

环境科学

(HUANJING KEXUE)

ENVIRONMENTAL SCIENCE



第39卷 第1期

Vol.39 No.1

2018

中国科学院生态环境研究中心 主办
科学出版社 出版



目 次

2006~2015年北京市不同地区O ₃ 浓度变化	王占山,李云婷,安欣欣,李倩,孙乃迪,王步英,潘锦秀	(1)
南京北郊黑碳气溶胶的来源解析	肖思晗,于兴娜,朱彬,何稼祺,吕睿,沙丹丹	(9)
电镀厂周边大气PM ₁₀ 中重金属季节性分布特征及生态风险评价	赵珍丽,赵委托,黄庭,程胜高,余葱葱,尹伊梦	(18)
广西玉林市大气PM ₁₀ 和PM _{2.5} 中有机碳和元素碳污染特征分析	黄炯丽,陈志明,莫招育,李宏姣,杨俊超,刘慧琳,毛敬英,梁桂云,张达标,吴熊平,郝爽	(27)
青岛近海及黄渤海大气气溶胶中不同形态氮磷质量浓度及组成特征	张瑞峰,祁建华,丁雪,谢丹丹	(38)
大气环境分区管理:以广东省为例	杨柳林,李敏辉,廖程浩,曾武涛,张晖,张永波	(49)
基于高分影像的城市黑臭水体遥感识别:以南京为例	温爽,王桥,李云梅,朱利,吕恒,雷少华,丁潇蔷,苗松	(57)
基于SWAT模型的流域河道硝酸盐 ¹⁵ N和 ¹⁸ O模拟	王康,冉宁,林忠兵,周祖昊	(68)
程海流域非点源污染负荷估算及其控制对策	陈学凯,刘晓波,彭文启,董飞,黄智华,冯顺新,王若男	(77)
陆浑水库饮用水源地水体中金属元素分布特征及健康风险评价	余葱葱,赵委托,高小峰,程胜高,谢地,马鹏途	(89)
天津供水系统中抗生素分布变化特征与健康风险评价	张新波,宋姿,张丹,刘楠楠,李楠,温海涛	(99)
西南丘陵区村镇典型供水水源有机物分布特征及对饮水水质的影响	王琼,李乃稳,李磊,李龙国,苟思,杨凌肖	(109)
北京市地下水有机氯和有机磷农药健康风险评价	陈卫平,彭程伟,杨阳,吴玉梅	(117)
黄河岸边土壤中类二噁英类多氯联苯污染现状及风险	姚宏,卢双,张旭,裴晋,鲁垠涛	(123)
淹水落干下三峡水库消落带土壤无机磷形态转化特征	周健,李春辉,张志永,胡红青,万成炎,胡莲,潘晓洁	(130)
磷酸盐对铁锰复合氧化膜去除地表水中氨氮的影响	卓瑞双,黄廷林,张瑞峰,文刚	(137)
K ₂ S ₂ O ₈ 强化g-C ₃ N ₄ 薄膜电极光电催化降解Cu(CN) ₃ ²⁻ 并同步回收Cu	党聪哲,李一兵,王彦斌,赵旭	(145)
以HKUST-1为模板制备铜氧化物活化过一硫酸氢钾降解罗丹明B	蒲嘉懿,万金泉,王艳,马邕文,武书彬	(152)
氯化松香基交联聚合树脂对水中诺氟沙星的吸附性能	马亚红,黄婉婷,刁开盛,李鹏飞,谭学才,董慧峪,覃方夸,雷福厚,刘绍刚	(161)
铁锰泥除砷颗粒吸附剂对As(V)的吸附去除	曾辉平,吕赛赛,杨航,尹灿,曹瑞华,王艳菊,李冬,张杰	(170)
水铁矿及其胶体对砷的吸附与吸附形态	马玉玲,马杰,陈雅丽,雷梅,郭华明,翁莉萍,李永涛	(179)
阳(阴)离子复配修饰两性磁性膨润土的表面特征差异及对苯酚吸附的影响	任爽,孟昭福,王腾,张洋,田凯,刘伟,闫东旭	(187)
典型城市污水中对羟基苯甲酸酯的污染特征	赵雪,张子峰,祝富杰,李一凡,马万里	(195)
水力停留时间对活性炭生物转盘处理污染河水的影响	许雯佳,成小英	(202)
环丙沙星对膜生物反应器运行效能的影响及其去除特性	戴琦,刘锐,舒小铭,张永明,陈吕军	(212)
AAO工艺低氧条件下的运行及其模拟	曹特特,王林,李咏梅	(219)
磷酸盐对亚硝化系统的抑制及恢复	顾澄伟,陈方敏,李祥,张程锦	(227)
碳源对污水处理厂SAD工艺小试的影响	李冬,赵世勋,王俊安,朱金凤,关宏伟,张杰	(232)
容积负荷对ABR-MBR工艺反硝化除磷性能的影响	吕亮,尤雯,韦佳敏,吴鹏,沈耀良	(239)
DNBF-O ₂ -GAC组合工艺深度脱除氮磷及代谢产物	钟丽燕,郝瑞霞,王卫东,万京京,朱晓霞	(247)
交替好氧/缺氧运行模式对生物脱氮效能及活性污泥胞外聚合物的影响	孙洪伟,陈翠忠,吴长峰,赵华南,于雪,方晓航	(256)
纳米零价铁对升流式颗粒污泥床反硝化性能的影响	周丰,王翻翻,钱飞跃,黄慧敏,沈耀良,周建民	(263)
高含固污泥厌氧消化中Fe/S及pH对原位抑硫效率影响及其交互作用	韩芸,曹玉芹,卓杨,王晓飞,韩雅婷,彭党聪	(269)
浑河流域贮存污泥成分特征及演变规律分析	刘甜甜,崔崇威,赫俊国,唐建	(276)
去除城市生活污泥中有机络合态金属强化其厌氧生物制气	卢怡清,许颖,董滨,戴晓虎	(284)
污泥飞灰中重金属不同浸出方法比较及综合毒性评价	王丰,李润东,李彦龙,赵云斌,杨天华	(292)
初冬时期闽江河口区养殖塘排水后的CH ₄ 和N ₂ O通量日变化特征	杨平,谭立山,黄佳芳,何清华,全川	(300)
3种土壤改良剂对河套灌区玉米田温室气体排放的影响	武岩,红梅,林立龙,刘梅,刘宇杰	(310)
有机氮替代比例对冬小麦/夏玉米轮作体系作物产量及N ₂ O排放的影响	侯苗苗,吕凤莲,张弘弢,周应田,路国艳,Ayaz Muhammad,黎青慧,杨学云,张树兰	(321)
拔节期水稻光合碳输入的动态变化及其对施氮的响应: ¹³ C-CO ₂ 脉冲标记	陈珊,祝贞科,袁红朝,王久荣,彭佩钦,葛体达,吴金水	(331)
陕北黄土丘陵区不同土地利用方式下土壤碳剖面分布特征	兰志龙,赵英,张建国,李会杰,司炳成,焦瑞,Muhammad Numan Khan, Tanveer Ali Sial	(339)
不同地表条件下生物炭对土壤氨挥发的影响	邹娟,胡学玉,张阳阳,陈窈君,王向前,刘扬	(348)
秸秆与生物炭还田对土壤团聚体及固碳特征的影响	徐国鑫,王子芳,高明,田冬,黄容,刘江,黎嘉成	(355)
县域尺度土壤铜的有效性及相关影响因素评估	李锦芬,瞿明凯,刘刚,黄标	(363)
基于改进LUR模型的区域土壤重金属空间分布预测	曾菁菁,沈春竹,周生路,陆春锋,金志丰,朱雁	(371)
沈北新区土壤中多环芳烃污染特征及源解析	李嘉康,宋雪英,魏建兵,王颖怡,李玉双,郑学昊	(379)
磷酸盐、腐殖酸与粉煤灰联合钝化处理模拟铅镉污染土壤	赵庆圆,李小明,杨麒,陈灿,钟振宇,钟宇,陈飞,陈寻峰,王祥	(389)
控源及改良措施对稻田土壤和水稻镉累积的影响	封文利,郭朝晖,史磊,肖细元,韩晓晴,冉洪珍,薛清华	(399)
典型土壤双季稻对Cd吸收累积差异	李欣阳,龙坚,王树兵,陈齐,董霞,蒋凯,侯红波,彭佩钦,廖柏寒	(406)
松花江上游夹皮沟金矿开采区芦苇叶片汞分布特征	张曼胤,李梦洁,崔丽娟,王贺年,郭子良,徐卫刚,魏圆云,杨思,肖红叶	(415)
硝酸盐对土壤反硝化活性及菌厌氧降解的影响	代军帅,左小虎,王明霞,姚炎红,周志峰	(422)
长期施肥对稻田土壤微生物量、群落结构和活性的影响	王伟华,刘毅,唐海明,孙志龙,李宝珍,葛体达,吴金水	(430)
海洋沉积物中硫酸盐还原菌和硫氧化菌群落分析方法的比较	张玉,米铁柱,甄毓,陈烨,付璐璐,王勋功	(438)
鄱阳湖微囊藻毒素时空分布格局及其与理化和生物因子的关系	袁丽娟,廖且根,张莉,张大文,罗林广,刘聚涛	(450)
畜禽粪便中多重耐药细菌及耐药基因的分布特征	张昊,王盼亮,杨清香,俞宁	(460)
烟气净化工艺和焚烧炉类型对生活垃圾焚烧飞灰性质的影响	章骅,于思源,邵立明,何品晶	(467)
《环境科学》征稿简则(17)	《环境科学》征订启事(26)	信息(160, 255, 338)

CONTENTS

Variation of O ₃ Concentration in Different Regions of Beijing from 2006-2015	WANG Zhan-shan, LI Yun-ting, AN Xin-xin, et al. (1)
Source Apportionment of Black Carbon Aerosol in the North Suburb of Nanjing	XIAO Si-han, YU Xing-na, ZHU Bin, et al. (9)
Seasonal Characteristics and Ecological Risk Assessment of Heavy Metals in PM ₁₀ Around Electroplating Plants	ZHAO Zhen-li, ZHAO Wei-tuo, HUANG Ting, et al. (18)
Characteristics of Organic and Elemental Carbon in PM ₁₀ and PM _{2.5} in Yulin City, Guangxi	HUANG Jiong-li, CHEN Zhi-ming, MO Zhao-yu, et al. (27)
Concentrations and Compositions of Different Forms of Nitrogen and Phosphorus in Atmospheric Aerosols in the Qingdao Coastal Region and over the Yellow and Bohai Sea	ZHANG Rui-feng, QI Jian-hua, DING Xue, et al. (38)
Air Quality Subarea Management: A case study of Guangdong Province	YANG Liu-lin, LI Min-hui, LIAO Cheng-hao, et al. (49)
Remote Sensing Identification of Urban Black-Odor Water Bodies Based on High-Resolution Images: A Case Study in Nanjing	WEN Shuang, WANG Qiao, LI Yun-mei, et al. (57)
Simulation of Nitrate Isotopic ($\delta^{15}\text{N}$ and $\delta^{18}\text{O}$) by Coupling the Hydrology and Transport Processes Described by the SWAT Model	WANG Kang, RAN Ning, LIN Zhong-bing, et al. (68)
Estimation of and Control Strategies for Pollution Loads from Non-point Sources in the Chenghai Watershed	CHEN Xue-kai, LIU Xiao-bo, PENG Wen-qi, et al. (77)
Distribution Characteristics and Health Risk Assessment of Metals in Drinking Water Sources from the Luhun Reservoir	YU Cong-cong, ZHAO Wei-tuo, GAO Xiao-feng, et al. (89)
Distribution Characteristics and Health Risk Assessment of Antibiotics in the Water Supply System in Tianjin	ZHANG Xin-bo, SONG Zi, ZHANG Dan, et al. (99)
Organic Distribution Characteristics and Influence on Drinking Water Quality in the Typical Water Sources for Towns in the Southwest Hilly Area of China	WANG Qiong, LI Nai-wen, LI Lei, et al. (109)
Health Risk Evaluation of Organochlorine and Organophosphorous Pesticides in Groundwater in Beijing	CHEN Wei-ping, PENG Cheng-wei, YANG Yang, et al. (117)
Pollution Status and Risks of Dioxin-like Polychlorinated Biphenyls in the Soil of the Yellow River	YAO Hong, LU Shuang, ZHANG Xu, et al. (123)
Effects of Flooding and Drying on the Transformation of Soil Inorganic Phosphorus in the Water-Level-Fluctuating Zone of the Three Gorges Reservoir, China	ZHOU Jian, LI Chun-hui, ZHANG Zhi-yong, et al. (130)
Effect of Phosphate on the Ammonium Removal Performance of Iron-Manganese Co-oxide Film in Surface Water Treatment	ZHUO Rui-shuang, HUANG Ting-lin, ZHANG Rui-feng, et al. (137)
Enhanced Photoelectrocatalytic Oxidation of Cu(CN) ₃ ²⁻ and Synchronous Cathodic Deposition of Cu by Peroxydisulfate	DANG Cong-zhe, LI Yi-bing, WANG Yan-bin, et al. (145)
Using HKUST-1 as a Template for Copper Oxides Preparation to Activate Peroxymonosulfate for RhB Degradation	PU Jia-ji, WAN Jin-quan, WANG Yan, et al. (152)
Evaluation of Performance of an Aminated Rosin-based Resin for Adsorption of Norfloxacin from Aqueous Solutions	MA Ya-hong, HUANG Wan-ting, DIAO Kai-sheng, et al. (161)
Arsenic(V) Removal by Granular Adsorbents Made from Backwashing Residuals from Biofilters for Iron and Manganese Removal	ZENG Hui-ping, LÜ Sai-sai, YANG Hang, et al. (170)
Arsenic Adsorption and Its Species on Ferrihydrite and Ferrihydrite Colloid	MA Yu-ling, MA Jie, CHEN Ya-li, et al. (179)
Comparison of Amphoteric-Cationic and Amphoteric-Anionic Modified Magnetic Bentonites: Characterization and Sorption Capacity of Phenol	REN Shuang, MENG Zhao-fu, WANG Teng, et al. (187)
Pollution Characteristics of Parabens in Typical Sewage Wastewater	ZHAO Xue, ZHANG Zi-feng, ZHU Fu-jie, et al. (195)
Influence of Hydraulic Retention Time on the Treatment of Polluted River Water by an Activated Carbon Rotating Biological Contactor	XU Wen-jia, CHENG Xiao-ying (202)
Removal and Influence of Ciprofloxacin in a Membrane Bioreactor	DAI Qi, LIU Rui, SHU Xiao-ming, et al. (212)
Operation of the AAO Process Under Low Dissolved Oxygen Conditions and Its Simulation	CAO Te-te, WANG Lin, LI Yong-mei (219)
Inhibitory Effects of Phosphate and Recovery on a Nitrification System	GU Cheng-wei, CHEN Fang-min, LI Xiang, et al. (227)
Effect of Carbon Source on Lab-scale SAD Process in a Wastewater Treatment Plant	LI Dong, ZHAO Shi-xun, WANG Jun-an, et al. (232)
Effect of Volume Loading Rate (VLR) on Denitrifying Phosphorus Removal by the ABR-MBR Process	LÜ Liang, YOU Wen, WEI Jia-min, et al. (239)
Combined Process of DNBF-O ₃ -GAC for Nitrogen and Phosphorus and Metabolite Advanced Removal	ZHONG Li-yan, HAO Rui-xia, WANG Wei-dong, et al. (247)
Influence of Operating Modes for the Alternating Anoxic/Oxic Process on Biological Nitrogen Removal and Extracellular Polymeric Substances of Activated Sludge	SUN Hong-wei, CHEN Cui-zhong, WU Chang-feng, et al. (256)
Effects of Nanoscale Zero-valent Iron (nZVI) on Denitrifying Performance of an Upflow Granular Sludge Bed Reactor	ZHOU Feng, WANG Fan-fan, QIAN Fei-yue, et al. (263)
Influence on Desulfurization Efficiency and Interactions of Fe/S and pH During H ₂ S in situ Depression of High Solid Anaerobic Digestion	HAN Yun, CAO Yu-qin, ZHUO Yang, et al. (269)
Analysis of Storage Sludge Composition Characteristics and Evolutionary Regularity in the Hunhe River Basin	LIU Tian-tian, CUI Chong-wei, HE Jun-guo, et al. (276)
Enhancement of Anaerobic Methane Production by Removal of Organic-bonding Metals from Sewage Sludge	LU Yi-qing, XU Ying, DONG Bin, et al. (284)
Comparison of Different Leaching Methods for Heavy Metals in Sludge Fly Ash and Comprehensive Toxicity Evaluation	WANG Feng, LI Run-dong, LI Yan-long, et al. (292)
Diurnal Variations of CH ₄ and N ₂ O Fluxes from the Drained Aquaculture Pond in the Minjiang River Estuary During Early Winter	YANG Ping, TAN Li-shan, HUANG Jia-fang, et al. (300)
Effects of Three Soil Amendments on Greenhouse Gas Emissions From Corn Fields in the Hetao Irrigation District	WU Yan, HONG Mei, LIN Li-long, et al. (310)
Effect of Organic Manure Substitution of Synthetic Nitrogen on Crop Yield and N ₂ O Emission in the Winter Wheat-Summer Maize Rotation System	HOU Miao-miao, LÜ Feng-lian, ZHANG Hong-tao, et al. (321)
Dynamics of Rice Photosynthesized Carbon Input and Its Response to Nitrogen Fertilization at the Jointing Stage: ¹³ C-CO ₂ Pulse-labeling	CHEN Shan, ZHU Zhen-ke, YUAN Hong-zhao, et al. (331)
Profile Distribution of Soil Organic and Inorganic Carbon Under Different Land Use Types in the Loess Plateau of Northern Shaanxi	LAN Zhi-long, ZHAO Ying, ZHANG Jian-guo, et al. (339)
Effect of Biochar on Ammonia Volatilization from Soils of Different Surface Conditions	ZOU Juan, HU Xue-yu, ZHANG Yang-yang, et al. (348)
Effects of Straw and Biochar Return in Soil on Soil Aggregate and Carbon Sequestration	XU Guo-xin, WANG Zi-fang, GAO Ming, et al. (355)
Assessment of the Availability of Soil Copper and Related Influencing Factors at a County Scale	LI Jin-fen, QU Ming-kai, LIU Gang, et al. (363)
Application of the LUR Model in the Prediction of Spatial Distributions of Soil Heavy Metals	ZENG Jing-jing, SHEN Chun-zhu, ZHOU Sheng-lu, et al. (371)
Pollution Characteristics and Source Apportionment of Polycyclic Aromatic Hydrocarbons in Soils of Shenyang North New Area	LI Jia-kang, SONG Xue-ying, WEI Jian-bing, et al. (379)
Passivation of Simulated Pb- and Cd-Contaminated Soil by Applying Combined Treatment of Phosphate, Humic Acid, and Fly Ash	ZHAO Qing-yuan, LI Xiao-ming, YANG Qi, et al. (389)
Distribution and Accumulation of Cadmium in Paddy Soil and Rice Affected by Pollutant Sources Control and Improvement Measures	FENG Wen-li, GUO Zhao-hui, SHI Lei, et al. (399)
Differences in Cd Accumulation in Typical Soils Under the Double Rice System	LI Xin-yang, LONG Jian, WANG Shu-bing, et al. (406)
Distribution Characteristics of Mercury in Reed Leaves from the Jiapigou Gold Mine in the Songhua River Upstream	ZHANG Man-yin, LI Meng-jie, CUI Li-juan, et al. (415)
Effect of Nitrate Amendment on Soil Denitrification Activity and Anthracene Anaerobic Degradation	DAI Jun-shuai, ZUO Xiao-hu, WANG Ming-xia, et al. (422)
Effects of Long-term Fertilization Regimes on Microbial Biomass, Community Structure and Activity in a Paddy Soil	WANG Wei-hua, LIU Yi, TANG Hai-ming, et al. (430)
Analysis of Sulfate-Reducing and Sulfur-Oxidizing Prokaryote Community Structures in Marine Sediments with Different Sequencing Technologies	ZHANG Yu, MI Tie-zhu, ZHEN Yu, et al. (438)
Seasonal and Spatial Variations of Microcystins and Their Relationships with Physicochemical and Biological Factors in Poyang Lake	YUAN Li-juan, LIAO Qie-gen, ZHANG Li, et al. (450)
Distribution of Multidrug-Resistant Bacteria and Antibiotic-Resistant Genes in Livestock Manures	ZHANG Hao, WANG Pan-liang, YANG Qing-xiang, et al. (460)
Influence of Air Pollution Control (APC) Systems and Furnace Type on the Characteristics of APC Residues from Municipal Solid Waste Incinerators	ZHANG Hua, YU Si-yuan, SHAO Li-ming, et al. (467)