A time-dependent Numerical Renormalization Group Analysis of Single Molecule Magnets — •David Roosen[1], Maarten Wegewijs[2], and Walter Hofstetter[1] — [1]Institut für Theoretische Physik, J. W. Goethe-Universität, D-60438 Frankfurt, Germany — [2]Institut für Theoretische Physik A, RWTH Aachen, D-52056 Aachen, Germany

It has recently become possible to perform experiments where single molecule magnets (SMMs), which exhibit a large intrinsic spin, are attached to metallic leads and electronic transport is measured [1]. Motivated by this, a simple quantum impurity model describing SMMs was studied theoretically and it was found that the anisotropy energies dramatically change the Kondo effect observed in such systems, even making a complete screening of the magnetic degrees of freedom possible [2].

We have investigated the *time-dependent* Kondo effect in a single molecule magnet strongly coupled to metallic electrodes, with a sudden perturbation at time $t = 0$. We use a generalization of the Numerical Renormalization Group for nonequilibrium situations [3]. Applying this method to a Kondo model with large spin $S > 1/2$ we systematically analyze the underscreening of the local moment and the effects of anisotropy terms on the real-time dynamics of the magnetization.

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