

Surfing q -space with AutoCorrelated ARPES

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The emerging technique of Fourier Transformed Scanning Tunneling Microscopy (FT STM) has recently provided fascinating insights into quasiparticle scattering processes in high temperature superconductors. Here we will discuss complementary technique of AutoCorrelation Angle Resolved Photoemission Spectroscopy (AC ARPES). Since ARPES measures directly the imaginary part of the Green's function, the autocorrelation function of the ARPES momentum distribution maps has very simple physical meaning. The combination of the two techniques provides very powerful tool to understand the the excitations in strongly correlated materials. We will discuss application of the AC ARPES technique to the pseudogap state in cuprates.