

- J. J. Kim, M. Kuhn, S. R. Bishop and H. L. Tuller, *Cathodic and Defect Properties of Ba_xSr_{1-x}Ti_{1-y}Fe_yO_{3-δ}*
Mixed Conducting Oxides, Solid State Ionics
230, 2-6 (2013) DOI: 10.1016/j.ssi.2012.06.023

- S. R. Bishop and H. L. Tuller, *Impact of Donor Dopant on Acceptor Solubility in TiBr_x ECS Transactions* 50, 507-511 (2013) doi: 10.1149/05012.0507ecst

- I.-D. Kim, A. Rothschild and H. L. Tuller, *Advances and New Directions in Gas Sensitive Devices, Acta Materialia*, **61** [3], 974–1000 (2013).

The Diamond Jubilee Issue — Materials Challenges in Tomorrow's World: Selected Topics in Materials Science and Engineering.

<http://dx.doi.org/10.1016/j.actamat.2012.10.041>

- A. Groß, T. Weller, H.L. Tuller, R. Moos, *Electrical Conductivity Study of the NO_x Trap Materials BaCO₃ and K₂O*

/La-Al₂O₃

During NO_x Exposure
, Sensors & Actuators B,
187, 461-470 (2013)

<http://dx.doi.org/10.1016/j.snb.2013.01.083>

- Y. Chen, Z. Cai, Y. Kuru, W. Ma, H. L. Tuller and B. Yildiz, *Electronic Activation of Cathode Superlattices at Elevated Temperatures – Source of Markedly Accelerated Oxygen Reduction Kinetics*, *Adv. Energy Mater.*; published on line. DOI: 10.1002/aenm.201300025. Selected for inside cover.

- M. Kuhn, S. R. Bishop, G. Ciampi, H. L. Tuller, W. Higgins, and K. S. Shah, *Ionic Conduction in TiBr_x - Impact of Te Acceptor Dopant Exsolution, Solid State Ionics*
241, 30-35 (2013); doi.org/10.1016/j.ssi.2013.03.030

- A. Groß, M. Kremling, I. Marr, D. Kubinski, J. Visser, H.L. Tuller, R. Moos, *Dosimeter-type NO_x Sensing Properties of KMnO₄*

and its Electrical Conductivity During Temperature Programmed Desorption (eTPD), Sensors
13, 4428-4449 (2013)

- D. P. Volanti, A. A. Felix, M. O. Orlandi, G. Whitfield, D.-J. Yang, E. Longo, H. L. Tuller, and J. A. Varela,

The Role of Hierarchical Morphologies in the High-Performance Gas Sensing of CuO-Based Chemiresistors,

Adv. Funct. Mater.

23

, 1759-1766 (2013);

DOI: 10.1002/adfm.201202332

- M. Kuhn, S. R. Bishop, J. L. M. Rupp, H. L. Tuller, *Structural Characterization and Oxygen Nonstoichiometry of Ceria-zirconia, Ce_{1-x}Zr_xO_{2-δ}*

, *Solid Solutions*

, Acta Materialia

61

, 4277-4288 (2013); doi.org/10.1016/j.actamat.2013.04.001

- S.R. Bishop, H. L. Tuller, M. Kuhn, G. Ciampi, W. Higgins, and K. S. Shah, *Kinetics of Schottky Defect Formation and Annihilation in Single Crystal TiBr₃*, Phys Chem. Chem. Phys., published on line. DOI: 10.1039/c3cp51043c

- P. H. Suman, A. A. Felix, H. L. Tuller, J. A. Varela, M. O. Orlandi, *Giant Chemo-Resistance of SnO Disk-like Structures*.

Sensors and Actuators B,

<http://dx.doi.org/10.1016/j.snb.2013.05.087>

, published on line.

- D. Chen, S. R. Bishop, and H. L. Tuller, *Non-stoichiometry in Oxide Thin Films Operating Under Anodic Conditions: A Chemical Capacitance Study of the Praseodymium-Cerium Oxide System*

(2013) **ECS Trans.** 57(1): 1387-1394

); 13th International Symposium on Solid Oxide Fuel Cells (SOFC-XIII; October 6-11, 2013)

doi:10.1149/05701.1387ecst

- S. R. Bishop, D. Marrocchelli, N. Perry, H. L. Tuller, G. Watson, B. Yildiz, K. Amezawa, and J. Kilner, *Chemical Expansion in SOFC Materials: Ramifications, Origins, and Mitigation,*

ECS Trans. 57(1), 643-648 (2013); 13th International Symposium on Solid Oxide Fuel Cells (SOFC-XIII; October 6-11, 2013)

doi:10.1149/05701.0643ecst

- S. R. Bishop, J. Druce, J. J. Kim, J. A. Kilner, H. L. Tuller, *Observation of Surface*

Impurities in $Pr_{0.1}Ce_{0.9}O_{2-\delta}$ Thin Films Following Optical Absorption Relaxation Measurements SOFC Electrolytes, ECS Trans. 50(27), 35-38 (2013); 13th International Symposium on Solid Oxide Fuel Cells (SOFC-XIII; October 6-11, 2013) doi:10.1149/05027.0035ecst

- N. H. Perry, J. E. Thomas, D. Marrocchelli, S. R. Bishop, H. L. Tuller, *Isolating the Role of Charge Localization in Chemical Expansion: $(La,Sr)(Ga,Ni)O$*

^{3-X}

Case Study

Cathode Materials, Processing and Performance

, ECS Trans. 57(1): 1879-1884 (2013)

;

13th International Symposium on Solid Oxide Fuel Cells (SOFC-XIII; October 6-11, 2013) doi:10.1149/05701.1879ecst

- N. H. Perry, D. Pergolesi, K. Sasaki, S. R. Bishop, and H. L. Tuller, *Influence of Donor Doping on Cathode Performance: $(La,Sr)(Ti,Fe)O_3-\delta$ Case Study*

, ECS Trans. 57 (1) 1719-1723 (2013), 13th International Symposium on Solid Oxide Fuel Cells (SOFC-XIII; October 6-11, 2013) doi: 10.1149/05701.1719ecst

- Y. Chen, Z. Cai, Y. Kuru, H. L. Tuller and Bilge Yildiz, *Electronic Activation at Oxide Hetero-structure at Elevated Temperatures – Source of Markedly Accelerated Oxygen Reduction Kinetics*, **ECS Trans.** 57 (1) 1781-1791 (2013), 13th International Symposium on Solid Oxide Fuel Cells (SOFC-XIII; October 6-11, 2013), doi: 10.1149/05701.1781ecst

- H.L. Tuller, *Materials for High Temperature Electrochemical Applications: Automotive Sensors* , *Catalysts and Traps*, Sensors & Actuators B, 187. 106-110 (2013). <http://dx.doi.org/10.1016/j.snb.2012.09.069>

- J.L.M. Rupp, E. Fabbri, D. Marrocchelli, J.-W. Han, D. Chen, E. Traversa, H.L. Tuller, B. Yildiz , *Scalable Oxygen-ion Transport Kinetics in Metal-oxide Films: Impact of Thermally Induced Lattice Compaction in Acceptor Doped Ceria Films* , Adv. Funct. Mater., 2013, 10.1002/adfm.201302117

- M. Kuhn, J. J. Kim, S. R. Bishop and H. L. Tuller, *Oxygen nonstoichiometry and defect chemistry of perovskite-structured $Ba_xSr^{1-x}Ti^{1-y}Fe^yO^{3-y/2+\delta}$*

solid solutions

, Chem. Mater

.

,

25

, 2970–2975 (2013).

DOI:

10.1021/cm400546z

- J. Swallow, W. Woodford, Y. Chen, Q. Lu, J.J. Kim, D. Chen, Y.M. Chiang, W.C. Carter, B. Yildiz, H. Tuller, and K. J. Van Vliet, *Chemomechanics of Ionically Conductive Ceramics for Electrical Energy Conversion and Storage*, J. Electroceram., Special Issue on Electrochemomechanics. Accepted for publication.

- J.J. Kim, S.R. Bishop, N. J. Thompson, D. Chen, and H. L. Tuller, *Investigation of Nonstoichiometry in Oxide Thin Films by Simultaneous In Situ Optical Absorption and Chemical Capacitance Measurements: Pr Doped Ceria - Case Study*, Chem. Mat. Accepted for publication.

- S. R. Bishop, D. Marrocchelli, C. Chatzichristodoulou, M. Mogensen, N. H. Perry, H. L. Tuller, and E. D. Wachsman, *Chemical Expansion: Implications for Electrochemical Energy Storage and Conversion Devices*, Annual Review of Materials Research, Invited review; Accepted for publication.

