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The Kondo Effect in a Double Quantum Dot SAMI AMASHA, ILEANA RAU, ANDREW KELLER, Stanford University, JORDAN KATINE, Hitachi Global Storage Technologies, HADAS SHTRIKMAN, Weizmann Institute, DAVID GOLDHABER-GORDON, Stanford University — A quantum dot consists of a confined droplet of electrons connected to electron reservoirs by tunnel barriers. When the dot has an odd number of electrons it has a net spin. The electrons in the reservoir can screen this spin via the Kondo effect, which corresponds to a many-body, highly correlated electron state. We study a lateral GaAs/AlGaAs double quantum dot, where one or both of the dots can be in the Kondo regime. The dots are also coupled to each other, and this inter-dot interaction can compete with the Kondo effect. We report transport measurements in this system at low electron temperatures and for a variety of inter-dot couplings.

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