

**PERCOLATIVES OF LOW TEMPERATURE MAGNETIC
PROPERTIES OF MANGANITE NbMnO₃**

F. Bukhanko^b, V. Dyakonov^b and Anna Rykova^a, E. Khatsko^a, A.Cherny^a

^aB.I.Verkin Institute for Low Temperature Physics and Engineering of NASU,
47 Lenin ave., Kharkov, 61103, Ukraine

^bA.A. Galkin Donetsk Physico-Technical Institute of NASU,
72 R. Luxemburg Str., Donetsk, 83114, Ukraine

En experimental investigations of the magnetic properties of a lightly seft-doped insulating ceramic sample NbMnO₃ are presented. The temperature and magnetic field dependences of magnetization of sample were carried out in temperature range 0.5-300K at external magnetic field up to 20kOe at different cooling regimes (ZFC and FC). The $M_{ZFC}(T)$ and $M_{FC}(T)$ curves exhibit two anomalies near 11 K and 60K. The anomaly typical for the phase transition to a ferromagnetically ordered state is observed at temperature near 60K. But difference in the curves M(T) in ZFC and FC regimes argues for phase separation (anti- and ferromagnetic phases) and spin cluster phase existence. Close 11K the competition between the antiferromagnetic exchange and ferromagnetic interaction results to phase transition in an antiferromagnetic or ferrimagnetic ordered state. This phase transition is shifted in the lower temperature in sample NbMnO₃ doped by small La concentration. The field dependences of magnetization in the wide range of temperatures from 0.5 K up to 300 K also were measured. They demonstrate rather ferromagnetic character with sophisticated hysteresis loops.

9.7 cm

13.4 cm

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Corresponding author :

A. Rykova

Address for correspondence :

B.I.Verkin Institute for Low Temperature Physics and Engineering of NASU,
47 Lenin ave., Kharkov,
61103, Ukraine

Email address :

rykova@ilt.kharkov.ua