Letter

Cone-Shaped $\text{Gd}_{1-x}\text{Sr}_x\text{Fe}_{0.8}\text{Co}_{0.2}\text{O}_{3-\delta}$ Electrodes for SOFC Cathodes

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Five $\text{Gd}_{1-x}\text{Sr}_x\text{Fe}_{0.8}\text{Co}_{0.2}\text{O}_{3-\delta}$ perovskites were synthesized using the glycine-nitrate process. The compounds were evaluated as solid oxide fuel cell cathodes using cone-shaped electrodes and electrochemical impedance spectroscopy. It was shown that the electrochemical activity depended on the amount of strontium in the perovskite; the main difference seemed to be whether the perovskite is a single or a two-phase compound. However, high-strontium-substituted Fe-Co-based perovskites have slightly higher performances than the low-strontium-substituted Fe-Co-based perovskites, as determined by electrochemical impedance spectroscopy on cone-shaped electrodes.

Keywords: SOFC; Cathode; Perovskite; Cone-shaped electrodes; EIS

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