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Ferromagnetic vs. Antiferromagnetic Correlations in a Double Dot System MANAS KULKARNI, Stony Brook University and Brookhaven National Laboratory, ROBERT KONIK, ALEXEI TSVELIK, Brookhaven National Laboratory — We study a double dot system in a parallel geometry using both a large-N diagrammatic and a SBMFT approach. We consider the role of interdot ferromagnetic correlations upon the conductance. We find at the particle-hole symmetric point that the Friedel sum rule holds and the conductance vanishes. We find that the ground state of the double dot system is a singlet although the correlations between the two dots is primarily ferromagnetic. Hence we observe that the RKKY interaction does not bind the two electrons on the dots into a triplet. We compare our results to a Bethe ansatz analysis of the same system [1]. [1] R.Konik PRL 99, 076602 (2007)

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