DYNAMIC OF MAGNETIZATION AND HYSTERESIS PHENOMENA IN QUASI ONE DIMENSIONAL ISING MAGNET $[(CH_3)_3NH]CoCl_3x2H_2O$

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The processes of reversal magnetization of quasi one dimensional Ising antiferromagnet $[(CH_3)3\ NH]CoCl_3x2H_2O$ was investigated in temperature range 4.2-0.5 K in magnetic fields up to 6 kOe as well as relaxation processes.

It was shown, that the hysteresis of magnetization in magnetic field at temperatures below 2.5K is dynamical because of sharp increasing of the relaxation time up to 10^3 s and more with the temperature decreasing. The relaxation time also demonstrate a strong dependence on applied magnetic field.

The received results are described in model of relaxation processes in weakly interacting superparamagnetic particle. where relaxation processes are determine by a thermal overcoming of potential barriers. The characteristic constants of relaxation times were found, as well as the volume of magnetic domains.

9.7 cm

13.4 cm

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