

STRUCTURE AND MAGNETORESISTANCE
PROPERTIES OF $(\text{La}_{1-y}\text{Nd}_y)_{1-x}\text{Sr}_x\text{MnO}_3$
POLYCRYSTALLINE SPECIMENS

*A.I. Tovstolytkin, O.I. V'Yunov, Danil'Chenko,
A.G. Belous*

Institute of Magnetism, Nat. Acad. Sci. of Ukraine
(36b, Academician Vernadsky Blvd.,
Kyiv 03142, Ukraine; e-mail: atov@imag.kiev.ua),
¹Institute of General and Inorganic Chemistry,
Nat. Acad. Sci. of Ukraine
(32/34, Academician Palladin Blvd.,
Kyiv 03142, Ukraine)

S u m m a r y

Structure, electric and magnetoresistance properties of $(\text{La}_{1-y}\text{Nd}_y)_{1-x}\text{Sr}_x\text{MnO}_3$ ($y = 0 \div 1$; $x = 0.15 \div 0.3$) polycrystalline specimens are studied. Electric measurements are performed in the temperature range 77–370 K, magnetoresistance is measured in fields up to 15 kOe. It is revealed that a substitution of neodymium for lanthanum leads to a substantial increase in magnetoresistance and a decrease in the temperature, at which magnetoresistance displays a maximum. The principal changes in positions of the peaks on the temperature dependences of electro- and magnetoresistance are shown to occur within the range $0 \leq y \leq 0.25$, which correlates with the character of a change of structural parameters. The evidence is presented that the peculiarities of the behavior of $(\text{La}_{1-y}\text{Nd}_y)_{1-x}\text{Sr}_x\text{MnO}_3$ specimens near $y = 0.25$ are associated with the appearance of a structurally and magnetically inhomogeneous state.