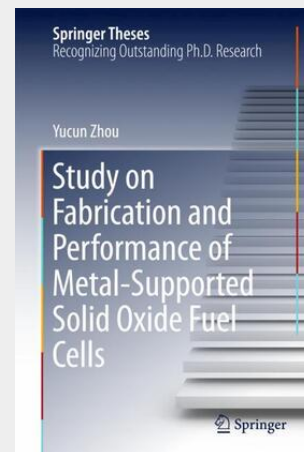


Zhou

Study on Fabrication and Performance of Metal-Supported Solid Oxide Fuel Cells

This book highlights the development of novel metal-supported solid oxide fuel cells (MS-SOFCs). It describes the metal-supported solid oxide fuel cells (MS-SOFCs) that consist of a microporous stainless steel support, nanoporous electrode composites and a thin ceramic electrolyte using the "tape casting-sintering-infiltrating" method. Further, it investigates the reaction kinetics of the fuel cells' electrodes, structure-performance relationship and degradation mechanism. By optimizing the electrode materials, preparation process for the fuel cells, and nano-micro structure of the electrode, the resulting MS-SOFCs demonstrated (1) great output power densities at low temperatures, e.g., 1.02 W cm⁻² at 600°C, when operating in humidified hydrogen fuels and air oxidants; (2) excellent long-term stability, e.g., a degradation rate of 1.3% kh⁻¹ when measured at 650°C and 0.9 A cm⁻² for 1500 h. The design presented offers a promising pathway for the development of low-cost, high power-density and long-term-stable SOFCs for energy conversion.



106,99 €

99,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9789811066160

Medium: Buch

ISBN: 978-981-10-6616-0

Verlag: Springer Nature Singapore

Erscheinungstermin: 06.11.2017

Sprache(n): Englisch

Auflage: 2018. Auflage 2017

Serie: Springer Theses

Produktform: Gebunden

Gewicht: 320 g

Seiten: 93

Format (B x H): 161 x 244 mm

