

Journal of Electrochemistry

Volume 19

Issue 6 *Special Issue of Lithium-Ion Battery*

(Editor: Professor YANG Yong)

2013-12-28

Latest and Hot Papers

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Recommended Citation

Lin ZHUANG. Latest and Hot Papers[J]. *Journal of Electrochemistry*, 2013 , 19(6): Article 16.

DOI: 10.61558/2993-074X.2968

Available at: <https://jelectrochem.xmu.edu.cn/journal/vol19/iss6/16>

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近期热点文章 Latest and Hot Papers

A Dark-Field Scattering Spectroelectrochemical Technique for Tracking the Electrodeposition of Single Silver Nanoparticles

C. M. Hill, S. Pan

J. Am. Chem. Soc. DOI:10.1021/ja4075387

暗场散射(DFS)光谱与电化学结合,研究 Ag 电沉积中不同粒径纳米颗粒的电化学行为差异.

A Highly Stretchable, Fiber-Shaped Supercapacitor

Z. Yang, J. Deng, X. Chen, J. Ren, H. Peng

Angew. Chem. Int. Ed. DOI:10.1002/anie.201307619

一种可以拉伸的超级电容器,由弹性纤维负载碳纳米管制成的电极卷绕而成.多次拉伸后仍表现出高的比电容.

Metal Oxochlorides as Cathode Materials for Chloride Ion Batteries

X. Zhao, Z. Zhao-Karger, D. Wang, M. Fichtner

Angew. Chem. Int. Ed. DOI:10.1002/anie.201307314

以 BiOCl 和 FeOCl 为氯离子电池阴极材料,研究 Cl⁻ 离子的嵌入和脱嵌行为.

Lithium and Sodium Battery Cathode Materials: Computational Insights into Voltage, Diffusion and Nanostructural Properties

M. S. Islam, C. A. J. Fisher

Chem. Soc. Rev. DOI:10.1039/C3CS60199D

关于锂离子电池和钠离子电池阴极材料设计的综述.引用了 187 篇参考文献.

Three-Dimensional N-Doped Graphene Hydrogel/NiCo Double Hydroxide Electrocatalysts for Highly Efficient Oxygen Evolution

S. Chen, J. Duan, M. Jaroniec, S. Z. Qiao

Angew. Chem. Int. Ed. DOI:10.1002/anie.201306166

由氮杂石墨烯和 NiCo 层状双氢氧化物构成的水凝胶电极,表现出高的氧析出反应催化活性.

Low-Overpotential Water Oxidation by a Surface-Bound Ruthenium-Chromophore-Ruthenium-

Catalyst Assembly

M. R. Norris, J. J. Concepcion, Z. Fang, J. L. Templeton, T. J. Meyer

Angew. Chem. Int. Ed. DOI:10.1002/anie.201305951

组合 Ru 染料分子和 Ru 分子催化剂,锚定到 ITO 纳米颗粒表面,催化光电化学水氧化.

Visualization and Quantification of Electrochemical and Mechanical Degradation in Li Ion Batteries

M. Ebner, F. Marone, M. Stampanoni, V. Wood

Science 342 (2013)716.

采用 X 射线断层摄像术观察锂嵌入 SnO 过程中的电极结构和颗粒结构的变化.

Efficient Noble Metal-Free (Electro)Catalysis of Water and Alcohol Oxidations by Zinc-Cobalt Layered Double Hydroxide

X. Zou, A. Goswami, T. Asefa

J. Am. Chem. Soc. DOI:10.1021/ja407174u

碱性介质中,ZnCo 层状双氢氧化物作为氧析出反应催化剂,超电势仅约 100 mV.这种催化剂对醇氧化反应也有效.

Thin Film Approach to Single Crystalline Electrochemistry

J. Snyder, N. Danilovic, A. P. Paulikas, D. Tripkovic,

D. Strmcnik, N. M. Markovic, V. R. Stamenkovic

J. Phys. Chem. CDOI:10.1021/jp4078272

磁控溅射制备的 Pt 和 Au 薄层在 H₂/Ar 气氛下进行热处理,可转变成 Pt(111)和 Au(111)单晶电极.

Monodisperse Au Nanoparticles for Selective Electrocatalytic Reduction of CO₂ to CO

W. Zhu, R. Michalsky, Ö. Metin, H. Lv, S. Guo, C. J. Wright, X. Sun, A. A. Peterson, S. Sun

J. Am. Chem. Soc. DOI:10.1021/ja409445p

在 KHCO₃ 溶液中,单分散 Au 纳米颗粒可高选择性地催化 CO₂ 还原为 CO.

Enhanced Lithium Ion Battery Cycling of Silicon Nanowire Anodes by Template Growth to Eliminate Silicon Underlayer Islands

J. -H. Cho, S. T. Picraux

Nano Lett. DOI:10.1021/nl4036498

不含 Si 岛的 Si 一维纳米线阵列电极表现出优异的 Li 嵌入/脱嵌行为, 1100 周循环容量仍大于 1000 mAh·g⁻¹.

High Volumetric Capacity Silicon-Based Lithium Battery Anodes by Nanoscale System Engineering

B. Wang, X. Li, T. Qiu, B. Luo, J. Ning, J. Li, X. Zhang, M. Liang, L. Zhi

Nano Lett. DOI:10.1021/nl403231v

含 Si 的石墨化碳纳米线阵列电极表现出高的储锂体积比容量。

Simply Mixed Commercial Red Phosphorus and Carbon Nanotube Composite with Exceptionally Reversible Sodium-Ion Storage

W. -J. Li, S. -L. Chou, J. -Z. Wang, H. -K. Liu, S. -X. Dou

Nano Lett. DOI:10.1021/nl403053v

将红磷和碳纳米管通过简单的碾磨混合便可获得容量高达 1675 mAh·g⁻¹ 的储钠电极。循环 10 圈后容量保持 76.6%。

Benchmarking Heterogeneous Electrocatalysts for the Oxygen Evolution Reaction

C. C. L. McCrory, S. Jung, J. C. Peters, T. F. Jaramillo

J. Am. Chem. Soc. DOI:10.1021/ja407115p

比较碱性溶液中各种氧析出反应催化剂, IrO_x 超电势最小, 其次是 NiFeO_x。

Highly Confined Ions Store Charge More Efficiently in Supercapacitors

C. Merlet, C. Péan, B. Rotenberg, P. A. Madden, B. Daffos, P. -L. Taberna, P. Simon, M. Salanne

Nature Commun. DOI:10.1038/ncomms3701

分子动力学模拟发现纳米多孔电极可储存更多电量的原因是离子的部分去溶剂化和局部电荷密度增大。

Lithium Metal Anode for Rechargeable Batteries

W. Xu, J. Wang, F. Ding, X. Chen, E. Nasybulin, Y.

Zhang, J. -G. Zhang

Energy Environ. Sci. DOI:10.1039/C3EE40795K

关于金属锂电极的综述。引用了 244 篇参考文献。

β -Ketoenamine-Linked Covalent Organic Frameworks Capable of Pseudocapacitive Energy Storage

C. R. DeBlase, K. E. Silberstein, T. -T. Truong, H. D. Abruña, W. R. Dichtel

J. Am. Chem. Soc. DOI:10.1021/ja409421d

一种二维共价有机框架(COF)聚合物电极, 表现出可逆的氧化还原行为和酸性介质中的高稳定性。

Understanding the Role of Different Conductive Polymers in Improving the Nanostructured Sulfur Cathode Performance

W. Li, Q. Zhang, G. Zheng, Z. W. Seh, H. Yao, Y. Cui

Nano Lett. DOI:10.1021/nl403130h

比较了几种由导电聚合物包覆 S 纳米球构成的硫电极的循环性能。

Highly Reversible Open Framework Nanoscale Electrodes for Divalent Ion Batteries

R. Y. Wang, C. D. Wessells, R. A. Huggins, Y. Cui

Nano Lett. DOI:10.1021/nl403669a

水溶液中普鲁士蓝框架化合物电极的碱土金属离子可逆嵌入/脱嵌行为研究。

A Stable Cathode for the Aprotic Li-O₂ Battery

M. M. O. Thotiyl, S. A. Freunberger, Z. Peng, Y. Chen, Z. Liu, P. G. Bruce

Nature Mater. 12 (2013)1050.

TiC 作为 Li-O₂ 电池氧电极材料的研究。

Hollow Carbon-Nanotube/Carbon-Nanofiber Hybrid Anodes for Li-Ion Batteries

Y. Chen, X. Li, K. Park, J. Song, J. Hong, L. Zhou, Y. -W. Mai, H. Huang, J. B. Goodenough

J. Am. Chem. Soc. 135 (2013) 16280.

空心碳纳米管和碳纳米纤维复合材料作为锂离子电池阳极, 在高倍率放电条件下仍然具有高的容量和循环稳定性。

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编于 2013 年 11 月 13 日