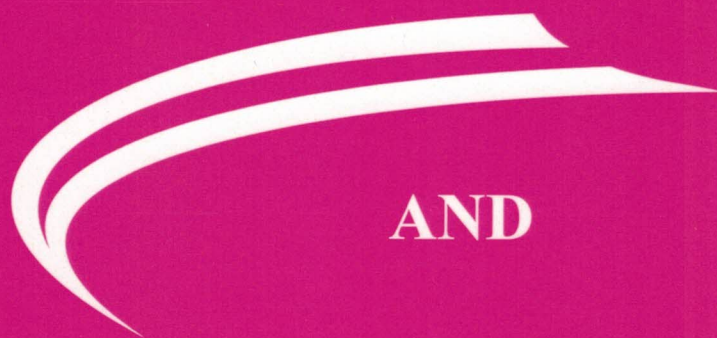


IJME

International Journal of
APPLIED MECHANICS



AND

ENGINEERING



Ministry of Science
and Higher Education

Republic of Poland



UNIVERSITY
OF ZIELONA GÓRA

Task: International Journal of Applied Mechanics and Engineering (IJAME)

Type of task: edition of a scientific journal, its internationalization and ensuring open access to the journal via the Internet.

The task is financed under contract no. 634/P-DUN/2019 by the Minister of Science and Higher Education from funds for science dissemination activities.

2019

Volume 24

Number 4

ISSN 1734-4492

e-ISSN 2353-9003

University of Zielona Góra, POLAND

UNIVERSITY of Zielona Góra

International Journal of
APPLIED MECHANICS
AND
ENGINEERING

2019 Volume 24

Number 4

ISSN 1734-4492
e-ISSN 2353-9003

International Journal of AME is abstracted/indexed in:

Applied Mechanics Reviews, ASME, USA

Arianta

Astrophysics Data System (ADS), USA

Baidu Scholar

BAM Tribology Information Center, Germany

BazTech, Poland

Celdes

Chemical Abstracts Reviews, CAS, USA

Chemical Abstracts Service (CAS)-SciFinder

CNKI Scholar (China National Knowledge Infrastructure)

CNPIEC

DOAJ (Directory of Open Access Journals)

EBSCO (relevant databases)

EBSCO Discovery Service

Elsevier - SCOPUS

Engineered Materials Abstracts, CSA, UK

FIZ, Bibliographischer Service FRG, Germany

Genamics JournalSeek

Google Scholar

INSPEC, Publishing and Information Service, IEE, UK

J-Gate

JournalITOCs

KESLI-NDSL (Korean National Discovery for Science Leaders)

Naviga (Softweco)

POL-index

Primo Central (ExLibris)

ProQuest – Engineered Materials Abstracts

ReadCube

Referativnyj Zhurnal (VINITI, RAS), Russia

ResearchGate

SCImago (SJR)

Sherpa/RoMEO

Summon (Serials Solutions/ProQuest)

TDOne (TDNet)

TEMA - Technik und Management, Germany

Ulrich's Periodicals Directory/ulrichsweb

WanFang Data

WorldCat (OCLC)

www.content.sciendo.com/view/journals/ijame/ijame-overview.xml

ZIELONA GÓRA, Poland

This work is subject to copyright. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the written permission of the publisher, except as stated below. Single photocopies of single articles may be made for private study or research. Illustrations and short extracts from the text of individual contributions may be copied provided that the source is acknowledged, the permission of the authors is obtained and Editorial Office of IJAME is notified. Authorization to photocopy items for internal or personal use, is granted by Editorial Office of IJAME to libraries and other users, provided that the base fee of US\$ 20.00 per copy is paid directly to Editorial Office of IJAME.

Honorary Editor-in-Chief and Founder

Edward Walicki

Editor-in-Chief

Paweł Jurczak

Regional Editors

K.R. Rajagopal

Siu-Lai Chan

Editorial Board

H.I.Andersson	J.Mikielewicz
R.Bassani	Y.Mitsuya
G.Bergeles	A.S.Mujumdar
R. Będziński	H.Münstedt
A. Biń	N.K.Myshkin
Y.C.Chen	H.Ouakad
B.S.Dandapat	M.Pakdemirli
D.Durban	J.-M.Piau
N.El-Kissi	I.Pop
I.Emri	T.G.Rozgonyi
J.Falicki	J.T.Sawicki
M.Fillon	A.Sobczyk
M.Z.Galicki	A.R.Srinivasa
R.S.R.Gorla	G.Stachowiak
A.Gronowicz	D.Steigmann
M.A.Hossain	T.A.Stolarski
D.B.Ingham	Hyung Jin Sung
P.Jurczak	A.Z.Szeri
Z.Kabza	H.S.Takhar
E.V.Korobko	M.Wagner
M.Królak	A.Walicka
V.G.Kulichikhin	K.Walters
An-Chen Lee	K.Watanabe
K.M.Liew	S.H.Winoto
Jaw-Ren Lin	E.Wittbrodt
K.Łasiński	J.Wojnarowski
K.Magnucki	Q.-S.Zheng

Publikacja jest finansowana przez Ministra Nauki i Szkolnictwa Wyższego

Printed in Poland

University of Zielona Góra, Poland

Contents

A.K. Aggarwal and D. Dixit Triple diffusive convection of a non-Newtonian fluid under the combined effect of compressibility and variable gravity	1
A.O. Ajibade and A.M. Umar Effects of viscous dissipation and wall conduction on steady mixed convection Couette flow of heat generating/absorbing fluid	12
S.P. Anjali Devi and M. Agneeshwari Effects of non-uniform heat generation /absorption and radiation on hydromagnetic dissipative flow over a porous nonlinear stretching surface with heat and mass fluxes	36
R.R. Gupta and R.R. Gupta Investigation of waves generated in transversely isotropic micropolar generalized thermoelastic half space under temperature dependent properties.....	53
B. Iwanowska-Chomiak and A. Walicka Mass transport through interstitial structures.....	66
B.K. Jha and M.O. Oni Role of sudden application or withdrawal of magnetic field on MHD Couette flow	92
H. Kaur and G.N. Verma Electro-hydrodynamic convection in a rotating dielectric micropolar fluid layer.....	106
G. Narender, G.S. Sarma and K. Govardhan The impact of radiation effect on MHD stagnation-point flow of a nanofluid over an exponentially stretching sheet in the presence of chemical reaction	125
L. Petureau, P. Doumalin and F. Bremand Identification of local elastic parameters in heterogeneous materials using a parallelized FEMU method.....	140
S. Ray, S. De and B.N. Mandal Water wave scattering by an infinite step in the presence of an ice-cover	157
B.P. Reddy Effects of chemical reaction on transient MHD flow with mass transfer past an impulsively fixed infinite vertical plate in the presence of thermal radiation.....	169
R.P. Sharma, A.K. Jha, P.K. Gaur and S.R. Mishra Nanofluid motion past a shrinking sheet in porous media under the impact of radiation and heat source/sink.....	183
Z. Śloderbach Application of two conditions of loss of stability in analysis of the tube bending process	200
<i>Technical note</i>	
E. Feldshtein, L. Dyachkova, M. Michalski and K. Adamczuk On the fractography and some strength properties of Fe-based sintered materials with multicomponent oxide microadditives.....	224
P. Frankovský, I. Delyová, M. Trebuňová, P. Čarák, M. Kicko and P. Kurylo Motion analysis of the hydraulic ladder	230