9.7 cm

MAGNETIZATION AND MAGNETIC ORDERING IN QUASI LOW-DIMENSIONAL MAGNET $CsDy(MoO_4)_2$

E.N. Khatsko[a], A.S. Cherny[a] and A.N. Knigavko[b]

[a]Institute for Low Temperature Physics, National Academy of Sciences of Ukraine, 47 Lenin Ave., 310064 Kharkov, Ukraine

[b]National Chiao Tung University, Hsinhchu, Taiwan 30050, R.O.C.

Magnetization of single crystals of $CsDy(MoO_4)_2$ has been investigated in the temperature range 0.6-4.2 K in magnetic fields up to 20 kOe. We have measured the field dependence of magnetization both in magnetically ordered (T_N=1.36 K) and in paramagnetic states for an external magnetic field applied along the principal crystal axes. c-direction demonstrates a very weak linear $M(H)$ dependence. This is the reason to conclude that the ground state magnetic structure at $H = 0$ are lying in $a - b$ plane. The magnetization curves in b direction below 1 K demonstrate a steep growth which is similar to ferromagnetic behavior, but with no noticeable remanent magnetization along b directions. The magnetization curves in ordered state along a direction demonstrate some kind of spin reorientation from the initially antiferromagnetic configuration much more clearly than curves along b direction.

On the basis of these results and newly established space symmetry of the compound we have performed symmetry analysis of the recent neutron diffraction data [1] and pointed out possible equilibrium magnetic configurations.

[1].W.T. Klooster, A. Zheludev, R.S. Srivastava (to be published)

13.4 cm

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Corresponding author :
E.N.Khatsko

Address for correspondence :
Institute for Low Temperature Physics
47 Lenin Ave.
310164 Kharkov Ukraine

Email address :
khatsko@ilt.kharkov.ua