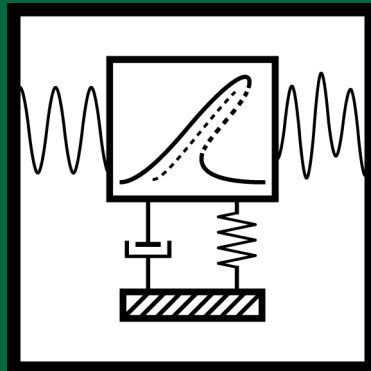


August 2020, Volume 22, Issue 5
Pages (993-1265)
ISSN Print 1392-8716
ISSN Online 2538-8460

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)	adel.i.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. Blekhman	Mekhanobr – Tekhnika Corporation, (Russia)	iliya.i.blekhman@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
Jinde Cao	Southeast University, (China)	jdcao@seu.edu.cn
Maosen 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@nwmrc.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. Ostasevičius	Kaunas University of Technology, (Lithuania)	vytautas.ostasevicius@ktu.lt
A. Palevičius	Kaunas University of Technology, (Lithuania)	arvydas.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>

JGate: <https://jgateplus.com>

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

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

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

CORE: <https://core.ac.uk>

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

AUGUST 2020. VOLUME 22, ISSUE 5, PAGES (993-1265), ISSN PRINT 1392-8716, ISSN ONLINE 2538-8460

Contents

MECHANICAL VIBRATIONS AND APPLICATIONS

- | | |
|-------------------------------------------------------------------------------------------------------------------------|-------------|
| COMPUTER SIMULATION AND INVESTIGATION VIBRATION PARAMETERS OF A CENTRIFUGAL SUBMERSIBLE PUMP | 993 |
| MADINA ISAMETOVA, BEKNUR OMARBEKOV, ROLLAN NUSSIPALI,
ULAN ANGARBEKOV, AYSEN ISAMETOV | |
| ON DYNAMICS OF A ROTATING HUB-FLEXIBLE ROD-CONCENTRATED MASS SYSTEM CONSIDERING RIGID-FLEXIBLE COUPLING EFFECT | 1006 |
| JIANSHI FANG, JIANQIANG XIAO, LIANG LI, DINGGUO ZHANG | |
| EXPERIMENTAL STUDY ON VIBRATION CHARACTERISTICS OF FLUID-SOLID COUPLING CANTILEVER THIN ALUMINUM PLATE | 1022 |
| MA YINHANGA, JIANG HANYANGA, DAI MEILINGB, YANG FUJUNA | |
| METHOD AND DEVICE TO INVESTIGATE THE BEHAVIOR OF LARGE ROTORS UNDER CONTINUOUSLY ADJUSTABLE FOUNDATION STIFFNESS | 1037 |
| RISTO VIITALA, RAINE VIITALA | |
|
 | |
| FAULT DIAGNOSIS BASED ON VIBRATION SIGNAL ANALYSIS | |
| BEARING FAULT DIAGNOSIS BASED ON IMPROVED VMD AND DCNN | 1055 |
| RAN WANG, LEI XU, FENGKAI LIU | |
| EFFECT OF CORIOLIS FORCE ON VIBRATION LOCALIZATION CHARACTERISTICS OF MISTUNED BLADED DISK | 1069 |
| HONGYUAN ZHANG, HUIQUN YUAN, HONGYUN SUN | |
| BASELINE-FREE DAMAGE IDENTIFICATION BASED ON ASYMMETRICAL ENERGY CONSUMPTION | 1084 |
| FEI YE, JIAQUAN WU, KUN MA | |

VIBRATION GENERATION AND CONTROL

- FUZZY NEURAL NETWORK CONTROL FOR MECHANICAL ARM BASED ON ADAPTIVE FRICTION COMPENSATION** 1099
HUI YANG, SAIYAN WU, GANG HUANG

SEISMIC ENGINEERING AND APPLICATIONS

- A NEW LATERAL LOAD PATTERN FOR PUSHOVER ANALYSIS OF ASYMMETRIC-PLAN STRUCTURES** 1113
CHENGZHONG QU, YU ZHOU
- INFLUENCE OF SHIELD TUNNEL CONSTRUCTION ON GROUND SURFACE SETTLEMENT UNDER THE CONDITION OF UPPER-SOFT AND LOWER-HARD COMPOSITE STRATA** 1126
JIANBING LV, XULONG LI, HELIN FU, YONG TANG, ZHANRONG LI, HUI ZHAO
- THE SH WAVE SCATTERING OF A HETEROGENEOUS HILL IN AN ELASTIC HALF-SPACE** 1145
ZHANG HAI, WU DI, HE YING, WANG DAI

VIBRATION IN TRANSPORTATION ENGINEERING

- FRETTING WEAR ANALYSIS OF SPLINE COUPLINGS IN AGRICULTURAL TRACTOR WITH AXIS DEVIATION** 1165
YUAN CHEN, YABING LIAO, MAOHUA XIAO, WEI ZHANG, GUANGHU JIN
- RIDE COMFORT PERFORMANCE OF HYDRO PNEUMATIC ISOLATION FOR SOIL COMPACTORS CAB IN LOW FREQUENCY REGION** 1174
RENQIANG JIAO, VANLIEM NGUYEN, VANQUYNH LE
- SIMULATION METHOD OF IMPACT LOAD FOR VEHICLE DRIVETRAIN ON DURABILITY TEST RIG** 1187
JINGJING WANG, JIANBO LI, WENLI LI

FLOW INDUCED STRUCTURAL VIBRATIONS

- EFFECTS OF BLUNT TRAILING-EDGE OPTIMIZATION ON AERODYNAMIC CHARACTERISTICS OF NREL PHASE VI WIND TURBINE BLADE UNDER RIME ICE CONDITIONS** 1196
XU ZHANG, XIAOYAO ZHANG, GEGE WANG, WEI LI
- NUMERICAL ANALYSIS OF THE FLOW MECHANISM AND AXIAL FORCE CHARACTERISTICS OF THE CAVITY IN A CENTRIFUGAL PUMP WITH A FRONT INDUCER** 1210
HAICHEN ZHANG, WEI DONG, DIYI CHEN

BIOMECHANICS AND BIOMEDICAL ENGINEERING

- DYNAMIC MODELING, SIMULATION AND EXPERIMENTAL INVESTIGATION ON CYCLING-TRAINERS EQUIPPED WITH SUSPENSIONS CONSIDERING HUMAN BIOMECHANICAL CHARACTERISTICS** 1228
LEILEI ZHAO, YUEWEI YU, CHANGCHENG ZHOU

DYNAMICS AND OSCILLATIONS IN ELECTRICAL AND ELECTRONICS
ENGINEERING

A NOVEL SEMI-ACTIVE REGENERATIVE SNUBBER ERLAN J. DZHUNUSBEKOV	1240
--------------------------------------------------------------------------	-------------

DYNAMICS OF SMART AND FUNCTIONALLY GRADED MATERIALS

3D NUMERICAL MODELLING AND ANALYSIS OF A MAGNETORHEOLOGICAL ELASTOMER (MRE) THAER M. I. SYAM, ASAN G. A. MUTHALIF, AYMAN M. H. SALEM, AHMED A. A. HEJAZI	1251
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------

