

中文建筑科学类核心期刊  
中国科技论文统计源期刊(中国科技核心期刊)

# 建筑科学®

## BUILDING SCIENCE

# 6

## 2014

第30卷 第6期  
VOL.30 NO.6

◆ 中华人民共和国住房和城乡建设部主管

◆ 中国建筑科学研究院主办

### 可持续建筑 Sustainable Building



ISSN 1002-8528

06>



9 771002 852806 >

中国科技论文统计核心期刊  
 国际 CODEN 中心收录期刊  
 《中国科学引文数据库》来源期刊  
 国际连续出版物数据系统收录期刊  
 ICONDA 国际建筑文献数据库收录期刊  
 中国科技期刊文摘(CSTA)英文版  
 数据库收录期刊  
 《中国学术期刊(光盘版)  
 检索与评价数据规范》执行优秀期刊



**建筑科学**  
 JIANZHU KEXUE  
 (月刊)

第 30 卷 第 6 期 (总第 203 期)  
 2014 年 6 月 20 日出版  
 (1985 年创刊)

主 办:中国建筑科学研究院  
 编 辑:《建筑科学》编辑部  
 地址:北京北三环东路 30 号  
 邮编:100013  
 电话:010-64517786;84272776  
 传真:010-84272776  
 E-mail:buse@263.net  
 主 编:赵基达

“可持续建筑”编辑组  
 电话:010-64517427  
 E-mail:bjb365@126.com;  
 bjb365@gmail.com

责任编辑:李 正  
 编 辑:俞英鹤 唐冬芬  
 美 编:陈 辛  
 策 划:王东青

\* \* \* \* \*  
 印 刷:北京时捷印刷有限公司  
 国内发行:全国各地邮局订阅  
 邮发代号:2—381  
 零 售:《建筑科学》编辑部发行室  
 国外发行:中国国际图书贸易总公司  
 (北京 399 信箱)  
 广告经营许可证:京朝工商广字第 0209  
 号(101)

目 次

理论 & 实验研究

- 基于人行为的办公建筑照明能耗计算模型研究 ..... 任晓欣,燕 达(1)  
 夏热冬暖地区代表性城市与农村居住建筑热环境设计与计算指标 .....  
 ..... 张宇峰(10)  
 严寒地区某火力发电厂主厂房室内热环境测试分析 .....  
 陈耀南,雷梅莹,陈 曦,黄从新,黄 维,康 慧,冯铁栓,张宝生,徐 伟(19)  
 潮汕传统农村住宅热环境实测研究及其现代启示 .....  
 ..... 金 玲,赵立华,张宇峰,王 浩,孟庆林(27)  
 城市公园声环境对周边住宅影响性研究 ..... 武 捷,陆风华,晋美俊(33)  
 国内外 PM2.5 控制标准及对比 ..... 谢 慧,赵 中,曹国庆(37)  
 用于建筑外窗遮阳系数测试的太阳光模拟器研究 .....  
 ..... 王丽丽,孙诗兵,王洪涛,万成龙(44)  
 浅谈城市中心区更新的设计整合——西宁中心广场东北片区城市设计  
 创作实践 ..... 饶承东(49)

计算分析

- 中美四地办公建筑的能耗对比及分析 ..... 周 欣,燕 达,安晶晶,洪天真(55)  
 基于改进 BP 神经网络的冷水机组 IPLV 预测方法 .....  
 ..... 练斯甄,周 璇,闫军威(66)  
 太阳能集热系统流量优化研究 ... 喻 勇,高 岩,张广宇,蔺新星,高艺珂(72)  
 小区集中供热系统水力平衡调节节能潜力分析 .....  
 ..... 刘兰斌,邹艾娟,刘亚萌,马丽霞(77)  
 城市地下交通联系隧道临界风速关联式的建立与验证 .....  
 ..... 董兴国,王 伟,李思成(83)  
 保温材料对建筑能耗及回收期的影响分析 ..... 杨俊兰,苗国伟,姚钊超(87)  
 江苏寒冷地区既有公共建筑围护结构调研及改造实践研究 ..... 季 翔(92)  
 北方供暖地区既有建筑节能改造项目碳减排量化方法研究 .....  
 ..... 王侃宏,罗景辉,刘 欢,侯佳松(96)  
 夹层百叶遮阳双层皮幕墙光学性能计算模型 ..... 陈可臻,陈友明,周 娟(101)  
 政府机关建筑空调系统测试与节能分析 .....  
 ... 宋 波,张 景,竞 峰,柳 松,胡月波,朱晓娇,刘 晶,邓琴琴(108)  
 北京地区绿色建筑运行实效调研分析 .....  
 ..... 阳 春,路 宾,孟 冲,任 和,乔 渊,张 君,徐 晖(114)

论 坛

- 火炕热工性能评价指标及检测方法研究 ..... 方修睦,王 芳,李桂文(118)  
 火炕热工性能评价指标及检测方法的试验验证分析 .....  
 ..... 王 芳,方修睦,刘婷婷,王 俊(124)  
 绿色建筑专项规划编制探讨 ..... 魏景姝,李 琳,张 亮,孟 冲,冯晓梅(128)  
 绿色地铁站建筑设计初探 ..... 胡映东,赵 晨(132)

\* \* \* \* \*

[期刊基本参数] CN11-1962/TU \* 1985 \* b \* 16 \* 140 \* zh \* P \* ¥12.00 \* 8000 \* 21 \* 2014-06

## BUILDING SCIENCE

(Monthly Journal)

No. 6 Vol. 30, Jun. 2014

(Initial Issue in 1985)

---

Director: China Academy of Building  
Research  
Edited & Published: Editorial Committee of  
BUILDING SCIENCE  
Address: 30 Bei San Huan Dong Lu,  
Beijing 100013, China  
Tel: 86-10-64517786; 84272776  
Fax: 86-10-84272776  
E-mail: busc@263.net

Chief Editor: ZHAO Jida

“Sustainable Building” Editorial Team

Tel: 86-10-64517427

E-mail: bjb365@126.com;  
bjb365@gmail.com

Responsible Editor: LI Zheng

Editor: YU Yinghe TANG Dongfen

Art Editor: CHEN Xin

Planner: WANG Dong-qing

\* \* \* \* \*

Distributed in China:

Post Office Code Name 2-381

Distributed Abroad:

China International Book Trading  
Corporation

(GUO JI SHU DIAN)

P. O. Box 399, Beijing, China

## CONTENTS

### Theoretical & experimental study

- A Study of Lighting Energy Consumption Model for Office Buildings Based on Occupant Behavior ..... REN Xiaoxin, YAN Da(1)
- Design and Calculation Indicators of Thermal Environments for Urban and Rural Residential Buildings in Hot Summer and Warm Winter Zone ..... ZHANG Yufeng(10)
- Analysis on the Test of Indoor Thermal Environment in Main Power House of a Thermal Power Plant in Severe Cold Zone ..... CHEN Yaonan, LEI Meiyong, CHEN Xi, HUANG Congxin, HUANG Wei, KANG Hui, FENG Tieshuan, ZHANG Baosheng, XU Wei(19)
- Field Study and Modern Enlightenment on Thermal Environment of Traditional Vernacular Dwellings in Chaoshan Area ..... JIN Ling, ZHAO Lihua, ZHANG Yufeng, WANG Hao, MENG Qinglin(27)
- A Study on the Effect of the Urban Parks' Acoustical Environment to its Neighboring Residents ..... WU Jie, LU Fenghua, JIN Meijun(33)
- Comparison on PM2.5 Control Standards at Home and Abroad ..... XIE Hui, ZHAO Shen, CAO Guoqing(37)
- Study on Solar Simulator Used for Shading Coefficient Test of External Window of Building ..... WANG Lili, SUN Shibing, WANG Hongtao, WAN Chenglong(44)
- Brief Discussion on Design Integration of Central Urban District Renewal - The Urban Design Practice of Northeast Blocks of Xining Central Square ..... RAO Chengdong(49)

### Computational analysis

- Comparison and Analysis of Energy Consumption of Four Office Buildings in China and the United States ..... ZHOU Xin, YAN Da, AN Jingjing, HONG Tianzhen(55)
- Prediction Technique of Integrated Part Load Value (IPLV) of Water Chillers Based on Improved BP Neural Network ..... LIAN Sizhen, ZHOU Xuan, YAN Junwei(66)
- Study on the Flow Rate Optimization of Solar Collector System ..... YU Yong, GAO Yan, ZHANG Guangyu, LIN Xinxing, GAO Yike(72)
- Analysis on Energy Conservation Potential of Hydraulic Balance Regulation of Community Central Heating System ..... LIU Lanbin, ZOU Aijuan, LIU Yameng, MA Lixia(77)
- Establishment and Validation of Fitting Correlation for Critical Ventilation Velocity in Urban Traffic Link Tunnel ..... DONG Xingguo, WANG Wei, LI Sicheng(83)
- Analysis of the Influence for Insulation Materials on the Building Energy Consumption and the Payback Period ..... YANG Junian, MIAO Guowei, YAO Muchao(87)
- Energy-efficient Reconstruction Study and Envelope Structure Investigation of Existing Public Buildings in Cold Regions of Jiangsu Province ..... JI Xiang(92)
- Study on the Quantitative Method for Carbon Emission Reduction of Energy-efficient Reconstruction of the Existing Buildings in the Northern Heating Areas ..... WANG Kanhong, LUO Jinghui, LIU Huan, HOU Jiasong(96)
- Optical Properties Modeling for DSF with Blinds in Interior Cavity ..... CHEN Kezhen, CHEN Youming, ZHOU Juan(101)
- Analysis on Test and Energy Saving of Air Conditioning System in Government Buildings ..... SONG Bo, ZHANG Jing, JING Feng, LIU Song, HU Yuebo, ZHU Xiaojiao, LIU Jing, DENG Qinqin(108)
- Survey and Analysis the Results of Green Building Operation in Beijing ..... YANG Chun, LU Bin, MENG Chong, REN He, QIAO Yuan, ZHANG Jun, XU Hui(114)

### Forum

- Discussion on Evaluation Indices and Test Method for Civil Kang's Thermal Performance ..... FANG Xiumu, Wang Fang, Li Guiwen(118)
- Experimental Verification for Evaluation Indices and Test Method of Civil Kang's Thermal Performance ..... WANG Fang, FANG Xiumu, LIU Tingting, WANG Jun(124)
- Study on Drawing up Special Planning of Green Buildings ..... WEI Jingshu, LI Lin, ZHANG Liang, MENG Chong, FENG Xiaomei(128)
- Brief Discussion on Architectural Design of Green Subway Station ..... HU Yingdong, ZHAO Chen(132)



建筑科学®

刊号:  $\frac{\text{ISSN } 1002-8528}{\text{CN11-1962/TU}}$

代号:  $\frac{\text{国内邮发 } 2-381}{\text{国 外 } \text{BM4129}}$

国内定价:  $\frac{12.00\text{元/期}}{144.00\text{元/年}}$