

洁净煤技术

第 28 卷 第 8 期 (总第 144 期) 2022 年 8 月

目 次

专家述评

煤基石墨烯系列材料的可控制备及其在 CO₂还原过程中的应用进展

..... 张亚婷, 严心娥, 刘国阳, 李可可, 贾 嘉(1)

2060 碳中和

质子交换膜燃料电池挡板结构优化

..... 苏丹丹, 孙 峰, 张志国, 殷宇捷, 庞 彬, 董小平(15)

“燃煤低碳利用与重金属污染控制”专题

燃煤电站锅炉掺氨燃烧与排放特性综述 汪 鑫, 陈 钧, 范卫东(25)

面向双碳的低碳水泥原料/燃料替代技术综述 李鹏鹏, 任强强, 吕清刚, 陈 锐(35)

燃烧温度对神华烟煤加压燃烧过程中 C/N 转化特性的影响

..... 张 翊, 杜尚斌, 张文达, 赵义军, 孙绍增(43)

模板剂辅助水热合成 CuO 催化剂及其 CO₂电化学还原性能

..... 郭亚飞, 赵佳祎, 姚 曦, 邹叶琨, 高宇璇, 刘秉乾, 赵传文(50)

煤化学链燃烧脱汞研究进展 刘 壮, 周劲松, 周启昕, 周灵涛, 陆 洋, 李博昊(59)

含铈材料烟气脱汞性能研究进展 吕 强, 关 显, 刘银河(69)

燃煤纳米单颗粒解析及微量元素跨尺度分布特性 胡源泉, 龚本根, 田 冲(84)

MgO-Al₂O₃ 复合氧化物负载 MnO_x吸附剂的 Hg 脱除性能

..... 桂 本, 许 杰, 胡玉清, 陈 牧, 刘 瑜, 周子健, 刘小伟(93)

基于原位自适应制表与动态自适应机理的无焰燃烧氮转化研究

..... 成鹏飞, 李鹏飞, 刘 璐, 胡 帆, 柳朝晖, 郑楚光(102)

多能互补电力系统碳排放及可靠性分析 董 瑞, 李 星, 高 林(112)

研究论文

费托浆态床反应器多层气体分布器的 CFD 优化 卜亿峰, 潘 腾, 门卓武, 成有为(119)

卤族元素对湿法脱硫系统汞释放影响

..... 常 林, 张 翼, 刘 毅, 廖海燕, 余学海, 韩 涛, 赵 瑞, 张 帅, 王 靖, 赵永椿(126)

高反应性铁焦制备及其强度研究进展 张生富, 尹 铖, 邱淑兴, 温良英, 白晨光(133)

煤气化渣特性分析及资源化利用研究进展

..... 范 宁, 张逸群, 樊盼盼, 樊晓婷, 王 婕, 王建成, 董连平, 樊民强, 鲍卫仁(145)

Clean Coal Technology

Vol.28 No.8 (Series No.144) Aug. 2022

CONTENTS

Invited Review

- Research progress on controllable preparation of coal based graphene series materials and its application in CO₂ reduction process ZHANG Yating, YAN Xin'e, LIU Guoyang, LI Keke, JIA Jia(1)

Column for Carbon Neutrality

- Optimization of baffle structure of proton exchange membrane fuel cell SU Dandan, SUN Feng, ZHANG Zhiguo, YIN Yujie, PANG Bin, DONG Xiaoping(15)

Special Issue on Low Carbon Utilization of Coal and Trace Elements Pollution Control

- Review on combustion and emission characteristics of coal-fired utility boilers ammonia/coal co-firing WANG Xin, CHEN Jun, FAN Weidong(25)
- Review on raw meal and fuel substitution technology for low carbon cement under carbon neutrality LI Pengpeng, REN Qiangqiang, LYU Qinggang, CHEN Rui(35)
- Effect of combustion temperature on pressurized combustion and C/N transformation characteristics of Shenhua bituminous coal ZHANG Yu, DU Shangbin, ZHANG Wenda, ZHAO Yijun, SUN Shaozeng(43)
- Template-assisted hydrothermal synthesis of CuO catalysts for electrochemical CO₂ reduction GUO Yafei, ZHAO Jiayi, YAO Xi, ZOU Yekun, GAO Yuxuan, LIU Bingqian, ZHAO Chuanwen(50)
- Research progress on mercury removal in chemical looping combustion of coal LIU Zhuang, ZHOU Jinsong, ZHOU Qixin, ZHOU Lingtao, LU Yang, LI Bohao(59)
- Research progress on Hg removal performance of Ce-containing materials LYU Qiang, GUAN Yu, LIU Yinhe(69)
- Trans-dimensional analysis on trace elements in coal combustion products based on single particle analytical technique HU Yuanquan, GONG Bengen, TIAN Chong(84)
- Hg removal by MnO_x sorbent supported on MgO-Al₂O₃ composite oxides GUI Ben, XU Jie, HU Yuqing, CHEN Mu, LIU Yu, ZHOU Zijian, LIU Xiaowei(93)
- Nitrogen conversion research of flameless combustion based on In-Situ Adaptive Tabulation and dynamic adaptive chemistry CHENG Pengfei, LI Pengfei, LIU Lu, HU Fan, LIU Zhaohui, ZHENG Chuguang(102)
- Carbon emission and reliability analysis of multi-energy complementary power system DONG Rui, LI Xing, GAO Lin(112)

Research Articles

- CFD optimization of multilayer gas distributor in slurry bed reactor for Fischer-Tropsch synthesis BU Yifeng, PAN Teng, MEN Zhuowu, CHENG Youwei(119)
- Effect of halogen elements on the mercury emission from wet flue gas desulfurization system CHANG Lin, ZHANG Yi, LIU Yi, LIAO Haiyan, YU Xuehai, HAN Tao, ZHAO Rui, ZHANG Shuai, WANG Jing, ZHAO Yongchun(126)
- Research progress on preparation and strength of high reactivity ferro coke ZHANG Shengfu, YIN Cheng, QIU Shuxing, WEN Liangying, BAI Chenguang(133)
- Research progress on characteristic analysis and resource utilization of coal gasification slag FAN Ning, ZHANG Yiqun, FAN Panpan, FAN Xiaoting, WANG Jie, WANG Jiancheng, DONG Lianping, FAN Minqiang, BAO Weiren(145)