

STRUCTURAL ANALYSIS AND IONIC CONDUCTIVITY AT ROOM TEMPERATURE OF A Ce-DOPED $\text{La}_{0.9}\text{MnO}_{3-\delta}$ PEROVSKITE PREPARED BY THE PECHINI ...

Authors

Farida Bouremmad, Abderrahim Benabbas, Nedjmeddine Bounar, Kamel Rida, Patrick Ropa, Jean-Claude Carru

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Description

A Ce-doped $\text{La}_{0.9}\text{MnO}_{3-\delta}$ sample was prepared by the Pechini route, consisting of a polymerization of citric acid and ethylene glycol, in order to prepare a phase with oxygen deficiency that can be used in fuel cell applications. To substitute a part of lanthanum by cerium, we added CeO_2 in excess to force it to react and diffuse in the perovskite. The Fourier Transformed infrared (FTIR) spectrum of the resin at 200°C has shown the formation of complex metals form and polymerized form of ethylene glycol. The X-ray diffraction (XRD) spectrum of the sample, calcined at 900°C , has revealed that the sample is mainly constituted by a deficient rhombohedra perovskite phase. The measurement of the ionic conductivity by complex impedance at room temperature has given a relatively high value, which opens up an opportunity for solid oxide fuel cell applications.