

# 洁净煤技术

第 29 卷 第 8 期 (总第 156 期) 2023 年 8 月

## 目 次

### 专家述评

煤炭地下气化制氢技术路径 ..... 刘淑琴, 戚川, 纪雨彤, 刘欢, 曹頤(1)

### 2060 碳中和

基于事前生命周期评价方法的低碳技术研发潜力分析

..... 陆嘉麒, 廖文杰, 张楠, 顾敦罡, 饶品华, 李光辉(11)

### 研究论文

富油煤原位热解对流加热过程传热规律数值模拟

..... 毛崎森, 王长安, 侯育杰, 陈美静, 宁星, 邓磊, 车得福(19)

核桃壳与油房梁煤的共热解协同效应 ..... 刘巧霞, 高亚男, 杨会民, 孙鸣, 郝婷, 黄勇(30)

煤直接液化催化剂性能优化 ..... 王喜武, 陈传富, 谢晶, 桂何正(41)

费托合成减压馏分油在溶剂中的溶解度及结晶形貌 ..... 于亚楠, 蒋晨光, 张胜振, 张翠清(47)

煤基中间相沥青的调制及其炭化产物的电化学性能

..... 姚伟强, 佟令文, 何虎, 曹瑞雄, 刘学伟, 陈文胜, 李琨, 尹智鹏, 宋怀河(56)

化学发泡耦合 KOH 活化制备氮掺杂沥青基多孔炭及其电化学性能 .....

..... 晋展展, 贺贺, 施凤, 邢宝林, 黄光许, 张传祥, 刘全润(65)

炭活化一体制备烟气净化用活性炭及其脱硝性能 ..... 陆晓东, 席轶, 杨芊, 麻荣福, 解炜(73)

煤基活性炭在臭氧-生物活性炭净水工艺中的应用及展望 ..... 李秀春(84)

基于多过程模型融合的流化床配风解耦燃烧参数预测与优化

..... 狄子琛, 常成功, 杨凤玲, 吴海滨, 程芳琴(95)

煤粉富氧燃烧烟气中飞灰固硫特性试验 ..... 张健, 曹瑞杰(102)

300 MW 亚临界循环流化床机组 NO<sub>x</sub>排放建模 ..... 刘春, 高明明, 张洪福, 张国华, 岳光溪(109)

风化煤流化床燃烧灰渣形成特性试验 ..... 王波, 王勤辉, 卢鑫耀, 程乐鸣, 吴迎春(116)

钙基脱硫剂对污泥流变特性的影响 ..... 陈春瑞, 张圆圆, 赵沛祯, 赵文鑫, 王鹏程, 姜平, 杨凤玲(124)

# Clean Coal Technology

Vol.29 No.8 (Series No.156) Aug. 2023

## CONTENTS

### Invited Review

- Research on hydrogen production pathway by underground coal gasification ..... *LIU Shuqin, QI Chuan, JI Yutong, LIU Huan, CAO Di*(1)

### Column for Carbon Neutrality

- Research and development potential analysis of low-carbon technologies based on ex-ante life cycle assessment methodology ..... *LU Jiaqi, LIAO Wenjie, ZHANG Nan, GU Dungang, RAO Pinhua, LI Guanghui*(12)

### Research Articles

- Numerical simulation of heat transfer during in-situ convection heating pyrolysis of tar-rich coal ..... *MAO Qisen, WANG Chang'an, HOU Yujie, CHEN Meijing, NING Xing, DENG Lei, CHE Defu*(19)
- Synergistic effect for co-pyrolysis of BHTK and CYFL ..... *LIU Qiaoxia, GAO Yanan, YANG Huimin, SUN Ming, HAO Ting, HUANG Yong*(30)
- Performance optimization of catalyst for direct coal liquefaction ..... *WANG Xiuwu, CHEN Chuanfu, XIE Jing, GUI Hezheng*(41)
- Solubility and morphology of wax crystal of vacuum distillate of Fischer-Tropsch oil in solvent ..... *YU Yanan, JIANG Chengguang, ZHANG Shengzhen, ZHANG Cuiqing*(47)
- Preparation of coal tar pitch-based mesophase pitch and electrochemical performance of derived carbons for lithium-ion batteries ..... *YAO Weiqiang, TONG Lingwen, HE Hu, CAO Ruixiong, LIU Xuewei, CHEN Wensheng, LI Kun, YIN Zhipeng, SONG Huaihe*(56)
- Preparation and electrochemical performance of nitrogen-doped coal tar pitch-based porous carbon by chemical foaming coupled with KOH activation ..... *JIN Zhanzhan, HE He, SHI Feng, XING Baolin, HUANG Guangxu, ZHANG Chuanxiang, LIU Quanrun*(65)
- Preparation of activated carbon for flue gas cleaning by carbonization and activation integration process and its denitrification performance ..... *LU Xiaodong, XI Yi, YANG Qian, MA Rongfu, XIE Wei*(73)
- Application and prospect of coal-based activated carbon in O<sub>3</sub>-biological activated carbon of water purification process ..... *LI Xiuchun*(84)
- Prediction and optimization of decoupled combustion parameters in fluidized bed air distribution based on multi-process model integration method ..... *DI Zichen, CHANG Chenggong, YANG Fengling, WU Haibin, CHENG Fangqin*(95)
- Experiment of sulfur retention characteristics of fly ash in pulverized coal oxy-fuel-firing flue gas ..... *ZHANG Jian, CAO Ruijie*(102)
- NO<sub>x</sub> emission model of 300 MW subcritical circulating fluidized bed unit ..... *LIU Chun, GAO Mingming, ZHANG Hongfu, ZHANG Guohua, YUE Guangxi*(109)
- Experiment on ash-slag formation characteristics of weathered coal in fluidized bed combustion ..... *WANG Bo, WANG Qinhuai, LU Xinyao, CHENG Leming, WU Yingchun*(116)
- Effect of calcium based desulfurizers on rheological properties of sludge ..... *CHEN Chunrui, ZHANG Yuanyuan, ZHAO Peizhen, ZHAO Wenxin, WANG Pengcheng, JIANG Ping, YANG Fengling*(124)