

## Magnetic and magnetoelastic properties of LiDyF<sub>4</sub> single crystals

Romanova I., Korableva S., Krotov V., Malkin B., Mukhamedshin I., Suzuki H., Tagirov M.  
*Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia*

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### Abstract

Temperature and magnetic field dependences of the magnetization of LiDyF<sub>4</sub> single crystal were measured with a dc-SQUID magnetometer. The longitudinal magnetostriction was measured by the capacitance-bridge method. A giant compression of the crystal lattice up to 0.1% was observed in the magnetic field of 1 T along the [110] direction at 4.2 K. Experimental data are well reproduced by simulations based on the microscopic models of the single-ion magnetoelastic and inter-ion multipole interactions. © Published under licence by IOP Publishing Ltd.

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