

Theoretical study of pairing symmetry in iron-based superconductors

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Abstract. For the newly discovered iron-based superconductors, we propose a one band model for conduction band with first and second-nearest-neighbor electron hoppings with s-wave, d-wave and s_{\pm} -wave pairing symmetries for the superconductivity. We have calculated the Green's functions from which the temperature dependent superconducting (SC) gap and tunneling conductance are calculated and computed numerically taking 100×100 grid points of electron momentum throughout the Brillouin zone. The evolution of the SC gap and the tunneling conductance spectra are investigated for different model parameters of the system.

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