

Kondo-Fano effect in double quantum dot side attached to a pair of wires

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Electron tunneling through a double quantum dot side coupled to a pair of leads is examined in finite-U slave boson mean field approach. Both the two-impurity Kondo regime at half filling and one- and three-electron Kondo effects are analyzed. With the increase of interdot tunneling at half filling, an antiferromagnetic coupling develops between the spins localized in each dot, and when the Kondo state is suppressed the full transparency of the wires is recovered. Special attention is paid to the case when one of the dots is coupled to ferromagnetic leads and another to nonmagnetic. Depending on the gate voltage, the same or opposite sign of spin polarizations of conductance of magnetic and nonmagnetic leads is observed.