Ministarstvo nauke Republike Srbije
Matični naučni odbor za matematiku i mehaniku

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:

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1. Posebni rezultati projekta (naučne monografije, poglavlja i radovi u vodećim medjunarodnim časopisima), 0 - 4 boda;
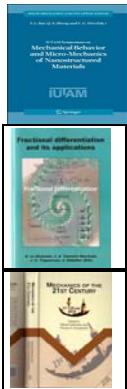
a) Naučne monografije objavljene kod poznatih inostranih izdavača:

(Publ;okpvane dve doktorske disertacije u vidu monografija dva istraživaža 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=ee616461e3b1482fb81dcbb7c6f38360&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***,** Editerd by G.M.L. Gladwell, Springe**r**,. 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. Geraldin 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 Lectute 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 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 istrazivačima, 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 Plernary 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 СИМПОЗІУМ УКРАЇНСЬКИХ ІНЖЕНЕРІВ-МЕХАНІКІВ У ЛЬВОВІ (МСУІМЛ — 8), ISUMEL Lvov International Symposium Ukrainian Mechanical Engieers in Lvov 2007. Nacionalniy Universitet Lvivska Politehnika, Institut inženzernoy mehaniki ta transportu, Ukrainske tovaristvo mehaniki ruinovaniza materialovi Redakciza Žurnalu ''Mašinoznavstvo''-

sa 40 minutnim plenarnim predavanjem po pozivu pod nazivom:

Hedrih (Stevanović), K., (2007), *Hybrid system dynamics, with thermo-rheojogical hereditary elements.* Plernary Lecture, **8-й МІЖНАРОДНИЙ СИМПОЗІУМ УКРАЇНСЬКИХ ІНЖЕНЕРІВ-МЕХАНІКІВ У ЛЬВОВІ (МСУІМЛ — 8), ISUMEL Lvov International Symposium Ukrainian Mechanical Engieers 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: (oštampan jednostranični apstrkt,, dvopjezično; predvidjeno 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 nazvom:

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

Napomena: (oštampan jednostranični apstrkt, predvidjeno 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 Abvstracts, pp. 47'8.**

I sa presedavanjem 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 Abvstracts, pp. 41.**

i jedni uvodnim sekcijskim saopstenjem 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 Abvstracts, 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, Measusres of the Dynamical Integrity I sa predavanjima na počtku (otvaranju) i na kraju (zatvarabhu) 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 Llecture)*

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

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 Heresitary 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 Heresitary System, pp.*.46.*

Pre početka Simpozijuma, održana je radna večera, u okviru koje je održan sastanak Editorial Boarda medjunarodnog časopisa **International Journal Nonlinear Sciences and Numerical Simulation ,** čiji sam član od osnivanja casopisa, koji je u 2005 godini imao **impact factor 2,386, dok je u 2006 godini dostiago impact factor od 4,586.**
Pripremila sam i uredila za štampu I oštampala piblikaciju pod nazivom:
Booklet of Abstracts - IDND 2007 – Analytical Dynamics of Discrete Heresitary 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 Geometrym Functional and Complex Informatics and their Applications, Sapporo, September 4-8, 2006. Hokkaido Tokai University Sapporo

sa 45 minutnim predavanjem u okviru koga sam izlođila rad:

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

i predsedavanjem u sekciji i predsedavanjem 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 jubilarnpg 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 univeryiteta:

*Imala sam cast da icestvujem u radu **Seminara 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 medjunarodnim 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 Matematicki institut NANU (Kiev) i Matematicki 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 appearence in nonlinear systems, ciji su nosioci Institut za primenjenu matematiku i mehaniku NANU (Donetsk) i Matematicki institut SANU (Beograd) (Rukovodioci projekata sa ukrajinske strane A.M. Kovaljov)

* Forced oscillations research for hybrid mehanical systems with application to classical and celestial mecanics, ciji su nosioci Institut za primenjenu matematiku i mehaniku NANU (Donetsk) i Matematicki 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

Spaic 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 (Stevanovic′) K.. Rezultati su primenljivi u oblasti dinamike inženjerskih klonstrukcija, kao i u Univerzitetskoj nastavi (Vektori momenata masa su uključeni u nstavu dinamike, a oscilacije hibridnih konstrukcija mohu 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: Ptrimrnr 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**

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 Dznamics , Springer više recenyija u 2006
Workshop Preprints/Proceedings No 2006-2 IFAC workshop on Fractional Differentiation and its Applications FDA 06, Porto (desetak recenyija)
The European Union Control Association (32 recenzija u 2996)
ESIS Euroepean 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 (dve recenzije u 2006 i dve u 2007),
European Polymer Journal,Elsevier,
FME Transaction, Faculty of Mechanical Engineering Universitz 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 svečanosg skupa - akademije ***Vojnotehničkog instituta Vojske Srbije*** koja je bila posvećena radu i naučno-strućnim rešultatima vojnog instituta VTI povodom 59. godina rada i postojanja. Jedan sam od cetiri 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 prizbanjem.

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 surganizator 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

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 Universiyz 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 Petersbutg 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
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 surganizator organizacije Minisimpozijuma pod nazivom: ***Analitička dinamika diskretnih naslednih sistemam, prvog takve vreste u svetu,*** u okviru internacionalnnog naučniog simpoyijuma odžanog 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

Booklet of Abstracts - IDND 2007 – Analytical Dynamics of Discrete Heresitary 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.

b) Domaći skupovi:
Katica (Stevanović) Hedrih
Seminar Nonlinear Dynamics – Milutin Milankovic – Seminar projekta I Centra za nelinearnu dinamiku I aktivne konstrukcije - Niš

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 (automats
ko upravljanje I masinske konstrukcije).

2* Mentor Miroslav Radovanovic, magistranst 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 DEFDORMACIONOG 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

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

b) Radovi članova projekta kod kojih je jedan od koautora mladji 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*, Jornal of Politechnica University Timisoar, Romonia, Transaction on Mechanical Engineering, Tom 47(61), Suplement, 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 Abstarcts 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 Sysems,* 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 Sysems,* 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 Singulary Phenomena in Mechanical Systems by Using Tasks of Elastodinamics 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.