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Photoemission spectra of charge density wave states in cuprates
WEI-LIN TU, Dept. of Physics, National Taiwan University, PENG-JEN CHEN, TING-KUO LEE, Institute of Physics, Academia Sinica — Angle-resolved photoemission spectroscopy(ARPES) experiments have reported many exotic properties of cuprates, such as Fermi arc at normal state, two gaps at superconducting state and particle-hole asymmetry at the antinodal direction[1]. On the other hand, a number of inhomogeneous states or so-called charge density waves(CDW) states have also been discovered in cuprates by many experimental groups. The relation between these CDW states and ARPES spectra is unclear. With the help of Gutzwiller projected mean-field theory[2], we can reproduce the quasiparticle spectra in momentum space. The spectra show strong correspondence to the experimental data with afore-mentioned exotic features in it.\pard1. I. Vishik et al, PNAS 109, 18332-18337(2012).. Wei-Lin Tu and Ting-Kuo Lee, arXiv: 1505.07728(2015).

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