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Evidence of anisotropic Kondo coupling in nanostructured devices[1] LUIZ N. OLIVEIRA, KRISSIA ZAWADZKI, Instituto Fisica Sao Carlos, University of Sao Paulo — In spite of recent advances, the theory of electrical conductance through semiconducting nanodevices has fallen short of quantitative agreement with experiment. Consider, in particular, the single-electron transistor, a quantum dot bridging two otherwise independent two-dimensional electron gases. One would expect the universal function $G_u(T/T_K)$ describing the zero-bias conductance for the symmetric spin-degenerate Anderson model as a function of the temperature scaled by the Kondo temperatur T_K to match experimental data. In practice, however, attempts to fit measurements with G_u have had to rely on *ad hoc* offset adjustments and, even then, obtained only fair agreement. Here, we extend a freshly-derived mapping between the function $G_u(T/T_K)$ and the conductance for the (generally asymmetric) Anderson model to allow for partial screening of the dot moment at high temperatures and show the mapping to fit the zero-bias conductances reported by Grobis et al., Phys. Rev. Lett. **100**, 246601 (2008) within experimental error. While other sources of partial screening cannot be ruled out, our results suggest the Kondo coupling between the dot moment and the electron spins in the adjacent gases to be anisotropic.

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