



广东省优秀科技期刊  
广东省优秀期刊  
中国科技核心期刊  
RCCSE中国核心学术期刊  
美国数据库EBSCO收录  
日本科学振兴机构(JST)收录

ISSN 2095-560X  
CODEN XJIIA8  
CN 44-1698/TK

# 新能源进展

ADVANCES IN NEW AND RENEWABLE ENERGY

第 11 卷 第 1 期      Vol. 11   No. 1



2023年02月

中国科学院广州能源研究所主办

科学出版社 出版

ISSN 2095-560X



9 772095 560233

02>

# 新能源进展

(XINNENGYUAN JINZHAN)

第 11 卷 第 1 期 2023 年 2 月

## 目 次

Ga/ZSM-5 催化酚醛树脂热解选择性制备单环芳烃的研究.....	
.....于驰, 骆文波, 钟声亮, 洪国栋, 袁浩然, 单锐, 陈勇 (1)	
抑制高温地热流体碳酸钙结垢的复配阻垢剂研究.....	
.....马永丽, 闫佳佳, 刘梦圆, 孙诗颖, 张际芃, 李帅, 刘明言 (8)	
燃气热泵系统在过渡季节制备生活热水的性能研究.....	胡亚飞, 冯自平, 宋文吉 (14)
地热流体开发利用中防垢除垢技术研究进展.....	
.....谢迎春, 李义曼, 王宗满, 孙国强, 卜宪标, 庞忠和, 黄天明 (21)	
天然气水蒸气重整与 SOFC 耦合应用.....	阮鹏, 林梓荣, 白帆飞, 王梅, 谭弘毅, 闫常峰 (29)
我国市政污泥处理处置现状研究.....	柴宝华, 李文涛, 元伟, 冉龙飞, 王琮, 王美净, 路延 (38)
基于镓改性 ZSM-5 分子筛作用下的环氧树脂催化热解制芳烃反应性能研究.....	
.....姚勇, 刘国军, 李承宇, 洪国栋, 袁浩然, 单锐, 陈勇 (45)	
锂离子电池热管理技术.....	王毅军, 周舟, 李军 (54)
基于改进 NSGA-II 算法的公共建筑江水源热泵系统集成多目标优化研究.....	
.....胡文博, 戴安, 郭松, 邱泽晶, 肖晶, 徐荆州 (63)	
高压下氢气-乙醇球形膨胀火焰的层流燃烧速度和火焰不稳定性研究.....	张衍, 张嘉玮, 王筱蓉 (69)
锂离子电池氧化物固态电解质的研究进展.....	姚忠冉, 孙强, 顾晓勇, 邹晔, 李吉, 何祺 (76)
锂离子动力电池低温加热策略研究进展.....	赵丁, 安超, 雷治国 (85)

# ADVANCES IN NEW AND RENEWABLE ENERGY

Vol. 11 No. 1 February, 2023

## CONTENTS

Ga/ZSM-5 Catalyzed Pyrolysis of Phenolic Resin for the Selective Preparation of Monocyclic Aromatic.....	
.....YU Chi, LUO Wen-bo, ZHONG Sheng-liang, HONG Guo-dong, YUAN Hao-ran, SHAN Rui, CHEN Yong ( 1 )	
Compound Scale Inhibitors for Calcium Carbonate in High Temperature Geothermal Fluids.....	
.....MA Yong-li, YAN Jia-jia, LIU Meng-yuan, SUN Shi-ying, ZHANG Ji-peng, LI Shuai, LIU Ming-yan ( 8 )	
Performance of Gas Engine-Driven Heat Pump System for Supplying Domestic Hot Water in Transitional Seasons....	
.....HU Ya-fei, FENG Zi-ping, SONG Wen-ji ( 14 )	
Status of Scale Prevention and Removal Technologies in Utilization of Geothermal Fluid.....	
XIE Ying-chun, LI Yi-man, WANG Zong-man, SUN Guo-qiang, BU Xian-biao, PANG Zhong-he, HUANG Tian-ming ( 21 )	
Coupling of Steam Reforming in Natural Gas SOFC System.....	
.....RUAN Peng, LIN Zi-rong, BAI Fan-fei, WANG Mei, TAN Hong-yi, YAN Chang-feng ( 29 )	
Status of Municipal Sludge Treatment and Disposal in China.....	
.....CHAI Bao-hua, LI Wen-tao, QI Wei, RAN Long-fei, WANG Qiong, WANG Mei-jing, LU Yan ( 38 )	
Reaction Performance of Epoxy Resin Based on Ga-Modified ZSM-5 Zeolite for Catalytic Pyrolysis to Aromatics.....	
.....YAO Yong, LIU Guo-jun, LI Cheng-yu, HONG Guo-dong, YUAN Hao-ran, SHAN Rui, CHEN Yong ( 45 )	
Thermal Management Techniques for Lithium-Ion Batteries.....	
WANG Yi-jun, ZHOU Zhou, LI Jun ( 54 )	
Integrated Multi-Objective Optimization of River Source Heat Pump System in Office Buildings Based on Improved NSGA-II Algorithm.....	
HU Wen-bo, DAI An, GUO Song, QIU Ze-jing, XIAO Jing, XU Jing-zhou ( 63 )	
Investigation of Laminar Combustion Velocity and Flame Instability in Hydrogen-Ethanol Spherical Expansion Flames under High Pressures.....	
ZHANG Yan, ZHANG Jia-wei, WANG Xiao-rong ( 69 )	
Recent Progress of Oxide Solid-State Electrolytes for Lithium-Ion Batteries.....	
.....YAO Zhong-ran, SUN Qiang, GU Xiao-yong, ZOU Ye, LI Ji, HE Qi ( 76 )	
Research Progress of Low-Temperature Heating Strategies for Lithium-Ion Power Batteries.....	
.....ZHAO Ding, AN Chao, LEI Zhi-guo ( 85 )	