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ARPES in the cuprate superconductors – a mean field study
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— Angle resolved photo-emission spectroscopy (ARPES) experiments have played a key role in disclosing information about the cuprates. Intriguing features observed by ARPES in hole underdoped materials include the development of spectral weight inside the Mott gap, the nodal dispersion "kink" and the Fermi arcs. We show that a new mean field approach to the $tt't''J$ model, which describes doped Mott insulators in terms of hole-like quasiparticles and spin-charge separated excitations, provides a framework to account for the observed evolution of the electron spectral function from the undoped insulator to the overdoped Fermi metal.

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