

中国科学引文数据库（CSCD）核心库期刊  
全国中文核心期刊  
中国科技核心期刊

ISSN 1672-643X  
CN 61-1413/TV

# 水资源与水工程学报

JOURNAL OF WATER RESOURCES AND WATER ENGINEERING

SHUIZIYUAN YU SHUIGONGCHENG XUEBAO

( 第33卷 第1期 Vol.33 No.1 )



主办 西北农林科技大学  
主管 中华人民共和国教育部

1  
2022

# 水 资 源 与 水 工 程 学 报

SHUIZIYUAN YU SHUIGONGCHENG XUEBAO

2022 年 第 33 卷 第 1 期(总第 161 期)

## 目 次

### · 水文水资源 ·

- 流域水资源协同管理模式及体系 ..... 左其亭, 李倩文, 赵维岭, 曹宏斌, 汪军(1)  
基于信息熵的黄河流域用水结构演变规律及空间分布特征 ..... 郑小康, 彭少明, 王煜, 蒋桂芹(8)  
低温下富铁填料对 BAF 处理效果及细菌群落的影响 ..... 严子春, 卫明明, 史登峰(15)  
基于偏联系数的地下水开采强度动态评价研究 ..... 门宝辉, 李晨, 尹世洋(22)  
多变量综合干旱指数在渭河流域的应用 ..... 朱悦璐, 张阳(31)  
植被恢复影响下黄河上游北川河流域蒸散发量变化及成因分析 ..... 杨明楠, 朱亮, 刘景涛, 周冰, 陈玺(39)  
淮河生态经济带用水转移网络特征及影响因素分析 ..... 安敏, 方雪, 何伟军, 黄进, 文法广, 童星, 宋孟斐(46)  
水域空间承载力研究进展 ..... 卫晨曦, 王烜, 李春晖, 刘强, 蔡宴朋(54)  
附着性藻类生长 - 迁移模型及其在南水北调中线工程中的应用 ..... 胡豫英, 胡鹏, 朱杰, 廖卫红(61)  
考虑非一致性条件的淮河干流洪水分析 ..... 洪双玲, 石朋, 瞿思敏, 冯颖, 赵梦杰(69)  
基于信息熵的河北省用水结构时空演变分析 ..... 董森, 卢华, 白惠婷, 庞婷婷, 张殷钦, 高昊悦(79)  
中国西北地区气象干旱时空演变特征 ..... 刘杨奕, 毛文静, 李思琦, 赵鑫雨, 张学武, 吴海江, 粟晓玲(86)

### · 水利水电工程 ·

- 基于混合 - 浓度模型的泄洪洞内水流掺气数值模拟研究 ..... 练继建, 任盼红, 刘东明, 何军龄(93)  
水利工程总承包项目增值共享研究 ..... 丁继勇, 林欣, 丁雷杰(101)  
考虑连接管的调压室水头损失系数回归分析 ..... 冯思奇, 陈益民, 杨飞, 孙洪亮, 蔡付林(111)  
东湖水库强风暴雨遭遇联合分布及其对坝顶高程设计的影响 ..... 蔡奇霖, 涂金良, 王兆礼, 赖成光(117)  
西安老城区海绵改造内涝削减效果数值模拟研究 ..... 周思敏, 侯精明, 高徐军, 吕鹏, 李东来, 龚佳辉, 杨少雄, 吕红亮, 樊超(124)

### · 水工结构工程 ·

- 复合土工膜 - 垫层材料界面摩擦特性试验研究 ..... 杨武, 刘亮, 吴远鹏, 李亚运, 张凤超, 李文浩(130)  
考虑壁面滑移效应的平行单裂隙辐射流瞬态水力特性研究 ..... 杜万军, 柴军瑞, 许增光, 曹成(136)  
某深厚覆盖层上引水式电站防渗系统优化研究 ..... 王硕, 沈振中, 姬阳, 孙一清, 张文兵(144)  
水工混凝土裂缝高强环氧砂浆修复的力学性能评价分析 ..... 张俊涛, 闵巧玲, 李明超, 张梦溪, 冯达(152)  
后方土体淤积下高桩码头桩基变形规律分析 ..... 张栋, 张龙, 刘欣昕, 程星燎(159)  
基于 ARMA - GMDH 的水利工程变形预测模型 ..... 李莉贞, 曾志全, 黄勇, 杨杰, 宋锦焘(164)

### · 岩土工程 ·

- PS 加固坎儿井井壁黄土的工程特性试验研究 ..... 安鹏, 朱石磊, 强城成, 王松鹤, 徐强(171)  
悬挂式止水帷幕圆形基坑承压含水层地下水非稳定流计算 ..... 葛晓永, 张姝伊, 陈征, 王旭东(178)  
双向等压圆形巷道塑性区径向位移时变解求解及岩爆防治分析 ..... 樊宝杰, 赵伏军, 吴秋红, 刘永宏, 王斌(184)  
无胶结粗粒土结构强度及量化指标分析 ..... 王洋, 魏玉峰, 黄鑫, 贺琮栖, 梁彭(190)  
超大深基坑开挖对周围环境变形影响及对策分析 ..... 董利虎, 宋丹青, 唐高杰, 靳远, 王海涛(199)

### · 农业水土工程 ·

- 皖北杨凌流域玉米农田土壤水变化特征及驱动因子研究 ..... 杜明成, 张建云, 王振龙, 刘翠善, 王国庆(206)  
雄安新区上游农业水足迹及其经济效益研究 ..... 马乐新, 杨永辉, 韩淑敏, 杨艳敏(215)

期刊基本参数: CN61 - 1413 / TV \* 1990 \* b \* A4 \* 224 \* zh \* P \* ¥ 30.00 \* 1000 \* 30 \* 2022-02

# Journal of Water Resources and Water Engineering

(Bimonthly)

Vol. 33 No 1. Feb. 2022

## CONTENTS

Synergetic management pattern and system for watershed water resources .....	ZUO Qiting, LI Qianwen, ZHAO Weiling, et al (1)
Evolution law and spatial distribution of water use structure in the Yellow River Basin based on information entropy .....	ZHENG Xiaokang, PENG Shaoming, WANG Yu, et al (8)
Influence of iron-rich media on BAF treatment effect and bacteria community at low temperatures .....	YAN Zichun, WEI Mingming, SHI Dengfeng (15)
Dynamic evaluation of groundwater exploitation intensity based on partial connection number .....	MEN Baohui, LI Chen, YIN Shiyang (22)
Application of multivariate comprehensive drought index in the Weihe River Basin .....	ZHU Yuelu, ZHANG Yang (31)
Changes of evapotranspiration and the causes in the Beichuan River Basin of the upper Yellow River under the influence of vegetation restoration .....	YANG Mingnan, ZHU Liang, LIU Jingtao, et al (39)
Water transfer network characteristics and its influencing factors in the Huaihe River Eco-economic Belt .....	AN Min, FANG Xue, HE Weijun, et al (46)
Review of research on water space carrying capacity .....	WEI Chenxi, WANG Xuan, LI Chunhui, et al (54)
A growth – migration model of periphyton and its application in the middle route of the South – to – North Water Transfer Project .....	HU Yuying, HU Peng, ZHU Jie, et al (61)
Flood analysis of the main stream of Huaihe River under inconsistent condition .....	HONG Shuangling, SHI Peng, QU Simin, et al (69)
Spatio-temporal evolution of water use structure in Hebei Province based on information entropy .....	DONG Sen, LU Hua, BAI Huiting, et al (79)
Spatiotemporal evolution characteristics of meteorological droughts in northwest China .....	LIU Yangyi, MAO Wenjing, LI Siqi, et al (86)
Numerical simulation on the aerated water in a spillway tunnel based on a mixing – concentration model .....	LIAN Jijian, REN Panhong, LIU Dongming, et al (93)
Value-added sharing of hydraulic projects under general contracting .....	DING Jiyong, LIN Xin, DING Leijie (101)
Regression analysis of head loss coefficient of the surge tank with a connecting pipe .....	FENG Siqi, CHEN Yimin, YANG Fei, et al (111)
Joint distribution of strong wind and rainstorm in Donghu Reservoir and its impact on the design of dam crest elevation .....	CAI Qilin, TU Jinliang, WANG Zhaoli, et al (117)
Numerical simulation of waterlogging reduction effect of sponge reconstruction in Xi'an old urban area .....	ZHOU Simin, HOU Jingming, GAO Xujun, et al (124)
Experimental study on interface friction characteristics of composite geomembrane – cushion .....	YANG Wu, LIU Liang, WU Yuanpeng, et al (130)
Transient hydraulic characteristics of radiation flow in a parallel single fracture considering wall slip effect .....	DU Wanjun, CHAI Junrui, XU Zengguang, et al (136)
Optimization of seepage control system for a diversion hydropower station on a deep overburden foundation .....	WANG Shuo, SHEN Zhenzhong, JI Yang, et al (144)
Evaluation and analysis of mechanical properties of high-strength epoxy mortar for repairing cracks in hydraulic concrete .....	ZHANG Juntao, MIN Qiaoling, LI Mingchao, et al (152)
Deformation response of a high piled wharf foundation in the process of slope siltation .....	ZHANG Dong, ZHANG Long, LIU Xinxin, et al (159)
Deformation prediction model for water conservancy projects based on ARMA – GMDH .....	LI Lizhen, ZENG Zhiqian, HUANG Yong, et al (164)
Experimental study on engineering characteristics of loess reinforced by PS in Karez sidewall .....	AN Peng, ZHU Shilei, QIANG Chengcheng, et al (171)
Calculation of non-steady groundwater flow in confined aquifer of a circular excavation pit with suspended waterproof curtain .....	GE Xiaoyong, ZHANG Shuyi, CHEN Zheng, et al (178)
Time-varying radial displacement solution in the plastic zone of the circular roadway under constant biaxial stress and analysis of rockburst prevention .....	FAN Baojie, ZHAO Fujun, WU Qihong, et al (184)
Analysis of structural strength and quantitative indices of uncedmented coarse-grained soil .....	WANG Yang, WEI Yufeng, HUANG Xin, et al (190)
Influence of super-large deep foundation pit excavation on the deformation of surrounding environment and countermeasures .....	DONG Lihu, SONG Danqing, TANG Gaojie, et al (199)
Soil moisture content change characteristics and driving factors of maize farmland in the Yanglou Watershed, northern Anhui Province .....	DU Mingcheng, ZHANG Jianyun, WANG Zhenlong, et al (206)
Agricultural water footprint in the upstream of Xiong'an New Area and its economic efficiency .....	MA Lexin, YANG Yonghui, HAN Shumin, et al (215)