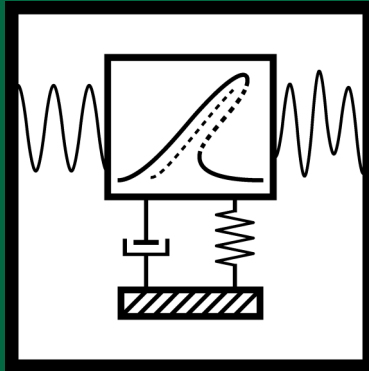


February 2020, Volume 22, Issue 1
Pages (1-240)
ISSN Print 1392-8716
ISSN Online 2538-8460

JVE Journal of Vibroengineering



Editor in Chief

M. Ragulskis

Kaunas University of Technology, (Lithuania)

minvydas.ragulskis@ktu.lt

Editorial Board

H. Adeli	The Ohio State University, (USA)	adeli.1@osu.edu
V. Babitsky	Loughborough University, (UK)	v.i.babitsky@lboro.ac.uk
M. Bayat	Roudehen Branch, Islamic Azad University, (Iran)	mbayat14@yahoo.com
I. Blekhnan	Mekhanobr – Tekhnika Corporation, (Russia)	iliya.i.blekhnan@gmail.com
K. Bousson	University of Beira Interior, (Portugal)	bousson@ubi.pt
A. Bubulis	Kaunas University of Technology, (Lithuania)	algimantas.bubulis@ktu.lt
R. Burdzik	Silesian University of Technology, (Poland)	rafal.burdzik@polsl.pl
M. S. Cao	Hohai University, (China)	cmszhy@hhu.edu.cn
Lu Chen	Beihang University, (China)	luchen@buaa.edu.cn
F. Chernousko	Institute for Problems in Mechanics, (Russia)	chern@ipmnet.ru
Z. Dabrowski	Warsaw University of Technology, (Poland)	zdabrow@simr.pw.edu.pl
Y. Davydov	Institute of Machine Building Mechanics, (Russia)	1institut@bk.ru
J. Duhovnik	University of Ljubljana, (Slovenia)	joze.duhovnik@lecad.uni-lj.si
S. Ersoy	Marmara University, (Turkey)	ersoy@marmara.edu.tr
A. Fedaravičius	Kaunas University of Technology, (Lithuania)	algimantas.fedaravicius@ktu.lt
R. Ganiev	Blagonravov Mechanical Engineering Research Institute, (Russia)	rganiev@nwmtc.ac.ru
W. H. Hsieh	National Formosa University, (Taiwan)	allen@nfu.edu.tw
David Hui	University of New Orleans, (USA)	dhui@uno.edu
V. Kaminskas	Vytautas Magnus University, (Lithuania)	v.kaminskas@if.vdu.lt
V. Kappatos	Center for Research and Technology Hellas, (Greece)	vkappatos@certh.gr
V. Klyuev	Association Spektr – Group, (Russia)	v.klyuev@spektr.ru
G. Kulvietis	Vilnius Gediminas Technical University, (Lithuania)	genadijus.kulvietis@vgtu.lt
V. Lyalin	Izhevsk State Technical University, (Russia)	velyalin@mail.ru
A. Malekjafarian	University College Dublin, (Ireland)	abdollah.malekjafarian@ucd.ie
R. Maskeliūnas	Vilnius Gediminas Technical University, (Lithuania)	rimas.maskeliunas@vgtu.lt
L. E. Muñoz	Universidad de los Andes, (Colombia)	lui-muno@uniandes.edu.co
N. Nistico	University of Roma La Sapienza, (Italy)	nicola.nistico@uniroma1.it
V. Ostaševičius	Kaunas University of Technology, (Lithuania)	vytautas.ostasevicius@ktu.lt
A. Palevičius	Kaunas University of Technology, (Lithuania)	aryvdas.palevicius@ktu.lt
G. Panovko	Blagonravov Mechanical Engineering Research Institute, (Russia)	gpanovko@yandex.ru
L. Qiu	Nanjing University of Aeronautics and Astronautics, (China)	lei.qiu@nuaa.edu.cn
S. Rakheja	Concordia University, (Canada)	subhash.rakheja@concordia.ca
V. Ranjan	Bennett University, (India)	vinayak.ranjan@bennett.edu.in
G. E. Sandoval-Romero	The National Autonomous University of Mexico, (Mexico)	eduardo.sandoval@ccadet.unam.mx
M. A. F. Sanjuan	University Rey Juan Carlos, (Spain)	miguel.sanjuan@urjc.es
E. Shahmatov	Samara State Aerospace University, (Russia)	shakhm@ssau.ru
A. El Sinawi	The Petroleum Institute, (United Arab Emirates)	aelsinawi@pi.ac.ae
G. Song	University of Houston, (USA)	gsong@uh.edu
S. Toyama	Tokyo A&T University, (Japan)	toyama@cc.tuat.ac.jp
K. Uchino	The Pennsylvania State University, (USA)	kenjiuchino@psu.edu
A. Valiulis	Vilnius Gediminas Technical University, (Lithuania)	algirdas.valiulis@vgtu.lt
P. Vasiljev	Lithuanian University of Educational Sciences, (Lithuania)	piotr.vasiljev@leu.lt
V. Veikutis	Lithuanian University of Health Sciences, (Lithuania)	vincentas.veikutis@ismuni.lt
J. Viba	Riga Technical University, (Latvia)	janis.viba@rtu.lv
J. Wallaschek	Leibniz University Hannover, (Germany)	wallaschek@ids.uni-hannover.de
Xiao-Jun Yang	China University of Mining and Technology, (China)	dyangxiaojun@163.com
K. K. Żur	Bialystok University of Technology, (Poland)	k.zur@pb.edu.pl

JVE Journal of Vibroengineering

Aims and Scope

Journal publishes original papers presenting the state of the art in vibroengineering of dynamical systems.

The list of principal topics:

- Mechanical vibrations and applications;
- Fault diagnosis based on vibration signal analysis;
- Vibration generation and control;
- Seismic engineering and applications;
- Modal analysis and applications;
- Vibration in transportation engineering;
- Flow induced structural vibrations;
- Oscillations in biomedical engineering;
- Chaos, nonlinear dynamics and applications;
- Oscillations in electrical engineering;
- Acoustics, noise control and engineering applications;
- Fractional dynamics and applications.

All published papers are peer reviewed and crosschecked by plagiarism detection tools.

More information is available online <https://www.jvejournals.com>

The journal material is referred:

CLARIVATE ANALYTICS (former THOMSON REUTERS):

Emerging Sources Citation Index (ESCI);
Journal Citation Reports / Science Edition.

SCOPUS: ELSEVIER Bibliographic Database.

COMPENDEX: ELSEVIER Bibliographic Database.

EBSCO: Academic Search Complete;

Computers & Applied Sciences Complete;
Central & Eastern European Academic Source;
Current Abstracts;
Shock & Vibration Digest;
TOC Premier.

GALE Cengage Learning:

Academic OneFile Custom Periodical;
Science in Context.

INSPEC: OCLC. The Database for Physics, Electronics and Computing.

VINITI: All-Russian Institute of Scientific and Technical Information.

DIRECTORY OF OPEN ACCESS JOURNALS (DOAJ): <https://doaj.org>

SEMANTIC SCHOLAR: <https://www.semanticscholar.org>

GOOGLE SCHOLAR: <https://scholar.google.com>

CNKI SCHOLAR: <http://eng.scholar.cnki.net>

ERIH PLUS: <https://dbh.nsd.uib.no/publiseringskanaler/erihplus>

ULRICH'S PERIODICALS DIRECTORY: <https://ulrichsweb.serialssolutions.com>

BASE (Bielefeld Academic Search Engine): <https://www.base-search.net>

cnpLINKer (CNPIEC): <http://cnplinker.cnpeak.com>

CROSSREF: <https://www.crossref.org>

Internet: <https://www.jvejournals.com>

E-mail: publish@jvejournals.com

Publisher: JVE International Ltd., Geliu ratas 15A, LT-50282, Kaunas, Lithuania

JVE Journal of Vibroengineering

FEBRUARY 2020. VOLUME 22, ISSUE 1, PAGES (1-240), ISSN PRINT 1392-8716, ISSN ONLINE 2538-8460

Contents

MECHANICAL VIBRATIONS AND APPLICATIONS

- THERMOELASTIC VIBRATION ANALYSIS OF DISC BRAKE BASED ON MULTI-PHYSICAL FIELD COUPLING METHOD** 1
SEN ZHANG, JIAN ZHANG
- SYNCHRONIZATION OF THE SECONDARY ISOLATION SYSTEM WITH A DUAL-MOTOR EXCITATION** 16
HUAN PENG, YONGJUN HOU, PAN FANG, MIN ZOU
- DYNAMIC SIMULATION ANALYSIS OF SPUR GEAR SPACE DRIVEN SYSTEM WITH LARGE INERTIA LOAD** 33
CHAO LI, JIANFENG MA, XUEHAO YIN, HONGBIN YANG
- COUPLING CHARACTERISTIC ANALYSIS OF SHIP SHAFTING DESIGN PARAMETERS AND RESEARCH ON MULTIDISCIPLINARY DESIGN OPTIMIZATION** 48
HONGSHENG YIN, JINLIN LIU, FANMING ZENG

FAULT DIAGNOSIS BASED ON VIBRATION SIGNAL ANALYSIS

- AN IMPROVED HIGHER-ORDER ANALYTICAL ENERGY OPERATOR WITH ADAPTIVE LOCAL ITERATIVE FILTERING FOR EARLY FAULT DIAGNOSIS OF BEARINGS** 67
JINBAO ZHANG, YONGQIANG ZHAO, MING LIU, LINGXIAN KONG
- A NEW FAULT DIAGNOSIS METHOD USING DEEP BELIEF NETWORK AND COMPRESSIVE SENSING** 83
YUNFEI MA, XISHENG JIA, HUAJUN BAI, GUANGLONG WANG, GUOZENG LIU, CHIMING GUO

VIBRATION GENERATION AND CONTROL

- ESTIMATION AND MEASUREMENT OF EFFECTIVE LINE MOBILITY ON A NON-DETERMINISTIC THIN PLATE EXCITED BY A PIEZOELECTRIC PATCH** 98
AZNI N. WAHID, ASAN G. A. MUTHALIF

SEISMIC ENGINEERING AND APPLICATIONS

- INFLUENCE OF ADJACENT SURFACE BUILDING ON SEISMIC RESPONSE OF SHALLOW BURIED SUBWAY STATION STRUCTURE** 111
WENLIANG HUANG, TAO LIU, YAN GE, HAN WANG, LIANGJIAN ZHONG,
XIAOGUANG JIN
- PERFORMANCE-BASED SEISMIC ISOLATION DESIGN USING THE THEORY OF SPATIALLY CONCAVE FRICTION DISTRIBUTION** 120
SHANSHAN LI, BIAO WEI, CHAOBIN LI, WEIHAO WANG, YUNJI FU
- SEISMIC PERFORMANCE ANALYSIS OF STEEL BEAM TO CFST COLUMN CONNECTION WITH DUCTILITY AND ENERGY DISSIPATION COMPONENTS** 131
JINGXUAN WANG, QIUYING LI, GUOQIANG WEI

MODAL ANALYSIS AND APPLICATIONS

- OPTIMAL STRAIN SENSORS PLACEMENT TO ANALYZE THE MODAL PARAMETERS OF THE SORTING ARM** 145
XUCHU JIANG, FENG JIANG
- RESEARCH ON GEARBOX DYNAMIC DESIGN METHODOLOGY BASED ON MODAL OPTIMIZATION** 156
ZHENG LI, YU ZHOU

VIBRATION IN TRANSPORTATION ENGINEERING

- PROTOTYPE TEST STUDY ON DYNAMIC STRESS OF UTILITY TUNNEL UNDER TRAFFIC LOAD** 170
LIANZI JIANG, ZHONGQIU XIE, YI HUANG
- EFFECT OF VEHICLE-TRACK VERTICAL COUPLING VIBRATIONS ON FRAME-MOUNTED TRACTION MOTOR DYNAMICS** 184
YUEWEI YU, LEILEI ZHAO, CHANGCHENG ZHOU

FLOW INDUCED STRUCTURAL VIBRATIONS

- EFFECT OF ANNULUS DRILLING FLUID ON LATERAL VIBRATION OF DRILLSTRING** 197
CHUNXU YANG, RUI-HE WANG, LAIJU HAN, QILONG XUE, LIXIN LI
- DYNAMIC PERFORMANCE ANALYSIS FOR WIND TURBINE IN COMPLEX CONDITIONS** 209
LI CAO, WENLEI SUN, JIANXING ZHOU, QUANWEI CUI
- EFFECT ANALYSIS OF DYNAMIC WATER PRESSURE ON DYNAMIC RESPONSE OF OFFSHORE WIND TURBINE TOWER** 225
SHUAI HUANG, YUEJUN LYU, YANJU PENG
- ERRATUM: NUMERICAL INVESTIGATION AND EXPERIMENTAL TEST ON AERODYNAMIC NOISES OF THE BIONIC REAR VIEW MIRROR IN VEHICLES** 239
- ERRATUM: AERODYNAMIC ADMITTANCE INFLUENCE ON BUFFETING PERFORMANCE OF SUSPENSION BRIDGE WITH STREAMLINED DECK** 240

