

Abstract Submitted
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Transverse magnetization and transient oscillations in the quantum tunneling of molecular magnets TIMOTHY ZIMAN, Institut Laue Langevin/CNRS, MAXIME CLUSEL, Institut Laue Langevin — We calculate the response of a molecular magnet subject to a time-varying magnetic field and perturbatively coupled to a heat bath. The effective model of a triangle of Heisenberg spins and weak anisotropies is as has been used to model the molecular magnets $\{V_{15}\}$ and $\{Cu_3\}$. Oscillations parallel and transverse to the field direction correspond to transient effects in quantum tunneling. We propose that observations of these oscillations, particularly those transverse to the field, may be an effective way to probe the details of level repulsion and coupling to the environment.

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