

Project F2 'Nanomaterials for Fuel Cells'

F2.1 'Nanostructured Functional Layers for Advanced Oxygen Separation Membranes' (D. Gerthsen / E. Ivers-Tiffée)

- [F2.1:1] ‡ M. Burriel, C. Niedrig, W. Menesklou, S.F. Wagner, J. Santiso, and E. Ivers-Tiffée, *BSCF epitaxial thin films: Electrical transport and oxygen surface exchange*, *Solid State Ionics* **181**, 602 (2010)
- [F2.1:2] * P. Müller, L. Dieterle, E. Müller, H. Störmer, D. Gerthsen, C. Niedrig, S. Taufall, S.F. Wagner, and E. Ivers-Tiffée, *Ba_{0.5}Sr_{0.5}Co_{0.8}Fe_{0.2}O_{3-δ} for Oxygen Separation Membranes*, *ECS Transactions* **28**, 309 (2010)
- [F2.1:3] S.F. Wagner, S. Taufall, C. Niedrig, H. Götz, W. Menesklou, S. Baumann, and E. Ivers-Tiffée, *pO₂ stability of Ba_{0.5}Sr_{0.5}Co_{0.8}Fe_{0.2}O_{3-δ}*, *Materials Research Society Symposium Proceedings* **1309**, 57 (2011)
- [F2.1:4] ‡ C. Niedrig, S. Taufall, M. Burriel, W. Menesklou, S.F. Wagner, S. Baumann, and E. Ivers-Tiffée, *Thermal Stability of the Cubic Phase in Ba_{0.5}Sr_{0.5}Co_{0.8}Fe_{0.2}O_{3-δ} (BSCF)*, *Solid State Ionics* **197**, 25 (2011)
- [F2.1:5] * P. Müller, H. Störmer, L. Dieterle, C. Niedrig, E. Ivers-Tiffée, and D. Gerthsen, *Decomposition pathway of cubic Ba_{0.5}Sr_{0.5}Co_{0.8}Fe_{0.2}O_{3-δ} between 700 °C and 1000 °C analyzed by electron microscopic techniques*, *Solid State Ionics* **206**, 57 (2012)

F2.2 'Reaction Kinetics of Nanostructured SOFC Cathodes' (E. Ivers-Tiffée)

- [F2.2:1] C. Peters, M. Bockmeyer, R. Krüger, A. Weber, and E. Ivers-Tiffée, *Processing of Dense Nanocrystalline Zirconia Thin Films by Sol-Gel Method*, Mater. Res. Soc. Symp. Proc. Vol. **928**, 0928-GG16-01 (2006)
- [F2.2:2] * B. Butz, P. Kruse, H. Störmer, D. Gerthsen, A. Müller, A. Weber, and E. Ivers-Tiffée, *Correlation between microstructure and degradation in conductivity for Y₂O₃-doped ZrO₂*, Solid State Ionics **177**, 3275 (2006)
- [F2.2:3] B. Rüter, A. Weber, and E. Ivers-Tiffée, *3D-Modelling and Performance Evaluation of Mixed Conducting (MIEC) Cathodes*, ECS Transactions **7**, 2065 (2007)
- [F2.2:4] A. Leonide, V. Sonn, A. Weber, and E. Ivers-Tiffée, *Evaluation and modeling of the cell resistance in anode-supported solid oxide fuel cells*, J. Electrochem. Soc. **155**, B36 (2008)
- [F2.2:5] * B. Butz, H. Störmer, D. Gerthsen, M. Bockmeyer, R. Krüger, E. Ivers-Tiffée, and M. Luysberg, *Microstructure of nanocrystalline yttria-doped zirconia thin films obtained by sol-gel processing*, J. Am. Ceram. Soc. **91**, 2281 (2008)
- [F2.2:6] *‡ L. Dieterle, D. Bach, R. Schneider, H. Störmer, D. Gerthsen, U. Guntow, E. Ivers-Tiffée, A. Weber, C. Peters, and H. Yokokawa, *Structural and chemical properties of nanocrystalline La_{0.5}Sr_{0.5}CoO_{3-δ} layers on yttria-stabilized zirconia analyzed by transmission electron microscopy*, J. Mater. Sci. **43**, 3135 (2008)
- [F2.2:7] C. Peters, A. Weber, and E. Ivers-Tiffée, *Nanoscaled (La_{0.5}Sr_{0.5})CoO_{3-δ} Thin Film Cathodes for SOFC Application at 500 °C <T< 700 °C*, J. Electrochem. Soc. **155**, B730 (2008)
- [F2.2:8] C. Endler, A. Leonide, A. Weber, E. Ivers-Tiffée, and F. Tietz, *Long-Term Study of MIEC Cathodes for intermediate temperature Solid Oxide Fuel Cells*, ECS Transactions **25**, 2381 (2009)
- [F2.2:9] B. Rüter, J. Joos, T. Carraro, A. Weber, and E. Ivers-Tiffée, *3D Electrode Microstructure Reconstruction and Modelling*, ECS Transactions **25**, 1211 (2009)
- [F2.2:10] A. Leonide, B. Rüter, A. Weber, W.A. Meulenbergh, and E. Ivers-Tiffée, *Performance Study of Alternative (La,Sr)FeO_{3-δ} and (La,Sr)(Co,Fe)O_{3-δ} MIEC Cathode Compositions*, ECS Transactions **25**, 2487 (2009)
- [F2.2:11] * C. Peters, A. Weber, B. Butz, D. Gerthsen, and E. Ivers-Tiffée, *Grain-Size Effects in YSZ Thin-Film Electrolytes*, J. Am. Ceram. Soc. **92**, 2017 (2009)
- [F2.2:12] A. Leonide, B. Rüter, A. Weber, W.A. Meulenbergh, and E. Ivers-Tiffée, *Impedance Study of Alternative (La,Sr)FeO_{3-δ} and (La,Sr)(Co,Fe)O_{3-δ} MIEC Cathode Compositions*, J. Electrochem. Soc. **157**, B234 (2010)
- [F2.2:13] C. Endler, A. Leonide, A. Weber, F. Tietz, and E. Ivers-Tiffée, *Time-Dependent Electrode Performance Changes in Intermediate Temperature Solid Oxide Fuel Cells*, J. Electrochem. Soc. **157**, B292 (2010)
- [F2.2:14] J. Joos, B. Rüter, T. Carraro, A. Weber, and E. Ivers-Tiffée, *Electrode Reconstruction by FIB/SEM and Microstructure Modeling*, ECS Transactions **28**, 81 (2010)
- [F2.2:15] C. Endler, A. Leonide, B. Rüter, A. Weber, and E. Ivers-Tiffée, *Oxygen Surface Exchange and Bulk Diffusion Coefficients Evaluated from Porous Mixed Ionic-Electronic Conducting Cathodes*, ECS Transactions **28**, 71 (2010)
- [F2.2:16] J. Hayd, U. Guntow, and E. Ivers-Tiffée, *Electrochemical performance of nano-scaled La_{0.6}Sr_{0.4}CoO_{3-δ} as intermediate temperature SOFC cathode*, ECS Transactions **28**, 3 (2010)

- [F2.2:17] C. Endler-Schuck, A. Weber, E. Ivers-Tiffée, U. Guntow, J. Ernst, and J. Ruska, *Nanoscale Gd-doped CeO₂ Buffer Layer for a High Performance Solid Oxide Fuel Cell*, *J. Fuel Cell Sci. Technol.* **8**, 041001 (2010)
- [F2.2:18] * ‡ D. Marinha, J. Hayd, L. Dessemond, E. Ivers-Tiffée, and E. Djurado, *Performance of LSCF double-layer cathode films for IT-SOFC*, *J. Power Sources* **196**, 5084 (2011)
- [F2.2:19] * J. Hayd, L. Dieterle, U. Guntow, D. Gerthsen, and E. Ivers-Tiffée, *Nanoscaled La_{0.6}Sr_{0.4}CoO_{3-δ} as intermediate temperature solid oxide fuel cell cathode: Microstructure and electrochemical performance*, *J. Power Sources* **196**, 7263 (2011)
- [F2.2:20] * L. Dieterle, P. Bockstaller, D. Gerthsen, J. Hayd, E. Ivers-Tiffée, and U. Guntow, *Microstructure of Nanoscaled La_{0.6}Sr_{0.4}CoO_{3-δ} Cathodes for Intermediate-Temperature Solid Oxide Fuel Cells*, *Adv. Energy Mater.* **1**, 249 (2011)
- [F2.2:21] * L. Dieterle, P. Bockstaller, D. Gerthsen, J. Hayd, E. Ivers-Tiffée, U. Guntow, and C. Kübel, *Microstructure of sol-gel derived nanoscaled La_{0.6}Sr_{0.4}CoO_{3-δ} cathodes for intermediate-temperature SOFCs*, *ECS Transactions* **35**, 1909 (2011)
- [F2.2:22] J. Hayd, U. Guntow, and E. Ivers-Tiffée, *Detailed Electrochemical Analysis of High-Performance Nanoscaled La_{0.6}Sr_{0.4}CoO_{3-δ} Thin Film Cathodes*, *ECS Transactions* **35**, 2261 (2011)
- [F2.2:23] J. Joos, T. Carraro, M. Ender, B. Rüger, A. Weber, and E. Ivers-Tiffée, *Detailed Microstructure Analysis and 3D Simulations of Porous Electrodes*, *ECS Transactions* **35**, 2357 (2011)
- [F2.2:24] A. Leonide, S. Hansmann, A. Weber, and E. Ivers-Tiffée, *Performance simulation of current/voltage-characteristics for SOFC single cell by means of detailed impedance analysis*, *J. Power Sources* **196**, 7343 (2011)
- [F2.2:25] J. Joos, T. Carraro, A. Weber, and E. Ivers-Tiffée, *Reconstruction of porous electrodes by FIB/SEM for detailed microstructure modeling*, *J. Power Sources* **196**, 7302 (2011)
- [F2.2:26] R. Mücke, O. Büchler, M. Bram, A. Leonide, E. Ivers-Tiffée, and H.P. Buchkremer, *Preparation of functional layers for anode-supported solid oxide fuel cells by the reverse roll coating process*, *J. Power Sources* **196**, 9528 (2011)