Magnetic anisotropy of nanopowdered $La_{0.7}Sr_{0.3}MnO_3$ manganites

I. Radelytskyi[a,b] V. Dyakonov[a], P. Aleshkevych[a], H. Szymczak[a]

[a]Institute of Physics, PAS, 02-668 Warsaw, Al. Lotnikow 32/46, Poland

[b]Ivan Franko National University of Lviv, Faculty of Physics, Kyrylo and Mefodiy St., 79005 Lviv, Ukraine

Magnetic properties of nanopowder $La_{0.7}Sr_{0.3}MnO_3$ manganites have been studied as a function of temperature, magnetic-field and frequency. Nanopowders with particle sizes 17, 30 and 80 nm have been synthesized by sol gel method at temperatures of 600, 700 and 900 °C, respectively. Experimental results of ac magnetic susceptibility have been used to determine magnetic anisotropy constants as a function of temperature and particles sizes. The obtained results are in satisfactory agreement with other experiments performed on bulk $La_{0.7}Sr_{0.3}MnO_3$ manganites.

This work was financially supported by European Fund for Regional Development (Contract No. UDA– POIG.01.03.01-00-058/08/00).

9.7 cm

13.4 cm

Subject category :

3. Magnetic Structure and Dynamics

Presentation mode :
poster

Corresponding author :
I. Radelytskyi

Address for correspondence :
Institute of Physics, PAS,
02-668 Warsaw,
Al. Lotnikow 32/46, Poland

Email address :
radel@ifpan.edu.pl