

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
全国水利系统优秀科技期刊
湖北省优秀期刊

ISSN 1001—5485
CODEN CKYUE6

长江科学院院报

JOURNAL OF YANGTZE RIVER
SCIENTIFIC RESEARCH INSTITUTE



ISSN 1001-5485



9 771001 548099

中国 · 武汉
WUHAN CHINA

Vol.30
2013 10

长江科学院院报

(月刊)

2013年10月 第30卷 第10期 总第180期

目 次

江湖泥沙与治理

- 长江流域水系划分与河流分级初步研究 董耀华 汪秀丽(1)
水下沿程淤积高程控制工程的措施探究 蔡莹 段文刚 杨伟 蒋文秀(6)
淹没式取水工程附近水流运动三维数值模拟 胡德超 李小娟 廖洋生(11)

水资源与环境

- 膜生物反应器与人工湿地工艺处理生活污水 柴培宏 金峰 陈飞勇 张洋 张辉(17)
相空间重构支持向量机在径流模拟中的应用研究 李代华 崔东文(21)

水土保持与生态建设

- 野外现场生态围隔实验研究进展 李健 金中武 杨文俊(27)
系统工程原理在边坡生态防护工程中的应用 杨悦舒 夏振尧 肖海 周时 吴彬 杨小锋(32)

工程安全与灾害防治

- 三峡库区箭穿洞危岩体涌浪数值模拟分析 刘广宁 黄波林 王世昌 陈小婷(37)

岩土工程

- 散粒料水下抛填堰体密度的离心模型试验研究 程永辉 饶锡保 周小文 张君尉(42)
粉细砂水泥土力学与渗透特性试验研究 胡汉兵 胡胜刚 刘芳(48)
渗流作用下边坡自稳临界高度计算 杨育文 周志立 蒋涛 詹平(54)
废旧轮胎颗粒水泥混合土土工特性研究 李丽华 陈辉 肖衡林 孙龙 刘毅(58)
粉质砂土的土-水特征及一维应力变形试验研究 唐延贵 吴礼舟(62)
采空区上覆岩质高边坡变形机理研究 周霞 李辉 杨建英(66)
中欧岩土工程勘察分级及岩土分类对比 王小明 李勇 李刚(72)
某过江隧道南线工程降水方案研究 吴锐 刘文远 王耀忠 吴曼 沈飞军(77)

水工结构与材料

- 水电站消力池导墙抗疲劳破坏问题研究 吴杰芳 张林让 蒋显州(81)
某碾压混凝土重力坝温控方案优化研究 钱波 宋铭明(87)
滨海侵蚀性环境对混凝土的腐蚀试验研究 陈纲(94)
硅酸盐改性聚氨酯注浆材料在煤矿井下巷道加固中的应用 冯志强(99)
坝高与弧高比对高拱坝柔度系数上限值影响的探讨 黄朝煊(104)

信息技术应用

- 空间信息技术在水利普查中的应用 申邵洪 谢文君(109)
基于 ArcEngine 的河道地理信息管理系统的应用设计与实现 肖紫珍 闫强 武鹏林(114)
基于不同遥测终端的水文自动测报系统研究 胡金龙 莫晓聪 高祥涛 陈宁(118)

仪器设备与测试技术

- 离心机试验设备液压驱动系统的研制 刘显军 王军 李思忠 杜寿兵 杨玉明(123)
河工模型供水系统变频节能改造能效分析 胡向阳 许明 张文二 马志敏(127)

信息之窗

- 简讯· 长江科学院陈进副院长带队赴丹江口库区开展水环境管理咨询和调研(61) 长江科学院参加“第11届国际非连续变形分析研讨会(ICADD-11)”(130)

本期责任编辑:曾小汉

期刊基本参数:CN42-1171/TV * 1984 * m * A4 * 130 * zh * P * ¥10.00 * 1300 * 26 * 2013-10

本刊电子信箱:ckjb@163.net

本刊投稿网址:<http://ckyyb.crsri.cn>

**JOURNAL OF YANGTZE RIVER SCIENTIFIC
RESEARCH INSTITUTE**
(Monthly)

Oct. 2013 Vol. 30 No. 10 Sum No. 180

CONTENTS

RIVER-LAKE SEDIMENTATION AND REGULATION

- Preliminary Research on Watershed Division and Stream Order Classification of the Yangtze River DONG Yao-hua, WANG Xiu-li(1)
Discussion on Underwater Desilting Corridor for Hydropower Engineering CAI Ying, DUAN Wen-gang, YANG Wei, JIANG Wen-xiu(6)
Three-Dimensional Numerical Simulation of Flows around Submerged Water Intake HU De-chao, LI Xiao-juan, LIAO Yang-sheng(11)

WATER RESOURCES AND ENVIRONMENT

- Treatment of Domestic Sewage by MBR and Constructed Wetland Process CHAI Pei-hong, JIN Feng, CHEN Fei-yong, ZHANG Yang, ZHANG Hui(17)
Phase Space Reconstruction of Support Vector Machine in Runoff Simulation LI Dai-hua, CUI Dong-wen(21)
WATER-SOIL CONSERVATION AND ECO-CONSTRUCTION
Research Advances in In-situ Ecological Mesocosm Experiment LI Jian, JIN Zhong-wu, YANG Wen-jun(27)
Application of System Engineering Principles to Slope Ecological Protection Project YANG Yue-shu, XIA Zhen-yao, XIAO Hai, ZHOU Shi, WU Bin, YANG Xiao-feng(32)

ENGINEERING SAFETY AND DISASTER PREVENTION

- Numerical Simulation on Waves Generated by the Instability of Jianchuandong Perilous Rock in Three Gorges Reservoir Area LIU Guang-ning, HUANG Bo-lin, WANG Shi-chang, CHEN Xiao-ting(37)
ROCK-SOIL ENGINEERING
Centrifugal Model Tests on the Density of Cofferdam Formed by Underwater Granular Material Packing CHENG Yong-hui, RAO Xi-bao, ZHOU Xiao-wen, ZHANG Jun-wei(42)
Mechanical Properties and Permeability of Cement-stabilized Fine Sand HU Han-bing, HU Sheng-gang, LIU Fang(48)
Determining the Self-stability Critical Height of Slope with Steady Seepage YANG Yu-wen, ZHOU Zhi-li, JIANG Tao, ZHAN Ping(54)
Geotechnical Properties of Soil Mixed with Waste Tire Granules and Cement LI Li-hua, CHEN Hui, XIAO Heng-lin, SUN Long, LIU Yi(58)
Experimental Study on the Soil-Water Characteristics and Deformation of Silty Sand under 1-D Stress TANG Yan-gui, WU Li-zhou(62)
Deformation Mechanism of High Rock Slope Overlying above Goaf ZHOU Xia, LI Hui, YANG Jian-ying(66)
Comparison of the Grading of Geotechnical Investigation and the Classification of Rock and Soil between Europe and China WANG Xiao-ming, LI Yong, LI Gang(72)
Research on Dewatering Scheme for the South Route Project of a River-crossing Tunnel WU Rui, LIU Wen-yuan, WANG Yao-zhong, WU Man, SHEN Fei-jun(77)

HYDRAULIC STRUCTURE AND MATERIAL

- Research on Fatigue Failure of Vibrating Baffle Wall in Stilling Basin and It's Prevention WU Jie-fang, ZHANG Lin-rang, JIANG Yu-zhou(81)
Optimization of Temperature Control Measures for an RCC Gravity Dam QIAN Bo, SONG Ming-ming(87)
Experimental Study on Concrete under Coastal Corrosion Environment CHEN Gang(94)
Application of Polyurethane Grouting Material Modified by Silicate to the Reinforcement of Coal Mine's Roadway FENG Zhi-qiang(99)
Impact of Dam Height and Arc Length-Height Ratio on the Flexibility Coefficient of Arch Dam HUANG Chao-xuan(104)

INFORMATION TECHNOLOGY APPLICATION

- Application of Spatial Information Technology in Water Census SHEN Shao-hong, XIE Wen-jun(109)
Design and Implementation of Riverway Geographic Information Management System by ArcEngine XIAO Zi-zhen, YAN Qiang, WU Peng-lin(114)
Automatic System of Hydrological Data Acquisition and Transmission with Different RTUs HU Jin-long, MO Xiao-cong, GAO Xiang-tao, CHEN Ning(118)

INSTRUMENTATION DEVELOPMENT AND TESTING TECHNIQUES

- Development of Hydraulic Driven System of Centrifuge Test Device LIU Xian-jun, WANG Jun, LI Si-zhong, DU Shou-bing, YANG Yu-ming(123)
Analysis on the Energy-Saving Efficiency of Flow Control by Frequency Conversion Regulating for the Water Supply System of River Model Experiment HU Xiang-yang, XU Ming, ZHANG Wen-er, MA Zhi-min(127)