction using one particle Greens function. It is well known that anisotropy of electronic structure and d-wave superconducting gap on ARPES experiments. We analyzed high resolution APRES data of under and overdoped Bi2212 and extracted both normal and pairing self-energy. Here we report the extracted normal and pairing self-energy in superconducting state. Also we obtained bosonic spectrum from both self-energies by performing maximum entropy method. Implications of these results for understanding the superconductivity mechanism will be discussed.

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