ARPES studies on the pairing symmetry and mechanism of iron-based superconductors

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Angle-resolved photoemission spectroscopy (ARPES) has been used extensively in studying electronic structure and superconducting gap of the iron-based high-temperature superconductors. In this talk, I will present our ARPES results on these new superconductors, mainly focus on high-resolution measurements of the superconducting gap of different iron-based superconductors, including 122, 111, and 11 systems. Our results observed Fermi surface dependent nodeless superconducting gap on all these materials, and suggest that the superconductivity of the iron-based superconductors is likely to be driven by short-range antiferromagnetic fluctuations.

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