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Synthesis and characterization of NiO-8YSZ powders by coprecipitation route

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Currently, the strontium-doped lanthanum manganite is one of the most common cathodic materials used in the solid oxide fuel cells (SOFCs). This material doped with strontium increases the electronic conductivity of the material, besides presenting an excellent electrochemical performance, chemical and thermal stability and compatibility relatively good with YSZ. In this work, a contribution to the study of synthesis of La1-XSrXMnO3 powders is presented on different concentrations (x = 15, 50 and 85 mol %) of strontium by the citrate technique. In this synthesis, it was adopted different concentrations of the dopant for identification of the best composition of this material as cathode of the SOFCs. The powders synthetized have been analyzed by XRD, SEM, BET, termogravimetry, residual carbon content, real density and granulometric analysis by laser scattering. The adequate characteristics of these powders had been evaluated aiming in the preparation of thick films as cathode for SOFCs.