

## HYSTERETIC PHENOMENA IN MAGNETS WITH TENSOR INTERACTIONS

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### S u m m a r y

Magnetic properties of a uniaxial singlet magnet with tensor interactions have been studied. A case where the atomic spins equal 1, and the external magnetic field is directed along the axis of crystal symmetry, is considered. The diagram of stability and metastability in the temperature versus field coordinates is plotted for the quadrupole (QP) and ferromagnetic (FM) phases. It revealed two metastability regions. In one of them, the QP phase is stable, but the FM one can be metastable only. In the other region, the opposite situation is realized. The “hysteretic” dependence of the magnetization on the field is obtained. An analytic dependence of the magnetization reversal energy on the Hamiltonian parameters of the system at zero temperature is derived.