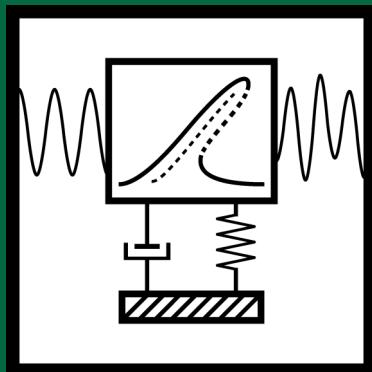


December 2018, Volume 20, Issue 8
Pages (2784-3053), NoP (2960-2978)
ISSN 1392-8716

JVE Journal of Vibroengineering



Editor in Chief

M. Ragulskis

Kaunas University of Technology,
JVE International, (Lithuania)minvydas.ragulskis@ktu.lt,
m.ragulskis@jvejournals.com**Founding Editor**

K. Ragulskis

Lithuanian Academy of Sciences, (Lithuania)

k.ragulskis@jve.lt,
ragulskis.jve@gmail.com**Editorial Board**

H. Adeli

The Ohio State University, (USA)

adeli.1@osu.edu

V. Babitsky

Loughborough University, (UK)

v.i.babitsky@lboro.ac.uk

R. Bansevičius

Kaunas University of Technology, (Lithuania)

ramutis.bansevicius@ktu.lt

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

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)

sersoy@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

V. Kaminskas

Vytautas Magnus University, (Lithuania)

v.kaminskas@if.vdu.lt

V. Kappatos

University of Southern Denmark, (Denmark)

vk@iti.sdu.dk

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

R. Martonka

Technical University of Liberec, (Czech Republic)

rudolf.martonka@tul.cz

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. Palevicius

Kaunas University of Technology, (Lithuania)

aryudas.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

V. Royzman

Khmelnytskyi National University, (Ukraine)

iftomm@ukr.net

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. Vakhguelt

Nazarbayev University, (Kazakhstan)

anatoli.vakhguelt@nu.edu.kz

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@lsmuni.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

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>

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

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

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

DECEMBER 2018. VOLUME 20, ISSUE 8, PAGES (2784-3053), NUMBERS OF PUBLICATIONS FROM 2960 TO 2978.
ISSN PRINT 1392-8716, ISSN ONLINE 2538-8460

Contents

MECHANICAL VIBRATIONS AND APPLICATIONS

- 2960. SPECIFIC DAMPING CAPACITY CALCULATION OF COMPOSITE PLATES WITH DELAMINATION BASED ON HIGHER-ORDER ZIG-ZAG THEORY** 2784
CHAOGAN GAO, CHUWEI ZHOU
- 2961. DYNAMIC CHARACTERISTICS ANALYSIS ON SHEARER DRUM IN CONDITION OF CUTTING COAL WITH DIFFERENT DISTRIBUTED ROCKS** 2796
QINGLIANG ZENG, KAO JIANG, KUIDONG GAO, LIRONG WAN

FAULT DIAGNOSIS BASED ON VIBRATION SIGNAL ANALYSIS

- 2962. AN IMPROVED EXTREME-POINT SYMMETRIC MODE DECOMPOSITION METHOD AND ITS APPLICATION TO ROLLING BEARING FAULT DIAGNOSIS** 2810
PING XIA, HUA XU, MOHAN LEI, ZAICHAO MA
- 2963. FAULT DIAGNOSIS OF ROLLING ELEMENT BEARING BASED ON A NEW NOISE-RESISTANT TIME-FREQUENCY ANALYSIS METHOD** 2825
HONGCHAO WANG, FANG HAO
- 2964. AN INTELLIGENT FAULT DIAGNOSIS METHOD OF ROTATING MACHINERY USING L1-REGULARIZED SPARSE FILTERING** 2839
WEIWEI QIAN, SHUNMING LI, JINRUI WANG, ZENGHUI AN, XINGXING JIANG
- 2965. VIBRATION ANALYSIS USING WAVELET TRANSFORM AND FUZZY LOGIC FOR SHAFT MISALIGNMENT** 2855
AMIT UMBRAJKAAR, ARUNAGIRI KRISHNAMOORTHY
- 2966. A ROLLER BEARING FAULT DIAGNOSIS METHOD USING INTERVAL SUPPORT VECTOR DETERMINISTIC OPTIMIZATION BASED ON NESTED PSO** 2866
QINGE DAI, YONGQI CHEN, YANG CHEN
- 2967. DEEP CONVOLUTIONAL NEURAL NETWORKS FOR BEARINGS FAILURE PREDICTION AND TEMPERATURE CORRELATION** 2878
D. BELMILOUD, T. BENKEDJOUH, M. LACHI, A. LAGGOUN, J. P. DRON

2968. FAULT FEATURE EXTRACTION FOR ROLLING ELEMENT BEARINGS BASED ON MULTI-SCALE MORPHOLOGICAL FILTER AND FREQUENCY-WEIGHTED ENERGY OPERATOR	2892
DANCHEN ZHU, YONGXIANG ZHANG, QUNWEI ZHU	
VIBRATION GENERATION AND CONTROL	
2969. OPTIMIZATION DESIGN OF SEMI-ACTIVE CONTROLLER FOR IN-WHEEL MOTORS SUSPENSION	2908
FANGWU MA, JIAWEI WANG, YANG WANG, LONGFAN YANG	
2970. VIBRATION CONTROL OF A HYDROSTATIC BEARING USING MAGNETORHEOLOGICAL ELASTOMER SHELL BEARING	2925
NOUREDDINE CHIKH, SALAH AGUIB, TOUFIK DJEDID, ABDELKADER NOUR, IMAD TAWFIQ	
2971. DEVELOPMENT OF MINIATURE SPHERICAL ULTRASONIC MOTOR USING WIRE STATORS	2939
FULIN WANG, UICHI NISHIZAWA, HIDEKI TANAKA, SHIGEKI TOYAMA	
MODAL ANALYSIS AND APPLICATIONS	
2972. VIBRATION CHARACTERISTIC ANALYSIS OF A CIRCULAR THIN PLATE WITH COMPLEX PRE-STRESS DISTRIBUTION	2951
LEIXIN LI, LUYUN CHEN, HONG YI	
2973. VIBRATION MODE ANALYSIS OF MULTI-DEGREE-OF-FREEDOM PERMANENT MAGNET SYNCHRONOUS MOTOR	2966
ZHENGLI, QIUSHUO CHEN, PENG GUO, QUNJING WANG	
VIBRATION IN TRANSPORTATION ENGINEERING	
2974. DEVELOPMENT AND ANALYSIS OF A NEW TECHNOLOGY OF FREIGHT CARS MODERNIZATION	2978
ANDRZEJ BUCHACZ, ANDRZEJ BAIER, MAREK PŁACZEK, KRZYSZTOF HERBUŚ, PIOTR OCIEPKA, MICHAŁ MAJZNER	
2975. APPLICATION OF TIME-FREQUENCY METHOD FOR RESEARCH ON INFLUENCE OF LOCOMOTIVE WHEEL SLIP ON VIBRATION	2998
RAFAŁ BURDZIK, ŁUKASZ KONIECZNY, PIOTR DEUSZKIEWICZ, IVETA VASKOVA	
CHAOS, NONLINEAR DYNAMICS AND APPLICATIONS	
2976. IMPROVEMENT OF VIBRATION ISOLATION PERFORMANCE OF QZS PLATFORM IN CHAOTIC INTERVAL BASED ON DAMPING INCREASE CONTROL METHOD	3009
PEICHENG SHI, PEILEI SHI, GAOFA NIE, YE TANG, DAOYUAN PAN	
2977. STABILITY AND BIFURCATION OF A FLEXIBLE ROD-FASTENING ROTOR BEARING SYSTEM WITH A TRANSVERSE OPEN CRACK	3026
NANSNAN WANG, HENG LIU, YI LIU, ZHIDONG XU	
OSCILLATIONS IN ELECTRICAL ENGINEERING	
2978. A NOVEL CENTER-TAPPED TRANSFORMER BASED MULTILEVEL INVERTER WITH COMMON DC SOURCE	3040
G. ARTHY, C. N. MARIMUTHU	

