

UPITNIK O SPECIFIČNIM REZULTATIMA RADA PROJEKTA

Opšti podaci

Evidencioni broj projekta: **ON144002** Datum slanja upitnika: **26 decembar 2007**

Naziv projekta:

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.

Rukovodilac: **Katica R. (Stevanović) Hedrih**

Koordinirajuća NIO: **Matematički institut SANU Beograd**

Broj učesnika projekta:

Broj istraživačkih meseci u 2007:

1. Posebni rezultati projekta (naučne monografije, poglavlja i radovi u vodećim međunarodnim časopisima), 0 - 4 boda;

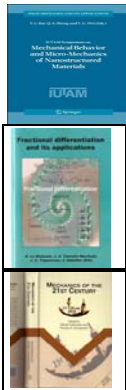
a) Naučne monografije objavljene kod poznatih inostranih izdavača:

(Publ;okpvane dve doktorske disertacije u vidu monografija dva istraživača sa projekta)

[1] Nestorović T. *Controller Design for the Vibration Suppression of Smart Structures (Ph.D. thesis)*, Fortschritt-Berichte VDI Reihe 8, Nr. 1071, Düsseldorf: **VDI Verlag** 2005, ISSN 0178-9546, ISBN 3-18-507108-5, http://www.vdi-nachrichten.com/onlineshops/buchshop/literaturshop/langanzeige.asp?vr_id=7095

[2] Marinković Z. Dragan, **A new finite composite shell element for piezoelectric active structures**, Dissertation, Otto-von-Guericke Universität Magdeburg, Fortschritt-Berichte VDI, Reihe 20: Rechnerunterstützte Verfahren, Nr. 406, Düsseldorf, 2007.

b) Poglavlja u naučnim monografijama objavljenim kod poznatih inostranih izdavača:



<http://www.springerlink.com/content/v3426kp5483w3v00/?p=ee616461e3b1482fb81dcb7c6f38360&pi=5>

[1] 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., ISBN: 1-4020-3267-6. **Izaslo iz stampe pocetkom 2006.**

[2] Hedrih (Stevanović) K., (2005), *Partial Fractional Order Differential Equations of Transversal Vibrations of Creep-connected Double Plate Systems*, in Monograph - *Fractional Differentiation and its Applications*, Edited by Alain Le Mahaute, J. A. Tenreiro Machado, Jean Claude Trigeassou and Jocelyn Sabatier, U-Book, pp. 289-302. **Izaslo iz stampe pocetkom 2006.**

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

[4.1] 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 1-15. ISBN 1-4020-4971-4, BARCOD 9 781402 049712. <http://ecf16.civil.duth.gr>

[4. 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>

[4.3] Atanasovska I. and Nikolić-Stanojević V., (2006), Influence of addendum modification Coefficient of the Gear's Load Capacity, Invited Contribution 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. 787-788, plus CD Full paper . ISBN 1-4020-4971-4, BARCOD 9 781402 049712. <http://ecf16.civil.duth.gr>

[4. 4] Maksimović K., Maksimović S., and Nikolić-Stanojević V., (2006), Modeling of the Surface Cracks and Fatigue Life Estimation, Invited Contribution 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. 795-796, plus CD Full paper . ISBN 1-4020-4971-4, BARCOD 9 781402 049712. <http://ecf16.civil.duth.gr>

[4.5] Nikolić R. and Veljković J.M, (2006), *Some Aspects Dynamics Interfacial Cracks Growth*, Invited Contribution 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. 807-808, plus CD Full paper . ISBN 1-4020-4971-4, BARCOD 9 781402 049712. <http://ecf16.civil.duth.gr>

[4.6] Mitić S., (2006), *On stability of problems of periodic impact motions*, Invited Contribution 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.809-810, plus CD Full paper. ISBN 1-4020-4971-4, BARCOD 9 781402 049712. <http://ecf16.civil.duth.gr>

[4.7] Trajković M., Šumarac D., Mijalkovic M., Structural via subspace identification method, amage detection, Invited Contribution 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.797-798, plus CD Full paper . ISBN 1-4020-4971-4, BARCOD 9 781402 049712. <http://ecf16.civil.duth.gr>

[5] 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/>

c) Naučni radovi u prvih 20% jedne od SCI-lista (navesti naziv liste):



[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.

Impakt factor casopisa u 2005 godini 2,345 prema Kobssonu., a u 2006 je dostigao 4,386 (2006).



2. Rad sa mladim istraživačima, 0 - 2 boda;

Broj mladih istraživača na projektu (rodjeni 1975. i kasnije):

dva

Koliko od njih ima neku od kategorija A1-A3 :

jedan

Koliko su doktorskih i magistarskih teza odbranili mladi istraživači 2006-2007:

[1] Marinković Z. Dragan, „A new finite composite shell element for modeling and simulation of piezoelectric active structures”, doktorska disertacija, Otto-von-Guericke Universität u Magdeburgu, Magdeburg, disertacija odbranjena decembar 2006.

U koliko tih teza su (stvarni) mentori članovi projekta:

Broj mladih istraživača koji gube pravo na finansiranje u 2008. godini:

nema

3. Medjunarodna saradnja, 0 - 2 boda;

a) Plenarna predavanja na konferencijama po pozivu:

I*

8th HSTAM International Congress on Mechanics will take place at the University of Patras in Patras, Greece during 12-14 July, 2007. Hellenic Society for Theoretical and Applied Mechanics (HSTAM), member of IUTAM

Invited Plenary lecture Hybrid Systems and Hybrid Dynamics: Theory and Applications, by Katica (Stevanović) Hedrih
<http://www.hstam2007.upatras.gr>.

Sa plenarnim predavanjem po pozivu pod nazivom:

[1] Hedrih (Stevanović), K., (2007), *Hybrid Systems and Hybrid Dynamics: Theory and Applications, Invited Plenary Lecture*, 8TH HSTAM International Congress on Mechanics, Patras, 12 – 14 July, 2007, Greece, Proceedings, Edited by N. Bazwos, D.L. Karabalis, D. Polyzos, , D.E. Beskos and J. T. Katsikadelis, Volume I, pp. 77-86.

III*

8-й МІЖНАРОДНИЙ СИМПОЗИУМ УКРАЇНСЬКИХ ІНЖЕНЕРІВ-МЕХАНІКІВ У ЛЬВОВІ (МСУІМЛ — 8), ISUMEL Lvov International Symposium Ukrainian Mechanical Engineers in Lvov 2007. Nacionalniy Universitet Lvivska Politehnika, Institut inženjerskoj mehaniki ta transportu, Ukrainiske tovaristvo mehaniki ruinovanih materialov Redakcija Žurnalu "Mašinoznavstvo"-

sa 40 minutnim plenarnim predavanjem po pozivu pod nazivom:

Hedrih (Stevanović), K., (2007), *Hybrid system dynamics, with thermo-rheological hereditary elements. Plenary Lecture*, **8-й МІЖНАРОДНИЙ СИМПОЗИУМ УКРАЇНСЬКИХ ІНЖЕНЕРІВ-МЕХАНІКІВ У ЛЬВОВІ (МСУІМЛ — 8), ISUMEL Lvov International Symposium Ukrainian Mechanical Engineers in Lvov 2007.**

i sa članstvom u Naučnom komitetu Simpozijuma, kao i naučnom besedom na svečanom otvaranju u "Aktavom Zalu" Politehnike, a u svojstvu jednog od članova Naučnog komiteta i učesnika Simpozijuma od prvih održanih istog.

Napomena: (oštampam jednostranični apstrkt., dvopjezično; predviđeno je da rad bude publikovan u časopisu krajem 2008. godine.).

IV*

Fourteenth International Workshop on Dynamics & Control, Moscow Zvenigorod , Rusia, May 28-June 2, 2007.

Dedicated to Professor Angelo Miele (Italy) on the occasion of his 85th birthday

sa 30 minutnim, u plenumu, predavanjem po pozivu pod nazivom:

Invited paper: Hedrih (Stevanović), K., (2007), *The Control in Nonlinear Dynamical Systems with Triggers of a Coupled Singularities*, Invited Participation, The 14th International Workshop on Dynamics & Control to be held on May 28–June 2, 2007, in Zvenigorod – Moscow, Russia, Abstracts, 2007, p. 40. *Institute for Problems in Mechanics of the the Russian Academy of Sciences and Steklov Mathematical Institute of the Russian Academy of Sciences.*

i sa predavanjem sednicom u plenumu (Session Th-4) 31. maja 2007., kao i zapaženim naučnim kometarima, pitanjima i naučnim diskusijama.

Napomena: (oštampam jednostranični apstrkt, predviđeno je da rad bude štampan kao poglavlje u monografiji "Dynamics & Control" u izdanju izdavača naučnih publikacija "Nauka" iz Moskve sredinom ili krajem 2008. godine.).

V*

6th Recent German-Greek-Polish Symposium, Recent Advances in Mechanics, September 17-21 2007, Alexandroupolis, Greece

Ucesce je po pozivu kao gost HSTAM i GGP

Sa plenarnim predavanjem po pozivu pod nazivom:

Hedrih (Stevanović), K., (2007), *Energy Transfer in Hybrid System Dynamics*, Invited Participation, **6th Recent German-Greek-Polish Symposium, Recent Advances in Mechanics, September 17-21 2007, Alexandroupolis, Greece , Book of Abstracts, pp. 47'8.**

I sa predavanjem jednom plenarnom zasedanju.

VI*

2th INTERNATIONAL CONFERENCE "NONLINEAR DYNAMICS - 2007" in HONOR of ALEXANDER MIKHAILOVICH LYAPUNOV 150th ANNIVERSARY at the NATIONAL TECHNICAL UNIVERSITY "KHARKOV POLYTECHNICAL INSTITUTE", KHARKOV, UKRAINE

2th ND-KhPI 2007 - Nonlinear Dynamics Conference, to be held from 25 until 28 September, 2007, in Kharkov, Ukraine.
<http://users.kpi.kharkov.ua/infiz/conf/index.html>

Sa plenarnim predavanjem po pozivu pod nazivom:

Hedrih (Stevanović), K., (2007), *Vector and Tensor Methods in Classical Mechanics*, The 2th INTERNATIONAL CONFERENCE "NONLINEAR DYNAMICS - 2007", in HONOR of ALEXANDER MIKHAILOVICH LYAPUNOV 150th ANNIVERSARY , at the NATIONAL TECHNICAL UNIVERSITY "KHARKOV POLYTECHNICAL INSTITUTE" , KHARKOV, UKRAINE , Book of Abstracts, pp. 41.

i jedni uvodnim sekcijским saopštenjem pod nazivom:

Goroshko O.A. and Hedrih (Stevanović), K., (2007), *Dynamics of the discrete hereditary systems*, The 2th INTERNATIONAL CONFERENCE "NONLINEAR DYNAMICS - 2007", in HONOR of ALEXANDER MIKHAILOVICH LYAPUNOV 150th ANNIVERSARY , at the NATIONAL TECHNICAL UNIVERSITY "KHARKOV POLYTECHNICAL INSTITUTE" , KHARKOV, UKRAINE , , Book of Abstracts, pp. 67.

VIII*

The International Summer School , "Advanced Problems in Mechanics", 20 - 28 June, 2007, St. Petersburg, Russia, Russian Academy of Sciences.

Invited Organizer of Minisymposium Integrity of Dynamical Systems

. U svojstvu organizatora, po pozivu, *Minisimpozijuma Theory and Applications, Measures of the Dynamical Integrity I sa predavanjima na početku (otvaranju) i na kraju (zatvaranju) Minisimpozijuma.* Naslovi tih predavanja su:

[1] Hedrih (Stevanović), K., (2007), *Multifrequency and infinite frequency regimes and Lyapunov exponents as the measures of the hybrid system dynamic integrity*, *Proceedings of the International Summer School APM –Advanced Problem in Mechanics, Saint Petersburg 2007.*, pp. 157-169. (*Minisymposia IDS – Closing Lecture*)

[2] Goroshko O.A. and Hedrih (Stevanović), K., (2007), *Construction of the Lagrange mechanics of the hereditary systems*, *Minisymposium Opening Lecture, Proceedings of the International Summer School APM –Advanced Problem in Mechanics, Saint Petersburg 2007.*, pp. 133-156. (*Minisymposia IDS - OpeningLecture*)

IX*

Second International Symposium on Nonlinear Dynamics, 27-30 Oct.,2007, Shanghai, China
<http://www.2007isnd.com/>

U svojstvu organizatora, po pozivu, **Minisimpozijuma - Analytical mechanics of the hereditary discrete systems** nastupia sam sa predavanjima na početku (otvaranju) i na kraju (zatvaranju) Minisimpozijuma. Naslovi tih predavanja su:

[1] Goroshko O.A. and Hedrih (Stevanović), K., (2007), *Advances in development of the Lagrange mechanics of the hereditary systems*, Second International Symposium on Nonlinear Dynamics, 27-30 Oct.,2007, Shanghai, China <http://www.2007isnd.com/>

Oleg Alexandrovich Goroshko and Katica (Stevanoviæ) Hedrih, *Advances in development of the analytical dynamics of the hereditary discrete systems*, *Booklet of Abstracts - IDND 2007 – Analytical Dynamics of Discrete Hereditary System*, pp.27-34.

[2] Hedrih (Stevanović), K., (2007), *Analogy between dynamics of thermo-rheological and piezo-rheological pendulums*, Second International Symposium on Nonlinear Dynamics, 27-30 Oct.,2007, Shanghai, China <http://www.2007isnd.com/>

Katica (Stevanoviæ) Hedrih, *Analogy between dynamics of thermo-rheological and piezo-rheological pendulums*, *Booklet of Abstracts - IDND 2007 – Analytical Dynamics of Discrete Hereditary System*, pp.46.

Pre početka Simpozijuma, održana je radna večera, u okviru koje je održan sastanak Editorial Boarda međunarodnog časopisa **International Journal Nonlinear Sciences and Numerical Simulation**, čiji sam član od osnivanja časopisa, koji je u 2005 godini imao **impact factor 2,386**, dok je u 2006 godini dostigao **impact factor od 4,586**.

Pripremila sam i uredila za štampu i oštampala publikaciju pod nazivom:

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, China,p-198.
<http://www.2007isnd.com/>

X*

The 9th International Conference on Tensor Society pn Differential Geometry Functional and Complex Informatics and their Applications, Sapporo, September 4-8, 2006. Hokkaido Tokai University Sapporo

sa 45 minutnim predavanjem u okviru koga sam izložila rad:

1* Katica (Stevanović) Hedrih, **TENSOR EQUATIONS OF THE DYNAMICS OF THE DISCRETE SYSTEMS WITH HEREDITARY AND CREEP LIGHT ELEMENTS**

i predavanjem u sekciji i predavanjem u jednoj od plenarnih sesija konferencije.

XI*

**IFNA - INTERNATIONAL CONFERENCE ON HYBRID SYSTEMS AND APPLICATIONS
B. I. MOODY HALL , UNIVERSITY OF LOUISIANA AT LAFAYETTE , MAY 22 to MAY 26, 2006**

Sponsored by
University of Louisiana at Lafayette
IFNA (International Federation of Nonlinear Analysts)
Lafayette Convention and Visitors Commission and
Elsevier

<http://cos.fit.edu/math/ichsa/>

Hedrih (Stevanović), K., (2006c), učesnik po *pozivu sa 45 minutnim predavanjem* pod nazivom: *Dynamics of Coupled Systems*.

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.

XII*

***International Conference "Actual Problems of Applied Mathematics and Mechanics", devoted 80-anniversary from birthday Ac. Rvachev V.L, on October 23-26,2006 in Kharkov.**

Član naučnog odbora konferencije i sa radom.

Hedrih (Stevanović), K. (2006), DYNAMICS OF THE AXIALLY MOVING SANDWICH MULTI BELT SYSTEM, International Conference "Actual Problems of Applied Mathematics and Mechanics", devoted 80-anniversary from birthday Ac. Rvachev V.L, on October 23-26,2006 in Kharkov., Član naučnog odbora konferencije i sa radom.

b) Studijski boravci u inostranstvu po pozivu:

1* *Kraći boraval u Ukrajini, radi učešća u radu jubilarng zasedanja Akademija nauka visokih skola i univerziteta Ukrajine Kijev konsultacije sa profesorom O.A. Goroshkopm za rnastavak saradnje u oblasti Analiti;ke dinamike diskretnih naslednih sistema, koju smo zasnovali.*

2* *Predavanje po poyivu i gostovanje na Seminaru Shanghai'skog univerziteta:*

Imala sam cast da icestvujem u radu Seminaru mehanike na prestiznom Shanghai University po pozivu profesora dr Li Qun Chena, i bila sam gost na sluzbenom rucku uprilicenom u tu svrhu na Institutu za primenjenu matematiku i mehaniku Shanghai Univerziteta. Odrzala sam predavanje po pozivu pred stotinak sluzalaca, a naslov odrzanog predavanja je:

Hedrih (Stevanović), K., (2007), *Transversal vibrations of the axially moving multi belt system*, Invited Seminar Lecture - 840, Scientific Seminar Instituta primenjene matematike i mehanike Shanghai University, 29. Oktobar 2007 u 13,30h do 13 h.

c) Učešće u međunarodnim naučnim projektima:

1. *Projekat SANU i NANU (Ukrajina)- potpisam ugovor 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 mecnics, ciji su nosioci Institut za primenjenu matematiku i mehaniku NANU (Donetsk) i Matematički institut SANU (Beograd) (Rukovodioci projekata sa ukrajinske strane A.M. Kovaljov)*

2* *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

Miodrag Radovanovic

- 1) CAD modeling and FEA optimization for rapid and adaptive design, SEE-ERA.NET Pilot Joint Call, Ref. Nr 06-1000031-10211, Tg-Jiu, Romania, 2007
- 2) Management of better valorification of composite material waste, SEE-ERA.NET Pilot Joint Call, Ref. Nr 06-1000031-9758, Tg-Jiu, Romania, 2007
- 3) Unconventional and hybrid unconventional processes and production technologies, CEEPUS, CII-BG-0203-01-0708, Sofia, Bulgaria, 2007/2008

3* U fazi je formiranja novi projekat po pozivu profesora iz Engleske, a u timu Englesko-Poljsko-Rusko- Srpskom.

4. Primenljivost rezultata, 0 - 2 boda;

a) Patenti i druge realizacije rezultata projekta :

A.1* Hedrih (Stevanović) K., (koaitorski sa O.A.Goroshkom iz Ukrajine) Postavljena nova naučna oblast Analitička mehanika diskretnih naslednih sistema i nastavljen njen dalji razvoj.

A.2* Hedrih (Stevanović) K., Nastavljeno je sa doprinosima primeni vektorske metode analize kinetičkih parametara rotora i date nove primene vektora momenata masa i uvedeni u nastavu mehanike na univerzitetskim studijama (o tome održano i plenarno predavanje na **2th INTERNATIONAL CONFERENCE "NONLINEAR DYNAMICS - 2007" Kharkov, koje je povoljno ocenjeno.**)

3. 4* Milan Spajić: **Nova metoda operacije kičmene moždine- (vidi prilog)**
A NOVEL, MINIMALLY INVASIVE DREZ LESIONING METHOD – EXPERIMENTAL SURGICAL EVIDENCE



Spajić M., Houlden D., Schwartz M.

b) Citiranje rezultata objavljenog u matematičkom časopisu u časopisima drugih struka:

* 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**

19. Hedrih (Stevanovic') 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 (Stevanovic') 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; Springer, **ISI List**.

c) Primenljivost tematike projekta (ne navoditi druge matematičke discipline):

1* Hedrih (Stevanović) K.. Rezultati su primenljivi u oblasti dinamike inženjerskih konstrukcija, kao i u Univerzitetskoj nastavi (Vektori momenata masa su uključeni u nastavu dinamike, a oscilacije hibridnih konstrukcija mogu biti predmet programa na doktorskim stufijsma, ako i analitička dinamika doskretnih naslednih sistema).

Radovi iz oblasti upravljanja takodje imaju primenu.

2* **D. Mikičić**, Ž. Djurišić, A. Kunosić “Energetski potencijal Sunca”, studija uradjena u okviru projekta “Atlas energetskog potencijala Sunca i vetra Srbije”, juna 2006. godine. Ministarstvo za nauku Srbije je prihvatilo ovu studiju u avgustu 2006. godine.

3* Milan Spajić: **Nova metoda operacije kičmene moždine- (vidi prilog)**
A NOVEL, MINIMALLY INVASIVE DREZ LESIONING METHOD – EXPERIMENTAL SURGICAL EVIDENCE

4* Vera Nikolić-Stanojević: Ptrimnr teyultata u oblasti konstruisanja.

5. Editorski rad, recenzije, 0 - 2 boda;

a) Učešće članova projekta u redakcijama naučnih časopisa:

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 in 2005 and 4,386 in 2006.**

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>

Scientific Technical Review

Prihvatila sam I poyive da budem clan redakcija nekoliko novih casopisa u osnivanju koji se odnose na nove naucne oblasti nauka)Nelinearna dinamika)

Associate Editor

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

The European Union Control Association Conference Management System

b) Uredjivanje zbornika radova i drugih kolektivnih dela:

Katica (Stevanović) Hedrih

Editor in Chief of the Following Journals:

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

1* Booklet of Abstracts - Minisymposium - Integrity of Dynamical Systems- ECF16, Edited by Katica (Stevanović) Hedrih, Centre for Nonlinear Dynamics and Active Structures, Faculty of Mechanical Engineering University of Niš, and Democritus University of Thrace, Xanthui, 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, Donghua University, Shanghai, China,p-198. . ISBN 978 - 86 - 80587 - 72 - 1 COBISS.SR - ID 144265740. BarCod 9 788680 56772 1 <http://www.2007isnd.com/>

c) Angažovanje članova projekta u recenziranju radova (recenzent, časopis, broj recenzija u periodu 2006-2007):

Katica (Stevanović) Hedrih

Referee of Following Journals and Information Data-Base:

Archive of Applied Mechanics - Manuscript Central Account Info (SY-23)-Springer, (4 recenzije u 2006, tri recenzije u 2007.)
Nonlinear Dynamics , 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 2996)
ESIS European Conference of fracture 2006 (31 recenziju u 2006)
Zentralblatt für 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 (dve recenzije u 2006 i dve u 2007),
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
DSTA Lodz 2007.
and other.

Učešće i radu svečanog skupa - akademije ***Vojnotehničkog instituta Vojske Srbije*** koja je bila posvećena radu i naučno-stručnim rezultatima vojnog instituta VTI povodom 59. godina rada i postojanja. Jedan sam od četiri dobitnika značajne plakete i povelje **"ARHIMED"** koja je novoustanovljena za značajne rezultate u oblasti naučnog rada naučni rad i to smatram veoma visokim i značajnim priznanjem.

Miroslav Radovanović

1) The Annals "Dunarea de Jos" University of Galati, Fascicle V, Technologies in Machine Building, ISSN 1221-4566, Ministry of Education and Research, Romania

2) Nonconventional Technologies Review, ISSN 1454-3087, Asociatia Romana pentru tehnologii neconventionale, Romania

6. Organizacija naučnih skupova, 0 - 2 boda;

a) Medjunarodni skupovi

Katica (Stevanović) Hedrih

A.1* Centar za nelinearnu dinamiku i aktivne konstrukcije Mašinskog fakulteta u Nišu je bio surorganizator organizacija serije od tri Minisimpozijuma pod nazivom: ***Integritet dinamičkih sistema*** u okviru svetskih i internacionalnih naučnih skupova:

* ***WCNA 2004 - Invited Minisymposium - Integrity of Dynamical Systems, Fourth World Congress of Nonlinear Analysts WCNA-2004 , Hyatt Regency Orlando under the auspices of the International Federation of Nonlinear Analysts (IFNA)***

Organizer Katica (Stevanovic) Hedrih
<http://www.masfak.ni.ac.yu/sitegenius/topic.php?lang=SR&id=525>

* ***The European Conference of Fracture (ECF16) - Minisymposium: Integrity of Dynamical Systems 2006 'The 16th European Conference of Fracture (ECF16),Alexandroupolis , Greece, site of the Democritus University of Thrace, July 3-7, 2006. under the auspices of the European Structural Integrity Society (ESIS).***

Organizer Katica (Stevanovic) Hedrih
<http://www.masfak.ni.ac.yu/sitegenius/topic.php?lang=SR&id=746>

<http://ecf16.civil.duth.gr>

U naučnom programu su učestvovali i istraživači sa projekta ON144002, pored učesnika iz celog sveta.

* **Booklet of Abstracts - Minisymposium - Integrity of Dynamical Systems- ECF16, Edited by Katica (Stevanović) Hedrih, 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)**

* **Minisymposium – IDS - Integrity of Dynamical Systems - APM Saint Petersburg 2007**

Minisymposium: Integrity of Dynamical Systems-IDS APM 2007 Advanced Problems in Mechanics, 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*

Organizer Katica (Stevanovic) Hedrih

<http://www.masfak.ni.ac.yu/sitegenius/topic.php?id=961>

http://apm-conf.spb.ru/2007/scientific_program.php

<http://apm-conf.spb.ru/>

<http://www.ipme.ru/>

Booklet of Abstracts - APM 2007 – Integrity of Dynamical Systems – Editor Katica (Stevanović) Hedrih, Izdavač Mašinski fakultet u Nišu

A.2* Centar za nelinearnu dinamiku i aktivne konstrukcije Mašinskog fakulteta u Nišu je bio surorganizator organizacije Minisimpozijuma pod nazivom: *Analitička dinamika diskretnih naslednih sistemam, prvog takve vrste u svetu*, u okviru internacionalnog naučnog simpozijuma održanog u Kini:

Minisymposia - Analytical mechanics of the hereditary discrete systems , Second International Symposium on Nonlinear Dynamics, 27-30 Oct., 2007, Shanghai, China, p.198.

Organizer Katica (Stevanovic) Hedrih

<http://www.2007isnd.com/>

<http://www.2007isnd.com/main.htm>

<http://www.2007isnd.com/HEREDITARYSYSTEMS.html>

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, China, p.198. <http://www.2007isnd.com/>

b) Domaći skupovi:

Katica (Stevanović) Hedrih

Seminar Nonlinear Dynamics – Milutin Milankovic – Seminar projekta I Centra za nelinearnu dinamiku I aktivne konstrukcije - Niš

<http://www.mi.sanu.ac.yu/seminars/seminar16.htm>

<http://www.masfak.ni.ac.yu/sitegenius/topic.php?id=863>

7. mentorski rad, 0 - 2 boda.

a) 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, a jedan od njih je fazi tehničke dorade za predaju na ocenu. (Mr Dragan Jovanovic)

nekoliko doktorata iz srodnih oblasti (automatsko upravljanje I masinske konstrukcije).

2* Mentor Miroslav Radovanovic, magistar 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

4* Mentor Dragutin Debeljkovic

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

b) Radovi članova projekta kod kojih je jedan od koautora mlađji od 32 godine i nije član projekta: 2

b) Radovi članova projekta kod kojih je jedan od koautora mlađji od 32 godine i nije član projekta:

Б.1* Научни радови публиковани у часописима међународног значаја

1. Hedrih (Stevanivic) K. and **Simonovic J.**, *Phase Portraits and Homoclinic Orbits-Visualization of Nonlinear Dynamics of Reductor*, Journal of Politechnica University Timisoar, Romonia, Transaction on Mechanical Engineering, Tom 47(61), Supplement, May 2002, Editura Politehnika., pp.76-86., ISSN 1224-6077 <http://www.utt.ro/english/pbseng.shtml>
2. Hedrih (Stevanivic) K. and **Simonovic J.**, *Nonlinear Phenomena in Dynamics of Car Model*, Facta Univesitatis, Series mechanics, Automatic Control and Robotics, Vol.3 No.14, 2003. pp.865-879.YU ISSN 0534-2009. <http://facta.junis.ni.ac.yu/facta/macar/macar200302/macar200302sadrzaj.html>
3. Hedrih (Stevanivic) K. and **Simonovic J.**, Transversal Vibrations of a non-conservative double circular plate system, FACTA UNIVERSITATIS Series: Mechanics, Automatic Control and Robotics, Vol. 6, N° 1, 2007, pp. 10 - 64
4. Hedrih (Stevanivic) K. and **Simonovic J.**, Dynamical Absorption and Resonances in the Sandwich Double plate System Vibration with Elastic layer, Scientific Technical Review, N° 2, 2007 (accepted publishing)
5. Hedrih (Stevanivic) K. and **Simonovic J.**, Transversal Vibrations of a Double Circular Plate System with Visco-elastic Layer Excited by a Random Temperature Field, ©Freund Publishing House Ltd. International Journal of Nonlinear Sciences and Numerical Simulation, X(X), XXX, 2008 (accepted for Publishing – Impact factor 2,348 in 2005, and 4,385 in 2006)
6. Hedrih (Stevanivic) K. and **Simonovic J.**, Non-linear dynamics of the sandwich double circular plate system, accepted for presentation at EuroMech Colloquia 498, Nonlinear Dynamics of Composite and Smart Structure (NDCS) 2008, sa perspektivom stampanja u jednom od casopisa sa ISI liste.

Б.2* Научни радови публиковани у зборницима међународног значаја

7. Hedrih (Stevanivic) K. and **Simonovic J.**, *Characteristic Eigen Numbers and Frequencies of the Transversal Vibrations of Sandwich System*, Eng-3., Lecture in section: Computational Methods and Proceedings of First South-East European Conference on Computational Mechanics, SEECCM-06, (M. Kojic, M. P Papadrakakis (Eds.)), June 28-30, 2006, University of Kragujevac , *Serbia* ,pp.90-94.
8. Hedrih (Stevanović) K. and Simonović J., (2007), Forced vibrations of the double circular plate system with viscoelastic layer, Proceedings, First International Congress of Serbian Society of Mechanics, Editors: D. Šumarac and D. Kuzmanović, Srpsko društvo za mehaniku, 10-13, April, 2007, pp. 299-306.

Б.3* Научни резултати приказани и публиковани у апстрактима публикација међународних скупова

9. Hedrih (Stevanivic) K. and **Simonovic J.**, *Free transversal vibrations of a double circular plate system*, 6th European Solid Mechanics Conference (ESMC2006) Budapest, 28 August – 1 September 2006, Extended Abstracts on Cd, no. 164_072. European Society of Mechanics.
10. Hedrih (Stevanivic) K. and **Simonovic J.**, *Nonlinear Phenomena in Dynamics of Car Model*, Booclet of Abstracts, 6th ISNM NSA Nis, 2003,pp. 141-142.

11. *Hedrih (Stevanivic) K. and Simonovic J., Visualization of Oscillatory Processes in Discret and Continous Systems*, Eng-3., Section:Engineering Sciences, Introductory Lecture, Vive Math, Book of Abstracts, Workshop on Visualization and Verbalization of Mathematics and Interdisciplinary Aspects, 14-15 dec.2001, Financed by BMBF (The German Federal Ministry of Education and Research) Faculty of Sciences and Mathematics, Nis, p. Eng-3.

Б.4* Научни резултати приказани и публиковани у апстрактима публикација домаћи научних и стручних скупова и семинара научних института и факултета

12. *Hedrih (Stevanivic) K. and Simonovic J., Visualization of Multifrequency Regimes of Compulsiv Oscillations in Engineering Systems*, Invited Plenary Lecture, XVIII Yugoslav Conference with International Patricipation-Noise and Vibrations, Nis 2002, 17-18 Oct. 2002. paper on Cd. Pp.1-27.
13. *Hedrih (Stevanivic) K. and Simonovic J., Visualization of Oscillatory Processes and Singular Phenomena in Mechanical Systems by Using Tasks of Elastodinamiks Examines*, Predavanje na seminaru Odeljenja za mehaniku Matematičkog instituta SANU, Belgrade, 27.feb 2002.
14. *Hedrih (Stevanivic) K. and Simonovic J., Free transversal vibrations of a double circular plate system*, predavanje na seminaru Odeljenja za mehaniku u Matematičkom institutu SANU, Belgrade, maj 2006.
15. *Simonovic J.*, Predavanje na seminaru Nelinearna dinamika - Milutin Milanković: pod nazivom: "90 plus 30 godina nelinearne dinamike: Više je manje, a manje je bolje!!!" i pod mentorstvom profesora dr Katice (Stevanivić) Hedrih, 20. april 2006.

Б.5* Наставно-научне публикације публиковане у електронском облику

16. *Hedrih Katica. i Simonović Julijana, Zbirka rešenih zadataka iz Elastodinamike*, elektronski udžbenik, recezent Akademik ANN Veljko A, Vujičić, (редовни професор Природно+математичког факултета у Београду у пензији и истакнути истривач активне научне категорије А на пројекту ОН144002 у Математичком институту САНУ SANU), april 2002, link: <http://www.masfak.ni.ac.yu/sitegenius/topic.php?id=70>
17. *Hedrih Katica. i Simonović Julijana, Zbirka rešenih zadataka iz Elastodinamike*, kompleti rešenih ispitnih blanketa iz 2005, 2006 godine, on-line verzija prezentacije ispitnih zadataka sa rešenjima dostupnan na adresi: <http://www.masfak.ni.ac.yu/sitegenius/topic.php?id=70>
18. *Hedrih Katica. i Simonović Julijana, Zbirka rešenih zadataka sa vežbanja Mehanike III- Dinamike*, školska 2006/07, prezentacija rešenih zadataka sa vežbanja iz predmeta Mehanika III - Dinamika, po nedelama u on-line verziji dostupna na adresi: <http://www.hm.co.yu/mehanika/>

Odgovori treba da budu koncizni ali prostor za odgovore nije ograničen. Ako su odgovori ipak dugački, možete dati rezime odgovora a detalje navesti u posebnom fajlu sa nazivom dodatak_{brojprojekta} koji ćete priložiti uz osnovni fajl.

Projekat može da dobije najviše 10 bodova po svim tačkama.