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Effects of microwave on spin tunneling in single-molecule magnets GWANG-HEE KIM, Sejong Univ., Seoul, TAE-SUK KIM, Seoul National Univ., Seoul — We study theoretically the effects of the irradiated microwave on the magnetization in single-molecule magnets (SMMs) like V_{15} and Fe_8. We find that the shape of magnetization depends on the microwave intensity as well as the microwave polarization. The applied microwave field enhances the tunneling probability. The linearly polarized microwaves induce the suppression of magnetization at both positive and negative magnetic fields. The circularly polarized microwaves are absorbed either at one direction of magnetic field or at both directions of magnetic fields, depending on the polarization directions with respect to the direction of longitudinal magnetic field. The generic features we found will be compared with the recent experimental results.

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