

Fabrication of a NiO-YSZ based Honeycomb Type SOFC

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We report a new design and development of an anode-honeycomb-supported SOFC, which was fabricated via the dry press of an NiO-YSZ honeycomb and the subsequent coating of thin YSZ electrolyte layers into selective channels and outer walls, except the exposed surface of anode on top side of the honeycomb. La_{0.8}Sr_{0.2}MnO₃ slurry was further coated onto the YSZ electrolyte film inside the selective channels and onto bottom side of the honeycomb. The NiOYSZ anode is exposed to fuel environment on the top side and in the non-selective channels inside the honeycomb, meanwhile the LSM cathode is exposed to oxidant environment on the bottom side and in the selective channels.