

Abstract Submitted
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Hole Dynamics in a 2D Striped-Ordered Quantum Antiferromagnet SATYAKI KAR, MARTECH & Physics Department, FSU, Tallahassee, FL, EFSTRATIOS MANOUSAKIS, MARTECH & Physics Department, FSU, Tallahassee, FL & University of Athens, Greece — We study the single hole motion in a 2D quantum antiferromagnet in a stripe background within the $t - J$ model, using an additional ferromagnetic term along the domain walls to stabilize the stripes. The spin wave approximation is used to linearize the Hamiltonian and we calculate the different flavors of spin-wave dispersions and hole propagators by means of a self consistent perturbation scheme within the non-crossing approximation. The hole spectral functions will be compared to the experimental ARPES data available for $La_{2-x}Sr_xCuO_4$ and concentration of $x = \frac{1}{8}$.

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