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# Magnetic resonant and non-resonant investigations of LiLnF4 (Ln = Y, Tm) powders

Klochkov A., Kurzin S., Mukhamedshin I., Nabiullin D., Naletov V., Suzuki H., Salikhov I., Tagirov M., Tayurskii D., Zhdanov R.

*Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia*

## Abstract

The properties of dielectric powders of the Van Vleck paramagnet LiTmF4 and its diamagnetic analogue LiYF4 have been investigated by both resonant methods (EPR, NMR, and the mass-spectroscopy) and non-resonant ones (conductometry and magnetization measurement). On the basis of experimental data and theoretical calculations a self-consistent model for the magnetic and other properties of these powders is suggested. Two structural phase transitions induced by the magnetic field are discovered in fine LiTmF4 powder at low temperature in a high magnetic field.