水电与抽水蓄能

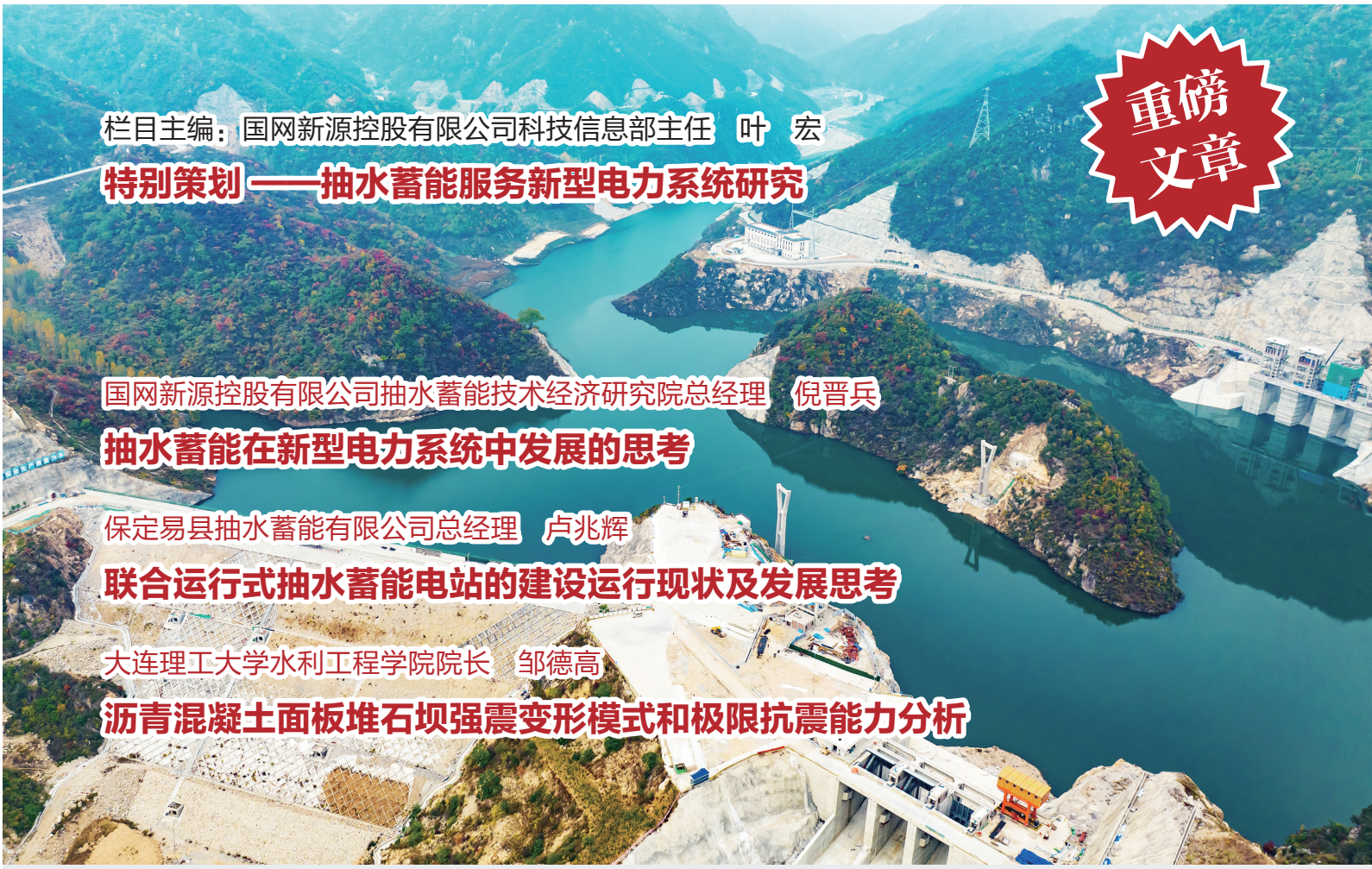
HYDROPOWER AND PUMPED STORAGE

ISSN 2096-093X
CN 32-1858/TV
《中国学术期刊影响因子年报》统计源期刊

2022/06

英大传媒投资集团南京有限公司
国网新源控股有限公司 主办

第8卷 第6期 总第46期



河南天池抽水蓄能电站下水库（国网新源控股有限公司王丁汗 供稿）

ISSN 2096-093X
9 772096 093228 12>

《中国期刊全文数据库》《中国学术期刊综合评价数据库》
《中国核心期刊（遴选）数据库》《中文科技期刊数据库》 全文收录

目 次

第 8 卷　第 6 期（总第 46 期）2022 年 12 月 20 日出版（双月刊）

抽水蓄能服务新型电力系统研究

1 **全功率变频抽水蓄能机组在局部电网应用模拟分析** / 叶　宏，孙　平，王婷婷，梁国辉，毕　旭，李赫明，康　旭

5 **抽水蓄能在新型电力系统中发展的思考** / 倪晋兵，张云飞

8 **联合运行式抽水蓄能电站的建设运行现状及发展思考** / 卢兆辉，张盛勇，张正平

15 **沥青混凝土面板堆石坝强震变形模式和极限抗震能力分析** / 邹德高，彭　俊，李俊超，陈　涛，刘京茂，王建全，陈　楷

21 **“双碳”目标下新型电力系统发展综述** / 徐三敏，张云飞，赵添辰，侯世豪

26 **抽水蓄能联合新能源替代火电参与电力电量平衡能力研究** / 张云飞，张　弓，徐三敏，赵添辰，侯世豪

32 **抽水蓄能电站压水气系统中压储气罐排污工况致气罐噪声的数值模拟研究** / 孙　逊，龙　哲，刘启明，毛思宇

37 **瞬变电磁法在抽水蓄能电站地下洞室超前地质预报中的应用** / 吴　强，郭佑国，晏　凯

45 **抽水蓄能电站空载变压器分闸过电压的现场实测与仿真研究** / 夏斌强，施经纬

2022 年中国水电青年科技论坛优秀论文

51 **西霞院电站基于高含量推移质水流工况下环氧砂浆修复材料优化研究** / 谢宝丰，梁国涛，刘焕虎

54 **300m 级超高心墙堆石坝接触黏土施工工艺研究** / 迟　欣

62 **BIM+ 全过程咨询管理平台在水利工程中的探索与实践** / 尤林奇，刘瑾程，肖光磊

目 次

第 8 卷　第 6 期（总第 46 期）2022 年 12 月 20 日出版（双月刊）

大坝监测自动化

67 大型水电站泄洪闸门异地控制安全控制方案研究 / 黄新祥，尹志超，周玉安，赵雨梦

74 丰满新坝三期泄洪洞封堵监测资料分析 / 李作光

78 基于光纤测温传感器的坝前水库和升船机塔柱监测资料分析 / 刘勇军，丁琦华，耿　峻

85 非接触式灌浆智能监测技术在抽水蓄能电站工程应用研究 / 唐国峰，崔志刚，刘锦程，鲁恩龙，赵绪新，叶红星

主机及其辅助设备

90 基于大数据的水轮发电机组振动区修复 / 邱志勤

95 基于换热系数的水电机组冷却器冷却效率分析方法 / 张兴明，吴　涛，张　宏，禹越美，邢志江

水工及其水力学

99 抽水蓄能电站厂房振动问题分析及经验 / 郭　鹏，刘殿海，李赟俐，秦　俊，张　飞

105 AFSA 与 POA 融合算法在水库中长期优化调度中的应用研究 / 舒　凯，张玉松，李　伟，白浪涛

技术经济

110 基于某抽水蓄能项目交通工程投资影响因素研究与分析 / 孙铭泽，刘泓志，魏连涛，朱　琳

114 “营改增”后水电工程“甲供类”项目税务问题研究 / 王思桦，赵虹桥，张　扬

金属结构

117 泄水低孔弧门液压启闭机设计 / 周　兵，李树刚

广告索引

Main Contents

Research on Pumped Storage Serving New Power System

31 Application Simulation of Full Size Converter-Fed Variable Speed Pumped Storage Unit in Local Grid / YE Hong，SUN Ping，WANG Tingting，LINAG Guohui，BI Xu，LI Heming，KANG Xu

7 Consideration on the Development of Pumped Storage in New Power System / NI Jinbing，ZHANG Yunfei

14 Construction and Operation Status and Development Consideration of Combined Pumped Storage Pump/Power Station / LU Zhaohui，ZHANG Shengyong，ZHANG Zhengping

20 Study on Seismic Failure Mode and Ultimate Aseismic Capacity of Asphalt Face Rockfill Dam / ZOU Degao，PENG Jun，LI Junchao，CHEN Tao，LIU Jingmao，WANG Jianquan，CHEN Kai

25 Overview of New-type Power System Development under the Background of Carbon Peaking and Carbon Neutrality / XU Sanmin，ZHANG Yunfei，ZHAO Tianchen，HOU Shihao

31 Study on the Ability of Pumped Storage Combined with New Energy to Replace Thermal Power to Participate in Power Balance / ZHANG Yunfei，ZHANG Gong，XU Sanmin，ZHAO Tianchen，HOU Shihao

36 Numerical Simulation Study on Tank Noise Caused by Pressure Tank Discharge in Pressure Water - Air System of Pumped-Storage Power Station / SUN Xun，LONG Zhe，LIU Qiming，MAO Siyu

44 Application of Transient Electromagnetic Method in Advance Geological Prediction of Underground Cavern of Pumped Storage Power Station / WU Qiang，GUO Youguo，YAN Kai

50 Field Measurement and Simulation Study on Switching Overvoltage of No-load Transformer in Pumped Storage Power Station / XIA Binqiang，SHI Jingwei

Excellent Paper of China Hydropower Technology Youth Forum 2022

61 Research on Optimization of Epoxy Mortar Repair Materials Based on High Content Bed-load Water Flow in Xixiayuan Power Station / XIE Baofeng，LIANG Guotao，LIU Huanhu

61 Study on Construction Technology of Contact Clay for 300m Super High Core Rockfill Dam / CHI Xin

66 The Exploration and Practice of BIM Technology and Whole Process Engineering Consultation Management System in Hydraulic Engineering / YOU Linqi，LIU Jincheng，XIAO Guanglei

Instruments and Automatic System for Dams

73 Study on Safety Control Scheme of Remote Control of Spillway Gate of Large Hydropower Station / HUANG Xinxiang，YIN Zhichao，ZHOU Yu'an，ZHAO Yumeng

94 Analysis on Monitoring Data of Hongdong County Dam Closure in Phase III of Fengman New Dam / LI Zuoguang

84 Analysis of Monitoring Data of Dam Front Reservoir and Ship Lift Tower based on Optical Fiber Temperature Sensor / LIU Yongjun，DING Qihua，GENG Jun

89 Application of Non-contact Grouting Intelligent Monitoring Technology in Pumped Storage Power Station / TANG Guofeng，CUI Zhigang，LIU Jincheng，LU Enlong，ZHAO Xuxin，YE Hongxing

Host and Auxiliary Equipment

94 Vibration Zone Restoration of Hydrogenerator based on Big Data / QIU Zhiqin

98 Analysis Method for Cooling Efficiency of Cooler of Hydropower Unit based on Heat Transfer Coefficient / ZHANG Xingming，WU Tao，ZHANG Hong，YU Yuemei，XING Zhijiang

Hydraulic and Hydraulicse

109 Problem Resolution and Experience of Powerhouse Vibrations in Pumped-Storage Power Plant / GUO Peng，LIU Dianhai，LI Yunli，QIN Jun，ZHANG Fei

109 Study of United Algorithm of AFSA and POA in Optimal Operation of Hydropower Station / SHU Kai，ZHANG Yusong，LI Wei，BAI Langtao

Technology Economy

116 Research and Analysis on Influencing Factors of Traffic Engineering Investment in a Pumped Storage Project / SUN Mingze，LIU Hongzhi，WEI Liantao，ZHU Lin

116 Replacing Business Tax with VAT Study on Tax Issues of the "A-Supply" Project on Hydropower Project / WANG Sihua，ZHAO Hongqiao，ZHANG Yang

Metal Construction

120 Design of Hydraulic Hoist for Low Outlet Radial Gate / ZHOU Bing，LI Shugang

Competent Authorities Yingda Media Investment Group Company Ltd.

Sponsor Yingda Media（Nanjing）Investment Group Company Ltd. and State Grid Xinyuan Company Ltd.

Editor Director YAN Jun

Publication Number ISSN 2096-093X
CN 32-1858/TV

Add No. 19，West Street of Beijing Railway Station，Dongcheng District，Beijing（100005）
9 / F，Complex Building，No.1，No.2，Baiguang Road，Xicheng District，Beijing

Tel 86-10-63412367，63412369
86-10-60616470，60616471

Fax 86-10-63412371