

# Kondo effect with spin selective pseudogap in double quantum dot ring with Rashba interaction

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A system composed of a strongly correlated Kondo dot and a noninteracting dot placed in the arms of Aharonov-Bohm ring is investigated theoretically. The ring is coupled to the normal leads. This configuration is treated as a correlated impurity embedded in a host with energy and flux dependent density of states. When the level of the noninteracting dot is tuned to the Fermi level, a pseudogap opens in the density of states of the host. Presence of the Rashba field allows opening of the pseudogap spin selectively. As a result, electron correlations inside the Kondo dot are diminished selectively, which creates in finite temperature spin polarization at the Fermi level. This Rashba-correlation-induced spin polarization reaches its maximum for temperature corresponding to the Kondo temperature of the Anderson impurity in the host with constant density of states. The spin polarization manifests itself in the zero bias conductance through the device, which is also demonstrated and discussed as well as some experimental implications.