Impurity effects in ferropnictide superconductors: localization vs banding

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We consider the restructuring of the quasiparticle spectrum in superconducting ferropnictides with impurities. In contrast to the well known insensitivity of common BCS superconductor to impurities by the Anderson theorem, it is shown here that multiorbital electronic structure and extended s-wave type of superconducting order can permit formation of specific narrow in-gap impurity band of conducting states. The observable effects of this spectral feature in electromagnetic (London penetration length), thermodynamical (specific heat, transition temperature), and transport (heat and optical conductivity) properties are discussed. They are compared with available experimental data.