

Superconducting properties of pnictides within a low-energy multiband approach

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The occurrence of superconductivity in pnictides renewed in the last year the interest in the physics of multi-band superconductors. However, what makes the case of pnictides very peculiar is the fact that pairing has mainly an interband character, as due to exchange of spin fluctuations between hole and electron pockets. These two characteristics make the theoretical description of pnictides much more involved than what is usually believed. In this talk I will review some of our recent results based on a four-band model with anisotropic interactions, where pairing is described within the Eliashberg theory. I will show that this approach allows us to account for several spectroscopic[1,2,3] and thermodynamic[2,4] properties of pnictides that are not directly captured by LDA+DMFT calculations.

References

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