

# 建筑技术



第54卷 第17期 Vol.54 No.17

17  
2023

中国出版政府奖提名奖获奖期刊  
中国期刊方阵双高期刊  
历届国家期刊奖评选获奖期刊  
全国百强科技期刊  
北方地区十佳期刊  
中国科技核心期刊

# 建筑技术

## JIANZHU JISHU

(半月刊)

第 54 卷第 17 期(总第 653 期)

2023 年 9 月 15 日出版

(1970 年创刊)

编辑者:《建筑技术》编辑部

总编:张显来

电话:(010)68512449 (010)68511882

<http://www.jzjs.com>

e-mail:jzjs@sina.com

出版者:《建筑技术》杂志社有限责任公司

社址:100055北京市广莲路1号建工大厦A座9层

法律顾问:张国印律师

主管、主办者:北京建工集团有限责任公司

ISSN 1000-4726  
中国标准连续出版物号:CN 11-2253/TU

印刷者:北京建筑工业印刷有限公司

国内发行:中国邮政集团有限公司北京市报刊发行局

订购处:全国各地邮局

《建筑技术》杂志社有限责任公司发行部

邮发代号:2-754 国内定价:15.00元

本社发行部电话:(010)63928687

国外发行:中国国际图书贸易集团有限公司

广告发布登记号:京西工商广登字20170160号

本社广告部电话:(010)63928688

## 目次

### · 北京城市副中心博物馆施工技术研究与应用 ·

- 超高铰接梭形柱及超大跨度人字梁安装技术研究..... 贾成亮, 胡杰, 卢海丰 (2054)
- 超高梭形柱和人字梁安装精度控制技术创新..... 贾成亮, 沙钢, 韦娴 (2058)
- 超长倒三角弧形管桁架整体安装技术研究..... 李振波, 刘进伟, 韦娴 (2061)
- 双曲复杂钢结构制作工艺研究与应用..... 陈宏达, 贾成亮, 彭志勇 (2064)
- 大型博物馆钢结构施工过程防变形控制与实现技术研究  
..... 李欣, 贾成亮, 韦娴 (2067)
- 大型博物馆超高空间蒸压加气混凝土板材墙体施工应用研究..... 杨琳, 王罡 (2070)
- 超大无边框铝拉网吊顶施工技术..... 贾成亮, 张明 (2072)
- 大型博物馆浮筑楼板减振技术应用..... 刘进伟, 付凌昊 (2074)
- 新型抗拔隔震装置安装技术研究..... 张伟, 王凯, 胡杰 (2076)
- 紧邻地铁大型博物馆隔振技术应用..... 李振波, 宋向山, 贾成亮 (2080)
- TRD 小角度转弯施工技术研究..... 刘进伟, 李振波 (2082)
- 绿色装配式技术在基坑临时工程中的应用  
..... 彭志勇, 武经哲, 樊一龙 (2085)
- 基于 BIM 技术的综合支吊架强度选型与校核  
..... 窦鹏, 王志伟, 叶琳 (2088)
- 首都博物馆东馆母线槽穿越隔振沟技术分析  
..... 贾成亮, 王志伟, 叶林 (2091)
- 蒸压加气混凝土条板现场质量通病梳理与防治  
..... 王原硕, 王罡, 于利佳 (2093)

### · 钢结构施工技术研究与应用 ·

- 某景观塔钢结构设计研究..... 林庆伟, 邢卿德, 刘明宝 (2096)
- 某软岩公路隧道钢拱架支护受力变形特征分析..... 魏腾远 (2099)
- 外墙龙骨、吊车梁与钢结构连接创新施工技术应用  
..... 李立波, 左林涛, 卢久立, 郭亚冲, 李文军 (2103)
- 钢结构疲劳裂纹修复研究..... 罗天宇, 唐红 (2106)
- 村镇住宅木结构体系及简易钢拉带支撑应用研究  
..... 宋谦益, 刘宜丰, 范时勇, 李秋稷 (2109)

### · 试验研究 ·

- 供暖模式下寒冷地区住宅建筑冬季室内热舒适性分析..... 周智勇, 李佳宜 (2114)
- 超高性能混凝土工字梁抗弯性能试验研究..... 张琦 (2120)
- 底缝配筋对砌体墙垂直方向剪切作用影响的试验研究..... 秦国华 (2125)
- RCS 节点抗震性能有限元参数研究..... 钱爱云, 周雄, 王浙雄, 李桅 (2129)
- 滨海软土地层盾构始发区下穿高危地下管线设计研究..... 吴昊 (2135)
- 室内外边界朝向差异下的外墙传热系数优化设计  
..... 刘瑶, 桑国臣, 龙凯晨, 程芳玥 (2139)
- 厚冲积粘土层深基坑锚索轴力损失计算模型研究  
..... 张锟, 李强, 李伟, 王旌, 李海燕, 曹正龙 (2144)

### · 施工技术 ·

- 明代神道碑的加固纠偏技术研究..... 张盟, 淳庆 (2148)
- FLAC 3D 软件在基坑开挖模拟及支护改进的应用..... 赵宏洋 (2153)
- 既有地铁隧道变形检测及安全评估实例探讨..... 翟永亮 (2157)
- 工业厂房的顶板桁架梁支撑体系研究..... 胥景 (2160)
- 隧道洞口的施工风险云模型评价方法研究  
..... 童乐, 代雍正, 刘泽, 彭亚雄, 邵玉, 王勋 (2164)
- 适应烟台地区零碳建筑的核心技术及能效提升技术  
..... 魏代晓, 徐铭忆, 张悦, 田丽 (2167)

### · 工程项目管理 ·

- “三供一业”分离移交维修改造项目的成本管理  
..... 梁海英 (2171)
- 房建隧道模施工方案选择和效益对比  
..... 汪德军 (2174)

◇ 本刊文章版权归《建筑技术》杂志社有限责任公司所有, 转载、摘用须注明出处和作者姓名并支付作者稿酬。

封面: 合肥工业大学图书馆

## CONTENTS

### ·Research and Application of Construction Technology of Beijing Sub Center Museum Project

- Research on installation technology of ultra-high articulated shuttle-shaped columns and large-span herringbone beam assembly..... *JIA Cheng-liang, HU Jie, GU Hai-feng*(2054)
- Innovation in installation precision control technology for ultra-high shuttle-shaped columns and herringbone beam assembly..... *JIA Cheng-liang, SHA Gang, WEI Xian*(2058)
- Research on technology for integral installation of ultra-long inverted-triangle curved pipe truss..... *LI Zhen-bo, LIU Jin-wei, WEI Xian*(2061)
- Research and application of manufacturing technology of hyperbolic complex steel structure..... *CHEN Hong-da, JIA Cheng-liang, PENG Zhi-yong*(2064)
- Research on anti-deformation control and implementation technology in the construction of large museum steel structures..... *LI Xin, JIA Cheng-liang, WEI Xian*(2067)
- Research on construction application of autoclaved aerated concrete panel walls in ultra-high space of large museums..... *YANG Lin, WANG Gang*(2070)
- Construction technology of super-large frameless aluminum stretching mesh ceiling..... *JIA Cheng-Liang, ZHANG Ming*(2072)
- Application of vibration damping technology for floating floor slabs in large museums..... *LIU Jin-wei, FU Ling-hao*(2074)
- Research on installation technology of new type anti pull isolation device..... *ZHANG Wei, WANG Kai, HU Jie*(2076)
- Application of vibration isolation technology in large museums adjacent to subways..... *LI Zhen-bo, SONG Xiang-shan, JIA Cheng-liang*(2080)
- Research on TRD small angle turning construction technology..... *LIU Jin-wei, LI Zhen-bo*(2082)
- Application of green assembly technology in temporary engineering of foundation pit..... *PENG Zhi-yong, WU Jing-zhe, FAN Yi-long*(2085)
- Strength selection and verification of comprehensive supports and hangers based on BIM technology..... *DOU Peng, WANG Zhi-wei, YE Lin*(2088)
- Technical analysis of bus duct crossing vibration isolation trench in the East Hall of Capital museum..... *JIA Cheng-liang, WANG Zhi-wei, YE Lin*(2091)
- Combating and prevention of common quality problems of autoclaved aerated concrete batten on site..... *WANG Yuan-shuo, WANG Gang, YU Li-jia*(2093)

### ·Steel Structure Construction Technology Research and Application·

- Study on steel structure design of a certain landscape tower..... *LIN Qing-wei, BING Qing-de, LIU Ming-bao*(2096)
- Numerical analysis of deformation and steel arch support of highway tunnel in soft rock with high ground stress..... *WEI Teng-yuan*(2099)
- Innovative construction technology application of external wall keel, crane beam and steel structure connection..... *LI Li-bo, ZUO Lin-tao, LU Jiu-li, et al.*(2103)
- Research on fatigue crack repair of steel structure..... *LUO Tian-yu, TANG Hong*(2106)
- Research on application of timber structural system and simple steel drawstring support in rural buildings..... *SONG Qian-yi, LIU Yi-feng, FAN Shi-yong, et al.*(2109)

### ·Experimental Study·

- Analysis of winter indoor thermal comfort of residential buildings in cold regions under heating mode..... *ZHOU Zhi-yong, LI Jia-yi*(2114)
- Experimental study on the bending resistance of ultra high performance concrete I-beams..... *ZHANG Qi*(2120)
- Experimental study on vertical shear masonry walls with bottom joint reinforcement..... *QIN Guo-hua*(2125)
- Parametric study on seismic performance of RCS joints using finite element method..... *QIAN Ai-yun, ZHOU Xiong, WANG Zhe-xiong, et al.*(2129)
- Research on design of shield tunneling through high risk underground pipeline in coastal soft soil..... *WU Hao*(2135)
- Optimization design of heat transfer coefficient of exterior wall with indoor and outdoor boundary orientation difference..... *LIU Yao, SANG Guo-chen, LONG Kai-chen, et al.*(2139)
- Study on calculation model of anchor cable in deep foundation pit with thick alluvial clay layer..... *ZHANG Kun, LI Qiang, LI Wei, et al.*(2144)

### ·Construction Technology·

- Research on the reinforcement and deviation rectification techniques of the stone tablets of meritorious minister tombs in the Ming dynasty..... *ZHANG Meng, CHUN Qing*(2148)
- Application of FLAC3D software in foundation pit excavation simulation and support improvement..... *ZHAO Hong-yang*(2153)
- Discussion on deformation detection and safety assessment of existing subway tunnels..... *ZHAI Yong-liang*(2157)
- Research on truss beam roof support system of industrial plant..... *XU Jing*(2160)
- Study on cloud model evaluation method of construction risk assessment of tunnel entrance section..... *TONG Le, DAI Yong-zheng, LIU Ze, et al.*(2164)
- Core technology and energy efficiency improvement technology for zero carbon building in Yantai..... *WEI Dai-xiao, XU Ming-yi, ZHANG Yue, et al.*(2167)

### ·Engineering Project Management·

- Cost management of maintenance and renovation projects involving the separate transfer of "water supply, power supply, heating and property management"..... *LIANG Hai-ying*(2171)
- Selection and benefit comparison of construction schemes for building tunnel formwork..... *WANG De-jun*(2174)

## ARCHITECTURE TECHNOLOGY

(Semimonthly, Started in 1970)

Vol.54 No.17

September 15, 2023

Edited by

Architecture Technology Editorial Department

Published by

Publishing House of Architecture Technology Journal

Address:

9th Floor, No.1 Guanglian Road, Xicheng District, Beijing, China, 100055

Tel: (8610) 68512449 63928687 63928688

Fax: (8610) 63928689

http://www.jzjs.com e-mail: jzjs@sina.com

Overseas Distributed by

China International Book Trading Corporation

(P. O. Box 399, Beijing, PRC)



欢迎关注建筑技术杂志社官方微信，  
定期推送丰富业内资讯，关注有惊喜！

## 下期要目预告

公路混凝土防撞护栏施工质量控制研究

缓冲净化池和溢流式雨水口在市政道路中的研究与应用

单侧临时支护对连拱隧道中隔墙施工影响研究

复杂建筑外立面爬架深化设计及施工技术的应用

地铁附近综合管廊深基坑支护与土方开挖技术

山区砾岩地质紧邻既有物桥梁桩基水磨钻施工技术

钻孔灌注桩泥浆比重对成孔质量的影响

ISSN 1000-4726

9 771000 472234 17