

774  
780/p58



ELSEVIER

Volume 225, 1 March 2013

ISSN 0378-7753

# JOURNAL OF POWER SOURCES

The International Journal on the Science and  
Technology of Electrochemical Energy Systems

#### Regional Editors

C.K. Dyer (N&S America)  
Z. Ogumi (Japan & P.R. China)  
D.A.J. Rand (Asia-Pacific)  
B. Scrosati (Europe, Middle East  
and Africa)

#### Regional and Special Issues Co-ordinating Editor

P.T. Moseley

#### Founding Editor

D.H. Collins

Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

**SciVerse ScienceDirect**





ELSEVIER

Contents lists available at ScienceDirect

## Journal of Power Sources

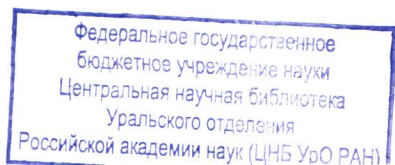
journal homepage: [www.elsevier.com/locate/jpowsour](http://www.elsevier.com/locate/jpowsour)

## Contents

**Presented at ACEPS-6 (6th Asian Conference on Electrochemical Power Sources, January 2012)**

Molten salt method of preparation and cathodic studies on layered-cathode materials $\text{Li}(\text{Co}_{0.7}\text{Ni}_{0.3})\text{O}_2$ and $\text{Li}(\text{Ni}_{0.7}\text{Co}_{0.3})\text{O}_2$ for Li-ion batteries .....	374
M.V. Reddy, B.D. Tung, L. Yang, N.D. Quang Minh, K.P. Loh, B.V.R. Chowdari	
<b>Fuel Cells: Science and Technology</b>	
Carbon deposition on nickel cermet anodes of solid oxide fuel cells operating on carbon monoxide fuel .....	1
C. Li, Y. Shi, N. Cai	
Pt nanoparticles ion-implanted onto indium tin oxide electrodes and their electrocatalytic activity towards methanol .....	9
F. Liang, H. Tian, M. Jia, J. Hu	
Investigation of electrocatalytic activity of titania nanotube supported nanostructured Pt–Ni catalyst towards methanol oxidation .....	20
L. Tamašauskaitė-Tamašiūnaitė, A. Balčiūnaitė, A. Vaiciukevičienė, A. Selskis, E. Norkus	
A novel method for synthesis of phosphomolybdic acid-modified Pd/C catalysts for oxygen reduction reaction .....	27
M. Zhu, X. Gao, G. Luo, B. Dai	
Electrochemical behavior of solid oxide fuel cell anodes based on infiltration of Y-doped $\text{SrTiO}_3$ .....	51
A. Torabi, T.H. Etsell	
The degradation mitigation effect of cerium oxide in polymer electrolyte membranes in extended fuel cell durability tests .....	75
B.P. Pearman, N. Mohajeri, R.P. Brooker, M.P. Rodgers, D.K. Slattery, M.D. Hampton, D.A. Cullen, S. Seal	
Modification of the pore structures of fuel cell electrodes using a dry etching technique .....	119
W.-J. Kim, A. Mehmood, K.-Y. Lee, H.Y. Ha	
The electrochemical behaviors of Mg–8Li–3Al–0.5Zn and Mg–8Li–3Al–1.0Zn in sodium chloride solution .....	124
Y. Lv, M. Liu, Y. Xu, D. Cao, J. Feng	
Synthesis of self-supported non-precious metal catalysts for oxygen reduction reaction with preserved nanostructures from the polyaniline nanofiber precursor .....	129
Y. Hu, X. Zhao, Y. Huang, Q. Li, N.J. Bjerrum, C. Liu, W. Xing	
Glycerol electro-oxidation on a carbon-supported platinum catalyst at intermediate temperatures .....	141
K. Ishiyama, F. Kosaka, I. Shimada, Y. Oshima, J. Otomo	
Carbon monoxide, methanol and ethanol electro-oxidation on Ru-decorated carbon-supported Pt nanoparticles prepared by spontaneous deposition .....	163
A. Velázquez-Palenzuela, E. Brillas, C. Arias, F. Centellas, J.A. Garrido, R.M. Rodríguez, P.-L. Cabot	
Effective diffusivity of gas diffusion layer in proton exchange membrane fuel cells .....	179
D. Shou, J. Fan, F. Ding	
Effect of carbon nanofiber surface functional groups on oxygen reduction in alkaline solution .....	192
R.-S. Zhong, Y.-H. Qin, D.-F. Niu, J.-W. Tian, X.-S. Zhang, X.-G. Zhou, S.-G. Sun, W.-K. Yuan	
Electrochemical properties of Pt/graphene intercalated by carbon black and its application in polymer electrolyte membrane fuel cell .....	200
S.H. Cho, H.N. Yang, D.C. Lee, S.H. Park, W.J. Kim	
Investigation of Pt nanoparticles with controlled size supported on carbon for dimethyl ether electrooxidation .....	231
F. Si, J. Liao, L. Liang, C. Liu, X. Zhang, W. Xing	
A high efficient micro-proton exchange membrane fuel cell by integrating micro-nano synergical structures .....	277
H.-C. Peng, C.-N. Wang, T.-K. Yeh, Y.-C. Su, C. Pan, F.-G. Tseng	

SciVerse ScienceDirect

Full text of this journal is available, on-line from SciVerse ScienceDirect. Visit [www.sciencedirect.com](http://www.sciencedirect.com) for more information.

Influence of the composition of isopropyl alcohol/water mixture solvents in catalyst ink solutions on proton exchange membrane fuel cell performance. ....	293
T.T. Ngo, T.L. Yu, H.-L. Lin	
High performance of Ru nanoparticles supported on carbon for anode electrocatalyst of alkaline anion exchange membrane fuel cell .....	311
J. Ohyama, T. Sato, A. Satsuma	
Electrodeposited platinum thin films with preferential (100) orientation: Characterization and electrocatalytic properties for ammonia and formic acid oxidation .....	323
E. Bertin, S. Garbarino, D. Guay, J. Solla-Gullón, F.J. Vidal-Iglesias, J.M. Feliu	
Silver-tungsten carbide nanohybrid for efficient electrocatalysis of oxygen reduction reaction in microbial fuel cell. ....	330
X.-B. Gong, S.-J. You, X.-H. Wang, Y. Gan, R.-N. Zhang, N.-Q. Ren	
A new method for manufacturing graphene and electrochemical characteristic of graphene-supported Pt nanoparticles in methanol oxidation. ....	356
K. Kakaei, M. Zhiani	
<b>Fuel Cells: Engineering</b>	
Finite element thermal stress analysis of solid oxide fuel cell cathode microstructures .....	269
S. Vaidya, J.-H. Kim	
<b>Lithium Batteries: Science and Technology</b>	
Stabilization of cubic lithium-stuffed garnets of the type "Li <sub>7</sub> La <sub>3</sub> Zr <sub>2</sub> O <sub>12</sub> " by addition of gallium .....	13
H. El Shinawi, J. Janek	
Solid-state synthesis of LiCoO <sub>2</sub> /LiCo <sub>0.99</sub> Ti <sub>0.01</sub> O <sub>2</sub> composite as cathode material for lithium ion batteries. ....	34
J. Yu, Z. Han, X. Hu, H. Zhan, Y. Zhou, X. Liu	
The SEI layer formed on lithium metal in the presence of oxygen: A seldom considered component in the development of the Li-O <sub>2</sub> battery. ....	40
R. Younesi, M. Hahlin, M. Roberts, K. Edström	
Tris(pentafluorophenyl) borane-containing electrolytes for electrochemical reversibility of lithium peroxide-based electrodes in lithium-oxygen batteries. ....	95
N.-S. Choi, G. Jeong, B. Koo, Y.-W. Lee, K.T. Lee	
Synthesis of SnO <sub>2</sub> nano hollow spheres and their size effects in lithium ion battery anode application .....	108
W.-S. Kim, Y. Hwa, J.-H. Jeun, H.-J. Sohn, S.-H. Hong	
1-Ethyl-1-methyl piperidinium bis(trifluoromethanesulfonyl)imide as a co-solvent in Li-ion batteries .....	113
K. Kim, Y.-H. Cho, H.-C. Shin	
Methacrylate based gel polymer electrolyte for lithium-ion batteries .....	157
P. Isken, M. Winter, S. Passerini, A. Lex-Balducci	
The effect of different binders on electrochemical properties of LiNi <sub>1/3</sub> Mn <sub>1/3</sub> Co <sub>1/3</sub> O <sub>2</sub> cathode material in lithium ion batteries. ....	172
J. Xu, S.-L. Chou, Q.-f. Gu, H.-K. Liu, S.-X. Dou	
High capacity carbon anode for dry polymer lithium-ion batteries. ....	187
M. Kawakubo, Y. Takeda, O. Yamamoto, N. Imanishi	
<i>In-situ</i> scanning electron microscopy observations of Li plating and stripping reactions at the lithium phosphorus oxynitride glass electrolyte/Cu interface .....	245
F. Sagane, R. Shimokawa, H. Sano, H. Sakaebe, Y. Iriyama	
Influence of particle sizes and morphologies on the electrochemical performances of spinel LiMn <sub>2</sub> O <sub>4</sub> cathode materials .....	286
L. Xiao, Y. Guo, D. Qu, B. Deng, H. Liu, D. Tang	
Enhanced electrochemical performance of LiF-modified LiNi <sub>1/3</sub> Co <sub>1/3</sub> Mn <sub>1/3</sub> O <sub>2</sub> cathode materials for Li-ion batteries. ....	338
S.J. Shi, J.P. Tu, Y.Y. Tang, Y.Q. Zhang, X.Y. Liu, X.L. Wang, C.D. Gu	
<b>Lithium Batteries: Applications</b>	
Performance of the "SiO" <sub>2</sub> -carbon composite-negative electrodes for high-capacity lithium-ion batteries; prototype 14500 batteries. ....	221
M. Yamada, K. Uchitomi, A. Ueda, K. Matsumoto, T. Ohzuku	
<b>Other Electrochemical Power Sources: Science and Technology</b>	
Identification of performance limiting electrode using asymmetric cell configuration in vanadium redox flow batteries .....	89
E. Agar, C.R. Dennison, K.W. Knehr, E.C. Kumbur	
NMR study for electrochemically inserted Na in hard carbon electrode of sodium ion battery. ....	137
K. Gotoh, T. Ishikawa, S. Shimadzu, N. Yabuuchi, S. Komaba, K. Takeda, A. Goto, K. Deguchi, S. Ohki, K. Hashi, T. Shimizu, H. Ishida	
Elastic softening of alloy negative electrodes for Na-ion batteries. ....	207
M. Mortazavi, J. Deng, V.B. Shenoy, N.V. Medhekar	
Effects of the composition on the properties of nickel-aluminum layered double hydroxide/carbon (Ni-Al LDH/C) composite fabricated by liquid phase deposition (LPD) .....	215
A.B. Béléké, E. Higuchi, H. Inoue, M. Mizuhata	
Tin and graphite based nanocomposites: Potential anode for sodium ion batteries. ....	316
M.K. Datta, R. Epur, P. Saha, K. Kadakia, S.K. Park, P.N. Kumta	
<b>Other Electrochemical Power Sources: Engineering</b>	
Cost-minimized combinations of wind power, solar power and electrochemical storage, powering the grid up to 99.9% of the time. ....	60
C. Budischak, D. Sewell, H. Thomson, L. Mach, D.E. Veron, W. Kempton	

## Supercapacitors: Science and Technology

Cycle versus voltage hold – Which is the better stability test for electrochemical double layer capacitors? .....	84
D. Weingarh, A. Foelske-Schmitz, R. Kötz	
A high-capacity carbon prepared from renewable chicken feather biopolymer for supercapacitors .....	101
Q. Wang, Q. Cao, X. Wang, B. Jing, H. Kuang, L. Zhou	
Effect of electrochemical treatment in H <sub>2</sub> SO <sub>4</sub> aqueous solution on carbon material derived from cellulose with added guanidine phosphate .....	150
T. Tsubota, C. Wang, N. Murakami, T. Ohno	
Anomalous effect of K ion on crystallinity and capacitance of the manganese dioxide .....	226
C. Wei, C. Xu, B. Li, H. Du, D. Nan, F. Kang	
Micro-supercapacitors from carbide derived carbon (CDC) films on silicon chips .....	240
P. Huang, M. Heon, D. Pech, M. Brunet, P.-L. Taberna, Y. Gogotsi, S. Lofland, J.D. Hettinger, P. Simon	
Layer-dependent supercapacitance of graphene films grown by chemical vapor deposition on nickel foam .....	251
W. Chen, Z. Fan, G. Zeng, Z. Lai	
Ultrahigh capacitance of nanoporous metal enhanced conductive polymer pseudocapacitors .....	304
Y. Hou, L. Chen, L. Zhang, J. Kang, T. Fujita, J. Jiang, M. Chen	
Electrochemical deposition of nanostructured manganese oxide on hierarchically porous graphene–carbon nanotube structure for ultrahigh-performance electrochemical capacitors .....	347
S.-M. Li, Y.-S. Wang, S.-Y. Yang, C.-H. Liu, K.-H. Chang, H.-W. Tien, N.-T. Wen, C.-C.M. Ma, C.-C. Hu	

## Photo-electrochemical Cells

Freestanding light scattering hollow silver spheres prepared by a facile sacrificial templating method and their application in dye-sensitized solar cells .....	46
N. Sharifi, S. Dadgostar, N. Taghavinia, A. Irajizad	
Extension lifetime for dye-sensitized solar cells through multiple dye adsorption/desorption process .....	257
Y.-F. Chiang, R.-T. Chen, P.-S. Shen, P. Chen, T.-F. Guo	
Photoelectrochemical cell/dye-sensitized solar cell tandem water splitting systems with transparent and vertically aligned quantum dot sensitized TiO <sub>2</sub> nanorod arrays .....	263
K. Shin, J.-B. Yoo, J.H. Park	
Facile fabrication of dye-sensitized solar cells utilizing carbon nanotubes grown over 2D hexagonal bimetallic ordered mesoporous materials .....	364
J. Balamurugan, R. Thangamuthu, A. Pandurangan, M. Jayachandran	

## Errata

Corrigendum to “Two-step co-sintering method to fabricate anode-supported Ba <sub>3</sub> Ca <sub>1.18</sub> Nb <sub>1.82</sub> O <sub>9</sub> 2d proton conducting solid oxide fuel cells” [Power 215 (2012) 221–226] .....	382
S. Wang, L. Zhang, Z. Yang, L. Zhang, S. Fang, K. Brinkman, F. Chen	
Corrigendum to “Bipolar plate cell design for a lithium air battery” [J. Power Sources 199 (2012) 247–255] .....	383
J. Adams, M. Karulkar	
Erratum to “Nanoporous PdCu alloy for formic acid electro-oxidation” [J. Power Sources 199 (2012) 124–131] .....	384
C. Xu, Y. Liu, J. Wang, H. Geng, H. Qiu	