



ISSN 1000-4750 CN11-2595/O3
CODEN GOLIEB Ei 收录期刊

工程力学

第 32 卷 第 6 期

ENGINEERING MECHANICS

Vol. 32 No. 6



6

2015

《工程力学》杂志社
Engineering Mechanics Press

目 次

基本方法

- 考虑瞬态响应的薄板结构阻尼材料层拓扑优化..... 王 睿, 张晓鹏, 吴良武, 亢 战 (001)
- 索杆张力结构最不利预张力偏差的近似解析方法..... 夏巨伟, 邓 华 (008)
- 新型协同转动 3 节点三边形壳单元..... 向 宇, 李忠学, 张传杰 (015)
- CSM 在基于 Lamb 波的结构损伤检测中的应用 张 宇, 闫云聚, 余 龙, 袁著有 (022)
- 集中载荷下四边固支正交各向异性矩形板的线性弯曲问题..... 肖闪闪, 陈普会 (028)

土木工程学科

- 荷载作用下饱和水泥浆体中氯离子扩散性能研究..... 金 浏, 杜修力, 张仁波 (033)
- 双矩管装配式防屈曲支撑设计理论研究..... 姜子钦, 郭彦林, 张博浩, 王小安 (041)
- 中美高层钢筋混凝土框架-核心筒结构抗震设计对比 李梦珂, 卢 啸, 陆新征, 叶列平 (052)
- 基于向量式有限元的 T 单元及其在张拉索膜结构中的应用..... 向新岸, 董石麟, 冯 远, 刘宜丰 (062)
- 工厂加工制作的特殊构造梁柱节点抗震性能有限元分析.....
..... 胡方鑫, 施 刚, 石永久, 蔡建光, 厉亚宁, 孙 毅, 王海涛 (069)
- 基于等损伤的钢框架结构抗震性能优化..... 白久林, 杨 乐, 欧进萍 (076)
- 水工混凝土弥散型裂缝数值模型中开裂判据的研究..... 顾嘉丰, 任青文 (084)
- 离散-连续多尺度桥域耦合动力分析方法 李明广, 禹海涛, 王建华, 袁 勇, 陈锦剑 (092)
- 不同构造五边形钢管混凝土巨型柱轴压性能计算分析.....
..... 曹万林, 徐萌萌, 董宏英, 武海鹏, 王立长 (099)
- 索杆结构中索滑移行为分析的有限质点法..... 俞 锋, 罗尧治 (109)
- 几何非线性与徐变共同作用下三维杆系结构有限元分析..... 邓继华, 邵旭东, 谭 平 (117)
- 桥上 CRTSII 型道岔板砂浆离缝影响特性研究 齐少轩, 任娟娟, 刘学毅 (124)

目 次

差动和波浪力激励下海床-桩-墩-桥的地震弹塑性: 原理、方法、程序与智能建模.....	
..... 柳国环, 练继建, 燕 翔 (133)	
混凝土循环加卸载动态损伤特性研究.....	胡海蛟, 彭 刚, 谢玖杨, 王 敏 (141)
方钢管混凝土框架-薄钢板剪力墙边框柱刚度研究.....	王先铁, 马尤苏夫, 苏明周 (146)
基于实测频响函数列的地铁环境振动响应预测方法.....	吴宗臻, 刘维宁, 马龙祥, 王文斌 (155)
考虑主材节点刚域影响的钢管输电塔变截面梁单元有限元模型.....	
..... 刘海锋, 杨靖波, 韩军科, 胡晓光, 党会学 (162)	
冲击载荷作用下夹芯板的后屈曲研究.....	邓 磊, 王安稳 (171)
矩形截面高层建筑扭转向脉动风荷载数学模型.....	李永贵, 李秋胜, 戴益民 (177)
考虑膜材各向异性的膜结构褶皱分析.....	于 磊, 赵 阳, 王 震 (183)
Rayleigh 阻尼系数解法比较及对结构地震反应影响.....	潘旦光, 高莉莉 (192)
高雷诺数下高质量比圆柱涡致振动的数值模拟.....	卞正宁, 罗建辉 (200)
机械工程学科	
板结构-声场耦合分析的有限元-径向插值/有限元法.....	尹 辉, 于德介, 陈 宁, 夏百战 (207)
交叉式桁架臂弦杆单肢屈曲长度系数研究.....	成 凯, 赵二飞, 周振平, 孙武和 (215)
混流式水轮机小开度下导水机构内湍流特性和叶道涡结构研究.....	郭 涛, 张立翔 (222)
高转速对电主轴系统动力学特性的影响分析.....	汪 博, 孙 伟, 闻邦椿 (231)
温度场中输流碳纳米管的热弹性参数振动稳定性分析.....	梁 峰, 包日东 (238)
其他工程学科	
平流层飞艇的多目标优化与决策.....	孙晓颖, 李天娥, 陆正争, 武 岳, 王长国 (243)
TSV 转接板组装工艺对微凸点可靠性的影响.....	陈 思, 秦 飞, 夏国峰 (251)

CONTENTS**METHODOLOGIES**

- Topology optimization of damping layer in thin-plate structures considering transient response.....
..... WANG Rui , ZHANG Xiao-peng , WU Liang-wu , KANG Zhan (001)
- An approximate analytical method for unfavorable pretension deviations of cable-bar tensile structures
..... XIA Ju-wei , DENG Hua (008)
- Advanced 3-node co-rotational triangular shell element.....
..... XIANG Yu , LI Zhong-xue , ZHANG Chuan-jie (015)
- Application of CSM in Lamb wave based structural damage detection
..... ZHANG Yu , YAN Yun-ju , YU Long , XI Zhu-you (022)
- Analytical solutions for bending of clamped orthotropic rectangular plates under a concentrated force
..... XIAO Shan-shan , CHEN Pu-hui (028)

CIVIL ENGINEERING

- Chloride diffusivity in saturated cement paste subjected to external loadings.....
..... JIN Liu , DU Xiu-li , ZHANG Ren-bo (033)
- Theoretical study on design methods for double rectangular tube assembled buckling-restrained braces
..... JIANG Zi-qin , GUO Yan-lin , ZHANG Bo-hao , WANG Xiao-an (041)
- Comparison of seismic design of high-rise RC frame-core tube structure between China and America.....
..... LI Meng-ke , LU Xiao , LU Xin-zheng , YE Lie-ping (052)
- T-element based on vector form intrinsic finite element and its application to tensile cable-membrane structures
..... XIANG Xin-an , DONG Shi-lin , FENG Yuan , LIU Yi-feng (062)
- Finite element analysis on seismic performance of specifically pre-fabricated beam-column connections.....
..... HU Fang-xin , SHI Gang , SHI Yong-jiu , CAI Jian-guang , LI Ya-ning , SUN Yi , WANG Hai-tao (069)
- Aseismic performance optimization of steel frame structures based on uniform damage concept.....
..... BAI Jiu-lin , YANG Le , OU Jin-ping (076)
- Study on hydraulic concrete cracking criterion in smeared crack numerical model
..... GU Jia-feng , REN Qing-wen (084)
- Bridging coupled discrete-continuum multi-scale approach for dynamic analysis
..... LI Ming-guang , YU Hai-tao , WANG Jian-hua , YUAN Yong , CHEN Jin-jian (092)
- Analysis on axial compression behavior of pentagonal CFST mega columns
..... CAO Wan-lin , XU Meng-meng , DONG Hong-ying , WU Hai-peng , WANG Li-chang (099)
- The finite particle method for analysing cable sliding in cable-strut structures..... YU Feng , LUO Yao-zhi (109)
- Finite element analysis for 3-D frame structures under combined actions of geometric nonlinearity and creep....
..... DENG Ji-hua , SHAO Xu-dong , TAN Ping (117)
- Influence of debonding on the performance of CRTSII slab track turnouts on large bridges
..... QI Shao-xuan , REN Juan-juan , LIU Xue-yi (124)

CONTENTS

Elasto-plasticity analysis of bridge accounting for spatial variability of earthquake motions and bridge pile-piers-soil interaction: theory, method, program and intelligent modelling	
.....	LIU Guo-huan , LIAN Ji-jian , YAN Xiang (133)
Study on dynamic behaviour of concrete by cycle loading and unloading conditions	
.....	HU Hai-jiao , PENG Gang , XIE Jiu-yang , WANG Min (141)
Research on boundary columns stiffness of concrete-filled square steel tubular frame-thin steel plate shear walls	
.....	WANG Xian-tie , MA You-su-fu , SU Ming-zhou (146)
Prediction method for metro environmental vibrations based on measured frequency response functions.....	
.....	WU Zong-zhen , LIU Wei-ning , MA Long-xiang , WANG Wen-bin (155)
Finite element model of varied-section beam element for tubular transmission tower considering rigid zones of main members	LIU Hai-feng , YANG Jing-bo , HAN Jun-ke , HU Xiao-guang , DANG Hui-xue (162)
Research on the post-buckling of sandwich plates under impact load.....	DENG Lei , WANG An-wen (171)
Mathematical models for torsional fluctuating wind loads on rectangular tall buildings.....	
.....	LI Yong-gui , LI Qiu-sheng , DAI Yi-min (177)
Wrinkling analysis of membrane structures accounting for anisotropic property	
.....	YU Lei , ZHAO Yang , WANG Zhen (183)
Comparison of determination methods for Rayleigh damping coefficients and effects on seismic responses of structures	PAN Dan-guang , GAO Li-li (192)
Numerical VIV simulation of circular cylinder at high mass ratio and high reynolds number.....	
.....	BIAN Zheng-ning , LUO Jian-hui (200)

MECHANICAL ENGINEERING

A finite element-radial point interpolation and finite element method for the analysis of plate structural-acoustic coupling systems	YIN Hui , YU De-jie , CHEN Ning , XIA Bai-zhan (207)
Research on chord-buckling-length coefficient of cross-type lattice boom	
.....	CHENG Kai , ZHAO Er-fei , ZHOU Zhen-ping , SUN Wu-he (215)
Numerical study on turbulence characteristics in francis turbine under small opening condition.....	
.....	GUO Tao , ZHANG Li-xiang (222)
The effect of high speeds on dynamic characteristics of motorized spindle system	
.....	WANG Bo , SUN Wei , WEN Bang-chuan (231)
Thermoelastic parametric resonance stability of a fluid- conveying carbon nanotube in temperature fields	
.....	LIANG Feng , BAO Ri-dong (238)

OTHER ENGINEERING DISCIPLINES

Multi-objective optimization and decision making of stratosphere airships	
.....	SUN Xiao-ying , LI Tian-e , LU Zheng-zheng , WU Yue , WANG Chang-guo (243)
Effects of TSV interposer assembly process on reliability of microbumps.....	
.....	CHEN Si , QIN Fei , XIA Guo-feng (251)

本刊责任编辑：黄丽艳
本刊责任编辑：崔京浩

工程力学
Gongcheng Lixue

(月刊)

2015 年 第 32 卷 第 6 期

ENGINEERING MECHANICS

(Monthly)

Vol.32 No.6 2015

主管单位	中国科学技术协会	Supervisor	China Association for Science and Technology
主办单位	中国力学学会	Sponsor	The Chinese Society of Theoretical and Applied Mechanics
出版单位	《工程力学》杂志社	Publication	Engineering Mechanics Press
杂志社地址	北京清华大学新水利馆 114 室 《工程力学》杂志社 邮政编码 100084 电 话 (010)62788648 传 真 (010)62788648 电子信箱: gclxbjb@tsinghua.edu.cn 网 址: http://gclx.tsinghua.edu.cn	Editorial Office	Engineering Mechanics Press Room 114, New Hydraulic Building Tsinghua University, 100084, Beijing, China Tel. : +86-10-62788648 Fax : +86-10-62788648 E-mail: gclxbjb@tsinghua.edu.cn Website: http:// gclx.tsinghua.edu.cn
印刷单位	北京科信印刷有限公司	Printing	Beijing Kexin Printing Co., Ltd
发 行	国外: 中国国际图书贸易总公司 国内: 北京报刊发行局 全国各地邮局均可订购 邮发代号 82-862	Distributors	Abroad: China International Book Trading Corporation Domestic: Beijing Newspapers & Periodicals Distribution Bureau (Code: 82-862)
杂志社法人、社长	袁 驷	Head and Representative of artificial person	Yuan Si
编委会主编	袁 驷	Editor-in-Chief	Yuan Si
名 誉 主 编	崔京浩	Honorary Editor-in-Chief	Cui Jinghao
编辑部主任	黄丽艳	Director of Editorial Office	Huang Liyan

国际标准刊号 ISSN1000-4750 国内统一刊号 CN11-2595/O3
美国国际刊名代码中心授予的国际刊名代码 (CODEN) GOLIEB
百种中国杰出学术期刊, 工业技术类核心期刊, O3 力学类核心期刊
RCCSE 中国权威学术期刊(A⁺)
工程索引(Ei)收录期刊

定价: 55.00
每月下旬出版

ISSN 1000-4750

