

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

10 2015

第31卷 第10期
VOL.31 NO.10

◆ 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



9 771002 852803

月刊数据

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 31 卷 第 10 期(总第 219 期)

2015 年 10 月出版

(1985 年创刊)

主 办:中国建筑科学研究院
 编 辑:《建筑科学》编辑部
 “可持续建筑”编辑组
 地 址:北京北三环东路 30 号
 邮 编:100013
 电 话:010-64517427;64693291
 电子邮箱(投稿邮箱):bjb365@126.com
 主 编:赵基达
 副 主 编:徐 伟
 责任编辑:俞英鹤
 编 辑: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
 国外发行:中国国际图书贸易总公司
 (北京 399 信箱)
 邮发代号:2-381
 国外代号:BM4129
 国内统一刊号:CN11-1962/TU
 国外标准刊号:ISSN1002-8528
 零 售:《建筑科学》编辑部发行室
 广告经营许可证:京朝工商广字第 0209
 号(101)

目 次

刊首语	(1)
住宅建筑能耗与使用模式调查与分析	
广州地区居民生活方式及用能行为的调研分析研究	高嘉明,马晓雯,刘 芳(2)
上海居住建筑夏季用能行为浅析	汪雨清,郑竺凌(10)
杭州市居住建筑夏季用能状况调查及相关性分析	杨丽红,钱晓倩,钱匡亮,阮 方(17)
公共建筑能耗与使用模式调查与分析	
我国办公建筑用能行为现状调研与分析	于新巧,陈 征,江 汀,燕 达,张 崎(23)
酒店建筑能耗影响因素分析	周伟业,彭 琛,刘 珊,郝 斌(31)
五星级酒店能耗比对及能效评价工具开发及应用分析	王碧玲,邹 瑜,宋业辉,魏 峥(38)
建筑节能相关标准研究	
对《武汉市民用建筑能耗限额指南》的研究	胡 娟,燕 达,刘 焯(42)
中美英三国建筑能耗基准评价对比	王京京,章玉容,刘明辉,王元丰(48)
新版《公共建筑节能设计标准》冷水机组能效提升潜力分析及在《绿色建筑评价标准》中的应用	王碧玲,邹 瑜,魏 峥(52)
冷水机组 IPLV 指标应用分析	王碧玲,邹 瑜,孙德宇,刘宗江(57)
《公共建筑节能设计标准》用整体性能化评价方法简化计算工具开发	乔 鏢,邹 瑜,孙德宇(62)
供热系统节能改造节能量不确定度计算模型特性分析与案例研究	杨春华,魏 峥,王 莉,李林涛,牛利敏,王碧玲,宋业辉(66)
建筑能耗与建筑使用模式关系研究	
建筑用能人行为模型的 XML 描述方法研究	孙红三,洪天真,王 闯,丰晓航,燕 达(71)
空调系统需求特性对过量供应程度的影响	周 欣,燕 达,张 野,江 亿(79)
区域供冷系统中人员用能行为的影响	周 欣,燕 达,邓光蔚,简毅文(85)
人员行为模式对住宅建筑空调行为及能耗的影响案例分析	程 烜,郑竺凌,卜 震(94)
基于问卷与模拟探讨杭州市办公建筑人行为模式对能耗的影响	朱耀鑫,钱晓倩,钱匡亮,阮 方(99)
建筑节能技术适宜性研究	
居住建筑围护结构热工性能优化设计研究	周 辉,董 宏,孙立新,冯 驰(105)
实际用能方式下的夏热冬冷地区居住建筑围护结构节能设计研究	阮 方,钱晓倩,钱匡亮,董 凯(112)
不同建筑空间形态对住宅建筑能耗的影响	胡 娟,燕 达,崔 莹(117)
机械通风与自然通风对办公建筑室内环境营造差异性的模拟分析	安晶晶,燕 达,周 欣,孙开宇(124)
上海某大型办公建筑室内空气品质与新风模式分析	辛晶晶,卜 震(134)
实际居住条件下的室内通风环境测试分析	卜 震,辛晶晶,郑竺凌(139)
住宅太阳能生活热水系统现状调研及能耗模型研究	于 瑞,高 岩,张 野,丰晓航,燕 达(146)
住宅太阳能生活热水系统测试与调查研究	陈希琳,郝 斌,彭 琛,刘 珊,王珊珊,陈红兵(154)
长江中下游地区城镇住宅冬季供暖发展趋势分析	崔 莹,燕 达,郭德悦,胡 娟(162)
辐射吊顶供冷方式节能舒适性研究	李锦堂,孙宗宇,李 骥,邹 瑜(169)
建筑中人人行为的模拟研究	
建筑中人人行为模拟研究现状和展望	燕 达,丰晓航,王 闯, Hong Tianzhen, William O' Brien, H. Burak Gunay, Farhang Tahmasebi, Mahdavi Ardeshtir(178)
基于马氏链与事件的室内人员移动模型	王 闯,燕 达,丰晓航,孙红三,江 亿(188)
室内环境控制相关的人员动作描述方法	王 闯,燕 达,孙红三,丰晓航,江 亿(199)
北京某高校办公建筑人员开窗行为研究	潘 嵩,许传奇,魏 绅,Tarek M Hassan,谢 浪,熊樱子, Pieter de Wilde(212)
建筑遮阳调节行为特性研究	李 翠,李峥嵘,肖 琳(218)
基于动作的住宅夏季空调开启行为研究	简毅文,高 萌,裴 泽,常小艳,刘昭辉(222)
办公建筑空调使用行为定义研究	陈淑琴,潘阳阳, Hiroshi Yoshino, Mark D. Levine, 张喜勇(228)

* * * * *

[期刊基本参数] CN11-1962/TU * 1985 * b * 16 * 236 * zh * P * ¥12.00 * 8000 * 34 * 2015-10

BUILDING SCIENCE

(Monthly Journal)

No. 10 Vol. 31, Oct. 2015

(Initial Issue in 1985)

Director: China Academy of Building
Research

Edited & Published: Editorial Committee of
BUILDING SCIENCE

“Sustainable Building” Editorial Team

Address: 30 Bei San Huan Dong Lu,
Beijing 100013, China

Tel: 86-10-64517427; 64693291

E-mail: bjb365@126.com

Chief Editor: ZHAO Jida

Vice Chief Editor: XU Wei

Responsible Editor: YU Yinghe

Editor: TANG Dongfen

Art Editor: CHEN Xin

Planner: WANG Dongqing

* * * * *

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

Preface	(1)
Investigation and Analysis on Energy Consumption and Use Pattern in Residential Buildings	
Investigation and Analysis on Residential Energy-using Behavior and Lifestyle in Guangzhou	GAO Jiaming, MA Xiaowen, LIU Fang (2)
Analysis on Energy-using Behavior of Shanghai Residential Buildings in Summer	WANG Yuqing, ZHENG Zhuling (10)
Investigation and Partial Correction Analysis of Energy Consumption of Residential Buildings During Summer in Hangzhou	YANG Lihong, QIAN Xiaoqian, QIAN Kuangliang, RUAN Fang (17)
Investigation and Analysis on Energy Consumption and Use Pattern in Public Buildings	
Investigation and Analysis of the Energy Behavior in Office Buildings in China	YU Xinqiao, CHEN Zheng, WANG Ting, YAN Da, ZHANG Qi (23)
Analysis on Factors Influencing the Energy Consumption of Hotel Building	ZHOU Weiye, PENG Chen, LIU Shan, HAO Bin (31)
Development and Application Analysis of Benchmarking Toll of 5-star Hotel	WANG Biling, ZOU Yu, SONG Yehui, WEI Zheng (38)
Research on Building Energy Efficiency Standards	
Analysis on Guideline for Energy Consumption Quota of Civil Buildings in Wuhan	HU Shan, YAN Da, LIU Ye (42)
Comparison of Building Energy Consumption Benchmark in China, US and UK	WANG Jingjing, ZHANG Yurong, LIU Minghui, WANG Yuanfeng (48)
Potential Analysis and Application in Assessment Standard for Green Building of Chiller Efficiency Put Forward in New Version Design Standard for Energy Efficiency of Public Buildings	WANG Biling, ZOU Yu, WEI Zheng (52)
Analysis on the Application of Chiller IPLV	WANG Biling, ZOU Yu, SUN Deyu, LIU Zongjiang (57)
Development of Whole Building Efficiency Performance-based Evaluation Method Simplified Calculation Tool Applied in Design Standard for Energy Efficiency of Public Building	QIAO Biao, ZOU Yu, SUN Deyu (62)
Characteristic Analysis and Case Study of Energy Saving Uncertainty Model for Heating System Retrofit Projects	YANG Chunhua, WEI Zheng, WANG Li, LI Lintao, NIU Limin, WANG Biling, SONG Yehui (66)
Research on the Relationship between the Building Energy Consumption and Use Patterns	
A XML Description and Study of Building Energy Occupant Behavior Models	SUN Hongshan, HONG Tianzhen, WANG Chuang, FENG Xiaohang, YAN Da (71)
Influence of Load Feature on the Degree of Over-supply in the Centralized Air Conditioning System	ZHOU Xin, YAN Da, ZHANG Ye, JIANG Yi (79)
Influence of Occupant Behavior on the Efficiency of a District Cooling System	ZHOU Xin, YAN Da, Deng Guangwei, JIAN Yiwen (85)
Case Study on Influences of Occupant Behavior on Residential Air Handling Unit and Energy Consumption	CHENG Xuan, ZHENG Zhuling, BU Zheng (94)
Effects of Occupant Behaviors on Office Building Energy Consumption in Hangzhou Based on Questionnaire and Simulation	ZHU Yaixin, QIAN Xiaoqian, QIAN Kuangliang, RUAN Fang (99)
Research on the Adaptability of Building Energy Saving Technologies	
Study on Optimizing the Thermal Performance of Residential Buildings' Envelopes	ZHOU Hui, DONG Hong, SUN Lixin, FENG Chi (105)
Research on Energy Efficiency Design for Residential Building Envelope under the Actual Energy Consuming Method in Hot Summer and Cold Winter Zone	RUAN Fang, QIAN Xiaoqian, QIAN Kuangliang, DONG Kai (112)
Influence of Building Space Form on the Energy Consumption of Residential Buildings	HU Shan, YAN Da, CUI Ying (117)
Simulation Analysis on Differences between Mechanical Ventilation and Natural Ventilation on Indoor Environment in Office Buildings	AN Jingjing, YAN Da, ZHOU Xin, SUN Kaiyu (124)
Research on a Large Office Building Indoor Air Quality and Fresh Air Supply Mode in Shanghai	XIN Jingjing, BU Zhen (134)
Analysis on Indoor Ventilation Environment under Real Living Conditions Based on Continuous Measurements	BU Zhen, XIN Jingjing, ZHENG Zhuling (139)
Investigation and Modelling of the Centralized Solar Domestic Hot Water System in Residential Buildings	YU Rui, GAO Yan, ZHANG Ye, FENG Xiaohang, YAN Da (146)
Testing and Investigative Research of Solar Domestic Hot Water System	CHEN Xilin, HAO Bin, PENG Chen, LIU Shan, WANG Shanshan, CHEN Hongbing (154)
Future Trend Analysis on Winter Heating in the Yangtze River Area	CUI Ying, YAN Da, GUO Siyue, HU Shan (162)
Study on Energy Saving and Thermal Comfort of Radiant Cooling Ceiling Air Conditioning System	LI Jintang, SUN Zongyu, LI Ji, ZOU Yu (169)
Research on the Simulation of Occupant Behavior in Buildings	
Current State and Future Perspective of Occupant Behavior Simulation in Buildings	YAN Da, FENG Xiaohang, WANG Chuang, Hong Tianzhen, William O' Brien, H. Burak Gunay, Farhang Tahmasebi, Ardeshir Mahdavi (178)
A Markov Chain and Event Based Model for Building Occupant Movement Process	WANG Chuang, YAN Da, FENG Xiaohang, SUN Hongshan, JIANG Yi (188)
A Description Method for Occupant Actions Related to Indoor Environment Control	WANG Chuang, YAN Da, SUN Hongshan, FENG Xiaohang, JIANG Yi (199)
Research on the Occupant Window Opening Behaviour in an Office Building in Beijing	PAN Song, XU Chuanqi, WEI Shen, Tarek M Hassan, XIE Lang, XIONG Yingzi, Pieter de Wilde (212)
Study on Shading Control Behavior in Office Buildings	LI Cui, LI Zhengrong, XIAO Lin (218)
Study on the ON Schedule of Split Air Conditioners in Apartments	JIAN Yiwen, GAO Meng, PEI Ze, CHANG Xiaoyan, LIU Zhaohui (222)
Research on the Definition of Air-conditioning Occupant Behavior in Office Building	CHEN Shuqin, PAN Yangyang, Hiroshi Yoshino, Mark D. Levine, ZHANG Xiyong (228)



建筑科学®

刊号:

ISSN 1002-8528
CN11-1962/TU

代号:

国内邮发 2-381
国外 BM4129

国内定价:

12.00元/期
144.00元/年