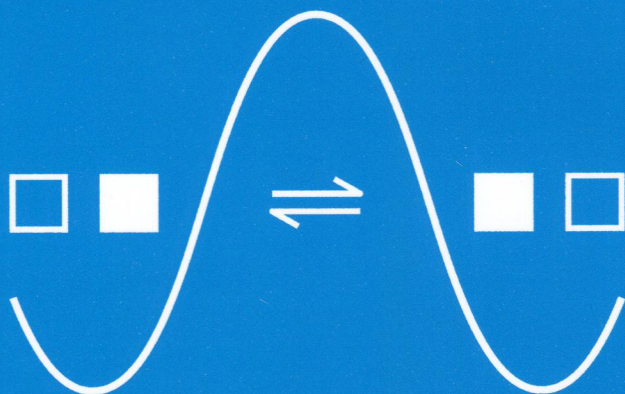


VOLUMES 249–250, 1 November 2013

ISSN 0167-2738

SOLID STATE IONICS

DIFFUSION & REACTIONS



Principal Editor

Joachim Maier, Stuttgart, Germany

Regional Editor Europe

John Kilner, London, UK

Regional Editor Asia

Koichi Eguchi, Kyoto, Japan

Hong Li, Beijing, China

Regional Editor USA

Arumugam Manthiram, Austin, TX, USA

Editors

Klaus Funke, Münster, Germany

Truls Norby, Oslo, Norway

Josh Thomas, Uppsala, Sweden

Founding Editor

M. Stanley Whittingham, Binghamton, NY, USA

Editorial Assistant

Rotraut Merkle, Stuttgart, Germany

SOLID STATE IONICS

VOLUMES 249–250, 1 November 2013

Abstracted / Indexed in: Chemical Abstracts / Aluminium Industry Abstracts / ISMEC / METADEX / PASCAL / PIRA / Engineered Materials Abstracts / Analytical Abstracts / Chemical Engineering and Biotechnology Abstracts / CAB Abstracts / GeoRef / Energy Science and Technology. Also covered in the abstract and citation database Scopus®. Full text available on ScienceDirect®.

CONTENTS

- Magnetic and optical investigations on LaFeO₃ powders with different particle sizes and corresponding ceramics
R. Köferstein, L. Jäger and S.G. Ebbinghaus 1
- Model-based characterization of charged-defect transport and apparent gas-phase permeation in mixed-conducting perovskite membranes
M.D. Sanders, H. Zhu, R.J. Kee and R.P. O'Hayre 6
- Comparative study of electrochemical properties of mixed conducting Ln₂NiO_{4+δ} (Ln=La, Pr and Nd) and La_{0.6}Sr_{0.4}Fe_{0.8}Co_{0.2}O_{3-δ} as SOFC cathodes associated to Ce_{0.9}Gd_{0.1}O_{2-δ}, La_{0.8}Sr_{0.2}Ga_{0.8}Mg_{0.2}O_{3-δ} and La₉Sr₁Si₆O_{26.5} electrolytes
B. Philippeau, F. Mauvy, C. Mazataud, S. Fourcade and J.-C. Grenier 17
- Effects of infiltrated Sr and Mn doped LaCrO₃ on porous La_{0.8}Sr_{0.2}Ga_{0.8}Mg_{0.2}O_{3-δ} scaffolds used as anodes in solid oxide fuel cells
B.Y. Yoon, J.H. Kim and J. Bae 26
- An in-situ neutron diffraction study of the crystal structure of PrBaCo₂O_{5+δ} at high temperature and controlled oxygen partial pressure
R.A. Cox-Galhotra, A. Huq, J.P. Hodges, C. Yu, X. Wang, W. Gong, A.J. Jacobson and S. McIntosh 34
- Solid state NMR structural studies of the lithiation of nano-silicon: Effects of charging capacities, host-doping, and thermal treatment
A.S. Cattaneo, S. Dupke, A. Schmitz, J.P. Badillo, M. Winter, H. Wiggers and H. Eckert 41
- Lithium borophosphate thin film electrolyte as an alternative to LiPON for solder-reflow processed lithium-ion microbatteries
B. Fleutot, B. Pecquenard, H. Martinez and A. Levasseur 49
- SIMS of thin films grown by pulsed laser deposition on isotopically labeled substrates
D. Stender, S. Cook, J.A. Kilner, M. Döbeli, K. Conder, T. Lippert and A. Wokaun 56
- Li-ion battery separator membranes based on poly(vinylidene fluoride-trifluoroethylene)/carbon nanotube composites
J. Nunes-Pereira, C.M. Costa, R. Leones, M.M. Silva and S. Lanceros-Méndez 63
- Carbon-coated TiP₂O₇ with improved cyclability in aqueous electrolytes
C. Li, X. Sun, Q. Du and H. Zhang 72
- Theoretical modeling of electrode impedance for an oxygen ion conductor and metallic electrode system based on the interfacial conductivity theory. Part II: Case of the limiting process by non-steady-state surface diffusion
K. Kobayashi, K. Terabe, T. Sukigara and Y. Sakka 78

Contents continued on last page of this issue



0167-2738(20131101)249/250C;1-K

Available online at www.sciencedirect.com

ScienceDirect

Contents continued

Determination of electronic and ionic conductivity in mixed ionic conductors: HiTEC and in-situ impedance spectroscopy analysis of isovalent and aliovalent doped BaTiO ₃ S. Lee and C.A. Randall	86
A novel electrospun PVDF/PMMA gel polymer electrolyte with in situ TiO ₂ for Li-ion batteries L. Zhou, N. Wu, Q. Cao, B. Jing, X. Wang, Q. Wang and H. Kuang	93
Efficiency of a dense thin CGO buffer layer for solid oxide fuel cell operating at intermediate temperature G. Constantin, C. Rossignol, P. Briois, A. Billard, L. Dessemond and E. Djurado	98
High capacity Li[Ni _{0.8} Co _{0.1} Mn _{0.1}]O ₂ synthesized by sol-gel and co-precipitation methods as cathode materials for lithium-ion batteries H. Lu, H. Zhou, A.M. Svensson, A. Fossdal, E. Sheridan, S. Lu and F. Vullum-Bruer	105
Influence of wet atmosphere on electrical and transport properties of lanthanum strontium cobalt ferrite cathode materials for protonic ceramic fuel cells H.-I. Ji, S.-M. Choi, K.J. Yoon, J.-W. Son, B.-K. Kim, H.-W. Lee and J.-H. Lee	112
Effect of chromium coating on nanosilicon anodes for lithium ion batteries J.K. Lee, B.K. Kim and W.Y. Yoon	117
<i>In situ</i> oxygen surface exchange coefficient measurements on lanthanum strontium ferrite thin films via the curvature relaxation method Q. Yang, T.E. Burye, R.R. Lunt and J.D. Nicholas	123
Synthesis and electrochemical performance of modified LiMn ₂ O ₄ by Zn ²⁺ and PO ₄ ³⁻ co-substitution P. Cui and Y. Liang	129
Novel solid-state preparation and electrochemical properties of Li _{1.13} [Ni _{0.2} Co _{0.2} Mn _{0.47}]O ₂ material with a high capacity by acetate precursor for Li-ion batteries L.Z. Zhou, Q.J. Xu, M.S. Liu and X. Jin	134
Structure and ionic conductivity of nanoscale gadolinia-doped ceria thin films J. Jiang, W. Shen and J.L. Hertz	139
Effects of ultraviolet illumination and temperature on ionic motion in single-crystalline CuIn ₂ Te _{3,5} R. Diaz and A. Arranz	144
Enhanced reversible capacity of Li ₄ Ti ₅ O ₁₂ -coated TiO ₂ nanocomposites as lithium-ion battery anodes C. Lai, X.L. Cao, X.C. Yuan, Y.L. Wang and S.H. Ye	151
Tween40 surfactant effect on the formation of nano-sized LiFePO ₄ /C powder via a solid state reaction and their cathode properties Y. Huang, F. Zheng, X. Zhang, Y. Li, J. Yin and Q. Li	158
Effect of Al- or Ga-additive on ionic conductivity of thin-film Gd-doped ceria Y. Lee, J.H. Joo and G.M. Choi	165
Effect of MnO ₂ coating on layered Li(Li _{0.1} Ni _{0.3} Mn _{0.5} Fe _{0.1})O ₂ cathode material for Li-ion batteries D. Uzun, M. Doğrusöz, M. Mazman, E. Biçer, E. Avci, T. Şener, T.C. Kaypmaz and R. Demir-Cakan	171
Influence of sulfur impurities on the stability of La _{0.6} Sr _{0.4} Co _{0.2} Fe _{0.8} O ₃ cathode for solid oxide fuel cells J. Xie, Y.-W. Ju and T. Ishihara	177
Electronic properties of Ca doped LaFeO ₃ : A first-principles study R. Pushpa, D. Daniel and D.P. Butt	184
<i>Calendar</i>	191