

目次

水污染防治

K/Zn/Sn/S 金属硫化物对水中铈离子的吸附去除性能及机理 ..... 洪奇圣, 穆景利, 张艳, 袁宗胜, 杨丽阳, 张铭栋(1)

北方地区典型城郊型村镇生活污水排放特征 ..... 张傲醒, 黄锦楼, 姜姗, 李静(13)

缓释氮源的固定化 *Rhodococcus* sp.W7 颗粒处理焦化废水 ..... 吴志国, 孙静, 孙炜, 刘翔羽, 左梓涵, 闫慧娟, 杨宗政(22)

某污水处理厂 CAST 工艺的脱氮性能评价 ..... 王恒信, 王娜, 秦凯凯, 吕恺, 彭党聪(32)

芬顿法处理印染废水小孔径超滤膜浓缩液 ..... 李忠华, 常娜, 许以农, 刘鹏, 陈董根, 王海涛(41)

铈改性净水污泥除磷效能与机理分析 ..... 程文雨, 马潇莹, 陈浩宇, 陈荣升, 王东田(51)

多级串联膜电容去离子装置的脱盐性能 ..... 陈瑞程, 谷佳蓉, 余铭浩, 马俊俊, 牛建瑞, 李耘科, 刘春(63)

铁锰胶体对地下水无机磷的吸附-脱附特性 ..... 陈璐, 黄书鑫, 熊瑞涵, 李佳森, 张彩香(71)

改性 Pd/GAC 粒子电极吸附-电催化去除 2,4,6-三氯苯酚 ..... 张金珂, 梁玉涵, 吴玉超, 吴晨达, 陈吕军, 刘宏远, 顿亚玮(79)

含酚废水 SAD 工艺的启动及污泥特性 ..... 王朝朝, 马磊, 安宁, 连大猛, 王术伟, 李思敏(91)

煤化工废水高效反渗透工艺运行效果及膜污染特征 ..... 王燕翔, 郑利兵, 钟慧, 段宁鑫, 胡大洲, 魏源送, 李清雪(101)

Fe-PG 紫外光辅助活化 H<sub>2</sub>O<sub>2</sub> 流化床高效降解水杨酸 ..... 刘营营, 张玉生, 王全勇, 谢海涛, 张文郁(110)

不同生境氨氮浓度及悬浮污泥对厌氧氨氧化生物膜特性的协同影响 ..... 杨慎华, 侯锋, 庞洪涛, 江乐勇, 孙事昊, 张璐晶, 彭永臻(121)

预氯化输水对表面停留性有机物及混凝除藻的影响 ..... 倪蓉, 姜元承, 李海燕, 王茜, 张长禄, 吴佳萍, 谢琤琤, 张明顺, 戚菁, 胡承志(130)

PEI-DTC 的制备及其对 Pb<sup>2+</sup>、Cu<sup>2+</sup>、Zn<sup>2+</sup> 的吸附性能 ..... 冯艳平, 刘建, 李堂姝, 兰伟伟(139)

高比表面积掺氮多孔炭的制备及其对金霉素的吸附性能研究 ..... 余谟鑫, 黄康, 张振, 张晨, 王晓婷(150)

风-光互补驱动农村污水生物-物理耦合多级处理系统开发 ..... 李桂兰, 马尚彬, 李鹏宇, 李轶霄, 杜宇鹏, 郑天龙, 李炜, 刘建国, 刘俊新(160)

不同粒径曲霉-好氧颗粒污泥的微环境对脱氮除磷能力影响 ..... 靳宇, 张秋华, 胡腾辉, 熊玮, 苏海佳, 王少杰(169)

小样本数据下基于 K-Means 聚类和集成学习的混凝投药预测 ..... 王世杰, 李一鸣, 植殷, 武仁超, 王涛, 程紫微, 郑磊, 肖峰(181)

甲壳生物质去除酸性矿坑水中镉的性能与机制 ..... 贾郁菲, 陈宏坪, 李婧, 张文影, 艾雨露, 韩璐, 陈梦舫(189)

挺水植物浮岛水质净化模拟 ..... 韩元, 刘玲, 蔡然, 朱晓磊, 张永瑾, 董超园(197)

高盐废水体系运行模式对活性污泥颗粒化过程的影响 ..... 刘昌莘, 韩响身, 陈浩, 金艳, 于建国(209)

固体废物处理与资源化

掺烧污泥型粉煤灰矿化封存二氧化碳 ..... 王琼, 王林猛, 于峥, 张振群, 吴仪(220)

响应面法优化厌氧消化过程中抗生素去除效果 ..... 魏晓曼, 尹福斌, 连天境, 曹起涛, 董红敏(226)

高固体条件下黑水添加对厨余垃圾厌氧发酵的影响 ..... 王辉辉, 王雪梅, 李子富, 靳晓辉, 胡亚伟(237)

基于污泥堆肥产物与余泥渣土制备的人工土壤的理化性质分析与评价 ..... 王敏, 陈昭乐, 王敏慧, 刘佳伟, 韩娜, 程文(245)

汽车拆解废弃物固定床空气气化特性 ..... 陈志文, 张晨光, 杨航, 陈兆佳, 董卫果, 赵明(253)

土壤与地下水污染治理

基于高密度电阻率成像法的低渗黏土中轻非水相液体运移规律探索 ..... 郭银河, 章定文, 祁妍敏, 林文丽(261)

智能化生态环境技术及应用

基于改进 YOLOv7 算法的建筑垃圾分类检测 ..... 刘进军, 李磊磊, 张昊宇, 荣辉, 王少坡, 赵坚(270)

工程创新与行业动态

华南农村生活污水治理资源化利用技术工程适用性及推广应用 ..... 吴广祥(280)

长江大保护试点城市水环境治理模式及成效 ..... 黄钰铃, 莫晶, 骆辉煌, 杨青瑞, 冯顺新, 惠二青, 陈文然(286)

相关研究

中国省际物流业碳排放的空间效应及其传导机制 ..... 刘琦, 范鑫坤(298)

## CONTENTS

- 1 **Adsorptive removal performance and mechanism of cesium ion from aqueous solutions by a K/Zn/Sn/S metal sulfide**  
HONG Qisheng, MU Jingli, ZHANG Yan, YUAN Zongsheng, YANG Liyang, ZHANG Mingdong
- 13 **Discharge characteristic of rural domestic sewage in typical northern suburban village**  
ZHANG Jingxing, HUANG Jinlou, JIANG Shan, LI Jing
- 22 **Treatment of coking wastewater by immobilized *Rhodococcus* sp.W7 particles with controlled release of nitrogen source**  
WU Zhiguo, SUN Jing, SUN Wei, LIU Huiyu, ZUO Zihan, YAN Huijuan, YANG Zongzheng
- 32 **Evaluation of nitrogen removal performance of the CAST process in a wastewater treatment plant**  
WANG Hengxin, WANG Na, QIN Kaikai, LYU Kai, PENG Dangcong
- 41 **Fenton process treating small pore-sized ultrafiltration membrane concentrate of printing and dyeing wastewater**  
LI Zhonghua, CHANG Na, XU Yinong, LIU Peng, CHEN Donggen, WANG Haitao
- 51 **Performance and mechanism analysis of phosphorus removal by cerium-modified drinking water treatment residual**  
CHENG Wenyu, MA Xiaoying, CHEN Haoyu, CHEN Rongsheng, WANG Dongtian
- 63 **Membrane capacitive deionization technology with multi-stage series connection for brine treatment**  
CHEN Ruicheng, GU Jiarong, YU Minghao, MA Junjun, NIU Jianrui, LI Yunke, LIU Chun
- 71 **Adsorption and desorption properties of iron and manganese colloids to inorganic phosphorus in groundwater**  
CHEN Lu, Huang Shuxin, XIONG Ruihan, LI Jiasen, ZHANG Caixiang
- 79 **Adsorption and electrocatalytic degradation of 2,4,6-trichlorophenol by modified Pd/GAC particle electrode**  
ZHANG Jinke, LIANG Yuhao, WU Yuchao, WU Chenda, CHEN Lvjun, LIU Hongyuan, XIE Yawei
- 91 **Start-up of SAD process treating phenol-containing wastewater and its sludge characterizations**  
WANG Zhaozhao, MA Lei, AN Ning, LIAN Dameng, WANG Shu Wei, LI Simin
- 101 **Operating efficiency and membrane fouling characteristics of high efficiency reverse osmosis process in coal chemical wastewater treatment**  
WANG Yanxiang, ZHENG Libing, ZHONG Hui, DUAN Ningxin, HU Dazhou, WEI Yuansong, LI Qingxue
- 110 **Highly efficient degradation of salicylic acid by the Fe-PG UV-assisted activation of H<sub>2</sub>O<sub>2</sub> fluidized bed**  
LIU Yingying, ZHANG Yusheng, WANG Quanyong, XIE Haitao, ZHANG Wenyu
- 121 **Synergistic effects of different habitats ammonia concentration and suspended sludge on anammox biofilm characteristics**  
YANG Shenhua, HOU Feng, PANG Hongtao, JIANG Leyong, SUN Shihao, ZHANG Lujing, PENG Yongzhen
- 130 **Effect of pre-chlorination on surface-adsorbed organic matter and coagulation for algae removal in water transportation**  
NI Rong, JIANG Yuancheng, LI Haiyan, WANG Xi, ZHANG Changlu, WU Jiaping, XIE Chengcheng, ZHANG Mingshun, QI Jing, HU Chengzhi
- 139 **Preparation of PEI-DTC and its adsorption performance on Pb<sup>2+</sup>, Cu<sup>2+</sup>, Zn<sup>2+</sup>**  
FENG Yanping, LIU Jian, LI Tangshu, LAN Weiwei
- 150 **Preparation of N-doped porous carbon with high specific surface area and its adsorption performance for chlortetracycline**  
YU Moxin, HUANG Kang, ZHANG Zhen, ZHANG Chen, WANG Xiaoting
- 160 **Wind-solar complementation drives the development of bio-physical coupling multi-stage treatment system for rural sewage**  
LI Guilan, MA Shangbin, LI Pengyu, LI Yixiao, DU Yujuan, ZHENG Tianlong, LI Wei, LIU Jianguo, LIU Junxin
- 169 **Effects of different size *Aspergillus*-aerobic granular sludge microenvironment on nitrogen and phosphorus removal capacity**  
JIN Yu, ZHANG Qihua, HU Tenghui, XIONG Wei, SU Haijia, WANG Shaojie
- 181 **Research on coagulation dosing prediction based on K-Means clustering and ensemble learning under small sample data**  
WANG Shijie, LI Yiming, ZHI Yin, WU Renchao, WANG Tao, CHENG Ziwei, ZHENG Lei, XIAO Feng
- 189 **Efficiencies and mechanism of crustacean biomasses on removing cadmium in acid mine drainage**  
JIA Yufei, CHEN Hongping, LI Jing, ZHANG Wenyong, AI Yulu, HAN Lu, CHEN Mengfang
- 197 **Simulation study on water purification of emergent plant floating island**  
HAN Yuan, LIU Ling, CAI Ran, ZHU Xiaolei, ZHANG Yongjin, DONG Chaoyuan
- 209 **Effect of operation modes on granulation process of activated sludge in treatment of hypersaline wastewater**  
LIU Changshen, HAN Xushen, CHEN Hao, JIN Yan, YU Jianguo
- 220 **Mineralization and storage of carbon dioxide by the fly ash from co-firing of municipal sludge and coal**  
WANG Qiong, WANG Limmeng, YU Zheng, ZHANG Zhenqun, WU Yi
- 226 **Optimization of antibiotic degradation efficiency during anaerobic digestion of swine manure using response surface method**  
WEI Xiaoman, YIN Fubin, LIAN Tianjing, CAO Qitao, DONG Hongmin
- 237 **Effect of blackwater addition on anaerobic digestion of kitchen waste under high solid condition**  
WANG Huihui, WANG Xuemei, Li Zifu, JIN Xiaohui, HU Yawei
- 245 **Analysis and evaluation of physical and chemical properties of the artificial soil based on sludge compost products and sludge mud residue**  
WANG Min, CHEN Zhaole, WANG Minhui, LIU Jiawei, HAN Na, CHENG Wen
- 253 **Study on gasification characteristics of automotive shredder residue**  
CHEN Zhiwen, ZHANG Chenguang, YANG Hang, TING Zhao Jia, DONG Weiguo, ZHAO Ming
- 261 **A study of light nonaqueous phase liquid transport in low-permeability clays based on high density electrical resistivity tomography**  
GUO Yinhe, ZHANG Dingwen, QI Yanmin, LIN Wenli
- 270 **Construction waste classification and detection algorithm based on improved YOLOv7**  
LIU Jinjun, LI Leilei, ZHANG Haoyu, RONG Hui, WANG Shaopo, ZHAO Jian
- 280 **Engineering applicability analysis and application of rural domestic sewage resource utilization technology in Southern China**  
WU Guangxiang
- 286 **Practice model and effectiveness of water environment improvement in pilot cities for Yangtze River Conservation**  
HUANG Yuling, MO Jing, LUO Huihuang, YANG Qingrui, FENG Shunxin, HUI Erqing, CHEN Wenran
- 298 **Spatial effects and transmission mechanism of carbon emissions from interprovincial logistics industry in China**  
LIU Qi, FAN Xinkun