

目 次

基于 ERA 的统计能量分析参数确定方法..... 孔宪仁, 张红亮 (1)

基于二次样条小波细节信号峰值的有效奇异值确定 赵学智, 向 可, 叶邦彦, 等 (6)

索穹顶结构局部断索分析 何 健, 袁行飞, 金 波 (13)

超空泡流下壳结构模型动态特性实验研究 杨传武, 王安稳, 施连会, 等 (17)

理想塑性非线性弹簧支撑刚性圆柱涡激振动响应 艾尚茂, 孙丽萍 (21)

Hilbert 边际谱在框架结构损伤检测中的应用 杨智春, 张慕宇, 丁 燕, 等 (26)

基于非线性动力学的滚动轴承故障工程建模与分析 张建军, 王仲生, 芦玉华, 等 (30)

基于有限元的结构动力学响应映射技术研究 王 轲, 张 方, 陈国平, 等 (35)

汽车镁质复合仪表板传声损失的实验及仿真研究 陈馨蕊, 郝志勇, 刘 迟 (38)

金属薄板与加筋板爆炸冲击响应研究进展 蒋志刚, 白志海, 严 波, 等 (41)

结合面静态接触参数的统计模型研究 尤晋闽, 陈天宁 (47)

压缩机噪声的跟踪采样近场声全息实验研究 张海滨, 蒋伟康, 万 泉 (51)

振动控制中压电作动器非线性的补偿方法研究 胡 芳, 张志谊, 华宏星 (55)

大悬臂板矩形截面箱梁动力反应的分析 甘亚南, 周广春, 赫中营 (61)

大跨开合式屋盖峰值风压的试验研究 李寿科, 李寿英, 陈政清, 等 (66)

基于 B 样条插值的局部均值分解方法研究 王明达, 张来斌, 梁 伟, 等 (73)

铁道车辆 - 轨道 - 高架桥耦合系统振动功率流分析 李增光, 吴天行 (78)

城市轨道列车噪声辐射特性的试验研究 张海滨, 蒋伟康, 万 泉 (83)

库仑阻尼系统的冲击响应研究 张 萌, 张振山, 张文群 (87)

火炮最优射击稳定性设计研究 赵纪华 (91)

参数不确定漂浮基柔性空间机械臂载体姿态、关节协调运动及柔性振动主动抑制的混合控制方案
..... 洪昭斌, 陈 力 (94)

考虑桩 - 土 - 结构相互作用的结构振动控制研究..... 邹立华, 方雷庆 (100)

旋转式惯性压电电机的振子模型研究..... 邢继春, 许立忠, 梁永丽 (105)

冲击载荷下玄武岩纤维增强混凝土的动态本构关系..... 范飞林, 叶学华, 许金余, 等 (110)

基于样本熵快速算法的心音信号动力学分析 王新沛, 杨 静, 李远洋, 等 (115)

基于能量系数 - 有效独立法的桥梁结构传感器优化布置..... 杨雅勋, 郝宪武, 孙 磊 (119)

冲击碾压改建旧水泥混凝土路面施工时的地基振动特性..... 胡昌斌, 阙 云 (124)

关于非自治 Duffing-Van der Pol 混沌系统完全同步的研究 杨晓丽, 孙中奎 (131)

气动力作用下高速车辆横向稳定性分析..... 李 鹏, 杨翊仁, 鲁 丽 (135)

用于抑震的磁流变阻尼器磁路设计与力学性能研究..... 赵 杰, 李军强, 臧希喆, 等 (139)

基于动力有限元法的车辙预估计算方法及其应用	李丽氏, 何兆益, 张国祥, 等	(143)
柔性桩隔震消能体系的振动控制研究	邹立华, 孙琪, 方雷庆, 等	(147)
一种模拟人耳实现噪声分类的方法	郭伟, 左曙光, 李徐钢	(152)
基于优化准则的约束阻尼材料优化配置	郑玲, 谢熔炉, 王宜, 等	(156)
中国典型道路谱数据库的开发与应用	谢飞, 段虎明, 马颖, 等	(160)
轮船艏部正撞刚性墙面的基本冲击荷载模型	王君杰, 孟德巍, 欧碧峰	(165)
舰用柴油机抗冲击性能频域分析	计晨, 汪玉, 赵建华, 等	(171)
微波干涉测量在高层建筑动态监测中的应用	刁建鹏	(177)
基于动力刚度法的体外预应力梁自振频率分析	熊学玉, 沈小东	(180)
单平动轮驱动内平动齿轮副动力学分析	杨建鑫, 周松华, 程爱明, 等	(183)
MMAS 与粗糙集在齿轮箱故障诊断中的应用	沈仁发, 郑海起, 金海薇, 等	(190)
槽形梁动力反应分析的能量变分法	甘亚南, 周广春, 赫中营	(195)
贯穿裂纹管局部柔度系数的理论与试验研究	胡家顺, 孙文勇, 牛蕴, 等	(199)
机械振动信号的听觉谱表达及其特性研究	李允公, 张金萍, 戴丽, 等	(204)
无碴轨道车组运行引起的场地振动试验研究	葛勇, 张希黔, 肖正直, 等	(209)
含转轴裂纹的离心叶轮转子非线性动力学特性研究	李同杰, 王娟, 陈云香, 等	(213)
基于遗传算法的 LQR 算法中权矩阵的优化分析	郭一峰, 徐赵东, 涂青, 等	(217)
附带有考虑集中质量的转动惯性的梁固有振动分析	王栋	(221)
基于核主成分分析及支持向量机的水轮机叶片裂纹源定位	王向红, 朱昌明, 毛汉领, 等	(226)
考虑人-结构相互作用的楼盖振动控制研究	樊健生, 李泉, 李全旺, 等	(230)
基于 Hilbert-Huang 变换的大跨桥梁非线性抖振响应时频分析	马麟, 刘健新, 韩万水, 等	(237)

科研简报

湿陷性黄土中基桩浸水前后刚度变化的试验研究	宋立伟, 苏跃宏, 刘博	(242)
基于混合模型的转子临界转速计算	李超, 刘延峰, 艾丽昆	(245)

本期广告索引

彩色、单色广告

封二	杭州亿恒科技有限公司
封三	北京东方振动和噪声技术研究所
封四	北京声望声电技术有限公司
前插 1	杭州亿恒科技有限公司
前插 2	德维创中国有限公司
前插 3	德国 m+p 国际公司北京代表处

前插 4	南京安正软件工程有限公司
前插 5	南京安正软件工程有限公司
前插 6	比利时 LMS 北京代表处

单色、彩色广告

后插 1	武汉优泰电子技术有限公司
后插 2	中国测试技术研究院机械测试研究所
后插 3	上海君协光电科技发展有限公司

CONTENTS

Identification of statistical energy analysis parameters based on ERA	KONG Xian-ren, ZHANG Hong-liang (1)
Determination of effective singular values based on detailed signal peak with quadratic spline wavelet	ZHAO Xue-zhi, XIANG Ke, YE Bang-yan, et al (6)
Analysis of cable domes with rupture of local cable	HE Jian, YUAN Xing-fei, JIN Bo (13)
Experimental investigation on dynamic characteristics of a shell model under supercavitation	YANG Chuan-wu, WANG An-wen, SHI Lian-hui, et al (17)
Vortex induced vibration response of a rigid cylinder supported with perfectly plastic nonlinear springs	AI Shang-mao, SUN Li-ping (21)
Application of Hilbert marginal spectrum in damage detection of a frame structure	YANG Zhi-chun, ZHANG Mu-yu, DING Yan, et al (26)
Nonlinear dynamic modeling for localized defects in a rolling element bearing	ZHANG Jian-jun, WANG Zhong-sheng, LU Yu-hua, et al (30)
Response mapping technique of structural dynamics based on finite element model	WANG Ke, ZHANG Fang, CHEN Guo-ping, et al (35)
Test and simulation of sound transmission loss for a magnesium alloy laminated automotive dash	CHEN Xin-rui, HAO Zhi-yong, LIU Chi (38)
Advances in study on impact response of thin and stiffened metal plates under blast loading	JIANG Zhi-gang, BAI Zhi-hai, YAN Bo, et al (41)
Statistical model for static contact parameters of joint surfaces	YOU Jin-min, CHEN Tian-ning (47)
Acoustic field test of a rolling-piston compressor using nearfield acoustic holography combined with track-sampling	ZHANG Hai-bin, JIANG Wei-kang, WAN Quan (51)
A compensation method for nonlinearity of piezoelectric actuators in vibration control	HU Fang, ZHANG Zhi-yi, HUA Hong-xing (55)
Dynamic response analysis for a large cantilever rectangular box girder in consideration of shear lag effect	GAN Ya-nan, ZHOU Guang-chun, HE Zhong-ying (61)
Peak factors of extreme wind pressure on a retractable stadium roof	LI Shou-ke, LI Shou-ying, CHEN Zheng-qing, et al (66)
Local mean decomposition method based on B-spline interpolation	WANG Ming-da, ZHANG Lai-bin, LIANG Wei, et al (73)
Analysis of vibration power flow for a railway vehicle-track-viaduct coupled system	LI Zeng-guang, WU Tian-xing (78)
Experimental investigation on noise radiation characteristics of an urban transit train at moderate and low speeds	ZHANG Hai-bin, JIANG Wei-kang, WAN Quan (83)
Shock response of a system with coulomb damping	ZHANG Meng, ZHANG Zhen-shan, ZHANG Wen-qun (87)
Optimal firing stability design for a gun	ZHAO Ji-hua (91)
Hybrid control scheme of coordinated motion and active vibration control for a free-floating space flexible manipulator with parameter uncertainty	HONG Zhao-bin, CHEN Li (94)
Structural vibration control considering pile-soil-structure dynamic interaction ...	ZOU Li-hua, FANG Lei-qing (100)
A vibrator model for a piezoelectric motor with rotary inertia ...	XING Ji-chun, XU Li-zhong, LIANG Yong-li (105)
Dynamic constitutive relation of basalt fiber reinforced concrete under impact loading	FAN Fei-lin, YE Xue-hua, XU Jin-yu, et al (110)
Dynamic analysis of heart sound signal with a sample entropy fast algorithm	WANG Xin-pei, YANG Jing, LI Yuan-yang, et al (115)
Optimal placement of sensors for a bridge structure based on energy coefficient-effective independence method	YANG Ya-xun, HAO Xian-wu, SUN Lei (119)
Subgrade vibration characteristics during PCC pavement rehabilitation with impact roller	HU Chang-Bin, QUE Yun (124)
Research on complete synchronization of non-autonomous chaotic Duffing-Van Der Pol systems	YANG Xiao-li, SUN Zhong-kui (131)

Lateral stability of a high-speed train under aerodynamic force	LI Peng, YANG Yi-ren, LU Li (135)
Magnetic circuit design and mechanical performance study for a MR damper	ZHAO Jie, LI Jun-qiang, ZANG Xi-zhe, et al (139)
Calculation method for rutting prediction based on dynamic FEM	LI Li-min, HE Zhao-yi, ZHANG Guo-xiang, et al (143)
Vibration control of a flexible pile base-isolated structure	ZOU Li-hua, SUN Qi, FANG Lei-qing, et al (147)
A human ear simulation model for noise classification	GUO Wei, ZUO Shu-guang, LI Xu-gang (152)
Optimal placement of constrained damping material in structures based on optimality criteria	ZHENG Ling, XIE Rong-lu, WANG Yi, et al (156)
Development and application of typical road spectrum database in China	XIE Fei, DUAN Hu-ming, MA Ying, et al (160)
Basic impact loading models for head bow-on collision between a ship and a rigid wall	WANG Jun-jie, MENG De-wei, OU Bi-feng (165)
Frequency domain analysis of marine diesel anti-shock capability	JI Chen, WANG Yu, ZHAO Jian-hua, et al (171)
Application of microwave interferometer in dynamic monitoring of a high-rising building	DIAO Jian-peng (177)
Dynamic stiffness matrix method for vibration analysis of an external prestressed beam	XIONG Xue-yu, SHEN Xiao-dong (180)
Non-linear dynamic analysis of an internal parallel moving gear system driven by single parallel moving gear	YANG Jian-xin, ZHOU Song-hua, CHENG Ai-ming, et al (183)
Application of MMAS and rough sets in fault diagnosis of gearbox	SHEN Ren-fa, ZHENG Hai-qi, JIN Hai-wei, et al (190)
Dynamic response of U-shape beams in consideration of shear lag effect	GAN Ya-nan, ZHOU Guang-chun, HE Zhong-ying (195)
Local flexibility of a pipe with a through circumferential crack	HU Jia-shun, SUN Wen-yong, NIU Yun, et al (199)
Auditory spectrum of mechanical vibration signal and its characteristics	LI Yun-gong, ZHANG Jin-ping, DAI Li, et al (204)
A test of the ground vibrations induced by ballastless truck running	GE Yong, ZHANG Xi-qian, XIAO Zheng-zhi, et al (209)
Bifurcation characteristics of a cracked centrifugal impeller-rotor with lateral fluid force	LI Tong-jie, WANG Juan, CHEN Yun-xiang, et al (213)
Optimal analysis for weight matrices in LQR algorithm based on genetic algorithm	GUO Yi-feng, XU Zhao-dong, TU Qing, et al (217)
Vibration analysis of a beam carrying lumped masses with both translational and rotary inertias ...	WANG Dong (221)
Source location of cracks in a turbine blade based on kernel principal component analysis and support vector machines	WANG Xiang-hong, ZHU Chang-ming, MAO Han-ling, et al (226)
Floor vibration control considering human-structure interaction	FAN Jian-sheng, LI Quan, LI Quan-wang, et al (230)
Time-frequency analysis for nonlinear buffeting response of a long-span bridge based on HHT	MA Lin, LIU Jian-xin, HAN Wan-shui, et al (237)

Research Notes

Stiffness change of a pile in collapsible loess before and after soaked ...	SONG Li-wei, SU Yue-hong, LIU Bo (242)
Rotor critical speed calculation based on a mixed modeling method	LI Chao, LIU Yan-feng, AI Li-kun (245)

JOURNAL OF VIBRATION AND SHOCK

Vol. 29 No. 11 NOVEMBER 2010

Editorial Office: 1954 Huashan Rd. Shanghai, China

Issuer Abroad: China National Publishing Industry Trading Corporation

(Post-Office Box No. 728, Beijing, China)