



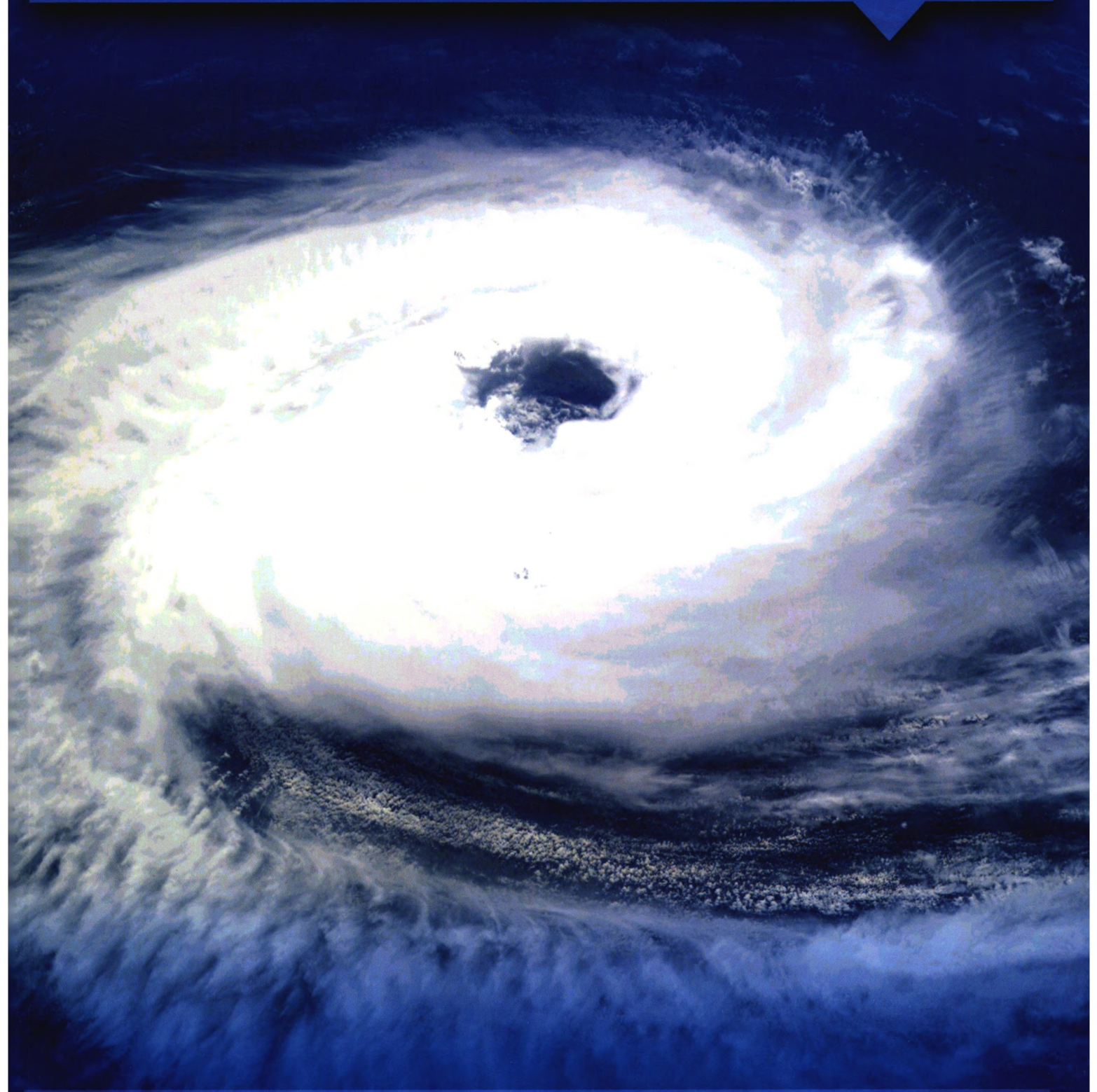
ACTA
SCIENTIAE
CIRCUMSTANTIAE

环境科学学报

Vol.38 No.10 第38卷 第10期

2018

www.actasc.cn



科学出版社
Science Press

万方数据



中国科学院生态环境研究中心 主办



目次

专论与综述

论疏水絮凝与疏水作用力 常青 (3787)

研究报告

卫星遥感反演京津冀地区 2011—2017 年氮氧化物污染变化 李言顺, 郑逸璇, 刘梦瑶, 等 (3797)

基于主成分分析的上海春季近地面臭氧污染区域性特征研究 梁昱, 刘禹含, 王红丽, 等 (3807)

中国城市 PM_{2.5} 时空动态变化特征分析: 2015—2017 年 姜磊, 周海峰, 赖志柱, 等 (3816)

华北地区冬半年空气污染天气客观分型研究 张莹, 王式功, 贾旭伟, 等 (3826)

北京市秋冬大气污染传输特征遥感研究 石琳琳, 李令军, 王新辉, 等 (3834)

APEC 前后北京郊区大气颗粒物变化特征及其潜在源区分析 杜朋, 李德平, 刘建国, 等 (3846)

天津一次雾-霾天气过程的近地层温湿结构和湍流特征分析 姚青, 刘敬乐, 蔡子颖, 等 (3856)

气象要素对气溶胶光学厚度估算 PM_{2.5} 的影响 许悦蕾, 刘延安, 施润和, 等 (3868)

基于曲面响应建模的 PM_{2.5} 可控人为源贡献解析 杨再东, 朱云, 陶谨, 等 (3877)

仲丁醇对苯乙烯臭氧化反应生成二次有机气溶胶的影响: 实验和模型研究 马乔, 俞辉, 阳成强, 等 (3888)

成都市臭氧生成敏感性分析及控制策略的制定 郝伟华, 王文勇, 张迎春, 等 (3894)

基于 QAR 数据的发动机 LTO 阶段氮氧化物排放量计算与分析 曹惠玲, 汤鑫豪, 苗佳禾 (3900)

电动汽车普及对江苏冬季大气污染影响的数值模拟 管奇坤, 马晓燕, 胡亚男, 等 (3905)

真菌预处理优化制备微介多级孔炭及其吸附甲苯的研究 张伟霞, 黄春蕾, 柯云婷, 等 (3917)

La_{1-x}Ce_xFe_{0.7}Co_{0.3}O_{3-δ} 网状多层纳米纤维对碳催化燃烧性能研究 胡明江, 吕春旺 (3927)

不同细菌分泌物及其反渗透膜污堵特性比较 方品晟, 孙浩, 于童, 等 (3937)

CANON 工艺处理猪场沼液的启动及微生物种群结构分析 王子凌, 信欣, 王锬, 等 (3945)

1,2,4-三氯苯厌氧还原脱氯过程及荧光增白剂 PF 对脱氯过程影响研究 周妮, 乔文静, 叶淑君 (3954)

银纳米线复合静电纺丝膜终端饮用水处理装置电化学消毒效能研究 谭晓君, 胡勇有, 陈超 (3964)

氧掺杂 g-C₃N₄ 光催化降解 Cu-EDTA 络合物的反应机理研究 汤雨林, 游少鸿, 兰华春, 等 (3973)

可见光响应 GO/g-C₃N₄ 改性平板膜的制备条件及其表面性能 李冬梅, 程志华, 黄明珠, 等 (3979)

新型重金属絮凝剂疏基乙酰化磺甲基聚丙烯酰胺除铜除浊性能研究 李嘉, 王刚, 徐敏, 等 (3990)

Fe²⁺ 和零价铁活化过一硫酸盐降解酸性橙 7 聂明华, 徐文丽, 张文静, 等 (3997)

超声波强化零价铁/过硫酸钾体系处理柠檬酸镍络合废水 肖泉, 田凯勋, 付显婷, 等 (4006)

硫化零价铁的制备及去除头孢噻肟机理研究 吴鸿伟, 陈萌, 杨虹, 等 (4013)

Co(II) 活化过氧乙酸降解有机染料研究 田丹, 吴玮, 沈芷璇, 等 (4023)

生物炭的制备及其镁改性对污染物的吸附行为研究 杨雪, 张士秋, 侯其东, 等 (4032)

恒电流模式下污泥电渗透的脱水性能及能耗分析 钱旭, 周兴求, 伍健东, 等 (4044)

微塑料对近岸多环芳烃降解菌群结构及其降解能力的影响 刘玮婷, 郭楚玲, 刘沙沙, 等 (4052)

一种考虑水生态修复措施对污染物降解影响的水质模型 袁博宇, 柳海涛, 任廷鸿, 等 (4057)

北港河流域水质特征及主要污染物通量估算研究 黄志伟, 曾凡棠, 范中亚, 等 (4063)

基于 Landsat-8 的城市湖泊水体总悬浮物吸收系数的遥感反演——以杭州西湖为例 黄李童, 陈江, 朱渭宁, 等 (4073)

磷和金属对荣成天鹅湖水体碱性磷酸酶活性和动力学性质的影响研究 吕迎春, 孙志伟, 宋佳伟, 等 (4083)

菌群条件下铜绿微囊藻休眠体复苏期间光合效率变化 邹万生, 王智, 宋齐生, 等 (4090)

典型可溶有机质与磺胺二甲嘧啶的络合作用研究 许明, 刘伟京, 白永刚, 等 (4103)

溴化咪唑类离子液体对胞嘧啶结构和性质影响的计算研究 徐佳祺, 牟永晓, 曹建平, 等 (4113)

旱地深层土壤厌氧氨氧化菌及全细菌群落结构对加水培养响应变化 王成, 庄林杰, 赵思研, 等 (4124)

电动-微生物修复对胶质结构的改变及毒性的削减 王冰, 郭书海, 李凤梅, 等 (4133)

两种植物根际促生菌对博落回抗干旱及富集镉性能的增强作用研究 陈可, 胡南, 陈威, 等 (4142)

锰促进稻田生物结皮固定灌溉水中镉 谈小克, 杨灿佳, 王一旭, 等 (4150)

丛枝菌根真菌及猪炭对多氯联苯污染土壤的联合修复作用 王楚栋, 单明娟, 陆扣萍, 等 (4157)

土壤冻融对溶解性有机质与非结合的影响 薛爽, 刘红, 程志辉, 等 (4165)

纳米 BiOBr 对羊角月牙藻的毒性效应 程晓燕, 赵新仕, 叶立群, 等 (4176)

邻苯二甲酸二异癸酯联合甲醛致小鼠学习记忆障碍的氧化损伤机制研究 葛淑珍, 陈莹莹, 黄佳伟, 等 (4185)

区域大气环境容量紧缺度分析 饶清华, 林秀珠, 陈芳, 等 (4195)

基于 Copula 函数的水体富营养化联合风险概率研究 张彦, 窦明, 李桂秋 (4204)

城市化与生态环境耦合协调关系研究——以杭州市为例 刘巧婧, 王莉红 (4214)

CONTENTS

Discussion on hydrophobic flocculation and hydrophobic force	CHANG Qing (3787)
Satellite-based observations of changes in nitrogen oxides over the Beijing-Tianjin-Hebei region from 2011 to 2017	LI Yanshun, ZHENG Yixuan, LIU Mengyao, et al (3797)
Regional characteristics of ground-level ozone in Shanghai based on PCA analysis	LIANG Yu, LIU Yuhua, WANG Hongli, et al (3807)
Analysis of spatio-temporal characteristic of PM _{2.5} concentrations of Chinese cities: 2015—2017	JIANG Lei, ZHOU Haifeng, LAI Zhizhu, et al (3816)
Study on an objective synoptic typing method for air pollution weather in North China during winter half year	ZHANG Ying, WANG Shigong, JIA Xuwei, et al (3826)
Analysis of characteristics of air pollution transmission in fall and winter by remote sensing in Beijing	SHI Linlin, LI Lingjun, WANG Xinhui, et al (3834)
Pollution characteristics and potential source region analysis of atmospheric particulate matter during 2014 APEC in Beijing Suburban	DU Peng, LI Deping, LIU Jianguo, et al (3846)
Analysis of temperature and moisture structure and turbulence characteristics of a smog and haze weather process in Tianjin	YAO Qing, LIU Jingle, CAI Ziyang, et al (3856)
Impact of meteorological elements on estimation of PM _{2.5} by aerosol optical depth	XU Yuelei, LIU Yan'an, SHI Runhe, et al (3868)
Response surface modeling based PM _{2.5} source contribution analysis on anthropogenic controllable emission	YANG Zaidong, ZHU Yun, TAO Jin, et al (3877)
Influence of 2-butanol on secondary organic aerosol formation from ozonolysis of styrene: Experimental and model studies	MA Qiao, YU Hui, YANG Chengqiang, et al (3888)
Analysis of ozone generation sensitivity in Chengdu and establishment of control strategy	HAO Weihua, WANG Wenyong, ZHANG Yingchun, et al (3894)
Calculation and analysis of nitrogen oxide emission in LTO stage of engine based on QAR data ...	CAO Huiling, TANG Xinhao, MIAO Jiahe (3900)
Simulating studies of the effect of the popularization of electric vehicle on air pollution in Jiangsu Province in winter	GUAN Qikun, MA Xiaoyan, HU Yanan, et al (3905)
Preparation of <i>Phanerochaete chrysosporium</i> modified micro-meso hierarchical porous carbon and its adsorption performance for toluene	ZHANG Weixia, HUANG Chunlei, KE Yunting, et al (3917)
Multilayer arrangements of La _{1-x} Ce _x Fe _{0.7} Co _{0.3} O _{3-δ} nanofiber webs for effective soot catalytic combustion	HU Mingjiang, LI Chunwang (3927)
Comparison of the soluble microbial products released by different bacteria and their ability in RO membrane fouling	FANG Pinsheng, SUN Hao, YU Tong, et al (3937)
Start-up and microbial communities analysis of CANON process for the treatment of anaerobic digester liquor of swine wastewater (ADLSW)	WANG Ziling, XIN Xin, WANG Luo, et al (3945)
Reductive dechlorination of 1,2,4-trichlorobenzene and the effect of fluorescent whitening agent PF on dechlorination process	ZHOU Ni, QIAO Wenjing, YE Shujun (3954)
Electrochemical disinfection performance of a point-of-use drinking water treatment device constructed with silver nanowires composite electrospun membrane	TAN Xiaojun, HU Yongyou, CHEN Chao (3964)
Mechanism study of the photocatalytic decomplexation of Cu-EDTA over oxygen doped g-C ₃ N ₄	TANG Yulin, YOU Shaohong, LAN Huachun, et al (3973)
The preparation of visible-light photoresponsive GO/g-C ₃ N ₄ modified plate membrane and its surface properties	LI Dongmei, CHENG Zhihua, HUANG Mingzhu, et al (3979)
Removal performance for copper and turbidity with novel heavy metal flocculant mercaptoacetyl sulfomethyl-polycrylamide	LI Jia, WANG Gang, XU Min, et al (3990)
Degradation of acid orange 7 by peroxymonosulfate activated by Fe ²⁺ and zerovalent iron ...	NIE Minghua, XU Wenli, ZHANG Wenjing, et al (3997)
Treatment of nickel citrate complex wastewater by zero-valent iron/potassium persulfate system with ultrasonic enhancement	XIAO Quan, TIAN Kaixun, FU Xianting, et al (4006)
The preparation of sulfide-modified nano zero-valent iron for cefotaxime removal	WU Hongwei, CHEN Meng, YANG Hong, et al (4013)
Degradation of organic dyes with peracetic acid activated by Co (II)	TIAN Dan, WU Wei, SHEN Zhixuan, et al (4023)
The preparation of biochar and adsorption behavior of Mg-modified biochar to pollutants	YANG Xue, ZHANG Shiqiu, HOU Qidong, et al (4032)
Performance and energy consumption of electro-osmotic sludge-dewatering in constant current mode	QIAN Xu, ZHOU Xingqiu, WU Jiandong, et al (4044)
Effect of microplastic on the community structure and biodegradation potential of PAHs-degrading bacterial consortium in coastal environment	LIU Weiting, GUO Chuling, LIU Shasha, et al (4052)
A water quality model considering the influence of ecological restoration on pollutants degradation	YUAN Boyu, LIU Haitao, REN Tinghong, et al (4057)
Study of pollution characteristics and fluxes of the main contaminants in Beigang River	HUANG Zhiwei, ZENG Fantang, FAN Zhongya, et al (4063)
Remote sensing inversion of total suspended matter absorption coefficient in coastal urban lakes using Landsat-8: Case study of west lake in Hangzhou	HUANG Litong, CHEN Jiang, ZHU Weining, et al (4073)
Effects of phosphate and metal ions on alkaline phosphatase activity and kinetic parameters in Swan Lake, Rongcheng	LÜ Yingchun, SUN Zhiwei, SONG Jiawei, et al (4083)
Photosynthetic efficiency of dormant <i>Microcystis aeruginosa</i> during the recruitment under bacterial flora conditions	ZOU Wansheng, WANG Zhi, SONG Qisheng, et al (4090)
Complexation of sulfamethazine with typical dissolved organic matter	XU Ming, LIU Weijing, BAI Yonggang, et al (4103)
A density functional theory study on effects of imidazolium bromide ionic liquids on the structure and properties of cytosine	XU Jiazhen, MOU Yongxiao, CAO Jianping, et al (4113)
The response of anammox bacterial along with other bacterial community changes in dryland deep soils to water added incubation	WANG Cheng, ZHUANG Linjie, ZHAO Siyan, et al (4124)
The structure variation and toxicity reduction of resin via electrokinetic-bioremediation	WANG Bing, GUO Shuhai, LI Fengmei, et al (4133)
Effects of two plant growth promoting rhizobacteria on drought resistance and uranium bioaccumulation abilities by <i>Macleaya cordata</i>	CHEN Ke, HU Nan, CHEN Wei, et al (4142)
Manganese enhances the Cd immobilization by the biological soil crusts in paddy fields	TAN Xiaoke, YANG Canjia, WANG Yixu, et al (4150)
Combined remediation effects of arbuscular mycorrhizal fungi and dead pig biochar on PCBs contaminated soils	WANG Chudong, SHAN Mingjuan, LU Kouping, et al (4157)
Effects of soil freezing and thawing on the binding of phenanthrene to dissolved organic matter in soils	XUE Shuang, LIU Hong, CHENG Zhihui, et al (4165)
Toxic effects of nano-sized BiOBr on <i>Pseudokirchneriella subcapitata</i>	CHENG Xiaoyan, ZHAO Xinshi, YE Lijun, et al (4176)
Oxidative damage mechanism of learning and memory impairment caused by diisodecyl phthalate and formaldehyde in mice	GE Shuzhen, CHEN Yingying, HUANG Jiawei, et al (4185)
Analysis on scarcity degree of regional atmospheric environment capacity	RAO Qinghua, LIN Xiuzhu, CHEN Fang, et al (4195)
The analysis of joint risk probability of eutrophication based on copula function	ZHANG Yan, DOU Ming, LI Guqiu (4204)
Examination of a coupling coordination relationship between urbanization and the eco-environment: Case study of Hangzhou	LIU Qiaojing, WANG Lihong (4214)

《环境科学学报》第六届编委会名单

主 编：曲久辉

副 主 编：刘文清 杨志峰 彭永臻 袁志国 俞汉青 朱 彤 毕 军
王书肖

学术顾问：汤鸿霄 郝吉明 陶 澍 江桂斌 傅伯杰 赵进才 贺克斌
张远航 彭平安

编 委：(按姓氏笔画排)

马 军	王书肖	王金南	王学军	王建龙	王晓昌	王爱杰
文湘华	尹大强	毕 军	曲久辉	朱 彤	朱利中	全 燮
刘 永	刘文清	刘会娟	麦碧娴	杨 敏	杨志峰	吴丰昌
何品晶	余 刚	张利田	陈同斌	欧阳志云	周启星	郑 华
郑君瑜	郑明辉	胡 春	胡勇有	俞汉青	袁志国	贾晓珊
黄 霞	崔宝山	彭永臻	潘 纲			

编辑部主任：杨桂华

责 任 编 辑：卜庆杰 王 虎

环 境 科 学 学 报

(Huanjing Kexue Xuebao)

(月刊,1981年创刊)

2018年10月 第38卷 第10期

ACTA SCIENTIAE CIRCUMSTANTIAE

(Monthly,Started in 1981)

Vol.38, No.10, October 2018

主 管 中国科学院
主 办 中国科学院生态环境研究中心
协 办 环境水质学国家重点实验室
编 辑 北京师范大学环境学院
《环境科学学报》编辑委员会
北京 2871 信箱 邮政编码 100085
电话：(010)62941073
E-mail:hjkxxb@rcees.ac.cn
网址：www.actasc.cn
主 编 曲 久 辉
出 版 科 学 出 版 社
北京东黄城根北街 16 号
(邮政编码 100717)
印刷装订 北京宝昌彩色印刷有限公司
发 行 处 科学出版社
电话：010-64034563
E-mail:journal@cspg.net
国外总发行 中国国际图书贸易总公司
(北京 399 信箱,100044)
出 版 日 期 每月 6 日

Sponsored by Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences,
State key Laboratory of Environmental Aquatic Chemistry,
School of Environmental Sciences, Beijing Normal University
Edited by the Editorial Board of Acta Scientiae Circumstantiae
(P.O.Box 2871, Beijing 100085, China)
Editor-in-Chief Qu Jiuhui
Published by Science Press(16 Donghuangchenggen North Street Beijing 100717, China)
Distributed by Science Press Tel:010-64034563, E-mail:journal@cspg.net
International distributed by China International Book Trading Corporation (Guoji Shudian)
(P.O.Box 399, Beijing 100044, China)

中国标准刊号：ISSN 0253-2468
CN 11-1843/X

国内邮发代号：82-625
订购处：全国各地邮政局

CODEN:HKXUDL

国外发行代号：M410
定价：90.00 元

国内外公开发行

ISSN 0253-2468

