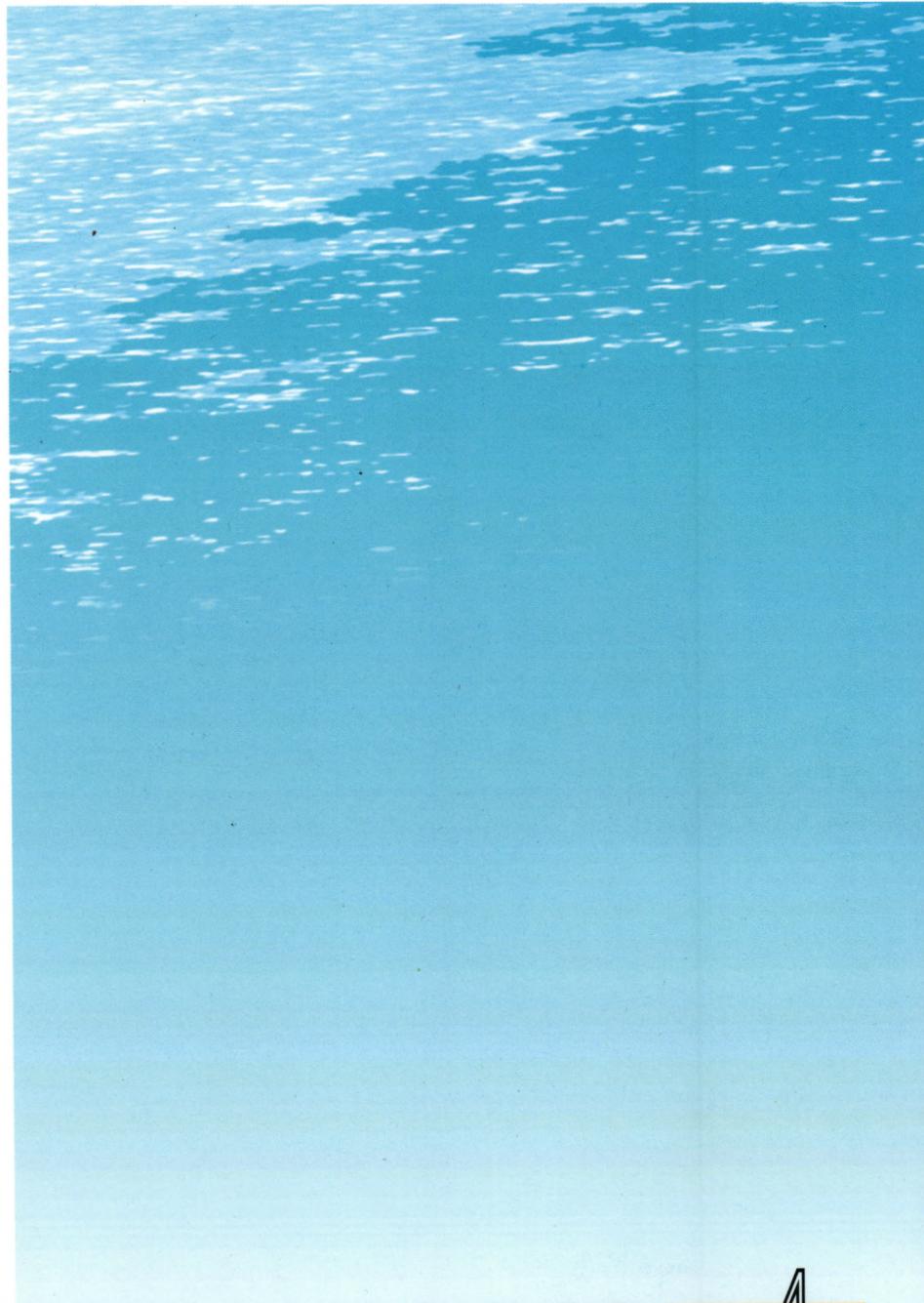


ISSN 1672-1683
CODEN NBYSAK

南水北调与 水利科技

SOUTH-TO-NORTH WATER TRANSFERS AND
WATER SCIENCE & TECHNOLOGY

全国中文核心期刊
中国科技论文统计源期刊（中国科技核心期刊）
中国科学引文数据库来源期刊（CSCD）
RCCSE 中国核心学术期刊（A）
美国《化学文摘》（CA）来源期刊



科学出版社
Science Press

河北省水利科学研究院 主办
北京师范大学水科学研究院 协办

2013 年第4期
第11卷 总第67期

南水北调与 水利科技

NANSHUI BEIDIAO YU SHIJI KEXUE

目次 Contents

名誉主编:徐振辞 许新宜
总 编:武兰春
常务副总编:牟纯儒 王玉坤
副总编:李京善
执行主编:马 静
技术总监:王红瑞
审读:宋保平
责任编辑:李素丽
编辑:王斌 许丹 赵莉花 李森
特约责编:梁韵 乔光建
英文编辑:简明凯 潘增辉 程诚(美国)
美术编辑:许丹 赵莉花

监管单位:河北省水利厅
编辑出版:《南水北调与水利科技》编辑部
地址:石家庄市泰华街310号
邮编:050057
电话:0311-85020535 85020507
85020512 85020639
85020630
邮箱:nsbdqk@263.net
网址:www.nsbdqk.net
广告许可证号:1301024D00075
印刷单位:石家庄天荣印刷有限公司
发行范围:国内外公开发行
国内发行:河北省报刊发行局
国外发行:中国出版对外贸易总公司
国际标准连续出版物号:ISSN 1672-1683
国内统一连续出版物号:CN 13-1334 / TV
邮发代号:18-191
国外发行代号:BM1772
国内定价:20.00元
法律顾问:乔祥国(北京市炬原律师事务所)
期刊基本参数:
CN 13-1334 / TV * 2003 * b * A4 * 216 * zh
* P * ¥ 20.00 * 2000 * 48 * 2013-08

主管单位:河北省南水北调工程
建设委员会办公室
主办单位:河北省水利科学研究院
协办单位:北京师范大学水科学研究院

水文水资源

- 1 基于河湖水系连通的水资源配置框架 陈睿智, 桑燕芳, 王中根, 李宗礼
5 近50年来滦河流域径流演变规律研究 山成菊, 董增川, 付晓花, 方庆, 刘晨, 等
9 多维线性插值方法的构建及应用 刘少华, 严登华, 王刚, 李传哲, 翁白莎
13 北京市潜在蒸散发量的时间序列变化特征分析 刘胜娅, 王会肖, 王艳阳, 叶文
17 近50年来滹沱河流域水资源变化规律与影响因素 宋保平, 过仲阳, 郑艳侠, 赵旭阳, 张素珍, 等
22 湖北汉江流域水资源承载力研究 曾浩, 张中旺, 孙小舟, 李权国
26 基于生态足迹模型的河池市水资源可持续利用评价 张义
31 二维水流模型在滹沱河高标准行洪区防洪评价中的应用 王中华
35 乌云河流域径流变化及其影响因子分析 王绪娟, 门宝辉
41 基于层次分析法的成都市水安全评价 陈琳, 邹添丞, 石杰, 王子豪, 潘楚昕

生态与环境

- 46 泾河冲洪积扇土壤硝酸盐污染特征及相关因素分析 左锐, 盖鹏, 滕彦国, 王金生, 孙岳
51 额济纳三角洲浅层地下水化学特征及其影响因素浅析 王丹丹, 于静洁, 王平, 朱秉启
56 河流生态修复评价方法探讨 于鲁冀, 贾佳, 葛丽燕
62 污水灌溉区土壤镉的高光谱遥感监测研究 肖捷颖, 王燕, 赵文霞
67 基于MIKE21FM的北京市南水北调配套工程大宁水库突发性水污染事故模拟 于磊, 顾华, 楼春华, 王国强
72 邯郸市农业面污染源调查与分析估算 张梦婕, 邢威州

试验研究

- 75 渭河陕西段河床沉积物的粒度参数分析 宋进喜, 于芳, 王珍
79 丰满流域水利工程对径流变化规律的影响研究 李成林, 孙新国, 彭勇, 周惠成
84 基于流固耦合的垂直轴风力机受力分析 丁琳, 郑源, 张福星
89 玻纤格栅低温低应力水平蠕变特性试验研究 张术彬, 常俊德, 张滨

水文地质与工程地质

- 93 中国沉积盆地深部CO₂地质封存联合咸水开采容量评估 李琦, 魏亚妮, 刘桂臻
97 渗流井取水数值模拟及应用 徐嘉璐, 陈枭萌, 郭倩, 王玮
101 都江堰八一沟8·13泥石流的形成条件分析 覃怡, 郑洪春

- 105 水平井开采地下水方案优选的实例研究
.....郭倩, 牟海斌, 徐嘉璐, 陈枭萌
109 鲁南碳酸盐岩丘陵贫水区典型地下水赋存模式分析
——以沂南、费县为例
.....韩晔, 郑玉萍, 祁晓凡, 尚浩, 张卓

数字水利

- 114 OPC技术及其在南水北调中线工程自动化调度系统中的应用.....黄会勇, 黄伟峰, 王汉东, 黄少华
119 基于GIS的南水北调中线水源区生态环境监测体系平台构建.....付景保, 孙庆辉, 魏涛
124 计量小区(DMA)夜间最小流量解析方法探讨与案例研究
.....郝志萍, 侯煜堃, 崔昌

水科学发展论坛

- (主办: 郑州大学水科学研究中心 策划: 左其亭)
128 干旱指数应用研究综述.....沈彦军, 李红军, 雷玉平
134 地球静止轨道卫星在水利行业中应用综述
.....朱鹤, 赵红莉, 蒋云钟, 何婷

水利经济

- 140 漯川县生态服务价值估算及动态变化分析
.....温晓玲, 李天宏
145 基于扩展型IO表和信息熵的江苏省产业用水和排污结构演变分析.....李晓惠, 张玲玲, 王宗志
149 安徽省水资源与社会经济协调发展空间分布研究
.....周亮广
153 农田水利投资促进粮食综合生产能力的机理和冲击程度分析
——基于黑龙江省历史数据的计量分析
.....马丽, 李丹
157 开封市污水灌溉费用效益分析
.....李立峰, 吴昊

水利管理

- 161 基于环境友好型农业的农村水利现代化建设
.....孙金华, 陈成, 颜志俊, 王会容, 朱乾德, 等
166 跨界水环境保护中的政府间合作机制研究
.....李培, 张风春, 张晓岚
171 南水北调工程法治建设研究.....杜丙照
174 日本农田水利规划的概查与精查
.....潘传柏, 杨梦云, 刘明忠

工程技术

- 178 土石坝沥青混凝土心墙材料参数对其工作性状的影响
.....王建祥, 唐新军, 凤炜
182 基于准备工作模拟的混凝土坝仓面排序方法
.....杜志达, 郭雯
187 自激脉冲射流技术研究与应用进展.....李君, 高传昌
192 综合法检测T梁混凝土强度研究
.....刘利生, 韩美清, 王森鹤
196 温度变化对大型预应力混凝土倒虹吸结构受力的影响
.....张龙飞, 姚贤华, 岳超然, 管俊峰
200 基于敏感性分析的加锚岩质边坡锚固参数优化设计
.....柏俊磊, 王乐华, 王瑞红
206 金佛山沥青混凝土心墙坝坡稳定性有限元分析
.....张慧萍, 邱珍锋, 刘良军
211 高落差长溜管在长隧洞混凝土运输中的应用
.....杨选波, 曹劝绩, 李伟泉, 李双兰
215 初期径流雨水工程截流措施及效果初探
.....白建国, 朱洵

书讯

- 191 《中国水科学研究进展报告》首个白皮书出版

理事单位 (排名不分先后)

- 理事长: 李志强
中国水利水电科学研究院 (院长: 匡尚富)
南水北调中线干线工程建设管理局 (局长: 张忠义)
河北省南水北调工程建设管理局 (局长: 牟纯儒)
山东省南水北调工程建设管理局 (局长: 孙义福)
南水北调中线水源有限责任公司 (总经理: 王新友)
南水北调东线江苏水源有限责任公司 (董事长: 邓东升)
中国地质科学院水文地质环境地质研究所 (所长: 石建省)
河南省水利勘测设计研究有限公司 (董事长: 翟渊军)
河北省水文水资源勘测局 (局长: 王春泽)
河北省水资源开发中心 (主任: 冯谦诚)
河北省水利水电第二勘测设计研究院 (院长: 乔裕民)
河北省水利学会 (秘书长: 武庆华)
河北省水利技术试验推广中心 (主任: 兰卿良)
河北省水利工程局 (局长: 王步新)

CONTENTS

Vol.11 No.4 Aug. 2013

- 1 Framework of Water Allocation Based on Interconnected River System Network
CHEN Rui-zhi,SANG Yan-fang,WANG Zhong-gen,et al.
- 5 Rules of Runoff Variation in Luanhe River Basin in Recent 50 Years
.SHAN Cheng-ju, DONG Zeng-chuan, FU Xiao-hua,et al.
- 9 Development and Application of Multidimensional Linear Interpolation
LIU Shao-hua,YAN Deng-hua,WANG Gang,et al.
- 13 Variation Characteristics Analysis of Time Series of Potential Evapotranspiration in Beijing
LIU Sheng-ya, WANG Hui-xiao, WANG Yan-yang,et al.
- 17 Variation Characteristics and Their Impact Factors of Water Resources in the Hutuo River Basin during Last 50 Years
SONG Bao-ping, GUO Zhong-yang, ZHENG Yan-xia ,et al.
- 22 Study of Water Resources Carrying Capacity in the Hanjiang River Basin of Hubei
ZENG Hao,ZHANG Zhong-wang,SUN Xiao-zhou,et al.
- 26 Assessment of Sustainable Utilization of Water Resources in Hechi City Based on Ecological Footprint Model
ZHANG Yi
- 31 Application of Two-dimensional Mathematical Flow Model in the Flood Control Impact Assessment for Construction Project in High Standard Flood Diversion Area of Hutuo River
WANG Zhong-hua
- 35 Analysis of Runoff Variation and Its Impact Factors in the Wuyun River Basin
WANG Xu-juan,MEN Bao-hui
- 41 Water Security Assessment of Chengdu City Based on Analytic Hierarchy Process
CHEN Lin,ZOU Tian-cheng,SHI Jie,et al.
- 46 Characteristics and Factors of Nitrate Pollution in Soil in the Alluvial-pluvial Fan of Hun River
.ZUO Rui,GAI Peng,TENG Yan-guo,et al.
- 51 Shallow Groundwater Chemistry Characteristics and Their Controlling Factors in the Ejina Delta
WANG Dan-dan,YU Jing-jie,WANG Ping,et al.
- 56 Discussion on Evaluation Method of River Ecological Restoration
YU Lu-ji,JIA Jia,GE Li-yan
- 62 Study on Soil Cd Monitoring in Sewage Irrigation Area by Hyperspectral Remote Sensing
XIAO Jie-ying,WANG Yan,ZHAO Wen-xia
- 67 Simulation of Accidental Water Pollution in Da ning Reservoir of Beijing South-to-North Water Diversion Project Based on MIKE21FM
YU Lei,GU Hua,LOU Chun-hua,et al.
- 72 Investigation and Analysis of Agricultural Non-point Source Pollution in Handan City
ZHANG Meng-jie,XING Wei-zhou
- 75 Parameter Analysis on Grain Size Distribution of Streambed Sediment in the Weihe River of Shanxi Province
SONG Jin-xi,YU Fang,WANG Zhen
- 79 Research of Runoff Variation Impacted by Hydraulic Projects in Fengman Basin
LI Cheng-lin,SUN Xin-guo,PENG Yong,et al.
- 84 Stress Analysis of Vertical Axis Wind Turbine Based on Fluid-Structure Coupling
DING Lin,ZHENG Yuan,ZHANG Fu-xing
- 89 Experimental Study on Creep Characteristics of Glass Fiber Grid under Low Temperature and Low Stress
ZHANG Shu-bin,CHANG Jun-de,ZHANG Bin
- 93 Assessment of CO₂ Storage Capacity and Saline Water Development in Sedimentary Basins of China
LI Qi, WEI Ya-ni, LIU Gui-zhen
- 97 Numerical Simulation and Application of Water-taking by Seepage Well
XU Jia-lu,CHEN Xiao-meng,GUO Qian,et al.
- 101 Initiation Conditions for the 8 13 Debris Flows in Bayi Gully of Dujiangyan
QIN Yi,ZHENG Hong-chun
- 105 A Case Study on the Scheme Optimization of Horizontal Wells to Exploit Groundwater
GUO Qian,MOU Hai-bin,XU Jia-lu,et al.
- 109 The Occurrence Model Analysis of Groundwater in the Carbonate Water Deficit Hilly Regions in South Shandong A Case Study of Yinan and Feixian
HAN Ye,ZHENG Yu-ping,QI Xiao-fan,et al.
- 114 Application of OPC Technique in Automatic Dispatching System of the Middle Route of South-to-North Water Diversion Project
HUANG Hui-yong,HUANG Wei-feng,WANG Han-dong,et al.
- 119 Construction of GIS-based Ecological Environment Monitoring System Platform for Water Source Area of the Middle Route of South-to-North Water Diversion Project
FU Jing-bao,SUN Qing-hui,WEI Tao
- 124 Analysis Method and Case Study for the Minimum Night Flow in the District Metered Area of the Water Distribution System
HAO Zhi-ping,HOU Yu-kun,CUI Chang
- 128 Research Review on Application of Drought Index
SHEN Yan-jun,LI Hong-jun,LEI Yu-ping
- 134 Overview of the Application of Geostationary Satellites in Water Conservancy
ZHU he,ZHAO Hong-li,JIANG Yun-zhong,et al.
- 140 Estimation and Dynamic Variation Analysis of Ecosystem Service Values in Xichuan County
WEN Xiao-ling,LI Tian-hong
- 145 Industrial Water Use and Pollution Discharge Structure Evolution of Jiangsu Province Based on Extended IO Table and Information
LI Xiao-hui,ZHANG Ling-ling,WANG Zong-zhi
- 149 Study on the Spatial Distribution of Coordinated Development of Water Resources and Economy in Anhui Province
ZHOU Liang-guang
- 153 Research on Promotion Mechanism and Impact Level of Agricultural Water Conservancy Investment on Grain Production Capacity
Based on Econometric Analysis of Historical Data in Heilongjiang Province
MA Li,LI Dan
- 157 Analysis of Cost Benefit of Sewage Irrigation in Kaifeng
LI Li-feng,WU Hao
- 161 Rural Water Conservancy Modernization Based on Environment-friendly Agriculture
SUN Jin-hua,CHEN Cheng,YAN Zhi-jun,et al.
- 166 Research on Inter-governmental Cooperative Mechanism in Trans-boundary Water Environment Conservation
LI Pei,ZHANG Feng-chun,ZHANG Xiao-lan
- 171 Research on Law Construction of the South-to-North Water Diversion Project
DU Bing-zhao
- 174 General Survey and Careful Exploration of Irrigation and Water Conservation in Japan
PAN Chuan-bo,YANG Meng-yun,LIU Ming-zhong
- 178 Effects of Material Parameters of Asphalt Concrete Core Wall Dam on the Working Conditions of Core Wall
WANG Jian-xiang ,TANG Xin-jun,FENG Wei
- 182 Study on Concreting Sequencing Methods for Concrete Dam Based on the Simulation of Preparatory Work
DU Zhi-da,GUO Wen
- 187 Research and Application Progress of Self-excited Pulsed Jet Technology
LI Jun,GAO Chuan-chang
- 192 Strength Test of T-Shaped Concrete Beams Based on Comprehensive Method
LIU Li-sheng,HAN Mei-qing,WANG Sen-he
- 196 Influences of Temperature Changes on Behaviors of Large Prestressed Concrete Inverted Siphon
ZHANG Long-fei,YAO Xian-hua,YUE Chao-ran ,et al.
- 200 Optimization Design of Anchorage Parameters of an Anchor Slope Based on Sensitivity Analysis
BAI Jun-lei,WANG Le-hua,WANG Rui-hong
- 206 Finite Element Analysis of Dam Slope Stability of Jinfoshan Asphalt Concrete Core Wall Rock-fill Dam
ZHANG Hui-ping, QIU Zhen-feng, LIU Liang-jun
- 211 Application of High-drop Long Articulated Chute in Concrete Transportation within a Long Tunnel
YANG Xuan-bo ,CAO Quan-ji,LI Wei-quan,et al.
- 215 Preliminary Analysis of Interception Measures on Initial Rainwater Runoff
BAI Jian-guo,ZHU Xun

Competent Authority: Hebei Project Office of South-to-North Water Diversion

Sponsored by: Hebei Provincial Academy of Water Resources

Chief Editor: WU Lan-chun

Edited and Published by: The Editorial Dept South-to-North Water Transfers and Water Science & Technology

Address: No.310 Taihua Street,Shijiazhuang 050057,China

Tel: 0311-85020639 85020535 85020507

85020630 85020512

E-mail: nsbdqk@263.net

<http://www.nsbdqk.net>

Code: BM 1772