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Nota di contenuto	Advances in Solid Oxide Fuel Cells IV; Contents; Preface; Introduction; TECHNICAL OVERVIEW; Research Activities and Progress on Solid Oxide Fuel Cells at USTC; CELL AND STACK DEVELOPMENT AND PERFORMANCE; Development of Micro Tubular SOFCs and Stacks for Low Temperature Operation under 550°C; The Properties and Performance of Micro-Tubular (Less than 1 mm OD) Anode Supported Solid Oxide Fuel Cells; Performance of the Gen 3.1 Liquid Tin Anode SOFC on Direct JP-8 Fuel; Effect of Interconnect Creep on Long-Term Performance of SOFC of One Cell Stacks Effects of Compositions and Microstructures of Thin Anode Layer on the Performance of Honeycomb SOFCs Accumulated with Multi Micro Channel CellsFABRICATION; Formation of Gas Sealing and Current Collecting Layers for Honeycomb-Type SOFCs; CHARACTERIZATION

AND TESTING; Evaluating Redox Stability of Ni-YSZ Supported SOFCs Based on Simple Layer Models; Degradation Phenomena in SOFCs with Metallic Interconnects; Pressure and Gas Concentration Effects on Voltage vs. Current Characteristics of a Solid Oxide Fuel Cell and Electrolyzer
In-Situ Temperature-Dependent X-Ray Diffraction Study of Ba(Zr0.8-xCexY0.2)O3- CeramicsEvaluation of the Residual Stress Profiles of Practical Size Lanthanum Gallate-Based Cells in Radial Direction; ELECTRODES; Effect of Spray Parameters on the Microstructure of La1-xSrxMnO3 Cathode Prepared by Spray Pyrolysis; Examination of Chromium's Effects on a LSM/YSZ Solid Oxide Fuel Cell Cathode; Evolution of Ni-YSZ Microstructure and Its Relation to Steam Reforming Activity and YSZ Phase Stability; Synthesis and Characterization of Ni Impregnated Porous YSZ Anodes for SOFCs
The Reduction of NiO-YSZ Anode Precursor and Its Effect on the Microstructure and Elastic Properties at Ambient and Elevated TemperaturesMicrostructure Analysis on Network-Structure Formation of SOFC Anode from NiO-SDC Composite Particles Prepared by Spray Pyrolysis Technique; Functionally Graded Composite Electrodes for Advanced Anode- Supported, Intermediate-Temperature SOFC; ELECTROLYTES; High Efficiency Lanthanide Doped Ceria-Zirconia Layered Electrolyte for SOFC; Oxygen Ion Conductance in Epitaxially Grown Thin Film Electrolytes; INTERCONNECTS
Development of New Type Current Collector for Solid Oxide Fuel CellElectrical Conductivity and Oxidation Studies of Ceramic-Intermetallic Materials for SOFC Interconnect Application; SEALS; Improvement in Interface Resistance of Conductive Gas-Tight Sealing Materials for Stacking Micro-SOFC; ELECTROLYZER; Carbon Dioxide Electrolysis for Production of Synthesis Gas in Solid Oxide Electrolysis Cells; Author Index

Sommario/riassunto

This volume provides a one-stop resource, compiling current research on solid oxide fuel cells. It is a collection of papers from The American Ceramic Society s 32nd International Conference on Advanced Ceramics and Composites, January 27-February 1, 2008. Topics include recent technical progress on materials-related aspects of fuel cells and emerging trends in electrochemical materials, cell/stack fabrication and design, interface engineering, and long-term chemical interactions. This is a valuable, up-to-date resource for researchers in industry, government, or academia who are working with