



QK1738419



# 工程建设与设计

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 2017年第11月下 总第372期



## 建筑与结构设计

- 刍议BIM技术在钢结构工程中的应用与设计（池小兰）  
 论轻型建筑钢结构的设计与应用（张岳峰）  
 结构工程设计中的混凝土加固措施分析（毛子龙）  
 结构设计中嵌固层的选取与设置（李莉）  
**0** 预应力混凝土大梁施工中裂缝原因分析及防治措施（蔡佳波）  
**2** 高层商业综合体设计问题及应对策略（王玉林）  
**4** 敞开式半地下车库消防设计探讨（刘剑）  
**6** BIM技术在住宅建筑设计中的应用（池杓霖）  
**8** 大型商业综合体消防设计问题分析（李继来）  
**0** 以构形易损理论为基础的单层网壳结构静力稳定性研究  
 （石瑛莉，翟耀忠，蔡睿）

## 基础工程设计

- 2** 路基工程防排水综合处理技术（赵德刚）  
**4** 高层建筑深基坑支护施工技术的研究（万佳琪）  
**6** 重力式码头沉降位移观测（郭守谦）  
**0** 郑州地区富水砂层盾构施工沉降控制指标研究（张亚彬，马亚兵）  
**2** 论提高RD8000探测仪在智能化管线建设中的效率（马维康）  
**5** 软基加固技术在市政道路施工中的应用（冯志国）  
**7** 关于预应力管桩“耐打”问题的探讨（刘成保）  
**9** 基础地质勘察技术在岩土工程勘察过程中的应用研究（赵钊）  
**1** 高层建筑物沉降监测（王观鹏，陈建忠）  
**3** 如何正确处理路桥施工中软土地基的问题（胡孙敏）  
**5** 盐渍土公路路基处理方法探讨（刘彦彦）  
**7** 沿黄土层和泥岩界面滑坡的成因机制研究（靳文宇）  
**9** 山坡地区建筑地基基础设计方案选型（吴添）  
**3** 地震作用下某岩石高边坡动力稳定性分析（金仁超）

## 公用工程设计

- 5** 蒸发冷却螺杆式热回收冷水机组应用分析（石松，段惠玲，孙菁）  
**7** 结合工程实例谈单级泵系统的压差旁通控制阀的思考（张从丽）

**59** “互联网+电网”能源互联网的有益探索（李爽，马宁，李海维）

**61** 危险点在变电运行管理中的控制策略（李婷，冯纪）

**63** 220kV智能变电站的技术特点及运行管理探讨（康久兴）

**65** 电力工程输电线路施工技术及质量控制的探究（王立志）

**67** 屏蔽计算和屏蔽方案选择在电磁屏蔽室的分析（刘彤）

**69** 电缆管理在AP1000核电依托项目建安中的应用研究（郭茂峰）

**71** 提高火电厂继电保护运行可靠性的策略探究（鲍艳丽）

**73** 电气自动化技术在电力工程中的应用探究（王钦）

**75** 220kV变电站接地网的设计探讨（于璐）

**77** 铁路隧道防火防水防鼠蚁照明电缆的研制

（乔文玮，夏迪星，陈国林，杨恒勇，锁时）

**80** CAP1400反应堆冷却剂主管道冷弯压力分析

（张玉，施永兵，关岭松，徐臻）

**83** 一起通过局放检测发现110kV电缆接头缺陷的案例分析（艾福超）

## 市政·交通·水利工程建设

- 86** 公路隧道裂缝检测系统的研究与设计（赵雪萍）  
**88** Novachip<sup>\*</sup>超薄磨耗层沥青混合料配合比优化设计（白志强）  
**90** 重载交通沥青面层采用抗车辙剂的技术探讨（乔志海）  
**94** 实例分析BIM设计技术特点及其在桥梁施工设计中的应用（杨惠芬）  
**96** 铁路架桥机大坡度施工作业过程安全风险控制研究（徐慧文）  
**98** 高速公路路面病害的日常养护及处理（王刚）  
**100** 浅析亚吉铁路25m长钢轨跨境运输解决方案（刘夫璋）  
**102** 论沥青路面泛油原因及解决措施（孙志高，范景福，蔡军）  
**104** 如何加强高速公路施工技术及道路路面的施工质量（尤虹霞）  
**106** 混凝土防腐技术在京藏高速公路中央分隔带混凝土隔离墩养护修复中的应用（王志浩）  
**108** 新技术在公路桥梁设计中的应用分析（王淑芳）  
**110** 高等级公路沥青混凝土路面早期水损坏原因及防治措施（唐莉）  
**112** 如何防治水泥稳定碎石基层裂缝（梁小鹏）  
**114** 低温环境下水利工程施工技术探讨（王治霞）

- 116** 水工混凝土裂缝的成因及防治措施 (王林京)  
**118** 风化料碾压土石坝在小型水利工程中的应用研究 (肖新平)  
**120** 水对水利水电工程边坡稳定的影响与解决方法分析  
     (栗保山, 杨罗朋, 靳艳玲)  
**122** 山西农村水资源的利用与问题解决 (杨红荣)  
**124** 三维协同设计在水利水电工程设计中的应用 (徐涛)

## 制造工程设计

- 126** 皮带传输机故障检测与处理 (刘增杰)  
**128** 钢箱梁制作加工的质量控制分析 (周杰)  
**130** 薄板箱体的焊接变形及其控制 (张武帅, 邢晋军)

## 环境工程设计

- 132** 选择性催化还原 (SCR) 烟气脱硝技术在城市生活垃圾焚烧发电厂  
     的应用分析 (张峰)  
**134** 纳米零价铁在土壤修复中的应用 (张蒋维)  
**136** 高速公路绿化生态恢复与绿化养护综合研究 (莲花)  
**138** 谈高速铁路绿色通道植物景观生态优化设计  
     (宁大鹏, 韩静, 李益军, 乔丽智)

## 工程施工技术

- 140** 桥梁施工中灌浆法的使用 (张静)  
**142** 低温混凝土施工技术和方案思考 (肖晓, 薛明, 仙光, 刘婧婷)  
**144** 关于路基工程施工中土石方项目施工技术的思考 (李勇强)  
**146** 薄沥青混凝土路面在南部非洲的施工实践 (蔡军, 张瑞松, 孙志高)  
**148** 铁路连续梁高墩空心桥墩封顶施工工艺 (周晓亮)  
**150** 新建铁路隧道下穿既有运营隧道的设计与施工 (王飞)  
**152** 大吨位宽幅预制混凝土PK箱梁节段吊装施工技术研究 (杨占伟)  
**154** 公路路基施工技术存在的若干问题思考 (翟振辉)  
**156** 装配式钢结构深度预制施工技术研究 (李冬)  
**158** 房屋建筑施工中防渗漏施工技术研究 (吕明谦)  
**160** 南同蒲七跨双断口锚段关节式电分相施工技术 (王利忠)

## 工程项目管理

- 162** 探讨如何监督与控制工业厂房及民用建筑工程施工质量 (刘全)  
**164** 索赔在国际项目合同管理中的应用 (田辉, 高丛)  
**167** 浅析工程设计计划管理体系的建立 (侯莞)  
**169** 工程技术管理体系化分析 (丰海永)  
**171** 国际PPP项目投标决策风险分析 (徐方)  
**174** 供电公司工程建设设计管理研究 (路瑶)  
**176** 老挝某EPC水电工程成本控制实践 (田普卓)  
**178** 基于EPC视角的国际工程风险管理收益率分析 (薛涛, 高尚)  
**180** 基于工程优化和科技创新的公路工程项目管理  
     (陈俊杰, 王志中, 崔永)  
**182** 建筑施工质量控制的障碍因素分析 (王笑含, 刁磊, 陈沛, 张靓莹)  
**185** 建筑施工企业安全生产管理浅谈 (王亮)  
**187** 浅谈企业节能管理 (彭彰)  
**189** 铁路铺架工程施工安全风险管理研究 (韩学良)  
**191** 建筑施工管理创新及绿色施工管理探索 (侯佳)  
**193** 海外公路工程机械设备选择分析 (高岩, 张东)  
**195** 设计管理提升及其在炼化建设项目中的应用 (戴旭)  
**197** 关于工程项目管理与工程分包管理的探析 (重吉文)  
**200** 如何加强公路施工成本管理和控制 (郝泽强)  
**202** 海外工程EPC总承包模式下合同管理的一些思考  
     (李世坚)  
**204** 如何加强公路施工总承包物资管理工作 (王峥)  
**206** BIM在高速公路建设前期标准化管理中的应用 (袁广学)  
**209** 基于我国高速公路管理体制现状与改革的若干思考 (成晓志)  
**211** 工程总承包项目管理常见的问题及应对 (周连川, 许玉彬, 王亮)

## 智能与信息化

- 213** 自动化技术在机械制造中的应用探讨 (易茜)  
**215** 新时期消防工程机电系统智能化研究 (陈海生)  
**217** 三维GIS技术在工程测量中的应用 (余优军)  
**219** 机电一体化在机械工程中的应用探讨 (徐军, 魏华)

**Architectural and Structural Design**

- 1 The Application and Design of BIM Technology in Steel Structure Engineering(CHI Xiao-lan)
- 4 Design and Application of Steel Structure for Light Building(ZHANG Yue-feng)
- 6 Analysis of Concrete Strengthening Measures in Structural Engineering Design(MAO Zi-long)
- 8 Selection and Setting of Embedded Layer in Structural Design(LI Li)
- 10 Cause Analysis of Cracks in Construction of Prestressed Concrete Beam and the Prevention Measures(CAI Jia-bo)
- 12 The Problems of High-Rise Commercial Complex Design and the Countermeasures(WANG Yu-lin)
- 14 Fire Protection Design of Open Semi-Underground Garage(LIU Jian)
- 16 The Application of BIM Technology in the Design of Housing Construction(CHI Biao-lin)
- 18 Analysis on Fire Protection Design of Large Commercial Complex(LI Ji-lai)
- 20 Study on the Static Stability of Single Layer Latticed Shell Based on the Theory of Structural Fragility(SHI Ying-li, ZHAI Yao-zhong, CAI Rui)

**Engineering Design of the Ground**

- 22 Comprehensive Treatment Technology of Water Proof and Drainage for Subgrade Engineering(ZHAO De-gang)
- 24 Research on the Construction Technique of Deep Foundation Support in High-Rise Building(WAN Jia-qj)
- 26 Settlement and Displacement Observation of Gravity Wharf(GUO Shou-qian)
- 30 Study on Settlement Control Index of Shield Construction of Water-Rich Sand Layer in Zhengzhou Area(ZHANG Ya-bin, MA Ya-bing)
- 32 Discussion on Improving the Efficiency of RD8000 Detector in Intelligent Pipeline Construction(MA Wei-kang)
- 35 The Application of Soft Foundation Reinforcement Technique in Municipal Road Construction(FENG Zhi-guo)
- 37 Discussion on the Problem of "Impact Resistance" of Prestressed Pipe Pile (LIU Cheng-bao)
- 39 Study on the Application of Fundamental Geology Survey Technology in Geotechnical Engineering Investigation(ZHAO Zhao)
- 41 Settlement Monitoring of High-Rise Building (WANG Guan-peng, CHEN Jian-zhong)
- 43 How to Deal with the Problem of Soft Soil Foundation in Road and Bridge Construction Properly(HU Sun-min)
- 45 Discussion on the Treatment Method of Saline Soil Road(LIU Yan-yan)
- 47 The Analysis on Genetic Mechanism of Landslide Along the Loess Layer and Mudstone Interface(JIN Wen-yu)
- 49 The Selection of Building Foundation Design Scheme in Hillside Area (WU Tian)
- 53 Dynamic Stability Analysis of a Rock High Slope Under Earthquake Action (JIN Ren-chao)

**Public Utilities Design**

- 55 The Application Analysis of Evaporative Cooling Screw Heat Recovery Chiller (SHI Song, DUAN Hui-ling, SUN Jing)
- 57 Discussion on the Pressure Differential Bypass Control Valve in Single-Stage Pump System According with Project Case(ZHANG Cong-li)
- 59 The Useful Exploration of "Internet + Power Grid" Energy Internet (LI Shuang, MA Ning, LI Hai-wei)

- 61 Control Strategy of Dangerous Points in Substation Operation Management (LI Ting, FENG Ji)
- 63 Technical Features and Operation Management of 220 kV Intelligent Substation(KANG Jiu-xing)
- 65 Research on Construction Technology and Quality Control of Power Transmission Line(WANG Li-zhi)
- 67 Analysis of Shielding Calculation and Shielding Scheme Selection of Electromagnetic Shielding Room(LIU Tong)
- 69 Application Research of Cable Management in AP1000 Nuclear Power Project (GUO Mao-feng)
- 71 Strategy Research on Improving Operation Reliability of Relay Protection in Thermal Power Plant(BAO Yan-li)
- 73 Research on the Application of Electrical Automation Technology in Power Engineering(WANG Qin)
- 75 Discussion on the Design of Grounding Grid of 220kV Substation(YU Lu)
- 77 The Development of Fire Proof and Water Proof Electric and Anti Mouse Ant Cable for Railway Tunnel(QIAO Wen-wei, XIA Di-xing, CHEN Guo-lin, YANG Heng-yong, SUO Shi)
- 80 Analysis of the Cold Bending Pressure of CAP1400 Reactor Coolant Main Pipes(ZHANG Yu, SHI Yong-bing, GUAN Ling-song, XU Zhen)
- 83 Study on a Case of Using PD Detection to Find the Defects in 110kV Cable Joint(AI Fu-chao)

**Municipal · Traffic · Water Resources Engineering Design**

- 86 The Research and Design of Highway Tunnel Crack Detection System (ZHAO Xue-ping)
- 88 Optimization Design of Mixing Ratio of Novachip® Ultrathin Friction Course Asphalt Mixture(BAI Zhi-qiang)
- 90 Discussion on the Technology of Using Anti-Rut Agent in Asphalt Surface Course of Heavy Traffic(QIAO Zhi-hai)
- 94 Case Analysis of the Characteristics of BIM Design Technology and the Application of BIM in Bridge Design(YANG Hui-fen)
- 96 Research of Safety Risk Control in the Construction Process of Railway Bridge Girder Erecting Machine on Large Slope(XU Hui-wen)
- 98 The Daily Maintenance and Treatment of Highway Pavement Diseases (WANG Gang)
- 100 Analysis of the Solution of 25m Long Rail Cross-Border Transportation in Addis Ababa to Djibouti Railway Engineering(LIU Fu-zhang)
- 102 Causes and Treatment of Bleeding of Asphalt Pavement (SUN Zhi-gao, FAN Jing-fu, CAI Jun)
- 104 How to Strengthen the Highway Construction Technology and Road Pavement Construction Quality(YOU Hong-xia)
- 106 The Application of Concrete Anticorrosion Technology in Maintenance and Repair of Concrete Separation Pier in Central Section of Beijing-Tibet Expressway(WANG Zhi-hao)
- 108 Analysis of the Application of New Technology in Highway Bridge Design (WANG Shu-fang)
- 110 Causes of Early Water Damage and Prevention and Control Measures in High Grade Asphalt Concrete Pavement(TANG Li)
- 112 How to Prevent the Crack of Cement Stabilized Gravel (LIANG Xiao-peng)
- 114 Discussion on Construction Technology of Water Conservancy Project in Low Temperature Environment(WANG Zhi-xia)

- 116** The Causes and Control Measures of Concrete Cracks in Hydraulic Engineering(WANG Lin-jing)
- 118** Study on the Application of Weathered Soil RCC Dam in Small Water Conservancy Project(XIAO Xin-ping)
- 120** Analysis of the Influence of Water on Slope Stability of Water Conservancy and Hydropower Engineering and the Solutions (LI Bao-shan, YANG Luo-peng, JIN Yan-ling)
- 122** The Problem of Water Resources Utilization in Shanxi Rural Areas and the Solving Strategy(YANG Hong-rong)
- 124** The Application of Three Dimensional Cooperative Design in Water Conservancy and Hydropower Engineering Design(XU Tao)

### Manufacture Engineering Design

- 126** Fault Detection of Belt Conveyor and Processing(LIU Zeng-jie)
- 128** Quality Control Analysis of Steel Box Girder Fabrication(ZHOU Jie)
- 130** The Welding Deformation of Veneer Case and Its Control (ZHANG Wu-shuai, XING Jin-jun)

### Environment Engineering Design

- 132** The Application of Selective Catalytic Reduction (SCR) Flue Gas Denitrification Technology in Municipal Solid Waste Incineration Power Plant(ZHANG Feng)
- 134** The Application of Nanometer Zero–Valent Iron in Soil Remediation (ZHANG Jiang-wei)
- 136** Comprehensive Research on Ecological Restoration and Afforestation Conservation of Highway Afforestation(LIAN Hua)
- 138** Talking About the Design of Ecological Optimization of Plant Landscape of High-Speed Railway Greenway (NING Da-peng, HAN Jing, LI Yi-jun, QIAO Li-zhi)

### Construction Technology

- 140** The Application of Grouting Method in Bridges Construction(ZHANG Jing)
- 142** Construction Technologies and Scheme of Low Temperature Concrete (XIAO Xiao, XUE Ming, XIAN Guang, LIU Jing-ting)
- 144** Thinking About the Construction Technology of Earth and Rock Engineering in the Construction of Roadbed(LI Yong-qiang)
- 146** Construction Practice of Thin Asphalt Concrete Pavement in Southern Africa (CAI Jun, ZHANG Rui-song, SUN Zhi-gao)
- 148** The Capping Construction Technology of the High Hollow Pier of the Railway Continuous Beam(ZHOU Xiao-liang)
- 150** Design and Construction of the New Railway Tunnel Under Crossing the Existing Operation Tunnel(WANG Fei)
- 152** Study on Construction Technology of Segment Lifting of Large-Tonnage Wide Prefabricated Concrete PK Box Girder(YANG Zhan-wei)
- 154** Some Problems Existing in Highway Subgrade Construction Technology (ZHAI Zhen-hui)
- 156** Research on the Depth Prefabrication Construction Technology of Fabricated Steel Structure(LI Dong)
- 158** Study on Anti-Seepage Construction Technology in Building Construction (LV Ming-qian)
- 160** The Construction Technology of Articulated Type Electrical Sectioning Device in South Tongpu Railway Seven Spans Double Breaks Anchoring Section (WANG Li-zhong)

### Project Management

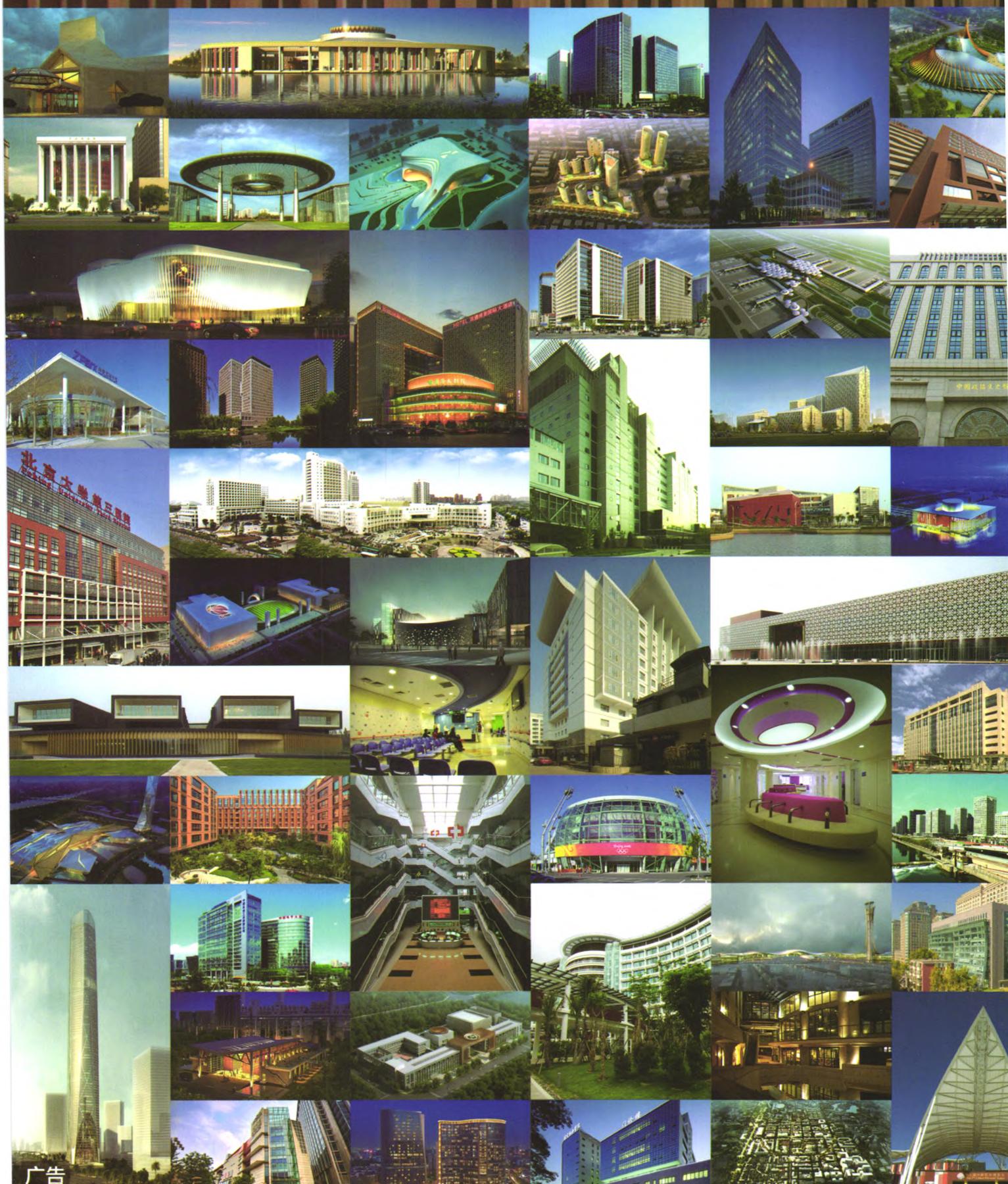
- 162** How to Supervise and Control the Construction Quality of Industrial and Civil Buildings(LIU Quan)
- 164** The Application of Claim in International Project Contract Management (TIAN Hui, GAO Cong)
- 167** Analysis on Establishment of Plan Management System of Engineering Design (HOU Wan)
- 169** Systematic Analysis of Engineering Technology Management(FENG Hai-yong)
- 171** Risk Analysis of Decision-Making of Bidding in International PPP Project (XU Fang)
- 174** Research on the Design Management of Power Supply Engineering Construction (LU Yao)
- 176** Cost Control Practice of an EPC Hydropower Project in Laos(TIAN Pu-zhuo)
- 178** Yield Rate Analysis of Risk Management of International Engineering in the View of EPC(XUE Tao, GAO Shang)
- 180** Project Management of Highway Engineering Based on Engineering Optimization and Technological Innovation(CHEN Jun-jie, WANG Zhi-zhong, CUI Yong)
- 182** Analysis of Barrier Factors in Quality Control of Building Construction (WANG Xiao-han, DIAO Lei, CHEN Pei, ZHANG Liang-ying)
- 185** Discussion on Safety Production Management of Construction Enterprises (WANG Liang)
- 187** Talking About Enterprise Energy Conservation Management(PENG Zhang)
- 189** Research on the Safety Risk Management of Railway Paving Engineering Construction(HAN Xue-liang)
- 191** Innovation of Building Construction Management and Exploration of Green Construction Management(HOU Jia)
- 193** Selection of Machinery Equipment of Overseas Highway Project (GAO Yan, ZHANG Dong)
- 195** Design Management and Its Application in Refinery Construction Project (DAI Xu)
- 197** Discussion on Project Management and Subcontract Management of Engineering Project(CHONG Ji-wen)
- 200** How to Strengthen the Cost Management and Control of Highway Construction (HAO Ze-qiang)
- 202** Reflections on Contract Management Under the Overseas Engineering EPC General Contract Model(LI Shi-jian)
- 204** How to Strengthen the General Contract Material Management of Highway Construction(WANG Zheng)
- 206** The Application of BIM in Early Stage Standardization Management of Highway Construction(YUAN Guang-xue)
- 209** Thinking of Current Situation and Reform of Expressway Management System in China(CHENG Xiao-zhi)
- 211** Common Problems of General Contract Project Management and the Countermeasures(ZHOU Lian-chuan, XU Yu-bin, WANG Liang)

### Intelligentization and Informatization

- 213** The Application of Automation Technology in Mechanical Manufacturing (YI Qian)
- 215** Research on Intelligentization of Electromechanical System of Fire Engineering in the New Era(CHEN Hai-sheng)
- 217** The Application of 3D GIS Technology in Engineering Survey(YU You-jun)
- 219** The Application of Electromechanical Integration in Mechanical Engineering(XU Jun, WEI Hua)



中国中元国际工程有限公司  
CHINA IPPR INTERNATIONAL ENGINEERING CO., LTD.



广告

地址：北京市西三环北路5号 邮编：100089 电话：(010) 68458355 传真：(010) 68732688 网址：<http://www.ippr.com.cn> 邮箱：[office@ippr.net](mailto:office@ippr.net)

期刊开数据  
CN11-3914/TU

ISSN1007-9467

广告许可证号：京海工商广字第8214号 邮发代号：82-847 定价：20.00元/期 480.00元/年