

Abstract Submitted
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Spin-density-wave and superconductivity in iron-pnictide based superconductors¹ TAO ZHOU, Texas Center for Superconductivity and Department of Physics, University of Houston, Houston, Texas 77204, DEGANG ZHANG, CHIN-SEN TING — We study theoretically the coexistence of the spin-density-wave (SDW) and superconductivity in electron-doped iron-pnictide superconductors based on the two orbital model and Bogoliubov- de Gennes equations. The phase diagram is mapped out and the evolution of the Fermi surface as the doping varies is presented. The local density of states has also been calculated from low to high doping. We show that the strength of the superconducting coherent peak at the positive energy gets enhanced and the one at the negative energy is suppressed by the SDW order in the underdoped region. Several features of our results are in good agreement with the experiments.

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