

ROMANIAN ACADEMY
Department of Technical Sciences

ACADEMY OF TECHNICAL SCIENCES



**The Annual Symposium of the
Institute of Solid Mechanics**

SISOM 2005

Bucharest

May 19-20, 2005

Session 1 →

Session 2 →

Organizing Committee →

Organizing Committee:

Acad. Radu Voinea

Prof. C. W. Stammers

Prof. Pier Paolo Delsanto

Prof. Cornel Mihai Nicolescu

Prof. Milan Sinor

Prof. Boris Rybakin

Prof. Vasile Marina

Prof. P.P. Teodorescu

Prof. Constantin Minciu

Prof. Dan Iordache

Prof. Florin Petrescu

Prof. Teodor Zlateanu

Prof. Napoleon Antonescu

Prof. Nicolae Predincea

Senior Researcher Dinu Bratosin

Senior Researcher Tudor Sireteanu

Senior Researcher Lucian Capitanu

Senior Researcher Veturia Chiroiu

Senior Researcher Ivan Iliuc

Senior Researcher Sergiu Cononovici

Senior Researcher Wladimir Racovita

Senior Researcher Ioan Rugina

Senior Researcher Aron Iarovici

Secretary:

dr. Marcel MIGDALOVICI
dr. eng. Cristian RUGINĂ
dr. Mărgărit BAUBEC
eng. Gabriela VLĂDEANU
as. Veronica IOVĂNESCU

Special thanks to the sponsors:

- AGIR - General Association of Romanian Engineers**
- VTC – SRL (Engineering and Industrial Technologies, Engineering & Dealer – ABB)**

Session 1 – System dynamics and continuum mechanics

- (1D) *Petr Lugovoi, Vladimir Meish, Boris Rybakin, Gregory Secrieru*
Mathematical simulation of explosion deformation of cylinder shells
- (2D) *Lugovoi P.Z., Meish V.F., Naval Ion*
About one finite differences method in plane dynamics deformation of the elastic bicomponent material
- (3D) *Petru Stiuca, Veturia Chiroiu*
The conceive of an installation for dynamic study of materials fatigue using ultrasound stimulated exoelectrons emission
- (4D) *Octavian Ionescu, Ioan Dumitrescu, Gabriela Ionescu*
Study on using the electric arc light in the assessment of the GMAW-P quality control
- (5D) *V.Chiroiu, L. Munteanu, A.C. Whang*
On the bending of carbon nanotubes
- (6D) *Gheorghe Frunza*
Dependence of hysteresis on number of load cycles, carried under imposed stresses exceeding the yield limit
- (7D) *Liliana Rusu, Silviu Macuta, Eugen Rusu*
A Mathematical Hamiltonian Model for the Wave Propagation

(8D) *Ligia Munteanu, Oana Marin, Valeria Mosnegutu*

On the nonlinear stick-slip friction. PartI: theoretical modeling

(10D) *Kumbetlian G., Alexandra Nita*

The tangential stresses at bending, in the sections of the bars without the symmetrical axes

(11D) *Nicolae-Doru Stanescu, Marina Pandrea, Nicolae Pandrea, Marinica Stan*

About the stability of the double hanging pendulum with one neo-hookean rod

(12D) *Mihalache Radu-Catalin*

Satellite Movement Anomalies

(13D) *Grigore Liviu ODOBESCU, Rareş Alexandru ODOBESCU*

Method of calculus and experimental verification for an acoustic chain intended for ultrasonic solder.

(14D) *Mariana Enache, Nicolae Ionita*

Fiber optics

(15D) *Ioan Magheti, Catalin Ion, Nicolae Enescu*

Acoustic modeling of a muffler using acoustic-electric analogy

(16D) *Constantin Maraloi*

Aspect on endowing with a shutter and its orientation for increasing the propelling force of hybrid sails

(17D) *Rugescu Radu Dan*

Dynamic behavior of large space structures during orbital deployment

(18D) *Rugina Cristian, Ioan Rugina*

Dynamic behaviour analysis of high power ultrasonic piezoceramic transducers

(19D) *Viorica Bogdanescu, Cornel Balas*

Improve car comfort in any drive manner

(20D) *Adrian-Ioan Niculescu*

Some concepts for the self-adjustable shock absorbers tuning

(21D) *Onișoru Justin, Iarovici Aron, Căpitanu Lucian, Mihai Popescu*

The contact mechanism between the artificial femoral head and UHMWPE cup, in total hip prostheses

(22D) *Alexandru Dumitrache, Horia Dumitrescu*

A method for predicting aerodynamic noise from HAWT

(23D) *Diana Hogeia, Florin Bausic*

Vertical static tests of the wire-rope isolators

(24D) *Diana Hogeia, Florin Bausic*

Dynamic tests of the wire-rope isolators

(25D) *Marcel Migdalovici Daniela Baran*

About the stability of the pantograph-catenary dynamical system

(26D) *Emil M. Videa, Cornel Balas, Tudor Sireteanu*

Dynamical behavior of stockbridge-type damper for overhead electric lines.

1. Stiffness and internal damping of the system

(28D) *Gabriel Teodorescu*

Information loss during ultrasonic signal transfer

(29D) *Eugen RUSU, Silviu MACUTA, Liliana RUSU*

New hamiltonian techniques in marine engineering

(30D) *Sorin CIORTAN, Silviu MACUTA*

Stuffing box gaskets study based on finite element analysis

(31D) *Margarit Baubec, Aron Iarovici, Hristache Popescu*

Approximate solutions for the bending of cylindrical reservoirs foundations

[Session 1](#) 

[Home Page Sisom 2005](#) 

[Session 2](#) 

[Organizing Committee](#) 

Session 2 – Robotics, mechatronics, friction and wear investigations of the materials

(1R) *Ionel Staretu, Marius Ionescu*

Kinematics and functional simulation of a robotic arm from a pyrotechnic robot

(2R) *Ivan Iliuc, Tiganesteanu Constantin*

Upon the role of the surface micro topography in boundary lubrication

(3R) *Sergiu- Boris Cononovici*

A sensor-based reactive behaviour obtained by learning for a mobile robot

(4R) *George Balan, Alexandru Epureanu, Floriana Popescu*

The monitoring of a lathe using an artificial neural network-2nd part (the training of an artificial neural network and the experimental setup)

(5R) *Oranescu Amedeu, Bejenaru Silvia, Rus Madalina*

On the semantic and topologic desmodromy of the mobile mechanical structures

(6R) *Marius Gabriel Petrescu, Niculae Naploeon Antonescu, Ion Nae*

The risk management and its utilization in the decisional activity

(7R) *I. Nae, N. N. Antonescu, Marius Gabriel Petrescu*

About the surveillance and optimization activities of the technological processes from the machine constructions

(8R) *Iulian Popescu, Elena Alina Barbulescu*

The plants' movements – ideas for creating robots

(9R) *Iulian Ocroteala*

The aesthetics effects generated by a spatial mechanism

(10R) *Milcomete Daniela Cristiana, Traian Preoteasa*

Structural and kinematical problems of a light industry machine mechanism

(11R) *Lucian Marius Velea, Luige Vladareanu, Radu Munteanu*

Complex automatization for compline leading in open structure of multiaxis systems

(12R) *Luige Vladareanu, Lucian Marius Velea*

Real time control of the MRG Multiaxis guide-grinding machines

(13R) *Ioan Constantin Țarcă, Radu Catalin Țarcă*

On hydrodynamic helicoidally shaped thrust pad bearings optimization

(14R) *Adrian Catalin Drumeanu*

New tendencies concerning the synthetic lubricants utilization

(15R) *Bejenaru Silvia*

The differential reformation of the algebraic mathematical models in the mobile mechanical systems

(16R) *Badoiu Dorin*

Research concerning the precision of the trajectories obtained with anthropomorphic robots structures

(17R) *Silviu MACUTA, Ion CRUDU*

Experimental researches regarding the evolution of some parameters of the superficial layer in low cycle fatigue process

(18R) *Barascu Elena*

The primary interference of the interior technological gear

(19R) *Liviu Ciupitu, Ion Simionescu*

Static balancing of mechanical systems used in medical engineering field-Approximate Balancing

(20R) *Adrian Olaru, Serban Olaru*

Research of the industrial robots kinematics with Labview instrumentation and quaternion algebra

(21R) *Cornel Secara, Sergiu-Boris Cononovici, Ion Nitu*

Restriction Surface Avoidance by a planar redundant manipulator using a control strategy based on the pseudoinverse of the Jacobian matrix

(22R) *Eugen Merticaru*

Taguchi method used for theoretical research

(23R) *Ion Nitu, Wladimir Racovita, Cornel Secara*

Detection of singular positions for a planar redundant manipulator

(24R) *Ion Ion, Marius Ungureanu, Ion Simionescu, Adrian Curaj*

Mero - Romanian modular walking robot

(25R) *Alexandru Vladeanu, Gabriela Vladeanu*
The vibration rammer modeling used in constructions

(26R) *Marius Dima*
Physical and tribological properties of diamond like carbon (DLC) layers as function of deposition method

(27R) *Nucu-Paul Petoanca*
Optimisation of missiles' evolution on their trajectory using the theory of differential games

Session 1 

Home Page Sisom 2005 

Session 2 

Organizing Committee 