



过渡金属氧化物渗透对LSM-YSZ阴极性能的影响

Transition Metal Oxide Infiltration Effect on the Performance of LSM-YSZ Cathode

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中文摘要:

英文摘要:

Transition metal (Mn, Fe, Co, Ni, Cu) oxide was formed in LSM-YSZ cathode by nitrate solution infiltration method. LSM-YSZ/YSZ/LSM-YSZ symmetric cell performance at intermediate temperature range 600~800 °C was studied by electrochemical impedance spectroscopy (EIS). EIS test results showed that the polarization resistances of LSM-YSZ with metal oxide infiltration were much lower than that without metal oxide infiltration, 60%~80% polarization resistance decrease was reached by metal nitrate solution infiltration. The activation energy of oxygen reduction reaction derived from polarization resistance showed that the performance of LSM-YSZ with different metal oxide infiltration has different activation energy decrease, Co nitrate infiltration showed the biggest activation energy decrease. Mn, Fe and Cu nitrate solution infiltrated LSM-YSZ showed good polarization resistance decrease at the tested temperature range.

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