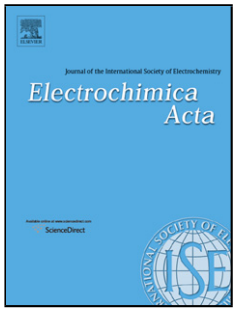

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H_2O_2 Treated $La_{0.8}Sr_{0.2}CoO_{3-\delta}$ as an Efficient Catalyst for Oxygen Evolution Reaction

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Abstract

The development of non-precious metal-based oxygen evolution reaction (OER) electrocatalysts is one of the keys to lower the cost of various renewable energy technologies including fuel cells, water electrolyzers, and metal-air batteries. Perovskite oxides are among the best catalysts for OER in alkaline solutions. In the perovskite family, $La_{0.8}Sr_{0.2}CoO_{3-\delta}$ (LSC) has been reported to have OER catalytic properties dependent on the characteristics of its surface, but where its activity and stability are still not high enough for applications. In order to improve the surface catalysis of LSC, we have subjected it to multiple H_2O_2 treatments. After 4 treatments, lasting 6 hours each, the current density of LSC at 1.70 V (vs RHE) increased by