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Comparison of electrical properties of LaSrCoFe films prepared by suspension and by gel coating method

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$La_{0.56}Sr_{0.4}Co_{0.2}Fe_{0.8}O_3$-$\delta$ (LSCF) thin films were fabricated on a yttrium stabilized zirconia (YSZ) pellet from either solutions containing LSCF suspension or LSCF sol gels. The suspensions and gel precursors were applied on the substrate via a conventional spraying and a dip coating, respectively. The LSCF films and the YSZ substrates were co-fired at 1100 ^{o}C. From SEM, the gel-derived films showed a densely-packed structure whilst the films prepared from suspended LSCF did not have such characteristics. The electrochemical impedance spectra unambiguously implied the better film-substrate interface for the gel-derived films as their interfacial resistivities were lower than those prepared by the suspension spray routes.

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