

IJME

International Journal of
APPLIED MECHANICS



AND

ENGINEERING

2013

Volume 18

Number 4

ISSN 1425-1655

University Press
Zielona Góra, Poland

Contents

Jubilee of Professor Józef Wojnarowski	I-IV
K. Ashokkumar and P.H. Veena and V.K. Pravin Closed form solutions of heat and mass transfer in the flow of a MHD visco-elastic fluid over a porous stretching sheet.....	989
K. Bhattacharyya and R.S.R. Gorla Boundary layer flow and heat transfer over a permeable shrinking cylinder with surface mass transfer.....	1003
R.R. Gupta Wave propagation in micropolar monoclinic thermoelastic half space	1013
M. Guria, N. Ghara and R.N. Jana Three-dimensional oscillating flow between two parallel plates through a porous medium.....	1025
B.K. Jha and H.M. Jibril Unsteady hydromagnetic Couette flow due to ramped motion of one of the porous plates.....	1039
D. Joachimiak, M. Joachimiak and P. Krzyślak The analysis of the calculation process related to labyrinth sealing with extraction	1057
R. Kumar and V. Gupta Uniqueness, reciprocity theorems and plane wave propagation in different theories of thermoelasticity	1067
R. Muthucumaraswamy, N. Dhanasekar and G. Easwara Prasad MHD and rotation effects on flow past an accelerated vertical plate with variable temperature and mass diffusion in the presence of chemical reaction	1087
G. Nagaraju and J.V. Ramana Murthy MHD flow of longitudinal and torsional oscillations of a circular cylinder with suction in a couple stress fluid.....	1099
T.L. Raju and P. Muralidhar Effect of chemical reaction and radiation on double diffusive flow of a viscous, dissipative fluid through porous medium in a rectangular cavity with heat sources.....	1115
G.V.R. Reddy, B.A. Reddy and N.B. Reddy Thermal radiation and magnetic field effects on unsteady mixed convection flow and mass transfer over a porous stretching surface with heat generation.....	1151
B. Rogowski Anti-plane crack emanating from the interface in a bounded bounded smart PEMO-elastic structure	1165
G.S. Seth, G.K. Mahato and S. Sarkar MHD natural convection flow with radiative heat transfer past an impulsively moving vertical plate with ramped temperature in the presence of Hall current and thermal diffusion.....	1201
M. Sethi, K.C. Gupta and M. Rani Surface waves in non-homogeneous, general magneto-thermo, viscoelastic media of higher order.....	1221
K.D. Singh Effect of slip condition on viscoelastic MHD oscillatory forced convection flow in a vertical channel with heat radiation.....	1237
R. Singh Response due to mechanical source in second axisymmetric problem of micropolar elastic medium ..	1249
V.N. Skopinsky, N.A. Berkov and A.B. Smetankin Plastic limit load of ellipsoidal pressure vessel head with nozzle under internal pressure loading	1263

CALENDAR
Contents continued from outside back cover

2014
Technical note

M. Džikuć

Applying the life cycle assessment method to an analysis of the environmental impact of heat generation 1275

P. Frankovský, I. Virgala, P. Hudák and J. Kostka

The use the of digital image correlation in a strain analysis..... 1283

Conference informations..... 1293

7-8 June 2014, Lisbon, PORTUGAL

7th Global Modelling and Simulation International Conference (ICMS 2014)

Contact: <http://www.icms14.net>

Email: icms@icms14.net

13-17 June 2014, Gangwon, KOREA

International Conference on Computational and Experimental Engineering and Science (ICCES 14)

Contact: www.icces.org

21-24 September 2014, Sotiria-Parga, GREECE

XIV International Conference on Topics of Mechanics and Mechanical Systems

Contact: www.pcm2014.org

21-26 September 2014, Hanoi, VIETNAM

International Conference on Current Status of Structural Materials X

12-14 September 2014, Rhodes, GREECE

The International Conference of Numerical Analysis and Applied Mathematics (ICNAAM 2014)

Contact: rafi.watoni@gmail.com

6-10 October 2014, Miskolc (Hungary), HUNGARY

7th International Conference on Composite Materials and Technology Processes (ICCMTP)

Contact: Prof. Dr. László A. Gáspár, E-mail: lgasp@uni-miskolc.hu

www.iccmtp.eu

11-13 October 2014, Kottayam, Kerala, INDIA

Third International Conference on Polymer Processing and Characterization (PPC)

Contact: Conference E-mail: ppc@imrinnovations.in

Conference website: www.processing.innovations.in

1-7 November 2014, Bangkok, THAILAND

The Second Australasia and South East Asia Structural Engineering and Construction Conference (ASA-SEA)

CONTACTS: Prof. Kanchana Uthairatana, kancha@ku.ac.th

Prof. Weerakorn Samnang, weeraw@ku.ac.th

INTERNATIONAL JOURNAL OF APPLIED MECHANICS AND ENGINEERING

Editor-in-Chief

Edward Walicki

Department of Mechanics, University of Zielona Góra, ul. Szafrana 2
65-516 Zielona Góra, POLAND; e-mail: E.Walicki@ijame.uz.zgora.pl

Regional Editors

K.R. Rajagopal

Department of Mechanical Engineering, Texas A&M University
College Station, Texas 77843-3123, USA; e-mail: Krajagopal@mengr.tamu.edu

Siu-Lai Chan

Department of Civil and Structural Engineering, The Hong Kong Polytechnic University
Hong Kong, PRC; e-mail: CESLCHAN@polyu.edu.hk

Editorial Board

H.I.Andersson, Trondheim, Norway

R.Bassani, Pisa, Italy

G.Bergeles, Athens, Greece

A.Biń, Warszawa, Poland

W.A.Bullough, Sheffield, UK

Y.C.Chen, Houston, USA

T.Chmielniak, Gliwice, Poland

B.S.Dandapat, Calcutta, India

B.Dobrowolski, Opole, Poland

D.Durban, Haifa, Israel

I.Emri, Ljubljana, Slovenia

M.Z.Galicki, Zielona Góra, Poland

R.S.R.Gorla, Cleveland, USA

M.A.Hossain, Dhaka, Bangladesh

D.B.Ingham, Leeds, UK

P.Jurczak, Zielona Góra, Poland

Z.Kabza, Opole, Poland

E.V.Korobko, Minsk, Belarus

M.Kowal, Zielona Góra, Poland

M.Królak, Łódź, Poland

V.G.Kulichikhin, Moscow, Russia

An-Chen Lee, Hsinchu, ROC

K.M.Liew, Singapore, ROS

K.Łasiński, Zielona Góra, Poland

K.Magnucki, Poznań, Poland

D.Michalski, Zielona Góra, Poland

J.Mikielewicz, Gdańsk, Poland

Y.Mitsuya, Nagoya, Japan

A.S.Mujumdar, Singapore, ROS

H.Münstedt, Erlangen, Germany

N.K.Myshkin, Gomel, Belarus

H. Ouakad, Dhahran, Saudi Arabia

M.Pakdemirli, Manisa, Turkey

J.-M.Piau, Grenoble, France

I.Pop, Cluj, Romania

W.Rakowski, Kraków, Poland

T.G.Rozgonyi, Golden, USA

J.T.Sawicki, Cleveland, USA

A.R.Srinivasa, Texas, USA

G.Stachowiak, Nedlands, Australia

D.Steigmann, Berkeley, USA

T.A.Stolarski, Uxbridge, UK

C.Strumillo, Łódź, Poland

Hyung Jin Sung, Taejon, Korea

J.Szantyr, Gdańsk, Poland

A.Z.Szeri, Newark, USA

H.S.Takhar, Manchester, UK

M.Wagner, Berlin, Germany

A.Walicka, Zielona Góra, Poland

K.Walters, Aberystwyth, UK

K.Watanabe, Tokyo, Japan

S.H.Winoto, Singapore, ROS

E.Wittbrodt, Gdańsk, Poland

J.Wojnarowski, Gliwice, Poland

S.Wroński, Warszawa, Poland

Q.-S.Zheng, Beijing, PRC

Technical Editor: K.Napieralska

Scope of the journal: INTERNATIONAL JOURNAL OF APPLIED MECHANICS AND ENGINEERING is an archival journal which aims to publish high quality original papers. These should encompass the best fundamental and applied science with an emphasis on their application to the highest engineering practice. The scope includes all aspects of science and engineering which have relevance to:

- ◆ elasticity,
- ◆ plasticity,
- ◆ vibrations,
- ◆ mechanics of structures,
- ◆ mechatronics,
- ◆ plates & shells,
- ◆ hydrodynamics,
- ◆ magnetohydrodynamics,
- ◆ gas dynamics,
- ◆ rheology,
- ◆ thermodynamics,
- ◆ tribology.

This is also reflected in the publication of conference reports, book reviews, editorials, special issues, laboratory reports, news and letters.