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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 BaCe0.85Y0.15O3 Films; Characterizatio/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 Fuelcells; 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
