TECHNICAL UNIVERSITY OF ŁÓDŹ

Volume 13

Number 1, 2009

Mechanics and Mechanical Engineering

Editor in Chief: Tomasz Kapitaniak

Łódź, Poland

MECHANICS AND MECHANICAL ENGINEERING International Journal

Editor in chief – Tomasz Kapitaniak Mechanics and Mechanical Engineering Editorial Office Division of Dynamics, Technical University of Łódź 90-924 Łódź, Poland, Tel. (48 42) 636 68 22

Editorial board

J. Brindley – Leeds J. Giergiel – Rzeszów M. Giergiel – Kraków W. Kaniewski – Łódź Z. Kazimierski – Łódź M. Królak – Łódź K. Li – Michigan J. Manevich – Dniepropetrovsk A. Nayfeh – Blacksburg M. S. El Naschie – Cambridge W. Ostachowicz – Gdańsk Z. Peradzyński – Warsaw B. Skalmierski – Częstochowa W.-H. Steeb – Johannesburg C. Szczepaniak – Łódź A. Tylikowski – Warsaw K. E. Thylwe – Stockholm M. Wiercigroch – Aberdeen

Editorial Secretary: A. Jach, anna.jach@p.lodz.pl

Scope of the journal

Mechanics and Mechanical Engineering publishes original papers, notes, and invited review articles from all fields of theoretical and applied mechanics as well as mechanical engineering. In addition to the classical fields, such as Rigid Body Dynamics, Elasticity, Plasticity, Hydrodynamics and Gas Dynamics, it gives special attention to recently developed and boundary areas of mechanics. As a rule, only contributions written in English will be accepted.

Copyright Tomasz Kapitaniak, 2002-2008

Submission of manuscript implies: that the work described has not been published before (except in the form of an abstract or as part of a published lecture, review, or thesis); that is not under consideration for publication elsewhere; that its publication has been approved by all coauthors, if any, as well as by the responsible authorities at the institute where the work has been carried out; that, if, and when the manuscript is accepted for publication, by authors agree to automatic transfer of the copyright to the publisher; and that the manuscript will not be published elsewhere in any language without consent of the copyright holders.

CONTENTS

Praveen AILAWALIA, Sunit KUMAR and Gagandeep KHURANA	
Deformation in a Generalized Thermoelastic Medium with Hydrostatic Initial Stress Subjected to Different Sources	5
Mohamed I. A. OTHMAN	
Generalized Thermo–Viscoelasticity under Three Theories	25
Mohamed I. A. OTHMAN	
The Thermal Relaxation Effect on 2–D Problems of the Generalized Linear Thermo–Viscoelasticity	45
Osman M. KAMEL	
Optimum Impulsive Hohmann Coplanar Elliptic Transfer (Aggregation of New Useful Relationships). Part I	63
Osman M. KAMEL and Adel S. SOLIMAN	
Optimal Generalized Coplanar Bi–Elliptic Transfer Orbit. Part I	73
Hazem A. ATTIA	
On the Effectiveness of Heat Generation/Absorption on Heat Transfer in a Stagnation Point Flow of a Micropolar Fluid over a Stretching Surface	79
Hazem A. ATTIA	
Effect of Porosity on Unsteady Couette Flow with Heat Transfer in the Presence of Uniform Suction and Injection	85
Rajani R. GUPTA and Rajneesh KUMAR	
Effect of Temperature Dependent Elastic Property of Materials on Wave Propagation in Microstretch Generalized Thermoelastic Solid	91