Magnetic field induced spin dynamics in $KEr(MoO_4)_2$

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Specific heat study identified $KEr(MoO_4)_2$ as a quasi-two-dimensional array of S' $= 1/2$ Ising chains with ferromagnetic intrachain interaction $|J_1|/k_B \approx 0.9$ K and antiferromagnetic interchain coupling $|J_2| \approx 0.2|J_1|$ [1]. A phase transition to the magnetic ordered state has been observed at $T_c = 0.95$ K [1]. Analysis of the specific heat in the fields up to 1 T applied along the easy axis suggests that a one-dimensional Ising spin cluster model is a good approximation for this system [2]. We studied magnetic field and temperature dependence of ac susceptibility in the magnetic field up to 1 T and temperatures from 1.8 to 20 K. Our experiments indicated a presence of a slow magnetic relaxation. The magnetic field dependence of the intensity of the relaxation processes is discussed.

References:

[1] D. Horváth, A. Orendáčová, M. Orendáč, M. Jaščur, B. Brutovský, A. Feher, Phys. Rev. B **60**, 1167 (1999)

[2] A. G. Anders, V. S. Bondarenko, A. Feher, A. Orendáčová, M. Orendáč, J. Magn. Magn. Mater. **187**, 125 (1998)