

全 国 中 文 核 心 期 刊
中 国 科 技 核 心 期 刊
RCCSE 中国核 心 学术期 刊

ISSN QK2304759
CODEN SSGXAH



水利水运工程学报

HYDRO-SCIENCE AND ENGINEERING

3

2023



水利部 南京水利科学研究院
交通运输部
国家能源局 NANJING HYDRAULIC RESEARCH INSTITUTE

水利水运工程学报

(双月刊)

2023年6月

第3期(总第199期)

目 次

港珠澳大桥沿线极端风暴增水特征研究	曾凡兴,麦权想,路川藤,丁佩,罗小峰,高正荣(1)
感潮河网口门处舾装码头工程对引排水的影响	顾正华,辜樵亚,盛娇樱,翟玉明,马勇(10)
城市更新视角下面向内涝防治的地表空间布局优化	陈明发,马星,赵耀龙,杜勇(19)
干支流垂直交汇下跌水工程下游通航水流条件优化	毛森浩,王威,张铭,童中山,林燕萍(29)
甘肃省水资源-经济社会-生态环境耦合协调驱动因素研究	张恬姿,王小军,齐广平,康燕霞,银敏华,马彦麟,贾琼,张向宁(38)
基于星地融合降水的中小流域洪水模拟	曹孟,刘艳丽,陈鑫,关铁生,王国庆,金君良(47)
耦合BP神经网络的MIKE11模型预报无资料断面水位	葛路,张善亮,许月萍,江衍铭(57)
基于数字孪生的智慧水利框架体系研究	朱思宇,杨红卫,尹桂平,陈璇,邓人超(68)
表面磨损与碳化作用下船闸混凝土耐久性研究	韩雪松,钱文勋,葛津宇,胡家宇,章陶然(75)
大温差作用下矩形渡槽横截面温度梯度分析	尚洪彬,李宗利,李泽前,杨霖,张宁(84)
考虑流固耦合的重力坝地震开裂过程模拟	李斌,江守燕,孙立国,杜成斌(93)
耦合压力加载对超声热激励效果影响研究	梁嘉辉,贾宇,汤雷,张盛行(104)
基于XGBoost算法的堆石料南水模型参数反演及应用	李威,刘检生,施增强,郭万里(111)
压实后砂砾石料渗透特性试验研究	邓成进,周恒,党发宁,苗喆(121)
水下高耸薄墙爆破对紧邻钢管桩的动力影响	封江东,王金绪,孙晓伟,黎卫超,曹昂(130)
堆石料湿化变形特性大型三轴试验研究	刘翀,傅中志,张意江,石北啸(138)
立式轴流泵装置外特性试验研究	周铭瑞,周秉南,刘健峰,陆伟刚(148)
水文相似理论研究进展	孙周亮,刘艳丽,舒章康,陈鑫,王婕,贺瑞敏(155)

期刊基本参数: CN32-1613/TV * 1979 * b * A4 * 164 * zh * P * ¥30.00 * 900 * 18 * 2023-06

HYDRO-SCIENCE AND ENGINEERING

(Bimonthly)

Jun. 2023

No. 3 (Total No. 199)

CONTENTS

- Study on the characteristics of extreme storm surge along Hong Kong-Zhuhai-Macao Bridge *ZENG Fanxing, MAI Quanxiang, LU Chuanteng, DING Pei, LUO Xiaofeng, GAO Zhengrong*(9)
- Influence of outfitting wharf project at the entrance of tidal river network on water diversion and drainage *GU Zhenghua, GU Qiaoya, SHENG Jiaoying, ZHAI Yuming, MA Yong*(18)
- Optimal design of surface layout for alleviating urban flood in urban renewal *CHEN Mingfa, MA Xing, ZHAO Yaolong, DU Yong*(28)
- Navigable flow condition optimization at vertical channel confluence in the downstream of a water drop project *MAO Senhao, WANG Wei, ZHANG Ming, TONG Zhongshan, LIN Yanping*(37)
- Driving factors of water resources-economic society-ecological environment coupling in Gansu Province *ZHANG Tianzi, WANG Xiaojun, QI Guangping, KANG Yanxia, YIN Minhua, MA Yanlin, JIA Qiong, ZHANG Xiangning*(46)
- Merging satellite and gauge precipitation for flood forecasting in a small and medium-sized watershed *CAO Meng, LIU Yanli, CHEN Xin, GUAN Tiesheng, WANG Guoqing, JIN Junliang*(56)
- Investigation of water level prediction at ungauged sections by coupled BP neural network and MIKE11 model *GE Lu, ZHANG Shanliang, XU Yueping, CHIANG Yanming*(67)
- Research on smart water conservancy framework system based on digital twin *ZHU Siyu, YANG Hongwei, YIN Guiping, CHEN Xuan, DENG Renchao*(74)
- Study on the durability of ship lock concrete under the action of abrasion and carbonization *HAN Xuesong, QIAN Wenzun, GE Jinyu, HU Jiayu, ZHANG Taoran*(83)
- Temperature gradient analysis of rectangular aqueduct transverse section under the effect of large temperature difference *SHANG Hongbin, LI Zongli, LI Zeqian, YANG Lin, ZHANG Ning*(92)
- Seismic cracking simulation of gravity dams considering fluid-structure interaction *LI Bin, JIANG Shouyan, SUN Liguo, DU Chengbin*(103)
- Influence of coupling pressure loading mode on ultrasonic thermal excitation effect *LIANG Jiahui, JIA Yu, TANG Lei, ZHANG Shenghang*(110)
- NHRI model parameter inversion and application of rockfill based on XGBoost *LI Wei, LIU Jiansheng, SHI Zengqiang, GUO Wanli*(120)
- Experimental study on permeability of sand gravel after compaction *DENG Chengjin, ZHOU Heng, DANG Fanling, MIAO Zhe*(129)
- Influence of demolition blasting of underwater towering thin wall on dynamic characteristics of adjacent steel pipe pile *FENG Jiangdong, WANG Jinxu, SUN Xiaowei, LI Weichao, CAO Ang*(137)
- Large-scale triaxial test study on wetting deformation characteristics of rockfill materials *LIU Chong, FU Zhongzhi, ZHANG Yijiang, SHI Beixiao*(147)
- Experimental study on external characteristics of vertical axial flow pump *ZHOU Mingrui, ZHOU Bingnan, LIU Jianfeng, LU Weigang*(154)
- Review of the theories of hydrological similarity *SUN Zhouliang, LIU Yanli, SHU Zhangkang, CHEN Xin, WANG Jie, HE Ruimin*(164)



学报网站



微信公众号

水利水运工程学报

Shuili Shuiyun Gongcheng Xuebao
(双月刊 1979 年创刊)
2023 年 6 月 第 3 期(总第 199 期)

HYDRO-SCIENCE AND ENGINEERING

(Bimonthly, Started in 1979)

No. 3 (Total No. 199), Jun. 2023

主 管 中华人民共和国水利部

Superintended by

主 办 水 利 部

Ministry of Water Resources, P. R. China

交通运输部 南京水利科学研究院
国家能源局

Sponsored by Nanjing Hydraulic Research Institute

编辑出版 《水利水运工程学报》编辑部

Edited by

南京市虎踞关 34 号(210024)

Editorial Office of *Hydro-Science and Engineering*

(34 Hujuguan, Nanjing 210024, China)

电 话 025 - 85829135

Telephone + 86 - 25 - 85829135

电子信箱 JNHRI@ nhri. cn

E-mail JNHRI@ nhri. cn

主 编 胡亚安

Editor-in-Chief HU Yaan

印 刷 南京台城印务有限责任公司

Printed by Nanjing Taicheng Printing Co., Ltd.

发 行 范 围 公 开

Distributed by Nanjing Post Office (Domestic) and

订 阅 全国各地邮局(所)

China International Book Trading Corporation

(南京市邮政局总发行)

35 Chegongzhuang Xilu, Haidian District

国外发行 中国国际图书贸易集团有限公司

Beijing 100044

(北京市海淀区车公庄西路 35 号)

P. R. China (International)

邮编 100044)

ISSN 1009-640X

CN 32-1613/TV

定 价: 30.00 元

全 年: 180.00 元

ISSN 1009-640X

06>

9 771009 640238

国内邮发代号: 28-19

国外发行代号: 4156-QR