

# 电 化 学

2013 年(第 19 卷)1~6 期

## 总 目 次

### 综 述

生物电化学仪器的发展现状与展望

..... 胡 仁, 朴春晖, 林昌健, 詹东平, 任 斌, AMATORE Christian, 田中群(97)

基于量子点的电致化学发光免疫传感器研究进展 ..... 李玲玲, 卢 倩, 朱俊杰(103)

浅析 SOFC 性能衰减的材料因素 ..... 高克卿, 刘晓天, 赵二庆, 樊丽权, 熊岳平(110)

### 电化学材料基础与表界面近期研究专辑(中国科学院化学研究所 万立骏院士主编)

Pt 基合金氧还原催化剂设计的密度泛函理论计算研究 ..... 欧利辉, 陈胜利(1)

电化学表面增强红外光谱技术进展 ..... 阳耀月, 张涵轩, 蔡文斌(6)

表面等离子体共振光谱技术与电化学方法联用及其应用

..... 包 宇, 毛 燕, 王 伟, 李正刚, 牛 利(17)

“电极/溶液”界面的椭圆偏振测量技术研究进展

..... 雷惊雷, 吴良柳, 李凌杰, 巫生茂, 张胜涛(29)

甘氨酸修饰的 Pt(111)电极上的氧还原

..... 李明芳, 康 婧, 廖玲文, 陈艳霞, 叶 深(37)

$\alpha$  型和  $\beta$  型  $\text{PbO}_2$  正极的充放电性能比较

..... 崔聪颖, 马学美, 孔德龙, 马厚义(43)

离子交换-电沉积法制备高 Pt 利用率多孔电极

..... 陈四国, 丁 炜, 齐学强, 李 莉, 邓子华, 魏子栋(53)

不同掺杂元素的钛基  $\text{PbO}_2$  电极对苯酚电催化氧化性能的影响

..... 刘晓蕾, 丹媛媛, 陆海彦, 林海波, 欧阳明丽, 袁传军(59)

原子层沉积技术制备高性能低铂载量燃料电池膜电极

..... 舒 婷, 廖世军, 谢建德, 苏 艾(65)

$\text{Na}_2\text{CO}_3$  对  $\text{TiO}_2$  纳米管电极表面光电化学水分解反应的催化作用研究

..... 孔德生, 王 静, 张学迪, 赵 曦, 王 超, 冯媛媛, 李文娟(71)

### 锂离子和燃料电池近期研究专辑(厦门大学 董全峰教授主编)

碳空心球/硫复合材料制备和电化学性能研究

..... 臧 俊, 钱 航, 曾尔曼, 付娟妮, 郑明森, 董全峰(195)

碱性聚合物电解质燃料电池电极疏水性对性能的影响

..... 谭力盛, 潘 婧, 李 瑶, 庄 林, 陆君涛(199)

前驱体对三元正极材料  $\text{LiNi}_{0.5}\text{Co}_{0.2}\text{Mn}_{0.3}\text{O}_2$  性能的影响

..... 胡东阁, 王张志, 刘佳丽, 黄 桃, 余爱水(204)

新型 ITSOFC 复合电解质氧化铈-硫酸盐的制备和表征 ..... 佟 泽, 尹屹梅, 殷洁炜, 马紫峰(210)

锂离子电池用富锂正极材料的研究进展 ..... 张 洁, 王久林, 杨 军(215)

聚吡咯-过渡金属-氧配合物储锂材料的结构与性能研究

..... 毛 亚, 孔庆宇, 郭炳焜, 王兆翔, 陈立泉(225)

Al 掺杂尖晶石  $\text{LiMn}_2\text{O}_4$  正极材料的性能 ..... 王永龙, 王文阁, 张 倩, 王 昕, 曹建胜, 叶世海(232)

丙酸乙酯对  $\text{LiFePO}_4$  锂离子电池低温性能的影响

..... 李小平, 郝连升, 李伟善, 许梦清, 邢丽丹(237)

直接甲醇燃料电池电催化机理及多孔电极传质过程研究

..... 王新东, 王一拓, 刘桂成, 王 萌, 田 哲(246)

### 环境电化学近期研究专辑(吉林大学 林海波教授主编)

草酸在  $\text{Ti}/\text{IrO}_2\text{-Ta}_2\text{O}_5$  阳极圆柱形电解槽中的电催化氧化降解动力学

..... 苏 静, 林海波, 徐 红, 黄卫民, 何亚鹏(293)

掺硼金刚石阳极电氧化和电芬顿工艺处理真实水体中低含量药物的研究

..... Ignasi Sirés, José Antonio Garrido, Enric Brillas(312)

钛基氧化物阳极中间层的研究进展

..... 宋秀丽, 杨慧敏, 梁镇海(313)

PANI-SnP 复合膜电极在镍镉废水中电控离子交换性能

..... 冯艳婷, 肖俊强, 郝晓刚, 马旭莉, 王忠德, 韩念琛, 候红串(322)

丙三醇碳酸酯的电合成研究 ..... 王 欢, 朱美侠, 吴腊霞, 徐晓明, 赵学如, 陆嘉星(328)

污泥水解液基质微生物燃料电池的研究 ..... 梁 鹏, 郭 超, 黄 霞(332)

粘性土壤中苯酚的电动力学迁移研究

..... 刘安安, 樊 凯, 熊厚峰, 董 阔, 杨 洋, 邹东雷(336)

印染废水的电化学深度处理及回用研究 ..... 陈飞翔, 杨初引, 周明明, 王家德(341)

重金属自产电能电化学处理 ..... 许 伟, 张慧敏, 吴祖成(345)

结合(光)电化学方法研究光催化降解污染物反应 ..... 冷文华, 朱红乔(437)

电驱动下的环境污染物厌氧生物转化—电子转移原理和应用实例

..... 冯春华, 谢道海, 庞韵梦, 韩 涛, 韦朝海(444)

连续电提取浓缩技术 ..... 任 琼, 廖 文, 吴祖成(454)

应用于水溶液介质中喹啉氧化的电芬顿工艺实验设计方法

..... TRABELSI SOUISSI S, OTURAN N, BELLAKHAL N, OTURAN M A(471)

电化学氧化和臭氧化预处理酸性化工废水的效能研究

..... 刘汉水, 余 夙, 童少平, 马淳安(472)

电化学氧化苯酚合成对苯醌的研究 ..... 钮东方, 俞程凯, 张新胜(477)

电活性铁氰化镍膜电极对稀土钇的电控离子分离

..... 张 浩, 郝晓刚, 王忠德, 张忠林, 马旭莉, 李一兵, 刘世斌(482)

Keggin 型钴取代杂多阴离子  $\text{PW}_{11}\text{O}_{39}\text{Co(II)(H}_2\text{O)}^{5-}$  的电催化性能

..... 王 彬, 王崇太, 华英杰, 刘津媛, 郑良飞(488)

聚苯胺/铁氰化镍纳米复合颗粒的制备及电控分离 Cd 的 EQCM 研究

..... 杨宇娇, 郑君兰, 郝晓刚, 马旭莉, 王忠德, 张忠林, 韩念琛(493)

### 腐蚀电化学及研究方法近期研究专辑(厦门大学 林昌健教授主编)

SECM 基本原理及其在金属腐蚀中的应用 ..... 曹发和, 夏 妍, 刘文娟, 常林荣, 张鉴清(393)

椭圆偏振光谱技术的腐蚀研究应用 ..... 李凌杰, 贺毓玲, 雷惊雷, 张胜涛(402)

金属锌表面膜形成的椭圆偏振技术研究 ..... 左娟, 陈营, 林昌健, Andreas Erbe(409)  
深海静水压力环境下低合金高强度钢腐蚀行为研究

..... 孙海静, 刘莉, 李璞(418)  
碳钢低压冷喷涂铝涂层的海水耐蚀性

..... 李相波, 许立坤, 邱善广, 王佳, 黄国胜, 董彩常(425)  
电场作用下金属锌在薄液膜下的腐蚀电化学研究

..... 原徐杰, 张俊喜, 陈启萌, 张世明, 谈天(430)

## 锂离子电池近期研究专辑(厦门大学 杨勇教授主编)

电化学原位同步辐射技术在锂离子电池电极材料研究中的应用

..... 龚正良, 张炜, 吕东平, 郝晓罡, 文闻, 姜政, 杨勇(512)

电化学储钠材料的研究进展 ..... 钱江锋, 高学平, 杨汉西(523)

力曲线用于硅负极材料表面膜的研究 ..... 郑杰允, 郑浩, 汪锐, 李泓, 陈立泉(530)

富锂  $\text{Li}_{1.23}\text{Ni}_{0.09}\text{Co}_{0.12}\text{Mn}_{0.56}\text{O}_2$  材料的水溶-蒸发法合成及其初始 1.5 周充放电过程的原位 XRD 研究

..... 沈重亨, 沈守宇, 林舟, 郑小美, 苏航, 黄令, 李君涛, 孙世刚(537)

介孔碳/硫复合材料与室温钠硫电池 ..... 赵庆, 胡宇翔, 张凯, 王利江, 陶占良, 陈军(544)

粒径可控纳米  $\text{LiFePO}_4/\text{C}$  的制备及其电化学性能研究 ..... 王明娥, 刘敬源, 侯孟炎, 夏永姚(550)

铝掺杂  $\text{LiFePO}_4$  的表面成分结构及电化学性能研究

..... 尚怀芳, 黄伟峰, 储旺盛, 夏定国, 吴自玉(558)

钒替代对碳包覆硅酸铁锂复合材料结构的影响 ..... 杨洪, 张颖, 程璇(570)

水热法制备无定形  $\text{ZnSnO}_3/\text{C}$  复合材料及其电化学性能研究

..... 方国清, 张瑞雪, 刘伟伟, 夏丙波, 孙洪丹, 王海波, 吴晶晶, 金子信悟, 李德成(571)

$\text{Li}_2\text{FeSiO}_4/\text{C}$  正极材料的固相合成及电化学性能 ..... 孙姣丽, 陈志娇, 李益孝, 程琥(575)

片状  $\text{LiV}_3\text{O}_8$  软模板辅助溶胶-凝胶法制备及其在水系锂离子电池中的性能研究

..... 谭帅, 孙旦, 王海燕, 侯天丽, 肖仲星, 唐有根(579)

多元醇法合成纳米  $\text{LiCoPO}_4$  及其电化学性能 ..... 王飞, 杨军(585)

单分散球形纳米  $\text{Fe}_3\text{O}_4$  的可控合成和嵌锂性质研究 ..... 邹红丽, 李伟善(590)

## 研究论文

一些电化学交流阻抗复数平面图旋转的物理意义

..... 吴秉亮(79)

$\text{Pt-Mo}_2\text{C}/\text{GC}$  催化甲醇氧化的现场电化学-红外光谱研究

..... 黄海萍, 姚希宇, 沈培康(83)

$\text{PdCu}$  合金纳米晶体的制备和电催化活性研究

..... 武海滨, 张瑞中, 陈卫(115)

O-掺杂石墨电极  $\text{VO}^{2+}/\text{VO}_2^+$  电对反应活性研究

..... 张焕, 秦琳琳, 施一宁, 郑明森, 董全峰, 田昭武(120)

$\text{FeCo}$  合金纳米电催化剂制备及其性能研究

..... 李明轩, 欧洁连, 陈燕鑫, 陈声培, 王鹏, 许斌斌, 孙世刚(125)

多级树状纳米结构聚苯胺的电化学制备 ..... 翁少煌, 周剑章, 林仲华, 林新华(130)

纯相  $\text{Li}_4\text{Ti}_5\text{O}_{12}$  水热合成及其电化学性能 ..... 谢文俊, 何雨石, 王红, 廖小珍, 马紫峰(135)

- Ce<sup>3+</sup>/Ce<sup>4+</sup> 电对在硫酸和甲磺酸介质中电化学性能的差异 ..... 李照华, 褚有群, 马淳安(141)
- 水溶-蒸发法制备 LiFePO<sub>4</sub>/C 及其电化学性能研究 ..... 古宁宇, 何兴华, 李 洋(146)
- 超薄纳米多孔金膜的制备及其局域表面等离子体效应研究  
..... 冯 时, 陈 述, 杨 青, 向 娟(151)
- CuF<sub>2</sub>/MoO<sub>3</sub>/C 复合正极的电化学阻抗谱研究  
..... 史月丽, 吴 楠, 沈明芳, 董佳群, 庄全超, 江 利(155)
- Pt/PMo<sub>12</sub>/PEDOT/GC 电极的制备及其甲醇电氧化性能  
..... 马静华, 王睿翔, 谭一良, 王珊珊, 张艳勤, 樊友军(164)
- 锂离子电池碳包覆锡负极性能研究 ..... 刘贵昌, 申晓晓, 王立达(169)
- 钙钛矿 La<sub>1-x</sub>Sr<sub>x</sub>CoO<sub>3</sub> 的电化学电容性能 ..... 徐 暘, 包彦彦, 杜龙飞, 曹殿学, 王贵领(174)
- 锌铝层状双金属氢氧化物焙烧物对钢筋的缓蚀作用研究  
..... 张小娟, 王静静, 董士刚, 林昌健(256)
- 基于聚丙烯酰胺凝胶软印章的电化学纳米加工  
..... 孙 文, 樊海涛, 张大霄, 胡冬洁, 周勇亮(266)
- 玻碳电极肉桂酸添加剂对锌电沉积的影响  
..... 李 凯, 陈 琴, 刘深娜, 陈碧桑, 林 珩, 陈国良, 汪庆祥(267)
- Gd<sub>0.2</sub>Ce<sub>0.8</sub>O<sub>2</sub> 包覆 LaNi<sub>0.6</sub>Fe<sub>0.4</sub>O<sub>3.8</sub> 阴极制备及性能  
..... 任睿轩, 黄 波, 朱新坚, 胡一星, 丁小益, 刘宗尧, 刘烨彬(275)
- 锦纶织物表面无 Sn<sup>2+</sup> 离子敏化活化法化学镀银工艺优化 ..... 王博莲, 赵亚萍, 蔡再生(281)
- 碱处理对 PtRu/WC 电极材料结构及甲醇电催化氧化性能的影响  
..... 郎小玲, 施梅勤, 江叶坤, 马淳安(350)
- 添加剂氟代乙烯碳酸酯对锂离子电池低温性能影响的机制研究  
..... 卞锋菊, 张忠如, 杨 勇(355)
- 石墨烯量子点增强聚吡咯超级电容器电极的电化学性质  
..... 吴 坤, 许思哲, 周雪皎, 吴海霞(370)
- Li(Ni<sub>0.5</sub>Co<sub>0.2</sub>Mn<sub>0.3</sub>)<sub>1-2x</sub>Ti<sub>x</sub>Nb<sub>x</sub>O<sub>2</sub> 的合成及电化学性能 ..... 唐 勇, 廖钦林, 郭祥安(371)
- 微生物阳极燃料电池极性反转现象研究 ..... 张恩仁, 牛俊乐, 刘 雷, 刁国旺(376)
- 丹皮酚在聚苏丹红 III/GC 电极上的电化学行为及测定  
..... 郑艳洁, 刘爱林, 雷 云, 林新华(383)
- 氢气气泡模板电化学诱导沉积纳-微米二级结构钙磷盐生物材料的研究  
..... 王 卉, 林昌健, 胡 仁, 张克勤, 段红平, 董 镶(501)
- 敏化处理 304 不锈钢局部腐蚀行为的扫描微电极法研究  
..... 叶陈清, 胡融刚, 侯瑞青, 王小平, 杜荣归, 林昌健(507)

## 研究简报

- Fe<sub>3</sub>O<sub>4</sub>/C 的制备与电化学性能研究  
..... 蔡俊杰, 姚 姝, 李泽胜, 孟 辉, 沈培康(89)
- 电化学电容器氮化钒负极材料性能研究 ..... 高兆辉, 张 浩, 曹高萍, 韩敏芳, 杨裕生(178)
- PAni/Si/G/C 复合材料的制备及电化学性能 ..... 张光辉, 沈培康, 桑 革, 熊仁金(184)
- 壳聚糖单体溶胶-凝胶煅烧合成 LiFePO<sub>4</sub>/C 正极  
..... 徐 嘉, 王艳艳, 王 蕊, 王 博, 潘 越, 曹殿学, 王贵领(189)

# JOURNAL OF ELECTROCHEMISTRY

2013 Vol. 19 No.1 ~ 6(Sum 75 ~ 80)

## Contents(Abstracts)

### Reviews

Current Statuses and Prospects of Bioelectrochemical Instruments

..... HU R, PIAO C H, LIN C J, ZHAN D P, REN B, AMATORE C, TIAN Z Q(102)

Current Development of Quantum Dots Based Electrochemiluminescence Immunosensors

..... LI L L, LU Q, ZHU J J(109)

Analysis of the Material Factors in the Degradation of SOFC Performance

..... GAO K Q, LIU X T, ZHAO E Q, FAN L Q, XIONG Y P(114)

### Special Issue of Electrochemical Materials and Surface/Interface(Editor: Professor WAN Li-jun, Institute of Chemistry, Chinese Academy of Sciences)

A DFT Calculation Screening of Pt-Based Bimetallic Catalysts for Oxygen Reduction

..... OU L H, CHEN S L(5)

Recent Experimental Progresses on Electrochemical ATR-SEIRAS

..... YANG Y Y, ZHANG H X, CAI W B(16)

Combination and Applications of Time-Resolved Surface Plasmon Resonance Spectroscopy and

Electrochemical Methods ..... BAO Y, MAO Y, WANG W, LI Z G, NIU L(28)

Applications of Ellipsometry in the Investigations of Electrode-Solution Interface

..... LEI J L, WU L L, LI L J, WU S M, ZHANG S T(36)

Oxygen Reduction Reaction on Glycin Modified Pt(111) Electrode

..... LI M F, KANG J, LIAO L W, CHEN Y X, YE S(42)

A Comparative Study of Charge-Discharge Behaviors of  $\alpha$ -PbO<sub>2</sub> and  $\beta$ -PbO<sub>2</sub> Cathodes

..... CUI C Y, MA X M, KONG D L, MA H Y(52)

Porous Electrodes with High Pt Utilization Obtained by Ion-Exchange/Electrodeposition

..... CHEN S G, DING W, QI X Q, LI L, DENG Z H, WEI Z D(58)

Effect of Ti/PbO<sub>2</sub> Electrodes Doped with Different Elements on Electrocatalytic Oxidation

Characteristics of ..... Phenol LIU X L, DAN Y Y, LU H Y, LIN H B, OUYANG M L, YUN C J(64)

High Performance Membrane Electrode Assembly with Low Platinum Loadings Prepared by

Atomic Layer Deposition for PEMFC Application ..... SHU T, LIAO S J, HSIEH C T, SU A(70)

Sodium Carbonate Catalyzed Photoelectrochemical Water Splitting over TiO<sub>2</sub> Nanotube Photoanode

..... KONG D S, WANG J, ZHANG X D, ZHAO X, WANG C, FENG Y Y, LI W J(78)

### Special Issue of Lithium-Ion Batteries and Fuel Cells (Editor: Professor DONG Quan-feng, Xiamen University)

Preparation and Electrochemical Performance of Hollow Carbon Spheres/Sulfur Composite

..... ZANG J, QIAN H, ZENG E M, FU J N, ZHENG M S, DONG Q F(198)

Influence of Electrode Hydrophobicity on Performance of Alkaline Polymer Electrolyte Fuel Cells

..... TAN L S, PAN J, LI Y, ZHUANG L, LU J T(203)

The Effect of Precursors on Performance of LiNi<sub>0.5</sub>Co<sub>0.2</sub>Mn<sub>0.3</sub>O<sub>2</sub> Cathode Material

..... HU D G, WANG Z Z, LIU J L, HUANG T, YU A S(209)

- Preparation and Characterization of a Novel Composite Electrolyte Ceria-Sulfate for Intermediate Temperature Solid Oxide Fuel Cells ..... TONG Z, YIN Y M, YIN J W, MA Z F(214)
- Progress of Lithium Rich Cathode Materials for Li-Ion Batteries ... ZHANG J, WANG J L, YANG J(224)
- Polypyrrole-Transition Metal-Oxygen Coordination Complexes as High Performance Lithium Storage Material ..... MAO Y, KONG Q Y, GUO B K, WANG Z X, CHEN L Q(231)
- Electrochemical Performance of Al-Doped Spinel  $\text{LiMn}_2\text{O}_4$  Cathode Material for Li-Ion Batteries ..... WANG Y L, WANG W G, ZHANG Q, WANG X, CAO J S, YE S H(236)
- Effect of Ethyl Propionate on Low-Temperature Performance of  $\text{LiFePO}_4$ -Based Li-Ion Battery ..... LI X P, HAO L S, LI W S, XU M Q, XING L D(245)
- Electrocatalytic Mechanism and Porous Electrode Mass Transfer Process in Membrane Electrode Assembly for Direct Methanol Fuel Cells ..... WANG X D, WANG Y T, LIU G C, WANG M, TIAN Z(255)
- Special Issue of Environmental Electrochemistry(Editor: Professor LIN Hai-bo, Jilin University)**
- Electrocatalytic Oxidation Degradation Kinetics of Oxalic Acid in a Cylindrical Electrochemical Reactor with  $\text{Ti}/\text{IrO}_2\text{-Ta}_2\text{O}_5$  Anode ..... SU J, LIN H B, XU H, HUANG W M, HE Y P(299)
- Performance of the Electro-Oxidation and Electro-Fenton Processes with a BDD Anode for the Treatment of Low Contents of Pharmaceuticals in a Real Water Matrix ..... Ignasi Sirés, José Antonio Garrido, Enric Brillas(300)
- Research Progress of Intermediate Layers in Ti-based Oxide Anodes ..... SONG X L, YANG H M, LIANG Z H(321)
- Electrochemically Switched Ion Exchange Properties of PANI-SnP Composite Films in Wastewater Containing  $\text{Ni}^{2+}$  and  $\text{Cd}^{2+}$  ..... FENG Y T, XIAO J Q, HAO X G, MA X L, WANG Z D, HAN N C, HOU H C(327)
- Electrosynthesis of Glycerol Carbonate from  $\text{CO}_2$  and Glycerol ..... WANG H, ZHU M X, WU L X, XU X M, ZHAO X R, LU J X(331)
- Using Hydrolyzed Sludge Liquor as the Substrate of Microbial Fuel Cell ..... LIANG P, GUO C, HUANG X(335)
- Electrokinetic Migration Research of Phenol in Cohesive Soil ..... LIU A A, FAN K, XIONG H F, Dong K, YANG Y, ZOU D L(340)
- Advanced Treatment of Dyeing Wastewater for Reuse by Electrochemical Oxidation ..... CHEN F X, YANG C Y, ZHOU M M, WANG J D(344)
- Electrochemical Treatment of Heavy Metals with Self-Electricity Generation ..... XU W, ZHANG H M, WU Z C(349)
- An Investigation of Photocatalytic Degradation Reactions of Pollutants by Combination of (Photo)electrochemical Measurements ..... LENG W H, ZHU H Q(443)
- Anaerobic Biotransformation of Environmental Pollutants Stimulated by Electric Field: Electron-Transfer Mechanisms and Application Examples ..... FENG C H, XIE D H, PANG Y M, HAN T, WEI C H(453)
- Continuous Electroextraction and Concentration Technology ..... REN Q, LIAO W, WU Z C(459)
- Experimental Design Methodology Applied to the Oxidation of Quinolines in Aqueous Medium by Electro-Fenton Process ..... TRABELSI SOUSSI S, OTURAN N, BELLAKHAL N, OTURAN M A(460)
- A Comparative Study in Pretreatments of Acid Chemical Wastewater by Electrochemical Oxidation and Ozonation ..... LIU H S, YU S, TONG S P, MA C A(476)

## Preparation of Benzoquinone from Phenol by Electrooxidation

..... NIU D F, YU C K, ZHANG X S(481)

## Electrochemically Switched Separation of Yttrium Ion Using Electroactive Nickel Hexacyanoferrate Thin Films in Rare Earth Metal Solution

..... ZHANG H, HAO X G, WANG Z D, ZHANG Z L, MA X L, LI Y B, LIU S B(487)

Electrocatalytic Properties of the Keggin-Type Co(II)-Substituted Heteropolyanion  $PW_{11}O_{39}Co(II)(H_2O)^{5-}$ 

..... WANG B, WANG C T, HUA Y J, LIU J Y, ZHENG L F(492)

Synthesis of PANI/NiHCF Nanocomposite Particles and EQCM Measurement of Ion Exchange Properties in Solutions Containing  $Cd^{2+}$ 

..... YANG Y J, ZHENG J L, HAO X G, MA X L, WANG Z D, ZHANG Z L, HAN N C(498)

**Special Issue of Corrosion Electrochemistry and Its Research Methods (Editor: Professor LIN Chang-jian, Xiamen University)**

## Basic Principles and Applications of SECM in Metal Corrosion

..... CAO F H, XIA Y, LIU W J, CHANG L R, ZHANG J Q(401)

## Applications of Spectroscopic Ellipsometry in Corrosion Investigation

..... LI L J, HE Y L, LEI J L, ZHANG S T(408)

## An Investigation of Thin Films Formed on Zinc by Spectroscopic Ellipsometry

..... ZUO J, CHEN Y, LIN C J, ERBE A(417)

## Corrosion Behavior of a High Strength Low Alloy Steel Under Hydrostatic Pressure in Deep Ocean

..... SUN H J, LIU L, LI Y(424)

## Corrosion Resistance of Low Pressure Cold Sprayed Al Coating on Q235 Steel in Seawater

..... LI X B, XU L K, QIU S G, WANG J, HUANG G S, DONG C C(429)

## Corrosion Behavior of Zinc Covered with Thin Electrolyte Layers under External Electric Field

..... YUAN X J, ZHANG J X, CHEN Q M, ZHANG S M, TAN T(436)

**Special Issue of Lithium-Ion Battery (Editor: Professor YANG Yong, Xiamen University)**Application of Synchrotron Radiation Based Electrochemical *In-Situ* Techniques to Study of Electrode Materials for Lithium-Ion Batteries

..... GONG Z L, ZHANG W, LV D P, HAO X G, WEN W, JIANG Z, YANG Y(522)

## Electrochemical Na-Storage Materials and Their Applications for Na-Ion Batteries

..... QIAN J F, GAO X P, YANG H X(529)

## An Investigation on the Solid Electrolyte Interphase of Silicon Anode for Li-Ion Batteries through Force Curve Method

..... ZHENG J Y, ZHENG H, WANG R, LI H, CHEN L Q(536)

Aqueous Solution-Evaporation Route Synthesis and Phase Structural Research of the Li-Rich Cathode  $Li_{1.23}Ni_{0.09}Co_{0.12}Mn_{0.56}O_2$  by *In-Situ* XRD

..... SHEN C H, SHEN S Y, LIN Z, ZHENG X M, SU H, HUANG L, LI J T, SUN S G(543)

CMK-3/Sulfur Composite ( $C_{300}$ ) and Room-Temperature Na/S Battery

..... ZHAO Q, HU Y X, ZHANG K, WANG L J, TAO Z L, CHEN J(549)

Preparation of the Particle Size Controllable  $LiFePO_4/C$  and Its Electrochemical Profile Characterization

..... WANG M E, LIU J Y, HOU M Y, XIA Y Y(557)

Surface Composition Structure and Electrochemical Performance of Aluminum Doped  $LiFePO_4$ 

..... SHANG H F, HUANG W F, CHU W S, XIA D G, WU Z Y(564)

Effect of Vanadium Substitution on Structure of  $Li_2FeSiO_4/C$  Composites

..... YANG H, ZHANG Y, CHENG X(565)

- Preparation and Electrochemical Properties of Amorphous  $\text{ZnSnO}_3/\text{C}$  by Hydrothermally Carbonization Method ..... FANG G Q, ZHANG R X, LIU W W, XIA B B, SUN H D, WANG H B, WU J J, KANEKO S, LI D C(574)
- Synthesis and Electrochemical Property of  $\text{Li}_2\text{FeSiO}_4/\text{C}$  Cathode Material by Solid State Method ..... SUN J L CHEN Z J, LI Y X, CHENG H(578)
- Preparation and Electrochemical Properties of Flake-Like  $\text{LiV}_3\text{O}_8$  by Soft Template Assisted Sol-Gel Method as Anode Material for Aqueous Li-Ion Battery ..... TAN S, SUN D, WANG H Y, HOU T L, XIAO Z X, TANG Y G(584)
- Synthesis and Electrochemical Performance of Nano  $\text{LiCoPO}_4$  by Polyol Method ..... WANG F, YANG J(589)
- Controllable Synthesis of Dispersed Spherical  $\text{Fe}_3\text{O}_4$  Nanoparticles as Lithium-Inserted Materials ..... ZOU H L, LI W S(594)
- ### Articles
- The Physical Essential of the Rotation of Complex Impedance Diagram in Some Electrochemical Systems ..... Wu B L(82)
- An *in situ* FTIR Spectroelectrochemical Study on Methanol Oxidation at  $\text{Pt-Mo}_2\text{C}/\text{GC}$  Catalyst ..... HUANG H P, HE G Q, SHEN P K(88)
- Synthesis and Electrocatalysis of  $\text{PdCu}$  Alloy Nanocrystals ..... WU H B, ZHANG R Z, CHEN W(119)
- Electrochemical Activities of Oxygen-Doped Graphite Surface for  $\text{V(IV)}/\text{V(V)}$  Redox Couple ..... ZHANG H, QIN L L, SHI Y N, ZHENG M S, DONG Q F, TIAN Z W(124)
- Preparation and Electrocatalytic Properties of  $\text{FeCo}$  Alloy Cubic Nanoparticles ..... LI M X, OU J L, CHEN Y X, CHEN S P, WANG P, XU B B, SUN S G(129)
- Electrochemical Synthesis of Hierarchical Dendritic Polyaniline Nanostructures ..... WENG S H, ZHOU J Z, LIN Z H, LIN X H(134)
- Hydrothermal Synthesis of Pure  $\text{Li}_4\text{Ti}_5\text{O}_{12}$  and Its Electrochemical Performance ..... XIE W J, HE Y S, WANG H, LIAO X Z, MA Z F(140)
- A Comparative Study of  $\text{Ce}^{3+}/\text{Ce}^{4+}$  Redox Couple on Pt Electrode in Sulfuric Acid and Methanesulfonic Acid ..... LI Z H, CHU Y Q, MA C A(145)
- Electrochemical Performance of  $\text{LiFePO}_4/\text{C}$  Synthesized via Aqueous Solution-Evaporation Route ..... GU N Y, HE X H, LI Y(150)
- Fabrication and Localized Surface Plasmon Resonance of Ultrathin Nanoporous Gold Films ..... FENG S, CHEN S, YANG Q, XIANG J(154)
- An Electrochemical Impedance Spectroscopic Study of  $\text{CuF}_2/\text{MoO}_3/\text{C}$  Cathode Composites ..... SHI Y L, WU N, SHEN M F, DONG J Q, ZHUANG Q C, JIANG L(163)
- Preparation and Methanol Electrooxidation of  $\text{Pt}/\text{PMo}_{12}/\text{PEDOT}/\text{GC}$  Electrodes ..... MA J H, WANG R X, TAN Y L, WANG S S, ZHANG Y Q, FAN Y J(168)
- Properties of Carbon Coated Tin Negative Electrode for Lithium-Ion Battery ..... LIU G C, SHEN X X, WANG L D(173)
- The Electrochemical Capacitance Performance of  $\text{La}_{1-x}\text{Sr}_x\text{CoO}_3$  Perovskites ..... XU Y, BAO Y Y, DU L F, CAO D X, WANG G L(177)
- Multifunctional Corrosion Inhibition Behavior of Zn-Al Calcined Layered Double Hydroxides for Steel Rebar in NaCl Solution ..... ZHANG X J, WANG J J, DONG S G, LIN C J(261)



- Electrochemical Nanofabrication Using Polyacrylamide Hydrogel as Soft Stamps  
..... SUN W, FAN H T, ZHANG D X, HU D J, ZHOU Y L(262)
- Influences of the Cinnamic Acid on Zinc Electrodeposition at Glassy-Carbon Electrode  
..... LI K, CHEN S, LIU S N, CHEN B S, LIN H, CHEN G L, WANG Q X(274)
- Fabrication and Performance of  $\text{LaNi}_{0.6}\text{Fe}_{0.4}\text{O}_{3-\delta}$  Cathode Modified by Coating with  $\text{Gd}_{0.2}\text{Ce}_{0.8}\text{O}_2$  for Intermediate Temperature Solid Oxide Fuel Cell  
..... REN R X, HUANG B, ZHU X J, HU Y X, DING X Y, LIU Z Y, LIU Y B(280)
- Optimization of Electroless Silver Plating Process on Fabric Surface without Activation and Sensitization  
..... WANG B L, ZHAO Y P, CAI Z S(288)
- Influence of Pretreatment on Electrocatalytic Property for Methanol Oxidation of PtRu/WC  
..... LANG X L, SHI M Q, JIANG Y K, MA C A(354)
- Effects of Fluoroethylene Carbonate Additive on Low Temperature Performance of Li-Ion Batteries  
..... BIAN F J, ZHANG Z R, YANG Y(360)
- Graphene Quantum Dots Enhanced Electrochemical Performance of Polypyrrole as Supercapacitor Electrode  
..... WU K, XU S Z, ZHOU X J, WU H X(361)
- Synthesis and Electrochemical Properties of  $\text{Li}(\text{Ni}_{0.5}\text{Co}_{0.2}\text{Mn}_{0.3})_{1-2x}\text{Ti}_x\text{Nb}_x\text{O}_2$   
..... TANG Y, LIAO Q L, GUO X A(375)
- Voltage Reversal Behavior in Microbial-Anode Fuel Cells  
..... ZHANG E R, NIU J L, LIU L, DIAO G W(382)
- Electrochemical Behavior and Content Determination of Paeonol at Poly Sudan III Modified Electrode  
..... ZHENG Y J, LIU A L, LEI Y, LIN X H(387)
- Study on Hydrogen Bubble Template Fabrication of Porous Biomaterials Coatings by Electrochemically Induced Deposition  
..... WANG H, LIN C J, HU R, ZHANG K Q, DUAN H P, DONG X(506)
- Localized Corrosion Behavior of Sensitized 304 Stainless Steel by Scanning Reference Electrode Technique  
..... YE C Q, HU R G, HOU R Q, WANG X P, DU R G, LIN C J(511)

## Research Notes

- Electrochemical Performance of  $\text{Fe}_3\text{O}_4/\text{C}$  Composites as Negative Material for Lithium-Ion Batteries  
..... CAI J J, YAO S, LI Z S, MENG H, SHEN P K(92)
- Performance of VN as Negative Electrode Materials in Electrochemical Capacitors  
..... GAO Z H, ZHANG H, CAO G P, HAN M F, YANG Y S(183)
- Synthesis and Electrochemical Performance of Si/C Composite Modified by PANi  
..... ZHANG G H, SHEN P K, SANG G, XIONG R J(188)
- Synthesis of  $\text{LiFePO}_4/\text{C}$  Cathode by Sol-Gel and Calcining Method with Chitosan Monomer  
..... XU J, WANG Y Y, WANG R, WANG B, PAN Y, CAO D X, WANG G L(192)