

*Project ON 144002 - Theoretical and Applied Mechanics of the Rigid and Solid Bodies. Mechanics of Materials (2006-2010)*

*Projekt ON144002 Teorijska i primenjena mehanika krutih i čvrstih tela. Mehanika materijala.*

Support: *Ministry of Sciences and Environmental Protection of Republic of Serbia*

Institution Coordinator: *Mathematical Institute Serbian Academy of Sciences and Arts.*

Project Leader: *Katica (Stevanović) Hedrih*

Researchers: 37.

Researcher months: *approximately 162 months.* (by contract)

*Report – Research Results in 2006.*

## **I. Radovi u časopisima sa visokim impact faktorom - Publikovani**

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## ***II. Radovi u časopisima sa visokim impact faktorom - prihvaćeni za štampu***

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## **IV. Poglavlja u monografijama međunarodnog značaja u 2005. i 2006:**

### **(nisu ocenjivane u 2005, ni u 2006)**

#### **A. 1. The Publications are listed under 2005. but was published at end of 2005. or in beginning of 2006.**

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[2] Hedrih (Stevanović) K., (2005), *Nonlinear Dynamics of a Heavy Material Particle Along Circle which Rotates and Optimal Control*, **Chaotic Dynamics and Control of Systems and Processes in Mechanics** (Eds: G. Rega, and F. Vestroni), p. 37-45. IUTAM Book, in **Series Solid Mechanics and Its Applications**, Edited by G.M.L. Gladwell, **Springer**, 2005, XXVI, 504 p., Hardcover ISBN: 1-4020-3267-6. <http://springerlink.com/content/v3426kp5483w3v00/?p=58e4f352d3544b2a9c4377ee5d9a3bf2&pi=4>

[3] Hedrih (Stevanović) K., (2005), *Homoclinic Orbits Layering in the Coupled Rotor Nonlinear Dynamics and Chaotic Clock Models*, SM17 – Multibody Dynamics (M. Gerdalin and F. Pfeiffer), p. Lxiii – CD - SM10624, Mechanics of the 21st Century (21st ICTAM, Warsaw 2004) - CD ROM INCLUDED, edited by Witold Gutkowski and Tomasz A. Kowalewski, IUTAM, **Springer 2005**, ISBN 1-4020-3456-3, Hardcover., p. 421+CD. ISBN-13 978-1-4020-3456-5 (HB), ISBN-10 1-4020-3559-4(e-book), ISBN-13-978-1-4020-3559-3

[4] Nestorović Trajkov T., Köppe H., Gabbert U.: *Vibration control of a funnel-shaped shell structure with distributed piezoelectric actuators and sensors*, *Smart Materials and Structures*, **15**, pp. 1119-1132, doi:10.1088/0964-1726/15/4/026, <http://www.iop.org/EJ/abstract/0964-1726/15/4/026/>

#### **A.2. Monograph: Fracture of Nano and Engineering Materials and Structures (p. 1416), Edited by E.E.Gdoutos, Springer 2006. p. 1416,**

[1] Hedrih (Stevanović), K., (2006), *Measurements of Dynamical System Integrity and Fracture Mechanics*, Invited Key Lecture in **Fracture of Nano and Engineering Materials and Structures** (p. 1416), Edited by E.E.Gdoutos, Proceedings of the 16th *European Conference of Fracture* (p. 1416), **Springer 2006**, pp. 793-794, plus CD- Full paper 1-15. ISBN 1-4020-4971-4, BARCOD 9 781402 049712. <http://ecf16.civil.duth.gr>

[2] Ugrčić Marinko, (2006), *Clock Mechanism as Base of Artillery Safety and Arming Devices*, Invited Lecture in **Fracture of Nano and Engineering Materials and Structures** (p. 1416), Edited by E.E.Gdoutos, Proceedings of the 16th European Conference of Fracture (p. 1416), **Springer 2006**, pp. 799-800, plus CD Full paper. ISBN 1-4020-4971-4, BARCOD 9 781402 049712. <http://ecf16.civil.duth.gr>

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### **A.3. Publikacija međunarodnog značaja:**

[1] Booklet of Abstracts - *Minisymposium - Integrity of Dynamical Systems- ECF16*, Edited by Katica (Stevanović) Hedrih, invited organizer of Minisymposia *IDS-ECF - the 16th European Conference of Fracture*. Greece 2006, Centre for Nonlinear Dynamics and Active Structures, Faculty of Mechanical Engineering University of Niš and Democritus University of Thrace, Xanthi, Greece, 2006. p. 324. ISBN 86-80587-57-5. BarCod 9 788680 587578. COBIS. SR - ID 130756620. UDK 531:01 /048); 530:182(048); 530:42 (048); 53:005.745 (100).

[2] Booklet of Abstracts - *APM 2007 – Minisymposium Integrity of Dynamical Systems – Editor Katica (Stevanović) Hedrih, Summer School. APM 2007 Advanced Problems in Mechanics*, Russia, St. Petersburg June 20 - 28, 2007. *Institute for Problems in Mechanical Engineering of the Russian Academy of Sciences, Izdavač Mašinski fakultet u Nišu*, p. 379. ISBN 86-80587-67-2 COD 9 7886 80587677, BarCod 9 7886 80587677

[3] Booklet of Abstracts - *IDND 2007 – Analytical Dynamics of Discrete Hereditary Systems – Editor Katica (Stevanović) Hedrih, Izdavač Mašinski fakultet u Nišu zam - Minisymposia - Analytical mechanics of the hereditary discrete systems Second International Symposium on Nonlinear Dynamics*, 27-30 Oct.,2007, Shanghai, Donhua University, China,p-198. ISBN 978 – 86 – 80587 – 72 – 1 COBISS.SR – ID 144265740. BarCod 9 788680 56772 1 <http://www.2007isnd.com/>

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- [1] Mitić S., (2006), *Vibroudarni sistemi (Vibroimpact systems)*, Fakultet zaštite na radu, Niš, p. 250. (in Serbian)
- [2] Drašković Z., *On the invariance in Mechanics*, Posebna izdanja 22. Matematički institut SANU, 2005, p- 95., ISBN86-80593-38č9.
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- [4] Debeljkovic, Lj. D., G. V. Simeunovic, V. S. Mulić, *Dynamics of Processes – Mathematical Model of Plants and Processes in Control Engineering, Part I* Faculty of Mechanical Engineering, Belgrade, 2006 (in Serbian), pp. 600.
- [5] Debeljkovic, Lj. D., A. M. Sićović, V. S. Mulić, G. V. Simeunovic, *Dynamics of Distributed Parameter Systems: Dynamics of Steam Generator Evaporators*, Faculty of Mechanical Engineering, Belgrade, 2006 (in Serbian), pp. 440.
- [6] Debeljkovic, Lj. D., A. M. Sicovic, G. V. Simeunovic, V. S. Mulic, *Dynamics of Processes – Mathematical Model of Plants and Processes in Control Engineering, Part II* Faculty of Mechanical Engineering, Belgrade, 2006 (in Serbian), pp. 606.

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### **VI. Nije ocenjivano u 2005.**

[1] Nestorović-Trajkov T., Köppe H., Gabbert U.: *Active Vibration Control Using Optimal LQ Tracking System with Additional Dynamics*, International Journal of Control, Vol. 78, No. 15, 15 October 2005, pp. 1182–1197, ISSN 0020–7179 print/ISSN 1366–5820, DOI: 10.1080/00207170500163383

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## VII. Doktorske disertacije

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[3] Miloš Jovanović, „**Simulacija velikih vrtloga turbulentnog strujanja nestišljivog fluida u pravougaonom kanalu promenljivog poprečnog preseka**”, Mašinski fakultet Niš, 2007.

## VIII. NOVA METODA

Milan Spajić: **Nova metoda operacije kičmene moždine- (vidi prilog)**

### **A NOVEL, MINIMALLY INVASIVE DREZ LESIONING METHOD – EXPERIMENTAL SURGICAL EVIDENCE**

Spaic M., Houlden D., Schwartz M.

## IX. Publikovana predavanja, apstrakti i predavanja po pozivu, kao i saopštenja na međunarodnim skupovima u 2006. i 2007. u organizaciji

- \* Evropskog društva za mehaniku (EUROMECH),
- \* IFAC (Internacionalne federacija za automatsko upravljanje),
- \* IFNA (Internacionalne federacije nelinearnih analizista) i Elsevier-a J. NA,
- \* Tensor Society (Međunaridnog Tenzor društva),
- \* ESIS-a (Evropsko društvo za integritet konstrukcija) kao i prestižnog
- \* Kharkovskog Univerziteta (osnovan 1885) na kojem je radio A.M.Ljapunov. i drugih

[1] Hedrih (Stevanović), K. (2006), *Dynamics of coupled systems*, The International Conference of Hybrid Systems and Applications, date: May 22-26, 2006, Place: The University of Louisiana, Lafayette, LA, USA, 45 minutno predavanje po pozivu predsednika IFNE i predsednika naucnog odbora konferencije. Organizator IFNA i Elsevier-Journal Nonlinear Analysis.

[2] Hedrih (Stevanović), K. i Simonović J., (2006), *Free Transversal vibrations of double circular plate system*, The Sixth European Solid Mechanics Conference ESMC Budapest 2006. EuroMech Main Conference.

[3] Hedrih (Stevanović), K. (2006), *Transversal forced vibration of an axially moving sandwich double belt system*, The Sixth European Solid Mechanics Conference ESMC Budapest 2006. EuroMech Main Conference., predava u zasedanju sekcije Multibody Dynanucs.

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[8] Ugrčić Marinko, (2006), *Clock Mechanism as Base of Artillery Safety and Arming Devices*, Invited Lecture in *Fracture of Nano and Engineering Materials and Structures* (p. 1416), Edited by E.E.Gdoutos, Proceedings of the 16th European Conference of Fracture (p. 1416), *Springer 2006*, pp. 799-800, plus CD Full paper. ISBN 1-4020-4971-4, BARCOD 9 781402 049712. <http://ecf16.civil.duth.gr> **R52**

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Istraživači sa projekta u 2006. godini su održali veći broj saopštenja na seminarima Odeljenja za mehaniku i odeljenja za matematiku Matematičkog instituta SANU, kao i na seminaru projekta ON144002A Nonlinear Dznamics – Milutin Milanković na Mašinskom fakultetu u Nisu, kao i na seminarima Stosastika i Filozofija i istorija matematike i mehanike u Matematičkom institutu SANU. Vidi linkove:

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6. Milan Staniojević, Vera Nikolic-Stanojevic, Dimitrije Obradović: ANALIZA UTICAJA TEHNOLOGIJE IZRADE ZUPČANIK NA POVEĆANJE NOSIVOSTI ZUPČASTIH PAROVA, P. 15 ... 20., IRMES '06, ISTRAŠIVANJE I RAZVOJ MAŠINSKIH ELEMENATA I SISTEMA, BANJALUKA, 21... 22. SEPTEMBAR 2006. GOD. R<sub>54</sub>=1
7. Sonja Stefanović, Vera Nikolic-Stanojevic: ODREĐIVANJE RADIJALNE KRUTOSTI LEŽAJA, P. 237 ... 242, IRMES '06, ISTRAŠIVANJE I RAZVOJ MAŠINSKIH ELEMENATA I SISTEMA, BANJALUKA, 21... 22. SEPTEMBAR 2006. GOD R<sub>54</sub>=1
8. Saša Jovanović, Vera Nikolic-Stanojevic: ANALIZA EFEKATA HABANJA FRIKCIONIH POVRŠINA KOD MEHANIZMA SPOJNICe MOTORNIH VOZILA, p.

- 255 ... 260, IRMES '06, ISTRAŽIVANJE I RAZVOJ MAŠINSKIH ELEMENATA I SISTEMA, BANJALUKA, 21... 22. SEPTEMBAR 2006. GOD. R<sub>54</sub>=1
- 9 Milan Stanojević, Vera Nikolic-Stanojevic, Dimitrije Obradović: ANALIZA NIVOVA UTICAJA POJEDINIHI ELEMENATA GEOMETRIJE ZUPČANIK NA POVEĆANJE NOSIVOSTI ZUPČASTIH PAROVA, DEMI 2007, p. 23... 28.05. 2007., Banjaluka, 25-26. R<sub>54</sub>=1
- 10 Milan Stanojević, Vera Nikolic-Stanojevic, Dimitrije Obradović: APPLIKATIONS OF CALCULATION PROGRAM FOR ANALYSIS OF THE CCILINDRICAL HELICAL GEARS, MACHINE DESIGN, University of Novi Sad, Faculty of design, Technical Sciences. ADEKO - Association for Elements and Constructions, p. 281..289., 2007. R<sub>23</sub>=1
- 11 Mladen Radojković, Vera Nikolić-Stanojević, Zlatibor Vasić: THE INFLUENCE OF ROUNDED RADIUS OF APERTURES UPON DISTRIBUTION OF TENSION AT THE ISOTROPIC PLANE FIELD, First Serbian (26<sup>th</sup> YU) Congress on Theoretical and Applied Mechanics, p. 837... 840, Kopaonik, Serbia, April 10-13, 2007 R<sub>54</sub>=1
- 12 Ivana Atanasovska, Vera Nikolić, ...: DEVELOPING OF GEAR FEM MODEL FOR NONLINEAR CONTACT ANALYSIS, First Serbian (26<sup>th</sup> YU) Congress on Theoretical and Applied Mechanics, p. 9695 ... 703, Kopaonik, Serbia, April 10 - 13, 2007. R<sub>54</sub>=1
- 13 Ivana Atanasovska, Vera Nikolić, ... : RAZVOJ METODOLOGIJE ZA IZBOR OPTIMALNOG OBLIKA ZUBACA CILINDRIČNIH EVOLVENTNIH ZUPČANIK SA PRAVIM ZUPCIMA, Tehnika, 3/2007, UDC: 62(082) R<sub>61</sub>=2

**XI. a\* U okviru projekta ON144002 radi seminar Nonlinear Dynamics - Milutin Milankovic na Mašinskom fakultetu. Vidi publikaciju: Booklet of Abstracts - Minisymposium - Integrity of Dynamical Systems- ECF16 ' 2006.**

## **XII. Članstvo u redakcijama časopisa, uredništvima, naučnim društvima**

### **Project Leader Katica (Stevanović) Hedrih**

#### **Editorial of Journals:**

#### **Editor in Chief of the Following Journals:**

*Facta Universitatis* (1990-2001)

*Facta Universitatis Series Mechanics, Automatic Control and Robotics*, University of Niš (1991- )

#### **Member of Editorial Board of the Following Journal:**

***International Journal of Nonlinear Sciences and Numerical Simulations*, Freund Publishing House LTD (from 1999-) impact factor 2,345**

*Facta Universitatis Series Living and Working Environmental Protection*, University of Niš (2001- )

*Nauka Tehnika Bezbednost* (Science Technique Security), Institut bezbednosti, Beograd (2001- )

*Journal of Non Linear Modelling in Science and Engineering*, <http://www.demon.co.uk/cambsci/ijnms.html>

#### **Associate Editor**

*Mathematical Problems in Engineering*, Hindawi Publishing Corp. <http://www.hindawi.com/>

*The European Union Control Association Conference Management System*

### **Expert FP6 and FP7 (Registered)**

#### **Referee of Following Journals and Information Data-Base:**

Archive of Applied Mechanics - Manuscript Central Account Info (SY-23)-Springer, (4 recenzije u 2006)

Nonlinear Dznamics , Springer više recenzija u 2006

Workshop Preprints/Proceedings No 2006-2 IFAC workshop on Fractional Differentiation and its Applications FDA 06, Porto (desetak recenzija)

The European Union Control Association (32 recenzija u 2006)

ESIS European Conference of fracture 2006 (31 recenziju u 2006)

Zentralblatt fur Mathematik und ihre Grenzgebiete Berlin (desetak recenzija u 2006)

Journals *Theoretical and Applied Mechanics*, JDM, Beograd.(1975-1997, 2003-)

*Facta Universitatis Series Mechanics, Automatic Control and Robotics*, University of Niš (1990-)  
*Facta Universitatis Series Living and Working Environmental Protection*, University of Niš (1995-)  
*Facta Universitatis Series Mechanical Engineering*, University of Niš (1993-)  
Neurosciences letters, Elsevier, Journal of Sound and Vibrations, Elsevier,  
European Polymer Journal, Elsevier,  
FME Transaction, Faculty of Mechanical Engineering University of Belgrade,  
Material Letters, Elsevier,  
Journal Nonlinear Analysis - Theory, Methods and Applications, Series B: Real-world Applications, Pergamon Press,  
Signal Processing, Elsevier,  
Journal of Porous Materials, Springer  
ENOC 2005, EuroMech  
and other.

### **Scientific Societies:**

American Academy of Mechanics  
Member of GAMM – Germany (since 1972)  
Member of Tensor Society - Japan  
Member of International ASME – International American Society of Mechanical Engineers USA  
Member of European Society for Mechanics – EuroMech  
Member of M.C.Chaki Centre for Mathematics and Mathematical Sciences – Calcutta, India  
Member of SSM'JDM  
Member of SITJ  
Member of JUPIM

**Debeljkovic, Lj. D., editor, HIPNEF 2006 – 30. Scientific Expert Conference with International Participants, Proceedings,**  
Vrnjacka Banja, May 24 – 26 2006 ( in English and Serbian), pp. 620.

## **XIII. Učešće projektima SANU i NANU (Ukrajina) i u inostranim istraživačkim projektima (Nemačka)**

### **XI.1. Projekat SANU i NANU (Ukrajina)- potpisam ugovor**

Veljko A. Vujčić

Hedrih (Stevanović) Katica

Teme

\* *Qualitative, analytical and asymptotical theory of differential and functional-differential equations, ciji su nosioci Matematički institut NANU (Kiev) i Matematički institut SANU (Beograd) (Rukovodioci projekata sa ukrajinske strane A.M. Samolenko i O.M.Sarkovski)*

\* *Investigation of periodical, asymptotical motions and oscillations of complicated mechanical systems and connected problems of chaotic regimes appearance in nonlinear systems, ciji su nosioci Institut za primenjenu matematiku i mehaniku NANU (Donetsk) i Matematički institut SANU (Beograd) (Rukovodioci projekata sa ukrajinske strane A.M. Kovaljov)*

\* *Forced oscillations research for hybrid mechanical systems with application to classical and celestial mechanics, ciji su nosioci Institut za primenjenu matematiku i mehaniku NANU (Donetsk) i Matematički institut SANU (Beograd) (Rukovodioci projekata sa ukrajinske strane A.M. Kovaljov)*

### **XI.2. Projekat:**

**ENTWICKLUNG EINES FLEXIBLEN VIRTUAL-REALITY-OPERATIONS-SIMULATORS ZUR AUSBILDUNG UND INDIVIDUELLEN OPERATIONSPLANUNG BEIM EINSATZ IN DER LAPAROSKOPISCHEN CHIRURGIE UND VERWANDTEN FACHGEBIETEN**", Institut für Mechanik, Otto-von-Guericke Universität, Magdeburg, 2006. –

Učesnici Dragan Marinković

Tamara Nestorović

## **XIV. Subject: Citate**

\*\*

\* Hedrih (Stevanović) K., Filipovski A., (2002), *Longitudinal Vibration of a Fractional Derivative Order Rheological Rod with Variable Cross Section*, Facta Universitatis, Series Mechanics, Automatic Control and Robotics, Vol. 3 No. 12, 2002. pp.327-350. YU ISSN 0534-2009.  
<http://facta.junis.ni.ac.yu/facta/macar/macar2002/macar2002-02.html>

\* *Cited (quoted) in:*

Jakšić N., Boltežar M., (2005), *Viscously damped transverse vibrations of a moving string*, Journal of Mechanical Engineering – Strojniški vestnik, 560-569. **ISI List**

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19. Hedrih (Stevanović) K.: Interpretation of the transfer of energy from high-frequency to low-frequency modes by averaging asymptotic method Krilov-Bogolybov-Mitropolsky. In.: Proc. of the Second International Conference "Asymptotics in Mechanics", pp. 97-104. Saint-Petersberg State Marine Technological University, Saint-Petersberg (1997)

20. Hedrih (Stevanović) K.: Multifrequency forced vibrations of thin elastic shells. In: CD Proc. of the Fifth EUROMECH Nonlinear Dynamics Conference, pp. 2417-2426. Eindhoven University of Technology (2005)

\* *Cited (quoted) in:*

Kozmin A., Mikhlin Yu. and C. Pierre, Transient in a two DOF nonlinear Systems, *Nonlinear Dynamics*, 2006; **ISI List**.

#### In the review paper:

Irschik Hans and Holl J Helmut, (2005), Mechanics of Variable-mass systems - Part 1: Balance of Mass and Linear momentum, **Applied Mechanics Reviews**, ASME, Vol. 57, No. March 2004, pp. 145-160.

Cit. [64] Musicki Dj., (1999), General energy change law for systems with variable mass, *Eur. J. Mechanics A/Solids* 18, 719-730.

#### In the paper:

Djordje Mušicki, **Extended Lagrangian formalism and the corresponding energy relations** • **ARTICLE**, *European Journal of Mechanics - A/Solids*, Volume 23, Issue 6, November-December 2004, Pages 975-991 ISSN 0997-7538.  
4 papers by Veljka A. Vujičića are cited.

[http://www.sciencedirect.com/science?\\_ob=ArticleURL&\\_udi=B6VKW-4DBT0WJ-1&\\_user=1793222&\\_handle=B-WA-A-W-AY-MSAYWW-UUA-AAUCZYBWW-AAUBWZEAWW-YAUVACYUV-AY-U&\\_fmt=full&\\_coverDate=11%2F01%2F2004&\\_rdoc=7&\\_orig=browse&\\_srch=%23toc%236133%232004%23999769993%235251161&\\_cdi=6133&view=c&\\_acct=C000053038&\\_version=1&\\_urlVersion=0&\\_userid=1793222&md5=836739cbf925c5f30d165abf0997f01](http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6VKW-4DBT0WJ-1&_user=1793222&_handle=B-WA-A-W-AY-MSAYWW-UUA-AAUCZYBWW-AAUBWZEAWW-YAUVACYUV-AY-U&_fmt=full&_coverDate=11%2F01%2F2004&_rdoc=7&_orig=browse&_srch=%23toc%236133%232004%23999769993%235251161&_cdi=6133&view=c&_acct=C000053038&_version=1&_urlVersion=0&_userid=1793222&md5=836739cbf925c5f30d165abf0997f01)

### Autocitations:

**Hedrih (Stevanović) K.**,

*Nonlinear Analysis* 63 (2005) 854-871, Elsevier, Autocitations -15.

ENOC 2005 Proceedings, Eindhoven, Holand, Autocitations -22 +12=34.

Chaotic Dynamics and Control of Systems and Processes in Mechanics (Eds: G. Rega, and F. Vestroni), p. 37-45. in **Series Solid Mechanics and Its Applications**, Edited by G.M.L.Gladwell, Springer., Autocitations -4.

**Hedrih (Stevanović) K.: veliki broj samocitata u časopisima sa visokim impact faktorom (preko 30 u 2006 I 2007).**

**XIII. Project Leader Katica (Stevanović) Hedrih give series of the Plenary or Invited lectures and was member of scientific Committees or Organizer of Minisymposia or invited participant as session chairman in area of Project research results at following European or international scientific meetings:**

1\* The 16th European Conference of Fracture – *Integrity of Dynamical Systems* Alexandroupolis Greece 2006;

2\* IFNA – Elsevier Journal *Nonlinear Analysis Symposia – Hybrid Systems and Applications*, University of Louisiana, Lafayette, USA 2006;

3\* The 9<sup>th</sup> International Conference on Tensor Society on *Differential Geometry, Functional and Complex Informatics and their Applications*, Sapporo, September 4-8, 2006. Hokkaido Tokai University Sapporo;

4\* Conference *Applied Mathematics and Mechanics* KPH, Kharkov 2006;

5\* 2<sup>nd</sup> IFAC Workshop on *Fractional Differentiation and its Applications*, 19-21 July, 2006, Porto, Portugal,

as well as Contributed Lectures:

6\* *Eiromech - European Solid Mechanics Conference ESMC* 2006 – Budapest Hungary;

7\* *SEECM 06 – First South-East European Conference on Computational Mechanics*, Kragujevac 2006.

### XV. Ostali radovi

#### *Papers published in the national journals*

[1] Debeljkovic, Lj. D., M. B. Jovanovic, S. A. Milinkovic, V. Drakulic, “On Some Specific Features of Linear Discrete Descriptor Systems”, *NTP (YU)*, Vol. L III, No. 4, (2003), pp. 53 – 63.

[2] Stojanovic, S. B., D. Lj. Debeljkovic, “On the Asymptotic Stability of Linear Discrete Time Delay Systems”, *Facta Universitatis (YU)*, Series Mech. Eng., Vol. 2, No. 1, (2004), pp. 1 – 12.

[3] Debeljkovic, Lj. D., M. B. Jovanovic, Lj. A. Jacić, “Transfer Function Matrix and Fundamental Matrix of Linear Singular Descriptive Systems”, *NTP (YU)*, Vol. L IV, No. 1, (2004), pp. 77 – 91.

[4] Buzurovic, I., D. Lj. Debeljkovic, Lj. D., “Synthesis of generalized linear singular system using global proportional-differential feedback”, *NTP (YU)*, Vol. L IV, No. 2, (2004), pp. 77 – 91.

[5] Debeljkovic, Lj. D., “Asymptotic Stability of Singular Continuous Time Delayed System”, *NTP (YU)*, Vol. LVI, No. 1, (2006), pp. 14 – 27.

#### *Papers published in the national Conferences*

[1] Debeljkovic, Lj. D., “Asymptotic Stability of Singular Continuous Time Delayed System”, *NTP (YU)*, Vol. LVI, No. 1, (2006), pp. 14 – 27.

[2] Skoko, D., B. Kiković, D.Lj. Debeljković, “Modeling the road vehicle with hydrodynamics brakes”, *Proc. HIPNEF*, (YU), (in Serbian), Vrnjačka Banja, (Serbia), May 24 – 26, (2006), pp. 61 – 68.

[3] Debeljković, D. Lj. A. Jacić, N. Višnjić “Lyapunov stability theory ' a quite new approach : Discrete descriptive time delayed systems, Vrnjačka Banja, (Serbia), May 24 – 26, (2006), pp. 341 – 350.

[4] Ž. Djurišić, N. Rajaković, D. Mikičić, M. Bubnjević, “Mapa vetroenergetskog potencijala Vojvodine”, *Energija*, br. 1-2, mart, 2007. ISSN: 0354-8651, str 118 – 120.,

[5] Hedrih (Stevanović), K. , (Edited, 2007), **Nonlinear Dynamics and Aleksandr Mikhailovich Lyapunov (1857 – 1918)**,



## **XVI. Rukopisi**

- [1] Hedrih (Stevanović) K., Veljović Lj., *NONLINEAR DYNAMICS OF THE HEAVY GYRO-ROTOR WITH TWO SKEW ROTATING AXES*, *Prihvaćeno za KONGRES TEORIJSKE I PRIMENJENE MEHANIKE*, Kopaonik 2007.  
<http://www.ssm.org.yu/congress2007/authors.html> [ssm.congress2007@sf.bg.ac.yu](mailto:ssm.congress2007@sf.bg.ac.yu)
- [2] Hedrih (Stevanović) K., Knežević R., *PLIVANJE SUNĀEVOG ZUPĀNIKA KAO UTICAJNI FAKTOR DINAMIKE PLANETARNOG PRENOSNIKA*, *Prihvaćeno za KONGRES TEORIJSKE I PRIMENJENE MEHANIKE*, Kopaonik 2007.  
<http://www.ssm.org.yu/congress2007/authors.html> [ssm.congress2007@sf.bg.ac.yu](mailto:ssm.congress2007@sf.bg.ac.yu)
- [3] Ugrčić, M., Some Characteristics of Arming Process Depending on Design Parameters of SAD, 12th IFToMM World Congress, Besançon (France), June 18-21, 2007.
- [4] Hedrih (Stevanović) K., Knežević R., Dinamika planetarnih prenosnika
- [5] Ugrčić, M., (and others): "Proposal of the reorganisation of the Military Technical Institute", VTI, Belgrade, 2006. (in Serbian);
- [6] Ugrčić, M.: "Editorial and publishing activities on the Military Technical Institute – Actual situation and future aims", VTI-08-1234-1234567, Belgrade, 2006. (in Serbian).
- [7] Julka Knezevic-Miljanovic: On a Nonlinear Differential Equation with periodic boundary conditions, Applied Mathematical Modelling (predato za recenziju 2006 god)
- [8] Julka Knezevic-Miljanovic, *Ka-estvenne svojstva uravneni >mdena – Faulera*, Matematički vesnik, 2006 god  
YU ISSN 025-5165 UDK 517.911
- [9] Julka Knezevic-Miljanovic, Lalovic R Ljubica, Lalovic M Dragomir: DYNAMICS OF BRAKED VEHICLE ON REAL SURFACE, Facta Universitatis, Series mech, Automata Control and Robotics, (predato na recenziju)
- [10] Vujičić A. Veljko, Kritička analiza rukopisa "O jednom opstem zakonu uzajamnog dejstvu za centralne sile", Matematički institut SANU, Seminar za istoriju i filozofiju matematike i mehanike, Beograd, oktobar 2006, str. 45, (stampano u 30 primeraka).  
(Po mojoj oceni (autora) ovo je bolje od mnogih radova u najvisim casopisima)
- [11] Vujičić A. Veljko, Nekotore probleme razvitiya teorii nelinejnoj mehaniki. Special Issue of the Journal "Nonlinear Dynamics and Systems Theory" (9. april 2006)
- [12] Vujičić A. Veljko, TENSORNOE INTEGRIROVANIE V MEHANIKE., PRIMLJENO ZA SAOPSTENJE I PUBLIKOVANJE ZA INTERNACIONALNI KONGRES NELINEARNE ANALIZE, Saint PETERSBURG, 2007.
- [13] Vujičić A. Veljko, Esencial'nye voprosi analiticheskoy mehaniki; Predato i primljeno 2006., za IX Internacional Chetay Conference, Irkutsk 2007.
- [7] Vujičić A. Veljko, Hamilton'sinverze problem; Zbornik radova I srpskog (26.yu) Kongresa teorijske i primenjene mehanike, (Predato i primljeno 2006 za stampanje martamarta 2007.
10. V. Vujicic and A. Tomic, The paradox of the Lunar orbit: One possible solution. (Prihvaceno 2006, za Kongres mehanike Kop'07.

## **XVII. Teze u izradi pod mentorstvom istraživača sa projekta**

Doktorske i magistarske teze kod kojih je mentor član projekta a kandidat nije mladi istraživač sa projekta:

**1\* Mentor Katica (Stevanovic) Hedrih**  
*dva doktorata u oblasti mehanike u izradi (Lilijana veljović i Dragan Jovanović), a jedan od njih je fazi tehničke dorade za predaju na ocenu. (Mr Dragan Jovanovic)*  
*jedna magistarska teza za Julijana Simonović ( u poslednjoj fazi dorade za predaju)*

**2\* Mentor Miroslav Radovanovic**, magistrant Anđela Lazarević, Automatizovano projektovanje tehnološkog procesa rezanja plazmom, magistarski rad, Univerzitet u Nišu, Mašinski fakultet, Niš, 2006  
(mentor: Miroslav Radovanović)

**3\* Doktorske disertacije (mentor Vera Nikolić)**

1. mr Dejan Dimitrijević : DINAMIČKI MODELI NAPONSKOG I DEFORMACIONOG STANJA ELEMENATA ZUPČASTIH PRENOSNIKA SNAGE (predata disertacija)
2. mr Katarina Maksimović : ČVRSTOĆA I PROCENA VEKA ELEMENATA MAŠINSKIH KONSTRUKCIJA PRI OPŠTEM SPEKTRU OPTEREĆENJA (uskoro predaja disertacije)
3. mr Mladen Radojković: NAPONSKO DEFORMACIONO STANJE U ZONAMA GEOMETRIJSKIH DISKONTINUITETA ELEMENATA MAŠINSKIH KONSTRUKCIJA (uskoro predaja disertacije)
4. mr Zorica Đorđević: ANALIZA STANJA NAPONA I STANJA DEFORMACIJA KOD VRATILA OD KOMPOZITNIH MATERIJALA (uskoro predaja disertacije)
5. mr Daniela Ristić: KONCENTRACIJA NAPONA I POJAVA INICIJALNIH OŠTEĆENJA U PODNOŽJU ZUPCA ZUPČANIKA"
6. mr Milan Stanojević: POVEĆANJE NOSIVOSTI I STEPENA ISKORIŠĆENJA VIŠESTEPENIH ZUPČASTIH PRENOSNIKA SNAGE

**4\* Mentor Dragutin Debeljkovic**

a) Doktorske i magistarske teze kod kojih je mentor član projekta a kandidat nije mladi istraživač sa projekta: 2

**XVIII. DOPUNSKI - spisak publikovanih refernci publikovanih u 2006 i neocenjenih u 2005.**

- [1] Hedrih (Stevanović) K., (2006), *Transversal Vibration of a Parametrically Excited Beam: Influence of Rotatory Inertia and Transverse Shear on Stochastic Stability of Deformable Forms and Processes*, ©Freund Publishing House Ltd. **International Journal of Nonlinear Sciences and Numerical Simulation**, 7(1), 117-124, 2006. **Impact Factor 2,345** .
- [2] Hedrih (Stevanović) K., (2006), *Transversal Vibrations of Double-Plate Systems*, **Acta Mechanica Sinica, Springer**, (2006) 22, pp. 487-501 (hard cover and on line). **ISI List**
- [3] Hedrih (Stevanović) K., (2006), *Modes of the Homogeneous Chain Dynamics*, **Signal Processing, Elsevier**, 86(2006), 2678-2702.. ISSN: 0165-1684 [www.sciencedirect.com/science/journal/01651684](http://www.sciencedirect.com/science/journal/01651684) **ISI List**
- [4] Hedrih (Stevanović) K., (2006), Vukota Babović, Dragan Šarković, (2006), An auxiliary size distribution model for the ultrasonically produced water droplets, **Experimental Thermal and Fluid Science - ETF, Elsevier**, Volume 30, Issue 6, June 2006, Pages 559-564. <http://www.elsevier.com/locate/etfs> **ISI List**
- [5] Hedrih (Stevanović), K., (2006), *Transversal vibrations of the axially moving double belt system with creep layer*, *Preprints, 2<sup>nd</sup> IFAC Workshop on Fractional Differentiation and its Applications*, 19-21 July, 2006, Porto, Portugal, pp.230-235. +CD. IFAC WS 2006 0007 PT, ISBN 972-8688-42-3, 978-972-8688-42-4.ISBN . <http://www.iser.ipp.pl>
- [6] Hedrih (Stevanović), K., (2006), *Measurements of Dynamical System Integrity and Fracture Mechanics*, Invited Key Lecture in **Fracture of Nano and Engineering Materials and Structures** (p. 1416), Edited by E.E.Gdoutos, Proceedings of the 16th *European Conference of Fracture* (p. 1416), **Springer 2006**, pp. 793-794, plus CD 1-15. ISBN 1-4020-4971-4, BARCOD 9 781402 049712. <http://ecf16.civil.duth.gr>
- [7] Booklet of Abstracts - *Minisymposium - Integrity of Dynamical Systems- ECF16*, Edited by Katica (Stevanović) Hedrih, invited organizer of Minisymposia **IDS-ECF - the 16th European Conference of Fracture**, Greece 2006, Centre for Nonlinear Dynamics and Active Structures, Faculty of Mechanical Engineering University of Niš and Democritus University of Thrace, Xanthi, Greece, 2006. p. 324. ISBN 86-80587-57-5. BarCod 9 788680 587578. COBIS. SR - ID 130756620. UDK 531:01 /048); 530:182(048); 530:42 (048); 53:005.745 (100)
- [8] Hedrih (Stevanović) K. and Simonović, J., (2006), *Characteristic Eigen Numbers and Frequencies of the Transversal Vibrations of Sandwich System*, SEECCM 06 –First South-East European Conference on Computational Mechanics, Proceedings, Editors – M. Kojic and M Papadrakakis, Kragujevac, pp. 90-94. + CD. [hppt://www.seecm.kg.ac.yu](http://www.seecm.kg.ac.yu). ISBN 86-81037-13-7, COBISS.SR-ID 131758092, udc 531/533(082)
- [9] Ugrčić Marinko, (2006), *Clock Mechanism as Base of Artillery Safety and Arming Devices*, Invited Lecture in **Fracture of Nano and Engineering Materials and Structures** (p. 1416), Edited by E.E.Gdoutos, Proceedings of the 16th European Conference of Fracture (p. 1416), **Springer 2006**, pp. 799-800, plus CD. ISBN 1-4020-4971-4, BARCOD 9 781402 049712. <http://ecf16.civil.duth.gr>
- [10] Ugrčić, M., Dimitrijević, D. (2006), *Kill Probability of Armoured Targets by Firing the Airborne Antitank Warfare Systems*, **1<sup>st</sup> Conference NACORT, National Committee of Range Testing, Air Range Testing centre, Chandipur, INDIA, 2006.**
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