

Abstract Submitted
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Kondo effect signatures in the electronic transport through a single-ion magnet under an applied transverse magnetic field¹ JAVIER ROMERO, University of Central Florida, EDSON VERNEK, Universidade Federal de Uberlandia, GEORGE MARTINS, Oakland University, EDUARDO MUCCIOLO, University of Central Florida — We study the low-temperature electronic transport properties of a single magnetic ion molecule (SMIM) in the presence of a rhombic ligand field using the numerical renormalization group method. The rhombic ligand environment induces uniaxial and transverse zero-field spin anisotropies in the ion. We find signatures of a Kondo effect caused by the presence of a transverse (zero-field) anisotropy in the molecule. Upon applying a transverse magnetic field to the SIMM, we observe oscillations of the Kondo effect near the diabolical (degeneracy) points of the energy spectrum of the molecule. The field-induced lifting of the ground state degeneracy competes with the interference modulation, resulting in some situations in a suppression of the Kondo peak.

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