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**Decay of Rabi spin oscillations generated by the acoustic wave in single-molecule magnets** GWANG-HEE KIM, Sejong University, Seoul 143-747, South Korea — We study the decay of Rabi spin oscillations generated by the sound wave close to the resonance. The analytical form of decay is obtained as a function of the phenomenological coupling constant whose internal dynamics is mainly caused by phonon coupling of single-molecule magnets. It is shown that the starting condition produced by the longitudinal magnetic field plays an important role in changing the oscillation period and the amplitude. The form of decay and the adjustable starting condition can be used to observe the oscillations of the magnetization of the sample in experiment.

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