

# TABLE OF CONTENTS

## Volume 1

### PLENARY PAPERS

Contributions of Dr. Dokiya to Solid Oxide Fuel Cell Technology Development .....	3
<i>H. Yokokawa</i>	
Brian Steele's Contributions to Solid State Ionics .....	13
<i>J. A. Kilner</i>	
U.S. DOE Solid Oxide Fuel Cells: Technical Advances .....	20
<i>Mark C. Williams, Joseph P. Strakey, and Wayne A. Surdoval</i>	
Status of National Project for SOFC Development in Japan.....	32
<i>Takashi Ujije</i>	

### SOFC STACKS AND SYSTEMS

Overview of the Development of Solid Oxide Fuel Cells at Forschungszentrum Juelich .....	39
<i>Ludger Blum, Hans-Peter Buchkremer, Sonja M. Gross, Bert de Haart, Jo Willem Quadakkers, Uwe Reisgen, Robert Steinberger-Wilckens, Rolf W. Steinbrech, and Frank Tietz</i>	
Development Update on Delphi's SOFC Stack .....	48
<i>Subhasish Mukerjee, Karl Haltiner, Steven Shaffer, Kerry Meinhardt, Larry Chick, Vince Sprenkle, Scott Weil, and Jin Yong Kim</i>	
Bridging The Gap: Design of a SOFC APU Stack from an Automotive Supplier's Perspective .....	59
<i>Michael Stelter</i>	
Recent Results of the SOFC APU Development at DLR .....	66
<i>Günter Schiller, Thomas Franco, Michael Lang, Patrick Metzger, and Andreas O. Störmer</i>	
Solid Oxide Fuel Cell Systems for Stationary Power Generation Applications.....	76
<i>Nguyen Q. Minh</i>	
Development of MOLB Type SOFC .....	82
<i>Akihiro Nakanishi, Masatoshi Hattori, Yoshinori Sakaki, Katsuhiko Kimura, Yoshimasa Ando, Hitoshi Miyamoto, Takeshi Onodera, Shingo Kanehira, Koichi Takenobu, Masanori Nishiura, and Hiroyuki Oozawa</i>	

The Status of SOFC Development at Versa Power Systems.....	89
<i>E. Tang, D. Prediger, M. Pastula, and B. Borglum</i>	
The Development of Several 100 kW-Class Tubular Type Solid Oxide Fuel Cell System (SOFIT).....	98
<i>H. Sasatsu, K. Kobori, T. Haga, Y. Takahashi, and K. Konishi</i>	
Development of Intermediate-Temperature SOFC Module and System.....	102
<i>Jun Akikusa, Takashi Yamada, Takafumi Kotani, Naoya Murakami, Taner Akbay, Akihiko Hasegawa, Masaharu Yamada, Norikazu Komada, Sin Nakamura, Norihisa Chitose, Katsuya Hirata, Shigeru Sato, Takashi Miyazawa, Makoto Shibata, Kei Hosoi, Futoshi Nishiwaki, Toru Inagaki, Jiro Kanou, Satoshi Ujifie, Takahiro Matsunami, Hiroaki Nakajima, Junya Nishi, Tsunehisa Sasaki, Hiroyuki Yoshida, Koji Hashino, Mitsunobu Kawano, Satoru Yamasaki, Yusaku Takita, and Tatsumi Ishihara</i>	
Stacks and Systems Based Around Metal Supported SOFCs Operating at 500-600°C ..	113
<i>P. Attryde, A. Baker, S. Baron, A. Blake, N. P. Brandon, D. Corcoran, D. Cumming, A. Duckett, K. El-Koury, D. Haigh, M. Harrington, C. Kidd, R. Leah, G. Lewis, C. Matthews, N. Maynard, T. McColm, A. Selcuk, M. Schmidt, R. Trezona, and L. Verdugo</i>	
Wärtsilä - Haldor Topsøe SOFC Test System .....	123
<i>Erkko Fontell, Miika Jussila, John Bøgild Hansen, Jens Pålsson, Timo Kivisaari, and Jens Ulrik Nielsen</i>	
Development of Tubular SOFC at TOTO .....	133
<i>Takeshi Saito, Toshiya Abe, Kosaku Fujinaga, Motoyasu Miyao, Masahiro Kuroishi, Kenichi Hiwatashi, and Akira Ueno</i>	
SOFC Stack Development at United Technologies Corporation .....	141
<i>Sunil Warrier, Jean Yamanis, Ellen Sun, Fanglin Chen, Justin Hawkes, John Smeggil, Sarah Arsenault, Richard Bailey, and Mark Jaworowski</i>	
Progress in Stack Power Density Using the SOFCONNEX™ Concept .....	147
<i>S. Diethelm, E. Tagliaferri, R. Ihringer, M. Molinelli, N. Autissier, D. Larain, Z. Wuillemin, E. Thorn, Ch. Blanc, G. Prosperi, O. Bucheli, A. Closset, and J. Van herle</i>	
Planar SOFC Stack with Low-Cost Multi-Layer Ceramic Interconnect .....	157
<i>Zhien Liu, Eric Barringer, and Rich Goettler</i>	
Status and Recent Progress in SOFC Development at Haldor Topsøe A/S and Risø .....	168
<i>Niels Christiansen, Steen Kristensen, Helge Holm-Larsen, Peter Halvor Larsen, Mogens Mogensen, Peter Vang Hendriksen, and Søren Linderoth</i>	

Testing Capacity Extension Through Using Systems Installed at Customer Sites.....	177
<i>Jan Hoffmann, Martin Woski, Roland Denzler, Bruno Doggwiler, and Thomas Doerk</i>	
Optimisation of the Electrolyte Assembly at Ceramic Fuel Cells Limited .....	184
<i>Sudath Amarasinghe, Paul Ammala, Sathia Aruliah, Olivier Bellon, Roger Bolden, Ruth Knibbe, Jon Love, Raj Ratnaraj, and Xiao Zheng</i>	
Protective Gas for SOFC Systems Based on Water-Alcohol Mixtures.....	191
<i>W. Halliop, A. Tuck, and W. T. Thompson</i>	
Development of Planar SOFC Stacks for CHP.....	200
<i>Mihail Kuznecov, Peter Otschik, Klaus Eichler, Nikolai Trofimenko, and Stefan Megel</i>	
Current Status of 1 kW Class SOFC System.....	208
<i>Misuzu Yokoyama, Kenji Ukai, Koju Hisada, Yasunobu Mizutani, Hiroyuki Uwani, Suguru Nakatuka, Shoichi Kashima, Hiroshi Orishima, and Masahiro Hirakawa</i>	
Feasibility Analysis of Methanol Fuelled SOFC Systems for Remote Distributed Power Applications.....	216
<i>Michael Staite, Paolo Marcazzan, Dave Ghosh, John Stannard, and Chris Chong-Ping</i>	
Aspects of Process Design of SOFC Hybrid Systems for Aeronautic and Maritime Applications .....	229
<i>Wolfgang Winkler and Pedro Nehter</i>	
Increasing Efficiency and Reliability of Hybrid Engine (SOFC+ $\mu$ GTE) Operation by Hydrogen Separation from A High Temperature CO-containing Flow Using Molecular Ceramic Membranes.....	240
<i>A. V. Soudarev, V. G. Konakov, A. S. Molchanov, A. A. Souryaninov, and V. Yu. Tikhoplav</i>	
Application of Solid Oxide Fuel Cells to Aircraft .....	249
<i>Ishaque S. Mehdi, John Trela, Karen Fleckner, and Ashish Pattekar</i>	
A Combined Numerical and Experimental Investigation for the Development of Undersea Solid Oxide Fuel Cell Systems .....	258
<i>Eric S. Greene, Wilson K. S. Chiu, Maria G. Medeiros, A. Alan Burke, and Louis G. Carreiro</i>	
Distributed Generation: Southern California Edison's Interest and Perspective .....	267
<i>Chris A. Hessenius and Stephanie Hamilton</i>	
Landfill Gas Energy Recovery Based on Micro-Tubular Solid Oxide Fuel Cells .....	277
<i>Jakub Pusz, Roberto Bove, and Nigel M. Sammes</i>	

Optimization and Demonstration of a Solid Oxide Regenerative Fuel Cell System.....	285
<i>Darren Hickey, Mark Cassidy, Jim McElroy, Fred Miltitsky, and Venkat Venkataraman</i>	
Applications and Markets for Solid Oxide Regenerative Fuel Cells.....	295
<i>K. R. Sridhar, Jim McElroy, Fred Miltitsky, Venkat Venkataraman, and Mark C. Williams</i>	
Development of SOFC-Type Reactor for NO <sub>x</sub> Decomposition and Graphite Oxidation.....	306
<i>Yoshinobu Fujishiro, Koichi Hamamoto, and Masanobu Awano</i>	
<b><u>CELL DESIGNS, FABRICATION AND PERFORMANCE</u></b>	
Triode Solid Oxide Fuel Cells: A New Approach to Enhanced Anodic and Cathodic Electrocatalysis .....	313
<i>S. P. Balomenou, F. Sapountzi, D. Presvytes, M. Tsampas, and C. G. Vayenas</i>	
High Power Density Cell Development at Siemens Westinghouse.....	322
<i>Gianfranco DiGiuseppe</i>	
Design and Fabrication of Segmented-In-Series Cells .....	333
<i>Tammy S. Lai, Manoj Pillai, Ilwon Kim, Yi Jiang, Nikkia McDonald, Negrar Mansourian, Dan Gostovic, and Scott A. Barnett</i>	
Investigation of Porous Metallic Substrates for Plasma Sprayed Thin-Film SOFCs.....	344
<i>Thomas Franco, Zeynep Ilhan, Michael Lang, Günter Schiller, and Patric Szabo</i>	
Introduction of Liquid Anode/Solid Oxide Electrolyte Fuel Cell and Its Direct Energy Conversion Using Waste Plastics.....	353
<i>Thomas Tao</i>	
Study of a New Solid Oxide Fuel Cell Operated at Intermediate Temperatures (650°-700°C) .....	363
<i>A. Brisse, C. Barthet, A. L. Sauvet, S. Beaudet-Savignat, and J. Fouletier</i>	
Single-Chamber SOFC: Comparing Dry and Humidified Conditions .....	371
<i>Teko W. Napporn, S. Savoie, R. Roberge, X. Jacques-Bédard, and M. Meunier</i>	
Single-Chamber Solid Oxide Fuel Cell with Micro-Patterned Interdigitated Electrodes.....	378
<i>Sung-Jin Ahn, Jooho Moon, Jong-Ho Lee, and Joosun Kim</i>	

Fabrication of an Anode Supported Tubular SOFC System.....	384
<i>Nigel Sammes and Yanhai Du</i>	
Development of Anode-Supported Tubular SOFC Stack.....	391
<i>Tak Hyoung Lim, Rak Hyun Song, Jong Hee Kim, Son Dong Un, Dong You Chung, Dong Hyun Peck, Doo-Hwan Jung, and Dong Ryul Shin</i>	
Development of kW-Class Planar SOFC Stacks Operable Under Fast Thermal Cycles.....	396
<i>Kei Ogasawara, Yoshitaka Baba, Kenjiro Fujita, Harukuni Kameda, Hisataka Yakabe, Yoshio Matsuzaki, and Teruhiro Sakurai</i>	
Performance of Single Cells and Short Stacks for Intermediate Temperature Solid Oxide Fuel Cell Using Thin Electrolyte of YSZ and ScSZ .....	403
<i>Young-Sung Yoo, Jae-Keun Park, Su-Yong Yang, Hee Chun Lim, Je-Myung Oh, and Joongmyeon Bae</i>	
High Power Density Tubular SOFC for Portable Applications.....	411
<i>Partho Sarkar, Hongsang Rho, Man Liu, Luis Yamarte, and Lorne Johanson</i>	
Materials System for Intermediate Temperature (600°-800°C) Solid Oxide Fuel Cells Based on Doped Lanthanum-Gallate Electrolyte .....	419
<i>Wenquan Gong, Srikanth Gopalan, and Uday B. Pal</i>	
Solid Oxide Fuel Cell with a La <sub>0.75</sub> Sr <sub>0.25</sub> Cr <sub>0.5</sub> Mn <sub>0.5</sub> O <sub>3-δ</sub> Anode and an LSGM Electrolyte.....	429
<i>Jen-Hau Wan, J. H. Zhu, and John B. Goodenough</i>	
SOFC Based on Thin-Film Electrolyte.....	435
<i>M. R. Predtechensky, O. F. Bobrenok, N. V. Gelfond, N. B. Morozova, and I. K. Igumenov</i>	
Sol-Gel Processed Multilayer Thin Film Design for Solid Oxide Fuel Cell Applications .....	440
<i>Ravi Chandran, Josh Finch, and Lisa Klein</i>	
Low-Cost Single-Step Co-Firing Technique for SOFC Manufacturing.....	451
<i>Guosheng Ye, Feng Ju, Chuangang Lin, Srikanth Gopalan, Uday Pal, and Donald A. Seccombe</i>	
SOFC Synthesis Using Electrostatic Spray Deposition.....	460
<i>Sandeep Parekh, Hiroshi Nomura, J. Robert Selman, and Said Al-Hallaj</i>	
Innovative, Laser-Based Process for Development and Manufacturing of Solid Oxide Fuel Cells .....	466
<i>C. R. Horne, E. Ooi, R. B. Lynch, J. R. Mentz, W. E. McGovern, and R. J. Mosso</i>	

InDEC B.V. on the Road Towards Commercialization.....	476
<i>R. Otterstedt, G. Rietveld, and R. C. Huiberts</i>	
Fabrication of Cathode Supported SOFC by Colloidal Processing.....	482
<i>Jean Duquette, Rajendra N. Basu, Xiaohua Deng, Igor Zhitomirsky, and Anthony Petric</i>	
Direct-Write Fabrication of Solid Oxide Fuel Cells.....	489
<i>Yong-Bum Kim, Sung-Jin Ahn, Jooho Moon, Joosun Kim, and Hae-Weon Lee</i>	
Definition of Optimal Working Conditions for a Solid Oxide Fuel Cell .....	495
<i>Anne-laure Sauvet, Antoine Henry, and Christelle Barthet</i>	
Effect of Operational Conditions on Long-Term Stability of SOFCs.....	503
<i>Anke Hagen, Rasmus Barfod, Peter Vang Hendriksen, Yi-Lin Liu, and Severine Ramousse</i>	
Long-Term Measurements of Anode-Supported Solid Oxide Fuel Cells with LSCF Cathodes Under Various Operating Conditions .....	514
<i>Michael Becker, Andreas Mai, Ellen Ivers-Tiffée, and Frank Tietz</i>	
Detailed Characterization of Anode Supported SOFCs by Impedance Spectroscopy.....	524
<i>Rasmus Barfod, M. Mogensen, Trine Klemensø, Anke Hagen, Yi-Lin Liu, and Peter Vang Hendriksen</i>	
Degradation of SOFC Single Cells Under Severe Current Cycles.....	534
<i>Markus J. Heneka and Ellen Ivers-Tiffée</i>	
Electrochemical Characterization and Modeling of Anode Supported Solid Oxide Fuel Cell.....	544
<i>Matti Noponen, Matias Halinen, and Jari Kiviahö</i>	
Simultaneous Impedance Measurement of 46 Cells in 1 kW SOFC Stack: Evaluation of the Gas Flow Rate Distribution Among the Cells.....	544
<i>Akihiko Momma, Kiyonami Takano, Yasuo Kaga, Ken Nozaki, Akira Negishi, Ken Kato, Tohru Kato, Toru Inagaki, Hiroyuki Yoshida, Kei Hosoi, Makoto Shibata, Masaharu Yamada, Taner Akbay, Jun Akikusa, and Norihisa Chitose</i>	
Performance of Solid Oxide Fuel Cells with Controlled Microstructure of Anode Substrate.....	564
<i>Jae-Keun Park, Young-Sung Yoo, Su-Yong Yang, Je-Myung Oh, Jin-Woo Park, and Jung-Han Kim</i>	
Initial Testing of Solutions to Redox Problems with Anode-Supported Solid Oxide Fuel Cells .....	571
<i>A. Wood, M. Pastula, D. Waldbillig, and D. Ivey</i>	

Performance of Anode Supported Cells with Ni-ScSZ Anode for Low S/C Methane and Ethane Fuels .....	585
<i>Katsuhiko Yamaji, Haruo Kishimoto, Yueping Xiong, Teruhisa Horita, Natsuko Sakai, Manuel E. Brito, and Harumi Yokokawa</i>	
Influence of Interfacial Reaction on Electrode Performance and Ohmic Losses .....	595
<i>Xinge Zhang, Radenka Maric, Satoshi Ohara, and Takehisa Fukui</i>	
Influence of Stack Materials on the Electrochemical Performance of Anode Supported SOFC Single Cells.....	603
<i>I. C. Vinke, B. Röwekamp, F. Tietz, M. Zahid, and J. Quadakkers</i>	
SOFC Operation with Syngas Fuels: Experiments and Model Validation.....	611
<i>Rapeepong Suwanwarangkul, Eric Croiset, Evgeniy Entchev, Sumittra Charojrochkul, Mark D. Pritzker, Michael W. Fowler, Peter L. Douglas, Supatra Chewathanakup, and Hataithip Mahaudom</i>	
Influence of Steam Concentration on the Degradation Behavior of Reversible Solid Oxide Fuel Cells .....	621
<i>Toshiaki Matsui, Akira Ozaki, Ryuji Kikuchi, and Koichi Eguchi</i>	
<b><u>CELL, STACK AND SYSTEM MODELING (INCLUDING MECHANICAL EFFECTS)</u></b>	
Fuel Cell Efficiency Redefined: Carnot Limit Reassessed.....	629
<i>K. T. Jacob and Saurabh Jain</i>	
Thermodynamic Limits of Electrical Efficiency in Hydrocarbon Fueled SOFC Using Internal Reforming .....	640
<i>Roderick W. Sidwell and W. Grover Coors</i>	
Computational Predictions of Cell Efficiency and Fuel Utilization as a Function of Fuel Processing and Cell Voltage.....	649
<i>Robert J. Kee, Huayang Zhu, David G. Goodwin, Roderick W. Sidwell, and W. Grover Coors</i>	
Planar and Tubular Solid Oxide Fuel Cells: A Comparison of Transient Process Behaviors .....	659
<i>Miriam Kemm, Christoph Stiller, Azra Selimovic, Bjørn Thorud, Tord Torisson, and Olav Bolland</i>	
Computational Modeling of the Performance Characteristics of Micro Scale Single-Chamber IT-SOFC System .....	670
<i>Chan-Yeup Chung and Yong-Chae Chung</i>	
The Influence of Heterogeneous Chemistry and Electrochemistry on Gas-Phase Molecular-Weight Growth and Deposit Formation.....	679
<i>Gaurav K. Gupta, Anthony M. Dean, Ethan S. Hecht, Huayang Zhu, and Robert J. Kee</i>	

Performance Modeling of Solid Oxide Fuel Cells with a Mixed Conducting Cathode .....	689
<i>Badrí Ramamurthi, Gregory Parker, Vikas Midha, James Ruud, and Todd Striker</i>	
A Patterned Anode Model with Detailed Chemistry .....	699
<i>David G. Goodwin</i>	
Impedance Simulations of SOFC Patterned and Cermet Anodes from Detailed Electrochemical Models.....	708
<i>Wolfgang G. Bessler, Stefan Gewies, and Jürgen Warnatz</i>	
Gas Flow and Heat Transfer with Internal Reforming Reactions in an Anode Duct of SOFCs.....	719
<i>Jinliang Yuan and Bengt Sundén</i>	
Gas Transport in Porous Electrodes of Solid Oxide Fuel Cells.....	729
<i>H. Washak, S. M. Guo, and A. Turan</i>	
Macrohomogenous Modeling of Porous SOFC Electrodes .....	738
<i>Mohamadkheir Alkhateeb, Satish J. Parulekar, J. Robert Selman, and Said Al-Hallaj</i>	
Simulation of Planar SOFC Electrical Performance Considering Gas Components Migration Through Porous Electrodes.....	749
<i>Vladimir Ruzhnikov, Vladimir Subbotin, and Nikolai Khramushin</i>	
The Simulation of Solid Oxide Fuel Cell Membrane-Electrode Assembly .....	758
<i>Y. D. Guo, S. M. Guo, and A. Turan</i>	
A Two-Dimensional Model of a Single-Chamber SOFC with Hydrocarbon Fuels.....	771
<i>Yong Hao, Carlos Pantano, and David G. Goodwin</i>	
The Effect of Current Collectors Configuration on the Performance of a Tubular SOFC.....	780
<i>Roberto Bove and Nigel M. Sammes</i>	
Computational Approach to Solid-Gas Interactions in SOFCs .....	790
<i>Y. M. Choi, Harry Abernathy, Robert Williams, Jr., and Meilin Liu</i>	
Modelling of the Methane Conversion on a Ni/CGO-Anode .....	796
<i>Henrik Timmermann, Daniel Fouquet, Ulrich Hennings, Ellen Ivers-Tiffée, and Rainer Reimart</i>	
Simulation Results and Experimental Validation of SOFC Operation Under Hydrogen.....	806
<i>J. Laurencin, B. Morel, and F. Lefebvre-Joud</i>	

Non-Isothermal and Dynamic SOFC Voltage-Current Behavior .....	814
<i>Andreas Gubner</i>	
Mechanistic Modeling of Tubular Solid Oxide Fuel Cells Operating with Syngas .....	827
<i>Rapeepong Suwanwarangkul, Eric Croiset, Mark D. Pritzker, Michael W. Fowler, Peter L. Douglas, and Evgeniy Entchev</i>	
Modeling an H <sub>2</sub> S Fed SOFC.....	837
<i>Dayadeep Monder, K. Nandakumar, and K. T. Chuang</i>	
Startup Strategy for Operating a Solid Oxide Fuel Cell Based on Transient Analyses...	845
<i>Yau-Pin Chyou, Tsang-Dong Chung, and Jong-Sheng Chen</i>	
Reverse Fuel Cell Operation on Load Change: Model and Experimental Study .....	856
<i>Randall S. Gemmen, Christopher D. Johnson, and James A. Poston, Jr.</i>	
Dynamic Modeling of Wärtsilä 5 kW SOFC System.....	865
<i>Masoud Rokni, Jukka Ylijoki, Erkko Fontell, Olli Tiilonen, and Markku Hänninen</i>	
Temperature Distribution Analysis of Air Preheating in a Honeycomb SOFC.....	876
<i>Zhenwei Wang, Akira Toriyama, Yohtaro Yamazaki, Junichiro Mizusaki, Tatsuya Kawada, and Tatsumi Ishihara</i>	
Integrated Dynamic Modeling of Reformer - SOFC Systems: Novel Approaches for Fundamental Micro Scale and System Level Simulations.....	885
<i>Ashish Pattekar, Michael Neylon, and Karen Fleckner</i>	
SOFC Performance Under Various Gasifier Compositions Using an Electro- Thermal Model.....	895
<i>Eduardo Hernandez-Pacheco and Michael D. Mann</i>	
Thermo-Mechanical Aspects of SOFC Operations .....	903
<i>J. Laurencin, B. Morel, Y. Bultel, and F. Lefebvre-Joud</i>	
Measurement of Flexural Strengths of SOFC Components .....	915
<i>Yongsong Xie, Xinge Zhang, Rob Hui, and Sing Yick</i>	
Failure Analysis as an Essential Component of an SOFC Development Program.....	923
<i>S. Benhaddad and I. Protkova</i>	
Investigation of Device Performance and Process Capability for Accurate SOFC Cost Estimates.....	931
<i>Heather Woodward, Mark Koslowske, and Isa Bar-On</i>	

## Volume 2

### **ELECTROLYTE MATERIALS, PROCESSING AND PERFORMANCE**

Yttria Co-Doping of Scandia-Zirconia Electrolytes for SOFCs .....	941
<i>John T. S. Irvine, Tatiana Politova, and Angela Kruth</i>	
Electrical Conductivity of Scandia Stabilized Zirconia for Membranes in Solid Oxide Fuel Cells .....	947
<i>Dong-Hyun Peck, Rak-Hyun Song, Jong-Hee Kim, Tak-Hyoung Lim, Dong-Ryul Shin, Doo-Hwan Jung, and Klaus Hilpert</i>	
Effect of Impurities on the Conductivity of Sc and Y Co-Doped $ZrO_2$ .....	954
<i>Dorthe Lybye, Yi-Lin Liu, Mogens Mogensen, and Søren Linderoth</i>	
Various Approaches to Enhance Ionic Conductivity of Selected Oxide Electrolytes .....	964
<i>Shiqiang Rob Hui, Justin Roller, Xinge Zhang, Cyrille Deces-Petit, Yongsong Xie, Radenka Maric, and Dave Ghosh</i>	
Nanoscale Effects on Ion Conductance of Oxide Nanostructures .....	978
<i>S. Thevuthasan, L. V. Saraf, S. Azad, O. A. Marina, C. M. Wang, V. Shutthanandan, D. E. McCready, A. El-Azab, J. E. Jaffe, M. H. Engelhard, and C H. F. Peden</i>	
Phase Transition and Crystal Growth of YSZ Nanoparticles with Various $Y_2O_3$ Contents Prepared by Sol-Gel Process .....	986
<i>Chih-Wei Kuo, Yueh-Hsun Lee, Kuan-Zong Fung, and Moo-Chin Wang</i>	
Elastic Driving Forces for Dopant Segregation in Nanostructured Doped Zirconia Ceramics .....	992
<i>E. Djurado, F. Boule 'h, and P. Bouvier</i>	
Durable Nanocrystalline PSZ for SOFCs and Sensors.....	998
<i>Igor Yu. Prokhorov</i>	
Evaluation and Performance of Cobalt-Doped YSZ Electrolyte.....	1002
<i>Xiaohua Deng, Jean Duquette, and Anthony Petric</i>	
Low-Temperature Densification of SOFC Electrolytes Using Manganese Oxide and Boron Oxide.....	1008
<i>Ralf Hansch, Norbert H. Menzler, Robert Fleck, and Hans P. Buchkremer</i>	
Gas-Tight Zirconia Electrolyte Layers for SOFCs by Atmospheric Plasma-Spraying.....	1016
<i>R. Vaßen, D. Hathiramani, R. J. Damani, and D. Stöver</i>	

Electrostatic Spray Deposition of YSZ Thin Films with Different Microstructures .....	1025
<i>R. Neagu, D. Perednis, A. Princivalle, and E. Djurado</i>	
Co-Sintering of Dense YSZ Electrolyte Films on Porous NiO-YSZ Supporting Anodes for IT-SOFCs .....	1031
<i>Giuseppe Savo, Alberto Rainer, Alessandra D'Epifanio, Silvia Licoccia, and Enrico Traversa</i>	
Materials and Components for Solid Oxide Fuel Cell Systems .....	1037
<i>Matthew M. Seabaugh, Michael J. Day, Katarzyna Sabolsky, Sergio Ibanez, and Scott L. Swartz</i>	
Manufacturability of Very Thin Electrolyte Tapes for SOFCs in an ISO 9001 Environment .....	1045
<i>A. H. Feingold, R. L. Wahlers, M. Heinz, E. Twiname, Z. Topka, and J. Whitmarsh</i>	
Growth and Electrical Conductivity of Thin Film YSZ by Pulsed Laser Deposition ...	1051
<i>Jong Hoon Joo and Gyeong Man Choi</i>	
Investigation of Electrolyte Stability Using Amperometric Sensors: Implications Concerning Electrode Polarization Measurements .....	1057
<i>Anil V. Virkar and Yi Jiang</i>	
Ceria Revisited: Electrolyte or Electrode Material? .....	1068
<i>M. Mogensen, D. Lybye, K. Kammer, and N. Bonanos</i>	
Ionic Conductivity and the Crystallographic Index of Ceria Doped with Yttria and Dysprosia.....	1075
<i>S. K. Tadokoro, R. Muccillo, and E. N. S. Muccillo</i>	
Influence of the Nature of the Contact Electrode on the Conductivity Measure- ments of Doped Ceria .....	1081
<i>Hugues Duncan and Andrzej Lasia</i>	
Deposition of Samaria-Doped Ceria Electrolyte Using Spray Pyrolysis.....	1087
<i>D. Perednis, Y. Xie, X. Zhang, and D. Ghosh</i>	
Evaluation of Rare Earth-Doped Cerium-Based Oxide Powders Synthesized by a New Coprecipitation Method as an Electrolyte in Intermediate-Temperature Solid Oxide Fuel Cells .....	1093
<i>Masashi Mori, Eisaku Suda, Bernard Pacaud, Toshihiro Moriga, and Keiichiro Murai</i>	

Ni-YSZ Cermet Supported Thin Ceria-Based Electrolyte Solid Oxide Fuel Cell for Reduced Temperature (500°–600°C) Operation .....	1102
<i>Xinge Zhang, Mark Robertson, Cyrille Decès-Petit, Yongsong Xie, Rob Hui, Sing Yick, Michael Staite, Edward Styles, Justin Roller, Radenka Maric, and Dave Ghosh</i>	
Development of YDB/GDC Composite Electrolyte for Low-Temperature Solid Oxide Fuel Cells .....	1110
<i>Y. J. Leng, S. H. Chan, and K. A. Khor</i>	
Power Generating Property of SOFC Using La(Sr)Ga(Mg,Fe)O <sub>3</sub> Electrolyte Coated with LaGaO <sub>3</sub> Film .....	1117
<i>Tatsumi Ishihara, Makiko Enoki, Jing Wang Yan, and Hiroshige Matsumoto</i>	
Interactions and Compatibilities of LSGM Electrolyte and LSCM Anode .....	1127
<i>Yanhai Du and Nigel M. Sammes</i>	
Fabrication of Bi <sub>2</sub> O <sub>3</sub> Thin Film by Thermal-Enhanced Electroplating .....	1137
<i>Chaur-Chi Huang, Teng-Yi Wen, and Kuan-Zong Fung</i>	
Synthesis and Electrical Characterisation of Proton Conducting Gallates, La <sub>0.9-x</sub> Pr <sub>x</sub> Ba <sub>1.1</sub> GaO <sub>3.95</sub> .....	1142
<i>E. Kendrick, M. S. Islam, and P. Slater</i>	
Proton-Conductive Electrolyte Materials for Protonic Ceramic Fuel Cells (PCFCs) ...	1149
<i>Stephanie Higgins, Nigel Sammes, and Alevtina Smirnova</i>	
Synthesis and Conductivities of the Apatite-Type Phases, La <sub>9.33</sub> Si <sub>6-x</sub> Ge <sub>x</sub> O <sub>26</sub> , La <sub>9</sub> BaSi <sub>6-x</sub> Ge <sub>x</sub> O <sub>26.5</sub> , and Related Titanium Doped Systems .....	1156
<i>J. E. H. Sansom, P. A. Sermon, and P. R. Slater</i>	
Characterization of Low-Temperature Proton-Conducting Ceramics for Hydrogen Pumping Applications.....	1165
<i>Cyrille Decès-Petit, Xinge Zhang, Edward Styles, Radenka Maric, Justin Roller, and Dave Ghosh</i>	
New MIEC Membranes for Hydrogen Separation .....	1172
<i>Annamalai Karthikeyan, Hengdong Cui, Srikanth Gopalan, and Uday B. Pal</i>	
<b><u>ANODE MATERIALS, PROCESSING AND PERFORMANCE</u></b>	
The Influence of NiO Content on Ceramic-Based Solid Oxide Fuel Cell Anodes .....	1185
<i>Brian D. Madsen and Scott A. Barnett</i>	
NiO-YSZ Foams with Hierarchical Microstructure for SOFC Anodes.....	1195
<i>Alberto Rainer, Silvia Licoccia, and Enrico Traversa</i>	

YSZ Phase Purity and Stability in Chemically Prepared SOFC Anodes .....	1200
<i>Catherine M. Grgicak and Javier B. Giorgi</i>	
Microstructural and Electrical Properties of the SOFC Anode Precursor YSZ/NiO Composite Prepared by a Liquid Mixture Technique.....	1210
<i>V. Esposito, D. Z. de Florio, F. C. Fonseca, E. N. S. Muccillo, R. Muccillo, J. A. Varela, and E. Traversa</i>	
Electrochemical Characterisation of Supporting SOFC Anodes .....	1218
<i>M. C. Verbraeken, B. A. Boukamp, D. H. A. Blank, P. Holtappels, and U. Vogt</i>	
The Mechanism Behind Redox Instability of SOFC Anodes .....	1226
<i>Trine Klemensø, Charissa Chung, Peter Halvor Larsen, and Mogens Mogensen</i>	
Inhibition of Diffusion Between Metallic Substrates and Ni-YSZ Anodes During Sintering.....	1235
<i>Marco Brandner, Martin Bram, Doris Sebold, S. Uhlenbruck, Sophie T. Ertl, Thomas Höfler, Franz-Josef Wetzel, Hans Peter Buchkremer, and Detlev Stöver</i>	
Enhancing the Redox Tolerance of Anode Supported Solid Oxide Fuel Cells by Microstructural Modification.....	1244
<i>D. Waldbillig, A. Wood, and D. Ivey</i>	
Channeled Ni-YSZ Cermets Produced from NiO-YSZ Eutectics by Laser Melting ....	1257
<i>M. A. Laguna-Bercero, A. Larrea, R. I. Merino, J. J. Peña, and V. M. Orera</i>	
Sulfur Tolerance of Solid Oxide Fuel Cells.....	1267
<i>K. Sasaki, K. Susuki, A. Iyoshi, M. Uchimura, N. Imamura, H. Kusaba, Y. Teraoka, H. Fuchino, K. Tsujimoto, Y. Uchida, and N. Jingo</i>	
Deactivation and Recovery of Ni-YSZ Anode in H <sub>2</sub> Fuel Containing H <sub>2</sub> S .....	1275
<i>S. J. Xia and V. I. Birss</i>	
Study of Sulfur-Nickel Interactions Using Raman Spectroscopy.....	1284
<i>Jian Dong, Shaowu Zha, and Meilin Liu</i>	
CO and CH <sub>4</sub> Electrochemical Oxidation on Ni Patterned Anodes .....	1294
<i>A. Mary Sukesini, Bahman Habibzadeh, Benjamin P. Becker, Michael B. Pomfret, Oktay Demircan, Robert A. Walker, Bryan W. Eichhorn, and Gregory S. Jackson</i>	
Development of SOFC Anodes for Internal Reforming of Methane.....	1304
<i>Christiane Bauer, Horst Greiner, Harald Landes, Robert Leinfelder, Andreas Roosen, and Cora Schillig</i>	

Internal Reforming of Hydrocarbon Fuels in SOFCs with Ni-ScSZ Anode .....	1309
<i>Haruo Kishimoto, Katsuhiko Yamaji, Teruhisa Horita, Yue-Ping Xiong, Natsuko Sakai, Manuel E. Brito, and Harumi Yokokawa</i>	
Carbon Deposition Behavior from CH <sub>4</sub> Fuel on Ni-ScSZ Cermet Anode in High Temperature SOFC .....	1317
<i>K. Ke, S. Tsuchida, A. Gunji, H. Takahashi, K. Ukai, Y. Mizutani, H. Sumi, M. Yokoyama, and K. Waki</i>	
Anode Catalyst Layers for Direct Hydrocarbon and Internal Reforming SOFCs.....	1321
<i>Zhongliang Zhan, Yuanbo Lin, and Scott Barnett</i>	
Improvement in Anodic Activity of Ni by Fe Addition for Intermediate Temperature SOFC Using LaGaO <sub>3</sub> Electrolyte.....	1331
<i>Masashi Shinagawa, Tatsumi Ishihara, Akira Kawakami, Hiroyasu Nishiguchi, and Yusaku Takita</i>	
Synergy of Pd and Ni Catalysts for Direct Oxidation of Methane Over Lanthanum Chromite Based Anodes .....	1341
<i>Yuta Nabae, Ichiro Yamanaka, Sakae Takenaka, Masaharu Hatano, and Kiyoshi Otsuka</i>	
Performance of (La, Sr)(Cr, Mn)O <sub>3</sub> Anode for Direct Oxidation of Methane in Solid Oxide Fuel Cell .....	1352
<i>X. J. Chen, K. A. Khor, S. H. Chan, and S. P. Jiang</i>	
Novel Bimetallic Anodes for Direct Utilization of Hydrocarbon Fuels.....	1360
<i>K. Ahn, S.-I. Lee, J. M. Vohs, and R. J. Gorte</i>	
Electrochemical Performance of Oxide Anode Materials and Catalytic Effect of Current Collector .....	1369
<i>Keiji Yashiro, Takashi Nakamura, Atsushi Kaimai, Takanori Otake, Tatsuya Kawada, and Junichiro Mizusaki</i>	
Fabrication of NiO-SDC and CuO-GDC Cermet Materials for SOFC Anode by Citrate Method .....	1376
<i>Kenji Furuya, Futoshi Nada, Shigeki Komine, Takene Hirai, Yoshinori Fujie, and Tetsuya Inagaki</i>	
Study on the Network-Formation Process in the Sintering of the NiO-SDC Composite Powders Prepared by Spray Pyrolysis Method.....	1382
<i>Hiroyuki Yoshida, Toru Inagaki, Kouji Hashino, Mitsunobu Kawano, Hiroshi Ijichi, Seiji Takahashi, Seiichi Suda, and Koichi Kawahara</i>	
Direct Electrochemical Oxidation of Methane at Optimized NiCu-CGO Anodes for Application in IT-SOFCs .....	1390
<i>Daniela La Rosa, Laura R. Gullo, Vincenzo Antonucci, Antonino S. Aricò, Agusti Sin, Evgeny Kopnin, Yuri Dubitsky, and Antonio Zaopo</i>	

Stabilisation of Composite LSF <sub>x</sub> CO <sub>3</sub> Perovskite-Ceria Based Anodes for Methane Oxidation in Solid Oxide Fuel Cells.....	1396
<i>A. S. Aricò, L. R. Gullo, D. La Rosa, V. Antonucci, A. Sin, E. Kopnin, Y. Dubitsky, and A. Zaopo</i>	
Enhancement of the Electrochemical Oxidation of Methane in the Nickel-Cobalt SDC Cermet Anode .....	1403
<i>Kazunori Sato, Yukito Kato, Michio Horiuchi, Shigeaki Suganuma, Yasue Tokutake, and Misa Watanabe</i>	
High Performance Electrodes for Reversible Solid Oxide Fuel Cells.....	1410
<i>Hiroyuki Uchida, Norikazu Osada, Shinsuke Suzuki, and Masahiro Watanabe</i>	
Electrical Conductivity and Redox Behaviour of Yttrium-Substituted SrTiO <sub>3</sub> : Dependence on Preparation and Processing Procedures .....	1417
<i>Qingxi Fu, Frank Tietz, and Detlev Stöver</i>	
Nanosized Gold as a Promoter for Hydrocarbon Partial Oxidation in Perovskite Composites.....	1429
<i>P. L. Antonucci, S. Barison, M. Battagliarin, E. M. Bauer, C. Bellitto, S. Candamano, S. Daolio, M. Fabrizio, E. Miorin, G. Righini, and V. Modafferi</i>	
Sulfur-Tolerant Cermet Anodes.....	1437
<i>M. Smith and A. J. McEvoy</i>	
Propane Conversion on Ru/CGO Catalysts for Application in Intermediate Temperature Solid Oxide Fuel Cells.....	1445
<i>Massimiliano Lo Faro, Giuseppe Monforte, Vincenzo Antonucci, Antonino Salvatore Aricò, Vincenza Modafferi, Sebastiano Candamano, and Pierluigi Antonucci</i>	
Tubular SOFCs Operated with Dimethyl Ether.....	1452
<i>Tohru Kato, Tuong Lan Nguyen, Hioshi Shirahama, Ken Kato, Akira Negishi, Ken Nozaki, Takeo Honda, Kenji Sugano, and Chizuru Saito</i>	
Impact of Biosyngas and Its Components on SOFC Anodes .....	1459
<i>P. V. Aravind, J. P. Ouweeltjes, E. de Heer, N. Woudstra, and G. Rietveld</i>	
A New Adsorbent for Ambient Temperature Desulfurization of Natural Gas.....	1468
<i>Gokhan Alptekin, Margarita Dubovik, Sarah DeVoss, and Robert Amalfitano</i>	

## **CATHODE MATERIALS, PROCESSING AND PERFORMANCE**

Some Aspects of Defect Chemistry in P-Type Perovskite Conductors.....	1479
<i>Xiao-Dong Zhou and Harlan U. Anderson</i>	
Measurement of Transport Properties of Perovskite Cathodes.....	1487
<i>R. Ganeshanathan and Anil V. Virkar</i>	
Investigation of Oxygen Reduction Mechanisms Using Cathode Microelectrodes, Part I: Experimental Analysis of $\text{La}_{1-x}\text{Sr}_x\text{MnO}_{3-\delta}$ and Platinum.....	1499
<i>Gerardo Jose la O', Bilge Yildiz, and Yang Shao-Horn</i>	
Investigation of Oxygen Reduction Mechanisms Using Cathode Microelectrodes, Part II: Analytical Modelling of $\text{La}_{1-x}\text{Sr}_x\text{MnO}_{3-\delta}$ Electrochemical Impedance Spectrum .....	1509
<i>Bilge Yildiz, Gerardo Jose la O', and Yang Shao-Horn</i>	
Effect of Microstructure and Space Charge on Cathodic Polarization .....	1521
<i>Feng Zhao and Anil V. Virkar</i>	
Investigation of LSM Cathode Activation under Polarization .....	1532
<i>Boris E. Martin and Anthony Petric</i>	
Effect of Polarization on the Activation Process of $(\text{La},\text{Sr})\text{MnO}_3$ Electrodes of Solid Oxide Fuel Cells.....	1541
<i>S. P. Jiang and W. Wang</i>	
The Effect of Polarization on LSM-YSZ Composite Cathodes.....	1549
<i>Steven McIntosh, Yingyi Huang, John M. Vohs, and Raymond J. Gorte</i>	
Characteristics of Polymeric Resin-Derived Multilayer Composite Cathode for SOFC .....	1555
<i>Hwa Seob Song, Sang Hoon Hyun, and Jooho Moon</i>	
Electrochemical Characterizations on Cathode and Its Interface with Electrolyte of SWPC's Cathode-Supported SOFCs .....	1561
<i>Keqin Huang</i>	
Avoidance of $\text{La}_2\text{Zr}_2\text{O}_7$ Formation on Co-Sintering the $(\text{La}_{0.8}\text{Sr}_{0.2})_{1-x}\text{MnO}_3$ / YSZ System .....	1571
<i>Fran G. E. Jones, P. A. Connor, and John T. S. Irvine</i>	
Chromium Interactions with Cathode Materials.....	1578
<i>Michael Krumpelt, Terry A. Cruse, and Mark C. Hash</i>	
Chromium Poisoning of SOFC Cathodes: Influence of the LSM-YSZ Structure.....	1584
<i>S. C. Paulson, Y. Yoo, and V. I. Birss</i>	

Interaction Between Fe-Cr Alloy Metallic Interconnect and Sr-Doped LaMnO <sub>3</sub> Electrodes of Solid Oxide Fuel Cell at Early Stages .....	1598
<i>Yong Da Zhen, San Ping Jiang, and Sam Zhang</i>	
Optimisation of the Cathode Composition for the Intermediate Temperature SOFC ...	1607
<i>Enn Lust, Priit Möller, Indrek Kivi, Gunnar Nurk, Silvar Kallip, Priit Nigu, and Karmen Lust</i>	
Synthesis and Characterization of Strontium and Iron-Doped Lanthanum Cobaltite Nanocrystalline Powders for Single Chamber Solid Oxide Fuel Cells .....	1617
<i>Edoardo Magnone, Enrico Traversa, and Masaru Miyayama</i>	
A-Site Deficient Lanthanum Ferrites as Cathode Materials for SOFCs.....	1627
<i>Andreas Mai, Vincent A. C. Haanappel, Frank Tietz, and Detlev Stöver</i>	
The Oxygen Reduction Kinetics of Mixed Conducting Electrodes: Model Considerations and Experiments on La <sub>0.6</sub> Sr <sub>0.4</sub> Co <sub>0.8</sub> Fe <sub>0.2</sub> O <sub>3</sub> Microelectrodes.....	1636
<i>J. Fleig, F. S. Baumann, and J. Maier</i>	
La <sub>0.6</sub> Sr <sub>0.4</sub> Co <sub>0.2</sub> Fe <sub>0.8</sub> O <sub>3</sub> - Ce <sub>0.8</sub> Sm <sub>0.2</sub> O <sub>2-<math>\sigma</math></sub> Composite Cathode for Operation Below 600°C.....	1645
<i>Naoki Oishi, Yeong Yoo, and Isobel Davidson</i>	
Effect of Buffer Layer on the Performance of LSCF Cathode on Scandia Doped Zirconia .....	1652
<i>Hae Jin Hwang, Ji-woong Moon, Yongho Lim, and Seunghun Lee</i>	
LSCFO/CGO Catalyst for O <sub>2</sub> Reduction in IT-SOFCs and Electrochemically Driven Oxygen Generator Cells.....	1658
<i>Agusti Sin, Antonino S. Aricò, Laura Gullo, Daniela La Rosa, Evgeny Kopnin, Yuri Dubitsky, Antonio Zaopo, and Vincenzo Antonucci</i>	
Cathodic Overpotentials of La <sub>0.6</sub> Sr <sub>0.4</sub> MO <sub>3</sub> on LaGaO <sub>3</sub> -Based Fuel Cell .....	1667
<i>Kyung Bin Yoo and Gyeong Man Choi</i>	
Electrochemical Performance of (La,Sr)(Co,Fe)O <sub>3</sub> -(Ce,Sm)O <sub>3</sub> Composite Cathodes for Low Temperature Solid Oxide Fuel Cells.....	1674
<i>Ryuji Kikuchi, Makoto Futamura, Toshiaki Matsui, Koichi Eguchi, Jun-ichiro Kugai, Kazuki Furusho, Masatoshi Shimomura, and Kazuo Hata</i>	
Comparison of Cathode/Electrolyte Interfaces Prepared by Plasma Spray and Screen Printing for IT-SOFC .....	1684
<i>Danick Bouchard, Li Sun, François Gitzhofer, and Gessie Brisard</i>	
Resistance of (La,Sr)CoO <sub>3</sub> / YSZ Interface with a Ceria Interlayer.....	1695
<i>T. Kawada, D. Ueno, M. Sase, K. Yashiro, T. Otake, A. Kaimai, and J. Mizusaki</i>	

Stability of Lanthanum Cobaltite and Rare Earth Substituted Ceria Interface .....	1703
<i>Natsuko Sakai, Harumi Yokokawa, Masakazu Miyachi, and Akihiro Sawata</i>	
Electrical Conductivity of Perovskites in the Quasi-Ternary System $\text{La}_{0.8}\text{Sr}_{0.2}\text{MnO}_3 - \text{La}_{0.8}\text{Sr}_{0.2}\text{CoO}_3 - \text{La}_{0.8}\text{Sr}_{0.2}\text{FeO}_3$ for Application as Cathode-Interconnect Contact Layer in SOFC .....	1708
<i>M. Zahid, I. Arul Raj, F. Tietz, P. Lersch, and D. Stöver</i>	
Application of $(\text{Sm}_{0.5}\text{Sr}_{0.5})\text{CoO}_3$ to $(\text{Zr},\text{Sc})\text{O}_2$ Electrolyte SOFCs for Reduced Temperature Operation .....	1717
<i>Tuong Lan Nguyen, Tohru Kato, Ken Nozaki, Takeo Honda, Akihira Negishi, Ken Kato, and Youko Iimura</i>	
Structural Characterisation of the Potential SOFC Cathode Materials $\text{La}_{2-x}\text{Sr}_x\text{CoO}_{4+\delta}$ ( $0 \leq x \leq 1.0$ ) .....	1726
<i>R. Heap, H. Rudge-Pickard, P. R. Slater, and M. S. Islam</i>	
Novel Cathodes Prepared by Impregnation Procedures .....	1735
<i>Yingyi Huang, John M. Vohs, and Raymond J. Gorte</i>	
Preliminary Investigation of the Higher-Order Ruddlesden-Popper Phases for IT-SOFC Cathodes, $\text{La}_{n+1}\text{Ni}_n\text{O}_{3n+1}$ ( $n = 2$ and $3$ ) .....	1745
<i>G. Amow and I. J. Davidson</i>	
Ni-Based Cathodes for Low Temperature Solid Oxide Fuel Cells.....	1751
<i>Christel Laberty-Robert and Karen Swider-Lyons</i>	
Performance Evaluation of Intermediate Temperature Solid Oxide Fuel Cell with $\text{La}_{0.75}\text{Sr}_{0.25}\text{CuO}_{2.5-8}$ Cathode .....	1758
<i>Ho-Chieh Yu, Feng Zhao, Anil V. Virkar, and Kuan-Zong Fung</i>	
RuO <sub>2</sub> -Based Dense Electrodes for ESB Electrolyte IT-SOFCs .....	1764
<i>Vincenzo Esposito, Enrico Traversa, and Eric D. Wachsman</i>	
<b><u>INTERCONNECTION AND SEAL MATERIALS AND PROCESSING</u></b>	
P/M Processing and Properties of High Performance Interconnect Materials and Components for SOFC Applications .....	1773
<i>Wolfgang Glatz, Georg Kunschert, Martin Janousek, and Andreas Venskutonis</i>	
Application of Ferritic Steels as SOFC Interconnects Under Real Conditions .....	1781
<i>Jeannette Frei, Roman Kruschwitz, and Cyril Voisard</i>	
Effect of Alloying Elements on Properties of Ferritic Fe-Cr Alloys for SOFC Interconnects .....	1789
<i>Akihiro Toji, Toshihiro Uehara, and Takehiro Ohno</i>	

Oxidation Kinetics of Metallic Interconnects for Intermediate Temperature SOFC.....	1795
<i>Tad J. Armstrong, Micha Smith, and Anil V. Virkar</i>	
Effect of Water Vapor and Hydrogen on the Oxidation of Metallic Interconnect Materials for Solid Oxide Fuel Cells .....	1806
<i>Jeffrey W. Fergus</i>	
Adhesion Behaviour of Thermal Oxide Scales Grown on Ferritic Stainless Steels Proposed as Interconnects in SOFCs.....	1816
<i>S. Chandra-ambhorn, Y. Wouters, M. Dupeux, A. Galerie, L. Antoni, and F. Toscan</i>	
Oxide Scale Formation on Alloy Interconnects in CH <sub>4</sub> Fuels for Solid Oxide Fuel Cells .....	1822
<i>Teruhisa Horita, Yueping Xiong, Haruo Kishimoto, Katsuhiko Yamaji, Natsuko Sakai, Manuel E. Brito, and Harumi Yokokawa</i>	
Interface Resistance Between FeCr Alloys and La <sub>0.85</sub> Sr <sub>0.15</sub> MnO <sub>3</sub> .....	1832
<i>L. Mikkelsen, A. R. Dinesen, and P. V. Hendriksen</i>	
Perovskite Based Protective Coatings for Solid Oxide Fuel Cell Metallic Interconnects .....	1842
<i>Christopher Johnson, Randall Gemmen, James A. Poston, Jr., Chad Schaeffer, Nina Orlovskaya, Laura Fegely, and Claudia Rawn</i>	
Electrolytic Deposition of Oxide Coatings for Solid Oxide Fuel Cell Interconnects .....	1851
<i>Ping Wei, Igor Zhitomirsky, and Anthony Petric</i>	
Development of a CuFe <sub>2</sub> O <sub>4</sub> Interconnect Coating .....	1859
<i>Rajendra N. Basu, Nigel Knott, and Anthony Petric</i>	
Electrical and Thermal Properties of Spinel.....	1866
<i>Hang Ling and Anthony Petric</i>	
Comparison of Chromium Poisoning by the ODS Alloy Cr <sub>5</sub> Fe <sub>1</sub> Y <sub>2</sub> O <sub>3</sub> and the High Chromium Ferritic Steel Crofer 22 APU .....	1874
<i>E. Konycheva, H. Penkalla, E. Wessel, U. Seeling, L. Singheiser, and K. Hilpert</i>	
Research and Development of Anode Supported Interconnect for SOFC .....	1885
<i>Kenji Yasumoto, Yoshiyuki Etori, Tohru Yamamoto, and Hibiki Itoh</i>	
Interaction Phenomena Between Various Glass-Ceramic Sealants and Ferritic Steels Under Simulated SOFC Stack Conditions .....	1893
<i>V. A. C. Haanappel, V. Shemet, S. M. Gross, Th. Koppitz, N. H. Menzler, and M. Zahid</i>	

Interaction of Metallic SOFC Interconnect and Glass-Ceramic Sealing Under Various Atmospheric Conditions at 800°C.....	1903
<i>Norbert H. Menzler, Doris Sebold, Sonja M. Gross, Vladimir Shemet, and Mohsine Zahid</i>	
Optimisation of Glass Composite Sealant for Intermediate Temperature Solid Oxide Fuel Cells .....	1914
<i>Mette Solvang, Karsten Agersted Nielsen, Anders Reves Dinesen, and Peter Halvor Larsen</i>	
Glass-Ceramic Composite As a New Sealing Material for SOFCs.....	1924
<i>S. M. Gross, T. Koppitz, J. Remmel, U. Reisgen, V. Verlotzki, and R. Conradt</i>	
Crystallization Kinetics of a Solid Oxide Fuel Cell Seal Glass.....	1932
<i>Narottam P. Bansal and Eleanor A. Gamble</i>	
Preparation and Characteristics of a Glass Sealant for IT-SOFC .....	1942
<i>Zhe Lu, Jiang Liu, Xiqiang Huang, Zhiguo Liu, Chaoqian Liu, and Wenhui Su</i>	
Compliant Glass-Silver Seals for SOFC Applications .....	1949
<i>Christopher C. Beatty</i>	
New Planar SOFC Sealing Techniques for Potential Transportation Applications .....	1957
<i>K. S. Weil, C. A. Coyle, J. S. Hardy, G-G. Xia, and J. Y. Kim</i>	
A Braze System for Sealing Metal-Supported SOFCs .....	1967
<i>Michael C. Tucker, Craig P. Jacobson, Lutgard C. DeJonghe, and Steven J. Visco</i>	
Single Solid Oxide Fuel Cell Testing Using Silver Paste for Sealing and Current Collection.....	1976
<i>Jiang Liu, Zhe Lu, Scott A. Barnett, Yuan Ji, and Wenhui Su</i>	
<i>Subject Index</i> .....	1981
<i>Author Index</i> .....	1983