

## 目 次

**化学化工**

- La 和 Zn 共掺杂改性纳米 TiO<sub>2</sub>光催化剂的制备及表征 ..... 高洪涛, 刘园园(551)  
利用老卤制备高活性纳米氧化镁 ..... 于凯, 张国政, 苏明阳, 王伟, 唐林生(555)  
酸处理对二氧化锰电化学性能的影响 ..... 徐小存, 刘开宇, 孙哲, 李微生(559)  
碳负载二氧化铈的超声合成及其性质 ..... 陈菲, 郭金学(564)  
碱性中孔分子筛 BaO/MCM-41 催化聚苯乙烯裂解反应 ..... 李建峰, 刘福胜, 于世涛, 葛晓萍, 霍新(569)  
新型 Strobilurin 类化合物的合成、结构及生物活性 ..... 李聪聪, 钟园园, 孙善起, 许良忠(574)  
基于核酸外切酶Ⅲ降解原理荧光检测乙肝病毒 HBV ..... 牛淑妍, 崔丽景(579)  
基于小波分析的 BP 神经网络膜蛋白跨膜螺旋区段预测 ..... 于彬(583)  
高级预氧化提高模拟聚乙烯醇废水可生化性能研究 ..... 赵春禄, 楚晓俊(588)  
气-固环隙流化床纳米 TiO<sub>2</sub>聚团的流化特性 ..... 何晨晨, 赵亚南, 张恺, 范秀凯, 曹长青(593)  
反应萃取精馏技术生产二氯五环的工艺研究 ..... 刘继泉, 胡广镇, 郭晓莹(598)

**材料科学与工程**

- 含吡啶型聚苯乙烯阴离子树脂的合成及其对碘的吸附性能 ..... 骆万兴(603)  
废旧聚乙烯膜回收料的改性应用 ..... 王勋林(608)

**机电工程**

- 交流伺服系统在龙门刨床电气化改造中的应用 ..... 李剑光, 段俊勇(613)  
电流型零电压软开关并联谐振推挽 DC/DC 变换器 ..... 袁有臣, 王彦生(617)  
一个具有四翼吸引子的超混沌系统与电路实现 ..... 邓斌, 姚福安, 王忠林, 侯承玺(622)

**信息与控制工程**

- 一种少环配电网潮流计算实用化算法 ..... 王威, 韩学山, 许星明, 王勇, 车仁飞(627)  
基于 S7-400H 和 AT-EB 的地铁屏蔽门控制系统 ..... 于飞, 褚衍贺, 国洪觅(632)  
基于转矩变化估算的无刷双馈电机直接转矩控制 ..... 张喜海, 王奔, 冷北雪, 李慧(636)  
一种红外光幕自动报靶数据采集板的研究与实现 ..... 王超红, 章庆良, 张典(641)

**数理科学**

- 具有分数布朗运动的随机 Navier-Stokes 方程最优控制存在的充分必要条件 ..... 李海燕, 张启敏(646)  
由 PG(3, q) 构造的一类 Cartesian 认证码 ..... 李秀丽(650)

- 《青岛科技大学学报(自然科学版)》第31卷(2010)总目次 ..... (1)  
会议征稿:新橡塑 2011 橡胶管带产业技术国际论坛征稿通知 ..... (封二)  
会议通知:International Forum on Advanced Rubber and Plastics (IFARP) 2011 for Rubber Belt and  
Rubber Tube Industry ..... (封三)

(第31卷卷终)

## CONTENTS

**Chemistry and Chemical Engineering**

- Preparation and Characterization of (La, Zn) Co-doped TiO<sub>2</sub> Photocatalysts ..... GAO Hong-tao, LIU Yuan-yuan(551)  
Preparation of Highly Active Nanosized Magnesium Oxide Using Brine as Raw Material ..... YU Kai, ZHANG Guo-zheng, SU Ming-yang, et al(555)  
Effect of Acid Treatment on Capacitance Performance of Manganese Dioxide ..... XU Xiao-cun, LIU Kai-yu, SUN Zhe, et al(559)  
Sonochemical Synthesis and Characterization of CNT-CeO<sub>2</sub> Nanocomposites ..... CHEN Fei, GUO Jin-xue(564)  
Catalytic Pyrolysis of Polystyrene over Alkaline Mesoporous Molecular Sieve BaO/MCM-41 ..... LI Jian-feng, LIU Fu sheng, YU Shi-tao, et al(569)  
Synthesis, Characterization and Their Biological Activities of Novel Strobilurin Derivatives ..... LI Cong cong, ZHONG Yuan-yuan, SUN Shan-qi, et al(574)  
Fluorescence Detection of Hepatitis B Virus Amount Coupled with Exonuclease III Cleavage ..... NIU Shu-yan, QU Li-jing(579)  
Prediction of Transmembrane Helical Segments in Membrane Proteins Based on Back Propagation Neural Network of Wavelet Analysis ..... YU Bin(583)  
Research on Improving Biodegradability of the Simulated PVA Wastewater by High-level Pre-oxidation ..... ZHAO Chun-lu, CHU Xiao-jun(588)  
Investigation of Fluidization Characteristics for Nano-titanium Dioxide Aggregates in a Gas-solid Annular Fluidized Bed ..... HE Chen-chen, ZHAO Ya-nan, ZHANG Kai, et al(593)  
Preparation of 1, 3-Dioxolane by Reactive and Extractive Distillation ..... LIU Ji-quan, HU Guang-zhen, GUO Xiao-ying(598)

**Materials Science and Engineering**

- Synthesis of PS Resins Containing Pyridine and Its Adsorption Properties for Iodine ..... LUO Wan-xing(603)  
Modification and Applications of Recycled Polyethylene from Recycling Waste Film ..... WANG Xun-lin(608)

**Electromechanical Engineering**

- Application of AC Servo System in Electrical Transform of Double Housing Planer ..... LI Jian-guang, DUAN Jun-yong(613)  
Current Fed ZVS Parallel-resonant Push-pull DC/DC Converter ..... YUAN You-chen, WANG Yan-sheng(617)  
Design and Realization of a Four-wing Hyperchaotic System ..... DENG Bin, YAO Fu-an, WANG Zhong-lin, et al(622)

**Information and Control Engineering**

- An Efficient Algorithm for Weakly Meshed Distribution Network Power Flow ..... WANG Wei, HAN Xue-shan, XU Xing-ming, et al(627)  
Control System Design of Metro Platform Screen Door Based on S7-400H and AT-EB ..... YU Fei, CHU Yan-he, GUO Hong-mi(632)  
Direct Torque Control of Brushless Doubly-fed Machine with Torque Variation Estimation Control Strategy ..... ZHANG Xi-hai, WANG Ben, LENG Bei-xue, et al(636)  
Research and Implementation of Data Acquisition Board for Infrared Light Automatic Target System ..... WANG Chao-hong, QIN Qing-liang, ZHANG Dian(641)

**Science of Mathematics and Physics**

- Necessary and Sufficient Conditions of Optimal Control Exist in Stochastic Navier-Stokes Equation with Fractional Brownian ..... LI Hai-yan, ZHANG Qi-min(646)  
A Class of Cartesian Authentication Codes from PG(3, q) ..... LI Xiu-li(650)

(The End of Volume 31)