

1. Record Nr.	UNINA9911020059403321
Titolo	Advances in solid oxide fuel cells : a collection of papers presented at the 29th International Conference on Advanced Ceramics and Composites, January 23-28, 2005, Cocoa Beach, Florida // editor, Narottam P. Bansal ; general editors, Dongming Zhu, Waltraud M. Kriven
Pubbl/distr/stampa	Westerville, Ohio, : American Ceramic Society, c2005
ISBN	9786612314780 9781282314788 1282314785 9780470291245 0470291249 9780470291634 047029163X
Descrizione fisica	1 online resource (338 p.)
Collana	Ceramic engineering and science proceedings, , 0196-6219 ; ; v. 26, no. 4
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Disciplina	620.14 621.312429
Soggetti	Ceramic materials Composite materials Solid oxide fuel cells
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; Contents; Preface; Overview and Current Status; Worldwide SOFC Technology Overview and Benchmark; U.S. DOE Solid Oxide Fuel Cells: Technical Advances; Processing/Fabrication; Single-Step Co-Firing Technique for SOFC Fabrication; Fabrication and Properties of an Anode-Supported Tubular IT-SOFC Based on Lanthanum Gallate; Low Cost SOFC Manufacturing Process; Y2O3-Stabilized ZrO2 Aerogels Prepared from an Epoxide Assisted Sol-Gel Synthesis for Use in SOFC Composite Cathodes; Pulsed

Laser Deposition of BaCe_{0.85}Y_{0.15}O₃ Films; Characterization/Testing
Electrochemical Characterization of Vacuum Plasma Sprayed Planar
Solid Oxide Fuel Cells and Short Stacks for Mobile Application Single
Cell Testing and Performance Analysis of Planar Solid Oxide Fuel Cells;
Long-Term SOFC Stability with Coated Ferritic Stainless Steel
Interconnect; Chemical Diffusion and Hydrogen Separation Properties of
Lanthanum Ferrite and Doped Ceria Composite Mixed Conductors;
Vapor Phase Silica Transport during SOFC Operation at 1000°C; The
Effect of Inverter Ripple on Solid Oxide Fuel Cell Performance;
Electrodes
Study of Praseodymium Strontium Manganite for the Potential Use as a
Solid Oxide Fuel Cell Cathode Chromium Poisoning Effects on Various
Cathodes; Anomalous Shrinkage of Lanthanum Strontium Manganite;
Development and Characterization of SOFC Ni-YSZ Anodes Using
Highly Porous Ni Foam; High Purity H₂/H₂O/Nickel/Stabilized Zirconia
Electrodes at 500°C; Characterization of Pore Structure of Electrodes of
Solid Oxide Fuel Cells; Influence of Processing Parameters on Porosity
of NiO-YSZ Solid Oxide Fuel Cell Anode Material
Property Control of Cathodes and Anodes Produced by Slip Casting for
Planar Solid Oxide Fuel Cells Interconnects; Surface Modification on
Ferritic and Ni Based Alloys for Improved Oxidation Resistance in SOFC
Applications; Ferritic Stainless Steel SOFC Interconnects with Thermally
Grown (Mn,Co)₃O₄ Spinel Protection Layers; Chemical Reaction Behavior
between Glass-Ceramic Sealants and High Chromium Ferritic Steels
Under Various SOFC Conditions; Electrical Contacts between Cathodes
and Metallic Interconnects in Solid Oxide Fuel Cells; Seals
Finite Element Analysis of the Bonded Compliant Seal Design - A New
Sealing Concept for Use in Planar Solid Oxide Fuel Cells Glass-Ceramic
Materials of the System BaO-CaO-SiO₂ as Sealants for SOFC
Applications; Layered Composite Seals for Solid Oxide Fuel Cells
(SOFC); Glass Mica Composite Seals for Solid Oxide Fuel Cells .;
Combined Ageing and Thermal Cycling of Compressive Mica Seals for
Solid Oxide Fuel Cells; Mechanical Properties; Mechanical Properties of
SOFC Seal Glass Composites; Fracture Energies of Brittle Sealants for
Planar Solid Oxide Fuel Cells
Failure Probability of Solid Oxide Fuel Cells

Sommario/riassunto

Due to its many potential benefits, including high electrical efficiency and low environmental emissions, solid oxide fuel cell (SOFC) technology is the subject of extensive research and development efforts by national laboratories, universities, and private industries. This collection of papers provides valuable insights on materials-related aspects of fuel cells such as SOFC component materials, materials processing, and cell/stack design, performance, and stability. Emerging trends in electrochemical materials, electrochemicals, interface engineering, long-term chemical interactions are also cov
