VP Vibroengineering PROCEDIA


Aims and Scope

Original papers containing developments in vibroengineering of dynamical systems (macro-, micro-, nano- mechanical, mechatronic, biomechanics and etc. systems).

The following subjects are principal topics: vibration and wave processes; vibration and wave technologies; nonlinear vibrations; vibroshock systems; generation of vibrations and waves; vibrostabilization; transformation of motion by vibrations and waves; dynamics of intelligent mechanical systems; vibration control, identification, diagnostics and monitoring.

All published papers are peer reviewed.

General Requirements

The authors must ensure that the paper presents an original unpublished work which is not under consideration for publication elsewhere.

The following structure of the manuscript is recommended: abstract, keywords, nomenclature, introduction, main text, results, conclusions and references. Manuscript should be single-spaced, one column 162×240 mm format, using Microsoft Word 2007 or higher. Margins: top 10 mm, bottom 10 mm, left 15 mm, right 10 mm, header 4 mm, footer 7 mm.

Font: Times New Roman. Title of the article 16 pt Bold, authors name 10 pt Bold, title of the institution 9 pt Regular, equations and text 10 pt Regular, indexes 5 pt Regular, all symbols Italic, vectors Bold, numbers Regular. Paragraph first line indentation 5 mm. Equations are to be written with Microsoft Office 2007 or higher Equation Tool.

Heading of the table starts with table number 9 pt Bold as “Table 1.”, then further text 9 pt Regular. Table itself 9 pt Regular.

Figure caption starts with figure number 9 pt Bold as “Fig. 1.”, then further text 9 pt Regular. Figure itself must be a single or grouped graphical item.

Tables and figures are placed after the paragraph in which they are first referenced.

List of references: reference number and authors 9 pt Bold, further information 9 pt Regular:


The authors are responsible for the correctness of the English language.

Vibroengineering PROCEDIA is referred in:

SCOPUS: ELSEVIER Bibliographic Database.
COMPENDEX: ELSEVIER Bibliographic Database.
EBSCO: Academic Search Complete;
          Computers & Applied Sciences Complete;
          Central & Eastern European Academic Source;
          Current Abstracts;
          TOC Premier.
INSPEC: OCLC. The Database for Physics, Electronics and Computing.
GOOGLE SCHOLAR: http://scholar.google.com

Internet: http://www.jveconferences.com; http://www.jve.lt
E-mail: m.ragulskis@jve.lt; conferences@jve.lt
Address: Gėlių ratas 15A, LT-50282, Kaunas, Lithuania
Publisher: JVE International Ltd.
# Contents

## Conference Committee

1

## Mechanical Vibrations and Applications

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forced vibration frequency response for a permanent magnetic planetary gear</td>
<td>3</td>
</tr>
<tr>
<td>Xuejun Zhu, XiuHong Hao, Minggui Qu</td>
<td></td>
</tr>
<tr>
<td>Thermodynamic performance analysis and improvement for cross-saddle type slide of electric discharge machine</td>
<td>9</td>
</tr>
<tr>
<td>Fuping Li, Ying Li, Zhifeng Liu, QiuShi Hu, Jianyong Liu, Yan Li</td>
<td></td>
</tr>
<tr>
<td>The substantiating of the dynamic parameters of the shaking conveyor mechanism</td>
<td>15</td>
</tr>
<tr>
<td>Zhauyt Algazy</td>
<td></td>
</tr>
<tr>
<td>Simulation of engraving process of large-caliber artillery using coupled Eulerian-Lagrangian method</td>
<td>21</td>
</tr>
<tr>
<td>Zhili, Jianli Ge, Guolai Yang, Jun Tang</td>
<td></td>
</tr>
<tr>
<td>Application of wave based method for predicting the response of coupled vibro-acoustic system with unconstrained damping layer</td>
<td>27</td>
</tr>
<tr>
<td>Xiaojun Xia, Zhongming Xu, Shiyang Lai, Zhifei Zhang, Yansong He</td>
<td></td>
</tr>
<tr>
<td>Environmental vibration resonances of precise bearing platform built on soft soils</td>
<td>33</td>
</tr>
<tr>
<td>Ping Xu, Xiaohui Yuan</td>
<td></td>
</tr>
<tr>
<td>Differences of dynamic behaviors of face gear drives between time varying and average mesh stiffness</td>
<td>38</td>
</tr>
<tr>
<td>Zhengminqing Li, Bei Zhou, Xiaodong Xu, Rupeng Zhu</td>
<td></td>
</tr>
<tr>
<td>Technology of high-speed storage for target signal based on ARM7 + double NAND memory</td>
<td>42</td>
</tr>
<tr>
<td>Chaowei Li, Jin Gao, Xin Cao, Chen Shi</td>
<td></td>
</tr>
<tr>
<td>Application and measurement of underwater acoustic reciprocity transfer functions with impulse sound sources</td>
<td>48</td>
</tr>
<tr>
<td>Cheng Guo, Xu Rongwu, He Lin</td>
<td></td>
</tr>
<tr>
<td>Investigation on dynamic characteristics of mechanical assembly</td>
<td>53</td>
</tr>
<tr>
<td>Guang-qing Lu, Jun Wang, Dong-mei Pang</td>
<td></td>
</tr>
</tbody>
</table>
A COMPARISON STUDY ON APPLICATION OF MODEL REDUCTION METHODS IN ROTOR DYNAMICS
Fei Wang, Guihuo Luo

STUDY OF THE INFLUENCE OF THE RESONANCE CHANGER ON THE LONGITUDINAL VIBRATION OF MARINE PROPULSION SHAFTING SYSTEM
Zhengmin Li, Lin He, Hanguo Cui, Jiangyang He, Wei Xu

REDUCED ORDER MODELING FOR ELASTIC-PLASTIC TRANSIENT ANALYSIS WITH COMPONENT MODE SYNTHESIS
Peng-Bo Qian, Lin-Fang Qian, Xiao-Chun Yin

A RESEARCH ON THE DYNAMIC CHARACTERISTICS OF AXIALLY MOVING BEAM UNDER THERMAL SHOCK
X. Yang, H. B. Chen

PLANETARY GEARBOXES PERFORMANCE DEGRADATION ANALYSIS AND PREDICTION
Xin Zhang, Jianmin Zhao, Xianglong Ni, Fucheng Sun

DESIGN OF A FLYWHEEL ENERGY STORAGE SYSTEM FOR WIND POWER FLUCTUATION SUPPRESSION
Changliang Tang, Xingjian Dai, Xiaochun Jiang

MULTI-OBJECTIVE OPTIMIZATION DESIGN OF SHIP PROPULSION SHAFTING BASED ON THE MULTI-ATTRIBUTE DECISION MAKING
Haifeng Li, Jingjun Lou, Xuewei Liu

RESEARCH ON THE TECHNOLOGY OF SEALING DISK-BAFFLE INTEGRATED STRUCTURE DESIGN
Ting Jin, Guihuo Luo, Qingping Wang, Zhaojun Feng

RESEARCH ON INFLUENCES OF GEOMETRY PARAMETERS ON FLOATING-RING SQUEEZE FILM DAMPER
Yao Fu, Guihuo Luo

AISI 4340 DETENTION BEHAVIORS IN HIGH TEMPERATURE ENVIRONMENT
Thasin Suansakaew

MODELING AND CONTROL OF A DEMONSTRATIVE PROTOTYPE FOR PLATFORM MULTI-LAUNCHER ROCKET SYSTEM USING LAGRANGE’S EQUATION AND CATIA SIMULATION
Parkpoom Chokchairungroj, Narongkorn Dernlugkam

FAULT DIAGNOSIS BASED ON VIBRATION SIGNAL ANALYSIS

SCREW LIFETIME PREDICTION BASED ON WAVELET NEURAL NETWORK AND EMPIRICAL MODE DECOMPOSITION
Xiaochen Zhang, Hongli Gao, Haifeng Huang, Li Zhang, Zhiwen Peng

DYNAMIC STRESS INTENSITY FACTOR OF A FINITE CRACK BASED ON A FRACTIONAL DIFFERENTIAL MODEL
Runtao Zhan, Zhaoxia Li

ANALYSIS OF THE DYNAMIC STIFFNESS AND BEARING CAPACITY FOR PILE FOUNDATIONS
Jianlei Liu, Meng Ma

A METHOD OF STRAIN MEASUREMENT BASED ON FIBER BRAGG GRATING SENSORS
Qiang Chen, Xiang Zhang, Ying Chen, Xiaoyan Zhang

RESEARCH ON FRICTION PARAMETER IDENTIFICATION UNDER THE INFLUENCE OF VIBRATION AND COLLISION
Qiang Chen, Yingjun Wang, Ying Chen

A DEEP LEARNING METHOD USING SDA COMBINED WITH DROPOUT FOR BEARING FAULT DIAGNOSIS
Wanlin Zhao, Chen Lu, Jian Ma, Zili Wang
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>MULTIPLE DAMAGE DETECTION IN BEAMS IN NOISY CONDITIONS USING...</td>
<td>157</td>
</tr>
<tr>
<td>COMPLEX-WAVELET MODAL CURVATURE BY LASER MEASUREMENT</td>
<td></td>
</tr>
<tr>
<td>W. Xu, M. S. Cao, M. Radzienski, W. Ostachowicz</td>
<td></td>
</tr>
<tr>
<td>EXPERIMENTAL RESEARCH ON DYNAMIC CHARACTERISTICS OF GAS BEARING-ROTOR WITH DIFFERENT RADIAL CLEARANCES</td>
<td>163</td>
</tr>
<tr>
<td>LONG Hao, Jinfu Yang, Dongjiang Han, Changliang Tang</td>
<td></td>
</tr>
<tr>
<td>A CENTRIFugal PUMP FAULT DIAGNOSIS APPROACH BASED on LCD-ApEn and PNN</td>
<td>169</td>
</tr>
<tr>
<td>Yang Wang, Chen Lu, LianFeng Li, Ye Tian</td>
<td></td>
</tr>
<tr>
<td>THE IMPROVED METHOD OF COHERENT SOURCES WITH DOUBLE LAYERS</td>
<td>175</td>
</tr>
<tr>
<td>Jin Mao, Zhongming Xu, Yansong He, Zhifei Zhang, Shu Li</td>
<td></td>
</tr>
<tr>
<td>STATOR VIBRATION OF GENERATOR UNDER SAERISC FAULTS</td>
<td>181</td>
</tr>
<tr>
<td>Meng-Qiang Ke, Yu-Ling He, Gui-Ji Tang, Fa-Lin Wang</td>
<td></td>
</tr>
<tr>
<td>FAULT DIAGNOSIS OF ROLLING BEARING WITH INCOMPLETE LABELS USING WEAKLY LABELED SUPPORT VECTOR MACHINE</td>
<td>187</td>
</tr>
<tr>
<td>Zhou Bo, Lu Chen, Wang Zhenya</td>
<td></td>
</tr>
<tr>
<td>A NEW DAMAGE IMAGING METHOD BASED ON LAMB WAVE WAVENUMBER RESPONSE</td>
<td>193</td>
</tr>
<tr>
<td>and PZT 2D CROSS-SHAPED ARRAY</td>
<td></td>
</tr>
<tr>
<td>Lei Qiu, Shenfang Yuan, Zhongqing Su, Bin Liu</td>
<td></td>
</tr>
<tr>
<td>ROLLING ELEMENT BEARINGS FAULT DIAGNOSIS BASED ON CEEMD AND SVM</td>
<td>199</td>
</tr>
<tr>
<td>Tao-tao Zhou, Xian-ming Zhu, Yan Liu, Wei-cai Peng</td>
<td></td>
</tr>
<tr>
<td>THE INFLUENCE OF NON-LINEARLY VARIABLE NORMAL LOAD ON THE RESONANT VIBRATION OF SHROUDED BLADE</td>
<td>205</td>
</tr>
<tr>
<td>Shun Jin, Yanrong Wang</td>
<td></td>
</tr>
<tr>
<td>ROLLING BEARING FAULT DIAGNOSIS BASED ON ENSEMBLE EMPIRICAL MODE...</td>
<td>211</td>
</tr>
<tr>
<td>DECOMPOSITION, INFORMATION ENTROPY AND RANDOM FORESTS</td>
<td></td>
</tr>
<tr>
<td>Wei-Li Qin, Wen-Jin Zhang, Chen Lu</td>
<td></td>
</tr>
<tr>
<td>NON-CONTACT STRUCTURAL VIBRATION MONITORING UNDER VARYING...</td>
<td>217</td>
</tr>
<tr>
<td>ENVIRONMENTAL CONDITIONS</td>
<td></td>
</tr>
<tr>
<td>C. Z. Dong, X. W. Ye, T. Liu</td>
<td></td>
</tr>
<tr>
<td>HYDRAULIC PUMP FAULT DIAGNOSIS WITH COMPRESSED SIGNALS BASED ON...</td>
<td>223</td>
</tr>
<tr>
<td>STAGewise ORTHOGONAL MATCHING PURSUIT</td>
<td></td>
</tr>
<tr>
<td>Zihan Chen, Chen Lu, Hang Yuan</td>
<td></td>
</tr>
<tr>
<td>ROLLING BEARING FAULT DIAGNOSIS USING IMPROVED LCD-TEO AND SOFTMAX CLASSIFIER</td>
<td>229</td>
</tr>
<tr>
<td>Hongmei Liu, Lianfeng Li, Wanlin Zhao, Chen Lu</td>
<td></td>
</tr>
<tr>
<td>SENSOR PLACEMENT IN THE NOISE SOURCE IDENTIFICATION BASED ON ACOUSTIC RADIATION MODES</td>
<td>235</td>
</tr>
<tr>
<td>Jun-Bo Su, Hai-Chao Zhu, Rong-Fu Mao, Chang-Wei Su, Liang Guo</td>
<td></td>
</tr>
<tr>
<td>CLOUD-STRUCTURAL HEALTH MONITORING BASED ON SMARTPHONE</td>
<td>241</td>
</tr>
<tr>
<td>Xuefeng Zhao, Yan Yu, Mingchu Li, Jinpeng Ou</td>
<td></td>
</tr>
<tr>
<td>THE SOURCE LOCALIZATION TECHNIQUE BASED ON IMPROVED FUNCTIONAL BEAMFORMING USING A VIRTUAL ARRAY</td>
<td>247</td>
</tr>
<tr>
<td>Shu Li, Zhongming Xu, Yansong He, Zhifei Zhang, Shaoyu Song</td>
<td></td>
</tr>
<tr>
<td>PLANETARY GEARBOX REMAINING USEFUL LIFE ESTIMATION BASED ON STATE SPACE MODEL</td>
<td>253</td>
</tr>
<tr>
<td>Xianglong Ni, Jianmin Zhao, Jichao Chen, Haiping Li</td>
<td></td>
</tr>
<tr>
<td>SIMULATION OF ULTRASONIC SAFT IMAGING ON CONCRETE BLOCK USING MOBILE PML ABSORBING BOUNDARY</td>
<td>259</td>
</tr>
<tr>
<td>Zhi-Kai Fu, Li-Hua Shi, Zhen-Jian Lv</td>
<td></td>
</tr>
<tr>
<td>NUMERICAL VALIDATION OF A DAMAGE DIAGNOSIS METHOD FOR ARCH BRIDGES HANGERS</td>
<td>264</td>
</tr>
<tr>
<td>Yonghui An, Delong Guan, Jinpeng Ou</td>
<td></td>
</tr>
</tbody>
</table>
CONTENTS

GEARBOX FAULT DIAGNOSIS BASED ON AUTOCORRELATION AND HHT 270
Fucheng Sun, Wenyuan Song, Hailong Shang

ADAPTIVE ALGORITHM WITH VARIABLE STEP SIZE FOR NUMERICAL ANALYSIS ON NONLINEAR FATIGUE DAMAGE ACCUMULATION OF STEEL BRIDGE 275
X. Y. Wang, Z. X. Li

Yi Chen Yuan, Lin Li, Hongping Zhu

VIBRATION CHARACTERISTICS ANALYSIS OF A CENTRIFUGAL IMPELLER 287
Di Wang, Guihuo Luo, Fei Wang

A NEW MACHINERY DIAGNOSIS METHOD BASED ON COMPLEX BILATERAL SPECTRUM 292
Jian Xu, Yongsheng Zhang

REVIEW OF DAMAGE PROBLEMS OF THE SOFT SUBSTRATE INTERLAYER FILM 297
Yuan Li, Qian Chen, Linan Li, Shibin Wang, Zhiyong Wang

VIBRATION SIGNAL SIMULATION OF PLANETARY GEARBOX BASED ON MOTION PROCESS MODELING 303
Jianmin Zhao, Haiping Li, Jian Liu, Fansheng Kong

ANALYSIS ON FATIGUE LIFE OF A CERTAIN GEAR TRANSMISSION SYSTEM 309
Zhou Jie, Jia Yun Xian, Liu Xin

PREVENTIVE MAINTENANCE OPTIMIZATION POLICY BASED ON A THREE-STAGE FAILURE PROCESS IN INFINITE TIME HORIZON 315
Ruifeng Yang, Jianshe Kang, Lei Tang

BEARING FAULT DIAGNOSIS BASED ON ACTIVE LEARNING AND RANDOM FOREST 321
Jiayu Chen, Chen Lu, Hang Yuan

A HIGH-THROUGHPUT WSN FOR STRUCTURAL HEALTH MONITORING 327
Shang Gao, Shenfang Yuan

A VIBRATION-BASED DAMAGE IDENTIFICATION TECHNIQUE FREE OF STRUCTURAL BASELINE INFORMATION: EXPERIMENTAL VALIDATION IN MULTI-COMPONENT PLANE STRUCTURE 334
H. Xu, Z. Su, L. Cheng, M. S. Cao

DAMAGE IDENTIFICATION USING SINGULAR VALUE FEATURE OF CONTINUOUS WAVELET COEFFICIENTS 339
Z. C. Ding, M. S. Cao, S. S. Wang

VIBRATION GENERATION AND CONTROL

RESEARCH ON APPLICATION OF PATCH NEAR-FIELD ACOUSTIC HOLOGRAPHY USING ACOUSTIC RADIATION MODES WITH DOUBLE LAYERS 345
Guo Liang, Zhu Haichao, Mao Rongfu

RESEARCH ON ACTIVE CONTROL STRATEGY OF VIBRATION IN COMPLEX ENVIRONMENT 350
Chunyu Wang, Lin He, Yan Li, Changgeng Shuai, Xiaoping Zhang

THE FREQUENCY ADJUSTABLE TUNED MASS DAMPER DEVICE BASED ON MAGNETORHEOLOGICAL ELASTOMERS 356
Bochaoh Wang, Jianwei Tu, Jiayun Xu

FRICIONAL ANALYSIS OF CAM-CONTROLLED PLANETARY GEAR TRAINS 362
Wen Hsiang Hsieh, Ting-Jian Huang

AN ACTIVE CONTROL SCHEME FOR ROTOR VIBRATION BASED ON PREDICTIVE VARIABLE LEARNING GAIN 366
Huimin Xu, Xuedong Zhang

VORTEX SIGNAL DETECTION METHOD WITH STOCHASTIC RESONANCE BASED ON ADAPTIVE COUPLED FEEDBACK CONTROL 372
Zhenfa Wang, Min Lin, Yongmei Huang
CONTENTS

CONTROL MEASURES ABOUT VIBRATION AND NOISE OF PIPELINE ONBOARD MARINE VESSELS
JINGCHAO JIANG, JINGJUN LOU, FENG DENG

SEISMIC ENGINEERING

ADAPTIVE DYNAMIC MULTI-GRID METHOD FOR SIMULATION ON SEISMIC DAMAGE EVOLUTION OF CONCRETE COLUMN
BIN SUN, ZHAOXIA LI

DYNAMIC ANALYSIS OF BURIED STEEL PIPELINE SUBJECTED TO BLAST SEISMIC WAVES
KEJIAN SONG, YUAN LONG, CHONG JI, FUYIN GAO, JIANYU WU

NUMERICAL SIMULATION OF THE BLASTING VIBRATION RESPONSE OF SHALLOW BURIED TUNNEL IN COMPLEX URBAN ENVIRONMENT
JIAN-YU WU, YUAN LONG, QI-CHAO TANG, CHONG JI, MING-SHOU ZHONG, KE-JIAN SONG

STUDY ON NONLINEAR DETECTION AND IDENTIFICATION FOR RUBBER ISOLATION BEARING
LIJIE ZHAO, YONGFENG DU, HAO WANG, WANRUN LI

STUDY ON DAMAGE IDENTIFICATION OF EARTHQUAKE DAMAGED STRUCTURES BASED ON UNSUPERVISED LEARNING METHOD
DI LIU

NUMERICAL SIMULATION OF BURIED PIPELINE SUBJECTED TO BLAST SEISMIC WAVES
CHONG JI, KEJIAN SONG, QUANJUN XU

EXPERIMENTAL STUDY ON SHEAR LAG OF CURVED BOX GIRDER UNDER EARTHQUAKE EXCITATION
HAILIN LU, TENGFEI PENG, MINSHUI HUANG, XIAOLONG ZHOU, SONGBO ZHU

EXPERIMENTAL STUDY ON THE BURSTING VIBRATION EFFECT IN GROUND SURFACE OF LARGE-DIAMETER AND HIGH-PRESSURE STEEL PIPE
JIAN-YUAN WU, YUAN LONG, CHONG JI

STUDY ON THE OPTIMIZATION SYSTEM OF SUPPORTING SCHEMES FOR FOUNDATION PIT
BO LIU, FU-HUA SUN

SMARTPHONE BASED PUBLIC PARTICIPANT EMERGENCY RESCUE INFORMATION PLATFORM FOR EARTHQUAKE ZONE – “E-EXPLORER”
DELI PENG, XUEFENG ZHAO, QINGAN ZHAO, YAN YU

MODAL ANALYSIS

MULTI-OBJECTIVE TOPOLOGY OPTIMIZATION FOR THE MEASURING ROD OF GUN BARREL BORE DETECTING SYSTEM
QIANG CHEN, CHUNFEI XU, YING CHEN

VIBRATION ANALYSIS OF THE BEAM STRUCTURE UNDER THE MOVING MASS
HUIMIN HAN, XIUMEI QIU, ZONGMEI XU, RUNBO BAI

OPTIMUM DESIGN OF A PARTIALLY-TREATED MR-FLUID SANDWICH PLATE
MEHDI ESHAGHI, Ramin Sedaghati, SUBHAS RAKHEJA, FAN YANG

FREQUENCY DOMAIN ANALYSIS OF MULTIPLE MODULES-OFFSHORE MOBILE PLATFORM
H. X. LI, Y. M. CHEN, J. K. LIU, Z. W. WU

MODAL ANALYSIS OF THE CERTAIN MEMBRANE DISC COUPLING
HONGFEI YAO, GUIHUO LUO, YAO FU
ANALYSIS ON THE DYNAMIC CHARACTERISTICS OF THE DUAL-ROTOR STRUCTURES OF A CERTAIN AERO-ENGINE
ZHAO-JUN FENG, GUI-HUO LUO

VIBRATION IN TRANSPORTATION ENGINEERING

STUDY ON WHEEL-RAIL INTERACTION BASED ON RAIL ROUGHNESS
LINLIN DU, WEINING LIU

IDENTIFICATION OF MOVING VEHICULAR PARAMETERS BASED ON GLOWWORM SWARM OPTIMIZATION ALGORITHM
H. L. LI, Z. R. LU, J. K. LIU

IMPACT ANALYSIS OF LATERAL DAMPER ON THE RIDE QUALITY OF METRO VEHICLE
TIANWEI QU, WEIHUA MA, LINGXIAO ZONG, JUN ZHAO

STUDY ON THE ANALYTICAL MODEL OF VIBRATION SOURCE FOR METRO TRAIN
YINGXUAN JIA, WEINING LIU, KEFEI LI

SIMPLIFIED COMPUTATIONAL METHOD FOR MOORING FORCES OF MOORING SYSTEMS
Z. W. WU, J. K. LIU, Z. Q. LIU, Z. R. LU

SIMULATION OF DYNAMIC VEHICLE LOAD ON ROAD PAVEMENT
JENG-HSIANG LIN

DYNAMIC ANALYSIS OF A TRAIN-BRIDGE SYSTEM TO VESSEL COLLISION AND RUNNING SAFETY OF HIGH-SPEED TRAINS
CHAOYI XIA, JIN MA, HE XIA

NUMERICAL ANALYSIS OF AERODYNAMIC FEATURES OF POROSITY-OPTIMIZED WIND BARRIERS AND RUNNING SAFETY OF TRAIN
YUJING WANG, WEIWEI GUO, HE XIA

INTEGRATING A VERIFIED VEHICLE-BRIDGE SYSTEM MODEL INTO FATIGUE ASSESSMENT OF STEEL RAILWAY BRIDGE
HUILE LI, HE XIA

THE STABILITY OF THE TETHERED TRAILER AND ITS CONTROL
HONGCHAO MA, NING CHEN, YONGPENG TAI

COMPARATIVE BLAST STUDY OF SIMULATION AND APPROXIMATION METHOD OF ARMORED VEHICLES
PIANGPEN PUA SOPIS, ATTAPON CHAROENPOL, ARTIT RIDL UEN

FLOW INDUCED STRUCTURAL VIBRATIONS

AERODYNAMIC PERFORMANCE ANALYSIS OF WIND-SAND FLOW ON SUSPENSION BRIDGE SUSPENDER CABLES
SHENGLI LI, FENG WANG, YONGHUI AN, SHUNYUN ZHENG

OSCILLATIONS IN BIOMEDICAL ENGINEERING

PHARMACOGNOSTIC STUDY OF CLEMATIDIS ARMANDII THE DETERMINATION OF INDEX COMPONENTS
WEI JIE WU, MENG MENG WAN, YU HONG CAO, RUI TAN, LIANGKE SONG, SHAOQING CAI

DESTRUCTIVE ENERGY IMPACT TO THE MYOCARD DAMAGE: BETWEEN TECHNOLOGICAL ADVANTAGES AND RISK
V. VEIKUTIS, A. PUODZIUKYNAS, T. KAZAKEVICIUS, V. ZABIELA

AN EXPERIMENTAL METHODOLOGY FOR EVALUATING THE ENERGY COST AND COMFORT DURING CYCLING: A CASE STUDY FOR ANALYZING TIRE PRESSURE INFLUENCE
SERGIO ROA, LUIS MUÑOZ
CONTENTS

CHAOS, NONLINEAR DYNAMICS AND APPLICATIONS

THE UNTRENCHED PIPE’S STABILITY ANALYSIS ON THE SEABED UNDER WAVE LOADINGS USING DYNAMIC METHOD
YANRONG REN 558

THE EMPIRICAL ANALYSIS ON THE PORTFOLIO OPTIMIZATION’S EFFECTIVE BORDER
YIN NAN 564

INFLUENCE OF FRICTION COEFFICIENT ON RUBBING BEHAVIOR OF OIL BEARING ROTOR SYSTEM
CHANGLIANG TANG, JINFU YANG, DONGJIANG HAN, HUAN LEI, LONG HAO, TIANYU ZHANG 569

OSCILLATIONS IN ELECTRICAL ENGINEERING

DESIGN VERIFICATION OF STRESS AND SAG FOR 500 KV TRANSMISSION LINE
GUO-SHENG XIE, KE-JIAN OUYANG 575

CONVENIENT DISPLACEMENT MONITORING TECHNIQUE USING SMARTPHONE
XUEFENG ZHAO, HAO LIU, YAN YU, QINGHUA ZHU, WEITONG HU, MINGCHU LI, JINGPING OU 579

ACOUSTICS, NOISE CONTROL AND ENGINEERING APPLICATIONS

APPLICATION REVIEW ON UNDERWATER RADIATED NOISE MEASUREMENT BY USING A VESSEL’S OWN Towed ARRAY
JIA-XUAN YANG, LIN HE, CHANG-GENG SHUAI 585
Conference Committee

International Advisory Committee

Hui Xu, Hohai University, China
Jinping Ou, Harbin Institute of Technology, China
Yuelong Zhu, Hui Xu, Hohai University, China
Hongwu Tang, Hui Xu, Hohai University, China
W. Ostachowicz, Polish Academy of Sciences, Poland
Lin Ye, University of Sydney, Australia
Kazimieras Ragulskis, Lithuanian Academy of Sciences

Chairs

Chair, Professor Maosen Cao, Hohai University
Chair, Professor Minvydas Ragulskis, Kaunas University of Technology

International Organization Committee

Xuhua Ren, Hohai University, China
Hui Li, Harbin Institute of Technology, China
Wen Chen, Hohai University, China
Xin Cai, Hohai University, China
Tribikram Kundu, University of Arizona, US
Zhongqing Su, The Hong Kong Polytechnic University, Hong Kong
Hoon Sohn, Korea Advanced Institute of Science and Technology, Korea
Lilang Ren, Hohai University, China
Haibo Ji, Hohai University, China
Tautvydas Ragulskis, JVE International, Lithuania
Yufeng Gao, Hohai University, China
Linhua Jiang, Hohai University, China
Lei Qiu, Nanjing University of Aeronautics and Astronautics, China
Hongwei Tang, Shandong University, China
Xide Li, Tsinghua University, China
Linan Li, Tianjin University, China
Wen-Hsiang Hsieh, National Formosa University, Taiwan, China

International Technical Program Committee:

Hongnan Li, Dalian University of Technology, China
Li Cheng, The Hong Kong Polytechnic University, Hong Kong
Hui Li, Harbin Institute of Technology, China
M. A. F. Sanjuan, University Rey Juan Carlos, Spain
Weixin Ren, Hefei University of Technology, China
V. Royzman, Khmelnitskiy National University, Ukraine
Feng Jin, Tsinghua University, China
Hoon Sohn, Korea Advanced Institute of Science and Technology, KAIST, Korea
Pizhong Qiao, Washington State University, United States
A. V. Valiulis, Vilnius Gediminas Technical University, Lithuania
Yonghui An, Dalian University of Technology, China
M. Bayat, Tarbiat Modares University, Iran
R. Burdzik, Silesian University of Technology, Poland
Lu Chen, Beihang University, China