Record Nr. UNINA9910830522903321 Advances in solid oxide fuel cells [[electronic resource]] . IV: a **Titolo** collection of papers presented at the 32nd International Conference on Advanced Ceramics and Composites, January 27-February 1, 2008, Daytona Beach, Florida / / editors, Prabhakar Singh, Narottam P. Bansal ; volume editors, Tatsuki Ohji, Andrew Wereszczak Hoboken, N.J.,: Wiley-American Ceramic Society, 2009 Pubbl/distr/stampa **ISBN** 1-282-02223-7 9786612022234 0-470-45630-2 0-470-45629-9 Descrizione fisica 1 online resource (298 p.) Collana Ceramic engineering and science proceedings, , 0196-6219; ; v. 29, issue 5 Altri autori (Persone) SinghPrabhakar BansalNarottam P Disciplina 620.14 621.312429 Soggetti Ceramic materials Composite materials Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references and index. 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 Lavered 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