Extrica Journals
Engineering

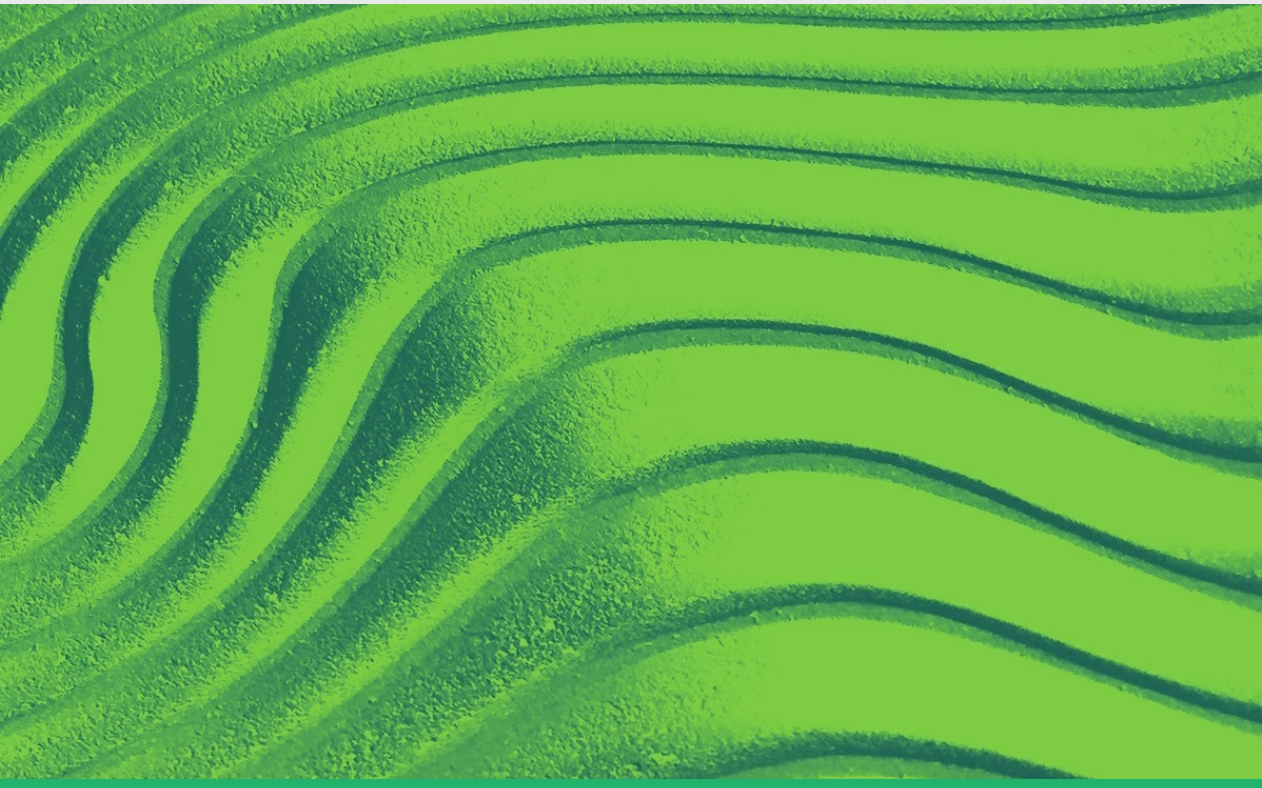
ISSN ONLINE 2538-8460
ISSN PRINT 1392-8716

February 2026
VOLUME 28 ISSUE 1
PAGES 1-187

Mechanical Engineering

Materials Science and Technology

Journal of Vibroengineering



OPEN ACCESS JOURNALS

Editor in Chief

Minvydas Ragulskis	Kaunas University of Technology, (Lithuania)	minvydas.ragulskis@ktu.lt

Editorial Board

Hojjat Adeli	The Ohio State University, (United States)	adeli.1@osu.edu
Kouamana Bousson	University of Beira Interior, (Portugal)	bousson@ubi.pt
Jinde Cao	Southeast University, (China)	jdcao@seu.edu.cn
Maosen Cao	Hohai University, (China)	cmszhy@hhu.edu.cn
Marco Civera	Politecnico di Torino, (Italy)	marco.civera@polito.it
Joze Duhovnik	University of Ljubljana, (Slovenia)	joze.duhovnik@lecad.uni-lj.si
Sezgin Ersoy	Marmara University, (Turkey)	sersoy@marmara.edu.tr
Ke Feng	University of British Columbia, (Canada)	ke.feng@outlook.com.au
Rafael Figueroa	Instituto Tecnológico de Sonora, (Mexico)	rafael.figueroad@itson.edu.mx
Piotr Folęga	Silesian University of Technology, (Poland)	piotr.folega@polsl.pl
Wen-Hsiang Hsieh	National Formosa University, (Taiwan)	allen@nfu.edu.tw
David Hui	University of New Orleans, (United States)	dhui@uno.edu
Vassilios Kappatos	Center for Research and Technology Hellas, (Greece)	vkappatos@certh.gr
Hamid Reza Karimi	Politecnico di Milano, (Italy)	hamidreza.karimi@polimi.it
Vitaliy Korendiy	Lviv Polytechnic National University, (Ukraine)	vitaliy.nulp@gmail.com
Chen Lu	Beihang University, (China)	luchen@buaa.edu.cn
Abdollah Malekjafarian	University College Dublin, (Ireland)	abdollah.malekjafarian@ucd.ie
Phuoc Trong Nguyen	Ho Chi City Open University, (Vietnam)	phuoc.nguyen@ou.edu.vn
Nicola Nisticò	Sapienza University of Rome, (Italy)	nicola.nistico@uniroma1.it
Ehsan Noroozinejad	The University of British Columbia (UBC), (Canada)	ehsan.noroozinejad@gmail.com
Vytautas Ostaševičius	Kaunas University of Technology, (Lithuania)	vytautas.ostasevicius@ktu.lt
Lei Qiu	Nanjing University of Aeronautics and Astronautics, (China)	lei.qiu@nuaa.edu.cn
Subhash Rakheja	Concordia University, (Canada)	subhash.rakheja@concordia.ca
Vinayak Ranjan	University of Pittsburgh at Bradford PA, (United States)	vinayak.ranjan@bennett.edu.in
Pouyan Roodgar Saffari	Chulalongkorn University, (Thailand)	rpouyan@engr.tu.ac.th
G. Eduardo Sandoval-Romero	The National Autonomous University of Mexico, (Mexico)	eduardo.sandoval@ccadet.unam.mx
Miguel A. F. Sanjuan	University Rey Juan Carlos, (Spain)	miguel.sanjuan@urjc.es
Gangbing Song	University of Houston, (United States)	gsong@uh.edu
Jānis Vība	Riga Technical University, (Latvia)	janis.viba@rtu.lv
Xiao-Jun Yang	China University of Mining and Technology, (China)	xjyang@cumt.edu.cn

JVE Journal of Vibroengineering

Aims and Scope

Journal publishes research papers presenting the latest results in the general area of vibration engineering. Mechanical vibrations and applications, fault diagnosis based on vibration signal analysis, seismic engineering, acoustics, and noise control are typical examples of the core areas of the Journal. The Journal is devoted to the publication of original research papers of a high technical standard representing theoretical and experimental aspects of engineering problems related to vibrations.

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

More information is available online https://www.extrica.com/journal/jve

The journal material is referred:

Clarivate Analytics:
Emerging Sources Citation Index (ESCI)
Journal Citation Reports / Science Edition
Scopus: ELSEVIER Bibliographic Database
EI 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
ResearchGate: https://www.researchgate.net
Scilit: https://www.scilit.net
Dimensions: https://www.dimensions.ai
Semantic Scholar: https://www.semanticscholar.org
Google Scholar: https://scholar.google.com
JGate: https://jgateplus.com
CORE: https://core.ac.uk
BASE (Bielefeld Academic Search Engine): https://www.base-search.net
Ulrich's Periodicals Directory: https://ulrichsweb.serialssolutions.com
ERIH PLUS: https://kanalregister.hkdir.no/publiseringskanaler/erihplus
CNKI Scholar: http://eng.scholar.cnki.net
cnpLINKer (CNPIEC): http://cnplinker.cnpeak.com
WanFang Data: https://www.wanfangdata.com.cn
TDNet: https://www.tdnet.io
JournalTOCs: https://www.journaltocs.ac.uk
WorldCat Discovery Services: https://www.oclc.org/en/worldcat-discovery.html
Crossref: https://search.crossref.org

Content is archived in **Martynas Mazvydas National Library of Lithuania**

Internet: https://www.extrica.com
E-mail: publish@extrica.com
Publisher: Extrica

ISSN PRINT 1392-8716, ISSN ONLINE 2538-8460

JVE Journal of Vibroengineering

FEBRUARY 2026. VOLUME 28, ISSUE 1, PAGES (1-187), ISSN PRINT 1392-8716, ISSN ONLINE 2538-8460

Contents

MECHANICAL VIBRATIONS AND APPLICATIONS

THE AIRFLOW BEHAVIOR OF LIGHT PARTICULATE MATERIALS DURING FREE FALL AND THEIR IMPACT DYNAMICS ON SCREENING SURFACES **1**
YANG WANG, JIANYU CHANG, XIAOMAN LIU

EXPERIMENTAL STUDY ON DYNAMIC LOAD COMPENSATION OF RISERS UNDER ULTRA-LOW FREQUENCY VIBRATION **17**
ZHIKUN WANG, FENGMEI ZHANG, LUMENG HUANG

FAULT DIAGNOSIS BASED ON VIBRATION SIGNAL ANALYSIS

RESEARCH ON THE RELATIONSHIP BETWEEN SHAFT VIBRATION AND BEARING VIBRATION UNDER COMPLEX FAULT CONDITIONS USING FULL VECTOR SPECTRUM **32**
DONGLIANG ZOU, HONGCHAO WANG

RESEARCH ON FAULT DIAGNOSIS OF ROLLING BEARINGS BASED ON MULTI-METHOD FUSION **43**
SHIJUN YU, CHANGYOU GUO, HAORUI LIU, HENGWEI ZHU

PREDICTIVE VIBRATION DIAGNOSTICS OF HELICOPTER ROTATING UNITS IN FIELD CONDITIONS **61**
ALEKSEY MIRONOV, ANDRIS CHATE, PAVEL DORONKIN, ALEKSEJS SAFONOVS

VIBRATION CONTROL, GENERATION AND HARVESTING

FUZZY DYNAMIC SELF-TUNING BASED LINEAR ACTIVE DISTURBANCE REJECTION CONTROL FOR PMSM SPEED CONTROL **82**
CHUN WANG, WEI ZHENG, SHAODA XIE, JIANJIAN ZHAO

MODAL ANALYSIS AND APPLICATIONS

STRUCTURAL OPTIMIZATION OF BUS CHASSIS FRAME BASED ON PROXY MODEL **105**
YONGGANG WANG

VIBRATION IN TRANSPORTATION ENGINEERING

RESEARCH ON THE DYNAMICS OF A PERMANENT MAGNET DIRECT-DRIVE BOGIE WITH CONSIDERATION OF ELECTROMECHANICAL COUPLING **124**
ZUNWEI FENG, JING ZENG, ZHIYUAN HU

ANALYSIS OF DYNAMIC RESPONSE CHARACTERISTICS OF VEHICLE-MOUNTED TANK BASED ON THE FINITE ELEMENT METHOD **143**
JING LV

STUDY ON THE IMPACT OF WHEEL ROUNDNESS DEFECTS ON AXLE FATIGUE DAMAGE **160**
YONGLIN MEN, HAO HU

BIOMECHANICS AND BIOMEDICAL ENGINEERING

STUDY ON CRANIOCEREBRAL DYNAMIC RESPONSE AND HELMET PROTECTION PERFORMANCE UNDER ACCOMPANYING SHOCK WAVE **172**
BIN YANG, JIAJIA ZOU, YANG ZHENG, FENG GAO, XUAN MA, XINGYU ZHANG, HAO FENG, PENG ZHANG, XINYU WEI, LI LI

SHORT DESCRIPTION ABOUT THIS CATEGORY

The major objective of vibration engineering is to protect people, instruments, machines, and structures from the effect of harmful vibration. Mechanical vibrations and applications, fault diagnosis based on vibration signal analysis, seismic engineering, acoustics, and noise control are typical examples of the core areas of the Journal. The aim of the Journal is to present theoretical and experimental aspects of engineering problems related to vibrations.