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Hybridization of electronic states and magnetic properties of self-doped  $\text{La}_{1-x}\text{MnO}_{3+\delta}$  ( $0 \leq x \leq 0.15$ ) perovskites: XANES study

A.N. Ulyanov, Hyun-Joon Shin, Dong-Seok Yang, S.V. Savilov, N.E. Pismenova, E.A. Goodilin

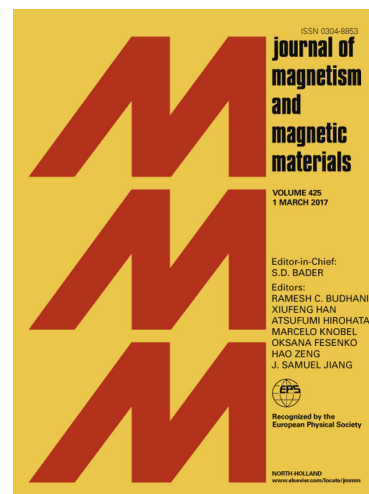
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**Hybridization of electronic states and magnetic properties of self-doped  
 $\text{La}_{1-x}\text{MnO}_{3+\delta}$  ( $0 \leq x \leq 0.15$ ) perovskites: XANES study**

A.N. Ulyanov<sup>a,\*</sup>, Hyun-Joon Shin<sup>b</sup>, Dong-Seok Yang<sup>c</sup>, S.V.Savilov<sup>a</sup>, N.E. Pismenova<sup>d</sup>,  
E.A. Goodilin<sup>a,e,f</sup>

<sup>a</sup>*Faculty of Chemistry, Lomonosov Moscow State University, Moscow, Russia*

<sup>b</sup>*Pohang Accelerator Laboratory, POSTECH, Pohang, 37673, Republic of Korea*

<sup>c</sup>*Department of Physics Education, Chungbuk National University, Cheongju, 28644, Republic of Korea*

<sup>d</sup>*Donetsk Physico-Technical Institute, Donetsk, Ukraine*

<sup>e</sup>*Faculty of Materials Science, Lomonosov Moscow State University, Moscow, Russia*

<sup>f</sup>*Institute of General and Inorganic Chemistry, Moscow, Russia*

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\* Corresponding author.

E-mail address: a-ulyanov52@yandex.ru, a\_n\_ulyanov@yahoo.com

**Abstract.** Electron structure of self-doped  $\text{La}_{1-x}\text{MnO}_{3+\delta}$  perovskites is studied with x-ray absorption spectroscopy by measuring the spectra at manganese *L*-edges and oxygen *K*-edge, and analyzing the results for Mn *K*-edge spectra and magnetization data. The observed change of Curie temperature is explained by the change of level of hybridization of Mn 3*d* states and the O 2*p* states, which was manifested by the parallel change of 2*p*<sub>3/2</sub> and 2*p*<sub>1/2</sub> spectra with *x* and *T*<sub>C</sub>.

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