EFFECT OF PD ADDITION IN LANTHANUM MANGANITE: MORPHO-STRUCTURAL AND ELECTRICAL PROPERTIES

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Abstract:
$LaMnO_3$ is an inorganic compound with perovskite structure and partial substitution of lanthanum ions [1] or manganese ions [2] has an effect on the physical properties of materials. In the present work we report the synthesis of $LaMn_{1-x}$ Pd_xO_3 (with x = 0.2 and 0.3) materials at low temperature. The doping was performed in order to improve the electrical properties by changing the crystalline structure and prevent ordering of the oxygen vacancies in these materials. The obtained materials were characterized by X-ray diffraction (XRD), transmission electron microscopy (TEM), BET analysis, energy-dispersive X-ray spectroscopy (EDX) and electrical measurements. Structural analysis shows that the obtained materials crystallize in cubic structure and have a homogeneous composition, without secondary compounds.

Selective references:
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[2] Hebert S, Martin C, Maignan A, Retoux R, Hervieu M, Nguyen N, et al. Induced ferromagnetism in $LaMnO_3$ by Mn-site substitution: the major role of Mn mixed valency. Phys Rev B 2002; 65:104420.

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