

国家新闻出版广电总局A类学术期刊 中国核心期刊(遴选)数据库《中国学术期刊综合评价数据库》统计源期刊《中国期刊(全文数据库)》《中国期刊网》全文收录期刊



# 工程建设与设计

主办: 国家机械工业局工程建设中心 中国机械工业勘察设计协会 中国中元国际工程有限公司 CN 11-3914/TU 2022 年第12月下 总第494期

CONSTRUCTION DESIGN & FOR ENGINEERING  
工程建设与设计

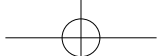


2022年第12月下 总第494期

唐山大剧院  
中国中建设计集团有限公司

ISSN 1007-9467





## 建筑与结构设计

- 01 城市更新区地下空间开发设计策略初探——以徐州“城下城”遗址保护与展示项目为例 (于飞)
- 04 某体育中心超限结构设计 (周辉)
- 07 地铁站无柱T形楼梯空间结构设计分析 (李潇)
- 10 新区某地下车库设计优化研究 (李丽霞, 赵梦莹)
- 14 地铁车辆段综合楼建筑空间形态探究——以坪地停车场综合楼为例 (王忠恕)
- 17 某地理污水处理厂地下处理中心结构设计 (周政)
- 20 加强土木工程结构设计安全性的探讨 (李嘉顺)

## 基础工程设计

- 23 非对称堆载对抗中坑围护结构的影响研究 (饶凯)

## 公用工程设计

- 26 现代光电植物工厂室内气流洁净系统及在洁净厂房中的应用 (马源, 乔申, 赵飞胜)
- 30 高层建筑消防排烟设计探讨 (于雷)
- 33 半地下地铁停车场给排水设计要点分析 (刘立文)
- 36 南昌某地铁站节能控制系统研究 (吴振)
- 40 接地系统对管道/储罐阴极保护的影响与解决方案 (张雯)
- 43 大型水厂普通滤池改造工程实践 (张丽芳, 钟林, 梁仲俊, 马彦文, 邓子优)
- 46 现代建筑的防火监督与消防设施配置探究 (骆杰)

## 市政·交通·水利工程设计

- 49 普速铁路隧道公网无线设计方案 (费跃, 姜志威, 刘盛尧)
- 52 城市河道生态水利工程的设计原则与方法研究 (马俊)
- 55 机荷高速公路平湖互通式立交改扩建方案研究 (林频频, 刘奕龙)
- 59 生态海绵城市下的雨水利用规划设计分析 (张晨, 李少堃)
- 62 下穿隧道雨污分流排水系统探讨 (李国威)
- 65 基于灰色关联度的桥梁局部结构安全评估 (李扬, 郭志光, 赵韦皓, 马腾峰)
- 69 TBM盾构下穿杭深铁路高架桥梁施工的加固方案研究 (邹振兴)
- 73 基于非线性温差的薄壁空心高墩墩顶位移研究 (罗建勋, 高昊, 耿孝辉)
- 76 基于Greenshields模型的横琴口岸旅检大厅智能排队等候系统技术应用研究 (魏小强, 李伟, 官靖峰, 宋永良, 刘长山)
- 80 洪泽湖溧河洼规划治理方案研究 (李辉, 王江)
- 83 浅谈城市道路沥青混凝土路面病害与处理措施 (杨晓明)
- 86 基于绿色公路理念的三联生态防护技术在黄土高原干旱地区的应用研究 (牟翰)
- 89 低碳绿色理念视域下的高速公路服务区建筑设计研究 (陈国瑞)
- 92 岩溶强发育区盾构隧道下穿市政桥梁的数值模拟分析 (钟伟程)
- 95 地铁防淹门系统设计 (张建伟)
- 98 西环线桥梁施工对既有观音港大桥的影响计算分析 (何亮)
- 101 山区公路高填土涵洞设计与加固要点分析 (吴淀杭)

## 工业工程设计

- 104 原油储罐的腐蚀机理及防护技术探究 (李广财)
- 107 建筑工程施工电梯防护系统 (邹鹏威, 邵富强, 叶长洪, 李文文, 刁梅邦)

## 环境工程设计

- 110 装饰装修室内环境中甲醛含量的预评价方法 (司振超)
- 113 低温低碳源条件下污水处理厂提标改造研究 (李少堃, 张晨)
- 117 某工业区再生水厂工艺选择探讨 (薛春雷)

**智能与信息化**

- 120 桥梁施工现场监测工作中的传感测量技术 (李强)
- 123 城市轨道交通数字化车辆基地研究 (杨超)
- 126 BIM技术在高层建筑钢结构安装工程中的应用分析 (李大贵, 孟珊, 肖星星, 雷俊, 陈健辉)
- 129 智慧城市下的生态景观设计——以智慧灵璧项目为例 (赵立娟)

**工程施工技术**

- 132 定型化电梯井模板支撑系统施工技术研讨 (侯雪峰, 左林壮)
- 135 建筑工程深基坑开挖支护施工技术研究 (曹国意)
- 138 城市地铁钢弹簧浮置板整体道床施工技术应用研究 (李建华)
- 141 混凝土框架结构教学楼抗震加固设计与施工研究 (齐特, 尹醉)
- 144 高铁轨道施工测量技术在地铁项目中的应用分析 (张韶强)
- 147 一种铝合金墙、柱模板根部防渗漏组件 (赵刚, 邹阳阳, 孔慧, 朱明亮)
- 150 斜拉桥建设中的RCD钻孔桩基施工技术 (祖重熙)
- 153 填充型岩溶隧道施工处治措施探讨 (孟庆锋, 周腾飞)
- 156 大曲率小半径互通匝道钢箱梁跨线顶推施工技术 (李三民)
- 159 水资源节约理念下的农田灌溉渠道防渗施工技术 (何卫安, 黄泰巧)
- 162 房建工程中的深基坑开挖支护及降水施工技术 (郑博)
- 165 既有枢纽增设列车调度台通信配套工程施工技术分析 (刘杰)
- 168 溶岩地区深基坑“墙锚”支护体系锚索二次堵漏封堵施工技术 (莫汝景, 李楠, 刘献忠, 燕春慧)
- 171 岩土工程勘察土工试验问题及改善措施探究 (何兴)
- 174 市政快速化道路水泥稳定碎石基层施工技术研究 (许昌, 刘玮琦, 朱胜)
- 177 岩土工程勘察与地基处理技术研究 (叶林米, 陈芊竹)
- 180 水利水电工程施工中边坡开挖支护技术的应用研究 (杨明辉, 罗超)
- 183 新时期市政工程空心板桥梁施工技术的应用研究 (寇璐)
- 186 剪压法检测混凝土抗压强度技术研究 (焦兴隆)
- 190 防洪堤顶裂缝及边坡滑移的处理及原因分析 (李霞春)

- 193 滨海液化地区大面积地基处理施工技术浅析 (李志民)
- 196 高速公路路基加宽拼接及施工控制技术研究 (李熠)
- 199 建筑工程中的外墙仿石材真石漆涂料施工工艺 (黄健)
- 202 复杂周边环境下地铁深基坑变形控制要点研究 (周正永, 马江伟, 高威)
- 205 简述智能实验室工程大跨度钢排架结构施工技术 (阮金标)
- 208 工业厂房楼面结构裂缝控制技术研究 (郑伯群)
- 211 大直径百米超长水中桩基施工防塌孔技术研究 (张天宇, 邵昀, 周克虎, 周菲, 唐铭阳)
- 214 房建项目深基坑施工技术研究 (何一军, 张程, 王丹萍)
- 217 装配式建筑机电安装施工技术分析 (王真, 武文树, 张伟, 苗晓飞)
- 220 浇筑工艺对沉管裂缝控制的影响分析 (张宇航)

**工程项目管理**

- 223 北疆长距离供水渠道渗漏险情模式与成因分析 (仇巖, 王羿)
- 226 现代工程船舶管理存在的问题及对策研究 (鲍华)
- 229 过程管理下的建筑工程项目成本控制要点分析 (周广绪)
- 232 基于BIM技术的EPC工程总承包项目造价管理探析 (李焯宇)
- 235 SSGF高质量建造体系的管理对策 (邵富强, 邹鹏威, 叶长洪)
- 238 室内装修污染控制措施研究 (赵晓龙, 康子新, 刘艳, 方勋, 吴洋洋)
- 241 装配式建筑的EPC模式适应性评价 (李全忠, 王立欢, 赵奕凯)
- 244 海外工程投标风险防控分析 (曹廷)
- 247 生态和谐理念下的水利工程建设管理与发展对策分析 (刘吉海)
- 250 天然气长输管道项目建设中的质量管理对策分析 (徐调能)
- 253 水利堤防涵闸工程项目的施工质量管理措施 (吴志敏)
- 256 城市高层建筑消防安全现状与防火策略 (朱江)
- 259 某水库除险加固工程建设的质量控制 (罗明)
- 262 建筑消防电气设备监督检查要点分析 (白永锋)
- 265 EPC总承包项目设计质量问题与控制研究 (刘雪靖, 司振超)

**Architectural and Structural Design**

- 01 Preliminary Study on Development and Design Strategy of Underground Space in Urban Renewal District—Taking Xuzhou “City Under City” Site Protection and Display Project as an Example(YU Fei)
- 04 Transfinite Structure Design of a Sports Center (ZHOU Hui)
- 07 Design and Analysis of Spatial Structure of T-Shaped Stairs Without Columns in Subway Station(LI Xiao)
- 10 Study on Optimization Design of an Underground Garage in a New District(LI Li-xia, ZHAO Meng-ying)
- 14 Research on the Architectural Space Form of the Comprehensive Building in the Subway Depot—Taking Pingdi Parking Complex Building as an Example(WANG Zhong-shu)
- 17 Structural Design of Underground Treatment Center of an Underground Sewage Disposal Plant(ZHOU Zheng)
- 20 Discussion on Strengthening the Safety of Civil Engineering Structure Design(LI Jia-shun)

**Engineering Design of the Ground**

- 23 Study on the Influence of Asymmetric Load on the Retaining Structure of Pit in Pit(RAO Kai)

**Public Utilities Design**

- 26 Indoor Airflow Cleaning System of Modern Photoelectric Plant Factory and Its Application in Clean Workshop(MA Yuan, QIAO Shen, ZHAO Fei-sheng)
- 30 Discussion on Fire Prevention and Smoke Exhaust Design of High-Rise Buildings(YU Lei)
- 33 Analysis of Water Supply and Drainage Design of Semi-Underground Subway Parking Lot(LIU Li-wen)
- 36 Research on Energy-Saving Control System of a Subway Station in Nanchang(WU Zhen)
- 40 Impact of Grounding System on Pipeline/Tank Cathodic Protection and the Solutions(ZHANG Wen)
- 43 Practice of Common Filter Reconstruction in Large Water Plant(ZHANG Li-fang, ZHONG Lin, LIANG Zhong-jun, MA Yan-wen, DENG Zi-you)
- 46 Exploration on Fire Supervision and Fire Facilities Configuration of Modern Buildings(LUO Jie)

**Municipal-Traffic-Water Resources Engineering Design**

- 49 Wireless Design of Public Network in Normal Speed Railway Tunnel( FEI Yue, JIANG Zhi-wei, LIU Sheng-yao)
- 52 Study on the Design Principles and Methods of Urban River Ecological Water Conservancy Project(MA Jun)
- 55 Study on Reconstruction and Expansion Scheme of Pinghu Interchange of JiHe Expressway(LIN Pin-pin, LIU Yi-long)
- 59 Analysis of Rainwater Utilization Planning and Design in Ecological Sponge City(ZHANG Chen, LI Shao-kun)
- 62 Discussion on Rainwater and Sewage Diversion Drainage System in Underpass Tunnel(LI Guo-we)
- 65 Safety Assessment of Local Bridge Structure Based on Grey Relational Degree(LI Yang, GUO ZHI-guang, ZHAO Wei-hao, MA Teng-feng)

- 69 Study on the Reinforcement Scheme of the TBM Shield Undertraversing HangShen Railway Viaduct Construction(ZOU Zhen-xing)
- 73 Research on Top Displacement of Thin-Walled Hollow High Pier Based on Nonlinear Temperature Difference(LUO Jian-xun, GAO Hao, GENG Xiao-hui)
- 76 Research on Technology Application of Intelligent Queuing System in Passenger Inspection Hall of Hengqin Port Based on Greenshields Model(WEI Xiao-qiang, LI Wei, GUAN Jing-feng, SONG Yong-liang, LIU Chang-shan)
- 80 Study on Planning and Control Scheme of the Lihewa in Hongze Lake(LI Hui, WANG Jiang)
- 83 Discussion on the Disease of Asphalt Concrete Pavement of Urban Road and Its Treatment Measures(YANG Xiao-ming)
- 86 Research on Application of Triple Ecological Safeguard Technology Based on the Concept of Green Highway in Drought Loess Plateau Regions(MU Han)
- 89 Study on the Architectural Design of Expressway Service Area from the Perspective of Low-Carbon Green Concept (CHEN Guo-rui)
- 92 Numerical Simulation Analysis of Shield Tunnel Crossing Municipal Bridge in Karst Strong Development Area(ZHONG Wei-cheng)
- 95 Design of Flood-Proof Gate System in Subway(ZHANG Jian-wei)
- 98 Calculation and Analysis of the Influence of West Ring Bridge Construction on the Existing Guanyingang Bridge(HE Liang)
- 101 Analysis on Key Points of Reinforcement Design for High Fill Culvert of Mountain Highway(WU Dian-hang)

**Industrial Engineering Design**

- 104 Research on Corrosion Mechanism and Protection Technology of Crude Oil Storage Tank(LI Guang-cai)
- 107 Elevator Protection System for Construction Engineering(ZOU Peng-wei, SHAO Fu-qiang, YE Chang-hong, LI Wen-wen, DIAO Mei-bang)

**Environment Engineering Design**

- 110 Pre-Evaluation Method of Formaldehyde Content in Decorated Indoor Environment(SI Zhen-chao)
- 113 Study on Upgrading and Reconstruction of Sewage Treatment Plant Under Low Temperature and Low Carbon Source Conditions (LI Shao-kun, ZHANG Chen)
- 117 Discussion on Process Selection of Reclaimed Water Plant in an Industrial Area(XUE Chun-lei)

**Intelligentize and Informatization**

- 120 Sensing and Measuring Technology in Bridge Construction Site Monitoring(LI Qiang)
- 123 Research on Digital Vehicle Base of Urban Rail Transit(YANG Chao)
- 126 Application Analysis of BIM Technology in Steel Structure Installation Engineering of High-Rise Buildings(LI Da-gui, MENG Shan, XIAO Xing-xing, LEI Jun, CHEN Jian-hui)
- 129 Analysis of Ecological Landscape Design Under Smart City—Taking the Smart Lingbi Project as an Example(ZHAO Li-juan)

## Construction Technology

- 132 Discussion on the Construction Technology of Formwork Support System for Fixed Elevator Shaft(HOU Xue-feng, ZUO Lin-zhuang)
- 135 Research on Construction Technology of Deep Foundation Pit Excavation and Support in Construction Engineering(CAO Guo-yi)
- 138 Research on Construction Technology of Steel Spring Floating Slab Monolithic Track Bed for Urban Subway(LI Jian-hua)
- 141 Research on Seismic Strengthening Design and Construction of Concrete Frame Structure Teaching Building(QI Te, YIN Zu)
- 144 Application Analysis of High-Speed Railway Track Construction Measurement Technology in Metro Project(ZHANG Shao-qiang)
- 147 A Leakproof Component for Aluminum Alloy Wall and Column Formwork Root(ZHAO Gang, ZOU Yang-yang, KONG Hui, ZHU Ming-liang)
- 150 RCD Drilling Pile Foundation Construction Technology in the Construction of Cable-Stayed Bridge(ZU Chong-xi)
- 153 Discussion on Treatment Measures for Filling Karst Tunnel Construction(MENG Qing-feng, ZHOU Teng-fei)
- 156 Cross-Line Pushing Construction Technology of Steel Box Girder with Large Curvature and Small Radius(LI San-min)
- 159 Anti-Seepage Construction Technology of Irrigation Channel Under the Concept of Water Resource Conservation(HE Wei-an, HUANG Tai-qiao)
- 162 Deep Foundation Pit Excavation Support and Dewatering Construction Technology in House Construction Engineering (ZHENG Bo)
- 165 Analysis on Construction Technology of Communication Supporting Engineering of Adding Train Dispatching Station in Existing Railway Terminal(LIU Jie)
- 168 Construction Technology of "Wall Anchor" Supporting System for Deep Foundation Pit in Molten Rock Area(MO Ru-jing<sup>1</sup>, LI Nan<sup>2</sup>, LIU Xian-zhong<sup>3</sup>, YAN Chun-hui<sup>1</sup>)
- 171 Research on Problems of Geotechnical Test and Improvement Measures in Geotechnical Engineering Investigation(HE Xing)
- 174 Research on the Construction Technology of Cement Stabilized Gravel Base in Municipal Rapid Road(XU Chang, LIU Wei-qi, ZHU Sheng )
- 177 Research on Geotechnical Engineering Investigation and Foundation Treatment Technology(YE Lin-mi, CHEN Qian-zhu)
- 180 Study on the Application of Slope Excavation and Support Technology in Hydropower Project Construction(YANG Ming-hui, LUO Chao)
- 183 Application Research on Construction Technology of Hollow Slab Bridge in Municipal Engineering in New Period(KOU Lu)
- 186 Study on the Technology of Testing Concrete Compressive Strength by Shear Compression Method(JIAO Xing-long)
- 190 Treatment and Cause Analysis of Cracks on the Top of Flood Control Embankment and Slope Slip(LI Xia-chun)
- 193 Analysis on Construction Technology of Large Area Foundation Treatment in Coastal Liquefaction Area(LI Zhi-min)
- 196 Study on Highway Roadbed Widening Splicing and Construction Control Technology(LI Yi)
- 199 Construction Technology of Exterior Wall Imitation Stone Real Stone Paint in Building Engineering(HUANG Jian)

- 202 Research on the Deformation Control Points of Subway Deep Foundation Pit Under Complex Surrounding Environment(ZHOU Zheng-yong, MA Jiang-wei, GAO Wei)
- 205 Construction Technology Sketch of Large-Span Steel Shelving Structure in Intelligent Laboratory Engineering(RUAN Jin-biao)
- 208 Research on Crack Control Technology of Industrial Workshop Floor Structure(ZHENG Bo-qun)
- 211 Study on Anti Collapse Hole Technology of Large Diameter 100 m Super Long Underwater Pile Foundation Construction(ZHANG Tian-yu, SHAO Yun, ZHOU Ke-hu, ZHOU Fei, TANG Ming-yang)
- 214 Research on Deep Foundation Pit Construction Technology of Housing Project(HE Yi-jun, ZHANG Cheng, WANG Dan-ping)
- 217 Analysis on Construction Technology of Mechanical and Electrical Installation of Prefabricated Buildings(WANG Zhen, WU Wen-shu, ZHANG Wei, MIAO Xiao-fei)
- 220 Analysis of the Influence of Pouring Process on the Crack Control of Immersed Tube(ZHANG Yu-hang)

## Project Management

- 223 Analysis of Seepage Risk Patterns and Causes of Long-Distance Water Supply Channels in Northern Xinjiang(QIU Dian, WANG Yi)
- 226 Research on Problems and Countermeasures of Modern Engineering Ship Management(BAO Hua)
- 229 Analysis of Cost Control of Construction Project Under Process Management(ZHOU Guang-xu)
- 232 Analysis of Cost Management of EPC Project Based on BIM Technology(LI Ye-yu)
- 235 Management Countermeasures of SSGF High Quality Construction System(SHAO Fu-qiang, ZOU Peng-wei, YE Chang-hong)
- 238 Study on Pollution Control Measures of Interior Decoration(ZHAO Xiao-long, KANG Zi-xin, LIU-Yan, FANG-Xun, WU Yang-yang)
- 241 Evaluation of EPC Mode Adaptability of Prefabricated Buildings(LI Quan-zhong, WANG Li-huan, ZHAO Yi-kai)
- 244 Risk Prevention and Control of Bidding of Overseas Project (CAO Ting)
- 247 Analysis of Water Conservancy Project Construction Management and Development Countermeasures Under the Concept of Ecological Harmony(LIU Ji-hai)
- 250 Analysis of Quality Management Countermeasures in the Construction of Natural Gas Long-Distance Pipeline Projects(XU Tiao-neng)
- 253 Construction Quality Management Measures of Water Dike and Sluice Project(WU Zhi-min)
- 256 Fire Safety Current Situation and Fire Prevention Strategy of Urban High-Rise Buildings(ZHU Jiang)
- 259 Construction Quality Control of a Medium-Sized Reservoir Reinforcement Project(LUO Ming)
- 262 Analysis of Main Points of Supervision and Inspection of Building Fire Electrical Equipment(BAI Yong-feng)
- 265 Research on Design Quality Problems and Control of EPC General Contract Projects(LIU Xue-jing, SI Zhen-chao)