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Zeeman vs resonance splitting effects in a double quantum dot system[1] N. SANDLER, Ohio U, E. VERNEK, UFU-Brasil, L.G.G.V. DIAS DA SILVA, ORNL-UT, K. INGERSENT, U Florida, S.E. ULLOA, Ohio U — Electron correlations in quantum dot (QD) systems have many intriguing consequences. At low temperatures, the coupling between confined and conduction electrons is known to realize the Kondo effect. This phenomenon exhibits new and interesting features when electrons in an interacting QD hybridize with a non-flat conduction band. For example, when the QD is side-connected to external leads via a second large (noninteracting) QD, the effective density of states coupling to the interacting QD can have a peak at or near the Fermi level. In this regime, interference between the many-body Kondo state in the interacting dot and the single-particle resonance on the other dot causes splitting of the Kondo resonance [1] Here, we use the numerical renormalization group method to study this double-QD system in the presence of an external *in-plane* magnetic field. We explore the interplay between different energy scales and discuss the behavior of the Kondo resonance in the presence of competing interactions. The in-plane field suppresses the Kondo effect, although this requires a stronger field than for a single QD, and the conductance decreases with field in a non-universal fashion. [1] L. G. G. V. Dias da Silva *et al.*, Phys. Rev. Lett. **97**, 096603 (2006).

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