

Kondo impurity between superconducting and metallic reservoir: the flow equation approach.

M. Barańska

Polish Air Force University, ul. Dywizjonu 303, 08-521, Deblin, Poland

Correlated quantum impurity embedded in a metallic host can form the many-body Kondo state with itinerant electrons due to the effective antiferromagnetic coupling. Such effect is manifested spectroscopically by a narrow Abrikosov-Suhl peak appearing at the Fermi level below a characteristic temperature T_K (Kondo temperature). We analyze nanoscopic heterojunction where the correlated quantum impurity is coupled to superconducting reservoir. We study influence of the induced on-dot pairing on the exchange interaction adopting the continuous unitary transformation and compare our predictions with other theoretical method results and experimental data.