



UDC: 621

ISSN 1451-2092

---

University of Belgrade  
Faculty of Mechanical Engineering

# FME TRANSACTIONS

---

**New Series, Volume 41, Number 2, 2013**

---

# FME TRANSACTIONS

## Editor:

**Boško Rašuo**  
University of Belgrade

## Associate Editor:

**Stevanović Vladimir**  
University of Belgrade

## Editorial Board:

**Ašković Radomir**  
Université de Valenciennes, France

**Avellan François**  
Laboratory for Hydraulic Machines  
Swiss Federal Institute of Technology, Zurich, Switzerland

**Bojić Milorad**  
University of Kragujevac

**Dulikravich S. George**  
Department of Mechanical and Materials Eng.  
Florida International University, Miami, USA

**Đorđević Vladan**  
University of Belgrade

**Ehmann F. Kornel**  
Department of Mechanical Engineering  
Northwestern University, Evanston IL, USA

**Felix Hong**  
Wayne State University, Detroit, USA

**Gabi Martin**  
Karlsruher Institut für Technologie (KIT)  
Universität des Landes Baden-Württemberg  
und nationales Forschungszentrum in der Helmholtz  
Gemeinschaft, Germany

**Gajić Zoran**  
Rutgers University, USA

**Jovanović Jasmina**  
University of Belgrade

**Klimenko A. Sergej**  
National Academy of Sciences, Kiev, Ukraine

**Komatina Mirko**  
University of Belgrade

**Meerkamm Harald**  
Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany

**Nedić Novak**  
University of Kragujevac

**Plančak Miroslav**  
University of Novi Sad

**Radovanović Miroslav**  
University of Nis

**Sedmak Aleksandar**  
University of Belgrade

**Soutis Constantinos**  
Department of Mechanical Engineering (Aerospace)  
The University of Sheffield, Sheffield, UK

**Stamenović Dimitrije**  
Boston University, Boston, USA

## Technical Editor:

**Dinulović Mirko**  
University of Belgrade

**Published by:**  
University of Belgrade  
Faculty of Mechanical Engineering

ISSN 1451-2092

UDC: 621

Volume 41, No 2, 2013, pp. 83 - 166

## CONTENTS

	PAGE
<b>Slavkovic Nikola, Milutinovic Dragan, Kokotovic Branko, Glavonjic Milos, Zivanovic Sasa, Ehmann Kornel</b> <i>Cartesian Compliance Identification and Analysis of an Articulated Machining Robot</i>	83
<b>Thakur Pankaj, S.B.Singh, Kaur Jatinder</b> <i>Thickness Variation Parameter in a Thin Rotating Disc by Finite Deformation</i>	96
<b>Palček P., Hlaváčová I., Chalupová M.</b> <i>The Study of Plastic Deformation in the Crack Surrounding in AZ61 Alloy</i>	103
<b>Radojković Bojana, Ristić Slavica, Polić-Radovanović Suzana</b> <i>Study of Ruby Laser Beam Interaction With Glass</i>	109
<b>Samardžić Marija, Ocokoljić Goran, Rašuo Boško, Isaković Jovan</b> <i>Subsonic dynamic stability experiment on the Anti Tank Missile Model</i>	114
<b>Petrović Milica, Miljković Zoran, Bojan Babić</b> <i>Integration of Process Planning, Scheduling, and Mobile Robot Navigation Based on TRIZ and Multi-Agent Methodology</i>	120
<b>Madić Miloš, Radovanović Miroslav</b> <i>Identification of the Robust Conditions for Minimization of the HAZ and Burr in CO2 Laser Cutting</i>	130
<b>Simić Aleksandar, Radojčić Dejan</b> <i>On Energy Efficiency of Inland Waterway Self-Propelled Cargo Vessels</i>	138
<b>Trišović Nataša, Maneski Taško, Golubović Zorana, Segla Štefan</b> <i>Elements of Dynamic Parameters Modification and Sensitivity</i>	146
<b>Mandić Petar, Mihailo Lazarević</b> <i>An Application Example of Webots in Solving Control Tasks of Robotic System</i>	153
<b>Jovanović Jasmina, Raspopović Zoran, Stojanović Vladimir, Nikitović Željka</b> <i>Transport of F- Ions in Gaseous Environment for Technological Applications</i>	163

The publication of the Vol. 41, No 2 of this Journal was fully financially supported by the Ministry of Education and Science of the Republic of Serbia. This support is gratefully acknowledged.

On line service:

<http://www.mas.bg.ac.rs/transactions>

Printed by:

“PLANETA print”, Ruzveltova 10, 11000 Belgrade