

Abstract Submitted
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The role of magnetic anisotropy in the Kondo effect ALEXANDER OTTE, NIST, MARKUS TERNES, IBM Research, KIRSTEN VON BERGMANN, Universitaet Hamburg, SEBASTIAN LOTH, IBM Research, HARALD BRUNE, EPFL, CHRISTOPHER LUTZ, IBM Research, CYRUS HIRJIBEHDIN, University College London, ANDREAS HEINRICH, IBM Research — The Kondo effect is a fascinating many-body phenomenon, the origin of which is often unclear. Using a Scanning Tunneling Microscope operating at 0.5 K, we study inelastic spin excitations on individual atoms bound atop a thin insulating Cu_2N layer. We find that, unlike previously studied Fe and Mn atoms, the spins of Co and Ti atoms are Kondo screened in this environment. By applying strong magnetic fields in various directions we are able to precisely analyze the magneto- crystalline anisotropy experienced by the spins, and consequently their orientations relative to the surface. We show that the anisotropy plays a major role in determining whether or not a spin becomes Kondo screened, and how the Kondo effect is influenced by a magnetic field.

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