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Photon-induced Spin Tunneling in Giant Molecules Coupled to Superconducting Resonators M.-Y. TSANG[1], M. SCHEFFLER, M. DRESSEL, L. BOGANI, Physikalisches Institut, Universität Stuttgart — We present a model of magnetization relaxation of Mn12-acetate strongly coupled with photonic cavity resonator in low-temperature regimes ($T \leq 1K$), a model based on photon-assisted-spin-tunnelling-induced, quartic magnetic anisotropy, on weak transverse magnetic fields and on photonic excitations. With the model, one calculates the spin-tunnelling rate as a function of the longitudinal magnetic field, whence we further determine the transition probability of a trapped photon as a function of both photon energy and external transverse magnetic field strength. This research is supported by the Sofja Kovalevskaja prize and German DFG (SFB-TRR21 and SPP1601).

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