

ISSN 1002-0624

东北水利水电

Water Resources & Hydropower of Northeast China



2017 NO. 9

- 输水隧洞斜（竖）井错落布置分析
- 全自动烷基汞分析系统测定水中烷基汞
- 省区尺度的灌溉效益分摊系数计算与分析

□ 水利部松辽水利委员会 主办

东北水利水电

DONGBEI
SHUILI SHUIDIAN
(月刊)

2017年第9期
9月15日出版
(第35卷总第398期)
1983年创刊

全国优秀科技期刊
中国学术期刊(光盘版)全文收录期刊
中文科技期刊数据库全文收录期刊
万方数据库全文收录期刊
超星期刊域出版平台全文收录期刊
~~~~~

主管单位 中华人民共和国水利部  
主办单位 水利部松辽水利委员会  
编辑出版 《东北水利水电》杂志社  
编委会主任 党连文  
社 长 赵玉江  
主 编 林淀翔  
副 主 编 任海霞 师福东  
责任 编辑 全太景  
地 址 长春市解放大路4188号  
邮 政 编 码 130021  
电 话 0431-85607758  
邮 箱 dbsd@slwr.gov.cn  
刊 号 ISSN 1002-0624  
印 刷 CN22-1097/TV  
刷 长春祥泰彩色印刷厂  
订 阅 全国各地邮局  
定 价 4.60元  
广告经营许可证:

吉林省工商广字第01091号

## 目 次

### 规划设计

- 输水隧洞斜(竖)井错落布置分析.....齐立伟,刘洋,张建辉,刘文斌(1)  
斜支臂弧形闸门三维建模及技术分析.....师小小,胡艳玲(3)

摆东水电站扩容水力资源条件分析.....张中杰,唐永美,马尚男,梁秀日方(7)

### 工程施工

- 隧洞开挖掌子面多孔高压涌水施工技术.....靳念柱(9)  
供水工程管道顶管施工设计及技术分析.....许琳林(12)

溢洪道堰面混凝土施工裂缝分析及控制措施.....王梓泽(15)

自密实混凝土配合比设计方法和步骤.....罗建平(17)

### 水生态环境

- 全自动烷基汞分析系统测定水中烷基汞.....彭俊,谢志钢,沈忠浩,刘晓旭(20)  
基于模糊数学的大伙房水库营养状态评价.....朱茂森(22)

水质监测系统运行管理中质量控制措施.....张召,张雪,孔祥羽,梁琳(26)

### 水文水资源

- 新安江模型在大寨站的应用.....杨国威(28)  
三参数幂函数在水位一流量关系曲线中的应用.....王新刚(31)  
渭河下游典型洪水分析

——华县站2011·09洪水特性分析.....宁爱琴,秦学谦,沈锦杰,张俊峰(33)  
辽宁省“2016·07”暴雨洪水分析.....鞠飞(37)

诺敏河下游古城子水文站径流特性分析.....吴晓东,陈建平,崔伟,张雪(39)

洛古河站畅流期流量巡测可行性分析.....曲志强,常春超,唐永美,张召(41)  
大井法在水资源论证中的应用.....李秉伟(43)

### 水利科研

- 管桩填芯微膨胀混凝土配合比试验研究.....周雪玲,刘守伟,孙乙庭(46)  
小流量竖井旋流消能模型试验研究.....郭一萌,宗原(49)  
某取水首部地下电站水工模型试验研究.....吕炎浩(51)

### 勘探与测量

熊岳温泉地热田成因分析.....王凤艳(53)

### 农田水利

省区尺度的灌溉效益分摊系数计算与分析.....王静,于洋,孙磊(56)

### 工程建设与管理

干式变压器铁心多点接地的诊断及危害.....姚丽,杨传文,王兴隆,王瑾(60)

### 水利信息化

- 小浪底检修排水系统自动控制可行性分析.....席兵,苏相斌,刘成东,张鹏飞(63)  
尼尔基发电厂UPS智能化改造设想.....周丽娜,左建华(65)  
无线ADCP在河道输水损失研究中的应用.....崔伟,吴晓东,陈建平(69)

封底:夕照

杨敏摄

## CONTENTS

### Design and planning

|                                                                                                                |                                                                  |
|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| Analysis of staggered layout of shaft (inclined shaft) in water-conveyance tunnel.....                         | QI Li-wei, LIU Yang, ZHANG Jian-hui, LIU Wen-bin (1)             |
| Three-dimensional modeling of oblique supporting arm radial gate and its technical analysis.....               | SHI Xiao-xiao, HU Yan-ling (3)                                   |
| Analysis of hydropower resources condition of installed capacity extension for Baidong hydropower station..... | ZHANG Zhong-jie, TANG Yong-mei, MA Shang-nan, LIANG Xiu-fang (7) |

### Project construction

|                                                                                                     |                    |
|-----------------------------------------------------------------------------------------------------|--------------------|
| Construction technique of drift face excavation with multi orifice high pressure gushing water..... | JIN Nian-zhu (9)   |
| Pipe jacking construction design and technique analysis for water supply pipeline.....              | XU Lin-lin (12)    |
| Analysis and control measures on concrete work crack of spillway weir face.....                     | WANG Zi-ze (15)    |
| Design method and step of mix proportion of self-compacting concrete.....                           | LUO Jian-ping (17) |

### Water ecological environment

|                                                                                                  |                                                          |
|--------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| Determination of alkyl mercury in water using fully automatic alkyl mercury analysis system..... | PENG Jun, XIE Zhi-gang, SHEN Zhong-hao, LIU Xiao-xu (20) |
| Evaluation of nutritional status of Dahuofang reservoir based on fuzzy mathematics.....          | ZHU Mao-sen (22)                                         |
| Quality control measures for operation and management of water quality monitoring system.....    | ZHANG Zhao, ZHANG Xue, KONG Xiang-yu, LIANG Lin (26)     |

### Hydrology and water resources

|                                                                                                                             |                                                               |
|-----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| Application of Xin'anjiang model in Dalai station.....                                                                      | YANG Guo-wei (28)                                             |
| Application of three parameters power function in water-level discharge relation curve.....                                 | WANG Xin-gang (31)                                            |
| Analysis of typical flood in downstream of Weihe river taking 2011·09 Huaxian station flood characteristics as example..... | NING Ai-qin, QIN Xue-qian, SHEN Jin-jie, ZHANG Jun-feng (33)  |
| Analysis of 2016·07 rainstorm flood in Liaoning Province.....                                                               | JU Fei (37)                                                   |
| Analysis of runoff characteristics of Guchengzi hydrologic station in downstream of Nuominhe river.....                     | WU Xiao-dong, CHEN Jian-ping, CUI Wei, ZHANG Xue (39)         |
| Feasibility analysis of flow tour gauging in period of open river for Luoguhe station.....                                  | QU Zhi-qiang, CHANG Chun-chao, TANG Yong-mei, ZHANG Zhao (41) |
| Application of large well method in water resources argumentation.....                                                      | LI Bing-wei (43)                                              |

### Hydraulic study

|                                                                                               |                                               |
|-----------------------------------------------------------------------------------------------|-----------------------------------------------|
| Test study on mix proportion of micro-expanding concrete with pipe pile core filled.....      | ZHOU Xue-ling, LIU Shou-wei, SUN Yi-ting (46) |
| Test study on swirl flow energy dissipation for small flow shaft.....                         | GUO Yi-meng, ZONG Yuan (49)                   |
| Test study on hydraulic model of underground power station for some a water intake headL..... | LU Yan-hao (51)                               |

### Exploration and measurement

|                                                       |                    |
|-------------------------------------------------------|--------------------|
| Cause of hot spring geothermal field of Xiongyue..... | WANG Feng-yan (53) |
|-------------------------------------------------------|--------------------|

### Farmland conservancy

|                                                                                              |                                  |
|----------------------------------------------------------------------------------------------|----------------------------------|
| Analysis and calculation of share coefficient of irrigation benefit in provincial scale..... | WANG Jing, YU YANG, SUN Lei (56) |
|----------------------------------------------------------------------------------------------|----------------------------------|

### Project construction and management

|                                                                                       |                                                       |
|---------------------------------------------------------------------------------------|-------------------------------------------------------|
| Diagnosis and hazards of iron core multi-point grounding of dry type transformer..... | YAO Li, YANG Chuan-wen, WANG Xing-long, WANG Jin (60) |
|---------------------------------------------------------------------------------------|-------------------------------------------------------|

### Water information

|                                                                                                     |                                                            |
|-----------------------------------------------------------------------------------------------------|------------------------------------------------------------|
| Feasibility analysis of automatic control of overhaul drainage system for Xiaolangdi reservoir..... | XI Bing, SU Xiang-bin, LIU Dong-cheng, ZHANG Peng-fei (63) |
| Assumption of intellectualized rehabilitation of UPS for Nierji power plant.....                    | ZHOU Li-na, ZUO Jian-hua (65)                              |
| Application of wireless ADCP in research of river water conveyance loss.....                        | CUI Wei, WU Xiao-dong, CHEN Jian-ping (69)                 |

### SAPONSOR

Song-Liao Water Resources Commission  
Ministry of Water Resources, P.R.China

### ADDRESS

4188Jiefang Road Changchun, P.R.China

### CODE NO.

ISSN 1002-0624  
CN 22-1097/TV

TEL. (0431)85607758

### EDITOR AND PUBLISHER

Magazine Office of 《Water Resources  
and Hydropower of Northeast China》

### EDITOR IN CHIEF

LIN Dian-xiang

### POST CODE 130021

### E-mail

dbsd@slwr.gov.cn