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ARPES study of high-temperature cuprate superconductor Bi2212 across critical dopings

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In the hole-doped cuprate high-temperature superconductors, the special doping $p = 0.19$ with various anomalies has attracted considerable research interest, with close connection to the pseudogap and strange metal [1]. In this talk, we present systematic angle-resolved photoemission (ARPES) studies across $p = 0.19$ in Bi2212. The results provide important insights into the nature of this special doping and the phenomenology of the cuprates [2, 3]. Further, we plan to discuss significant superconducting fluctuations on a single coherent, hole-like Fermi surface in heavily overdoped regime [4].

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