

Abstract Submitted
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The effect of electron pockets on the quasiparticle interference patterns in cuprates KANGJUN SEO, JIANGPING HU, Purdue University — We study the hole/electron pockets in the d -density wave and the spin density wave states. While the hole/electron pockets can be seen in the presence of the DDW and the SDW orders, the shape, locations, and the number of the Fermi pockets are different, depending on the band structures and the wavevectors of the order parameters. We calculate the local density of states in the presence and the absence of the electron pockets in the DDW and SDW states. We find that the quasiparticle scattering interference patterns by the single impurity are dramatically affected in the presence of the DDW and SDW order in comparison with one without the electron pockets.

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