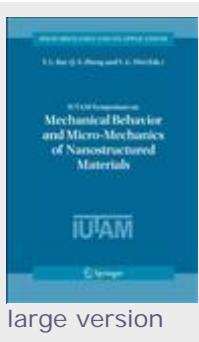


- [1] Hedrih (Stevanović) K., (2006), *Transversal Vibration of a Parametrically Excited Beam: Influence of Rotatory Inertia and Transverse Shear on Stochastic Stability of Deformable Forms and Processes*, ©Freund Publishing House Ltd. *International Journal of Nonlinear Sciences and Numerical Simulation*, 7(1), 117-124, 2006.

**Impakt faktor casopisa u 2005 godini 2,345 prema Kobsonu., a u 2006 je dostigao 4,386 (2006). Vidi prilog**

## Nonlinear Dynamics ` ` 2007

Publisher	Springer Netherlands
ISSN	0924-090X (Print) 1573-269X (Online)
Subject Collection	Engineering
SpringerLink Date	
[1] Hedrih (Stevanović), K., (2007), <i>Energy analysis in the nonlinear hybrid system containing linear and nonlinear subsystem coupled by hereditary element</i> , <i>Nonlinear Dynamics</i> , Springer, DOI 10.1007/s11071-007-9197-2	



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## Solid Mechanics and Its Applications

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### Book Chapter

**Nonlinear Dynamics of a Heavy Material Particle along a Circle Which Rotates and Optimal Control**

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Volume **Volume 122**

Book **IUTAM Symposium on Chaotic Dynamics and Control of Systems and Processes in Mechanics**

Part **I.**

Author **Katica Stevanovic Hedrih**

Text **PDF (452 kb)**

<http://www.springerlink.com/content/v3426kp5483w3v00/?p=ee16461e3b1482fb81dccb7c6f38360&pi=5>

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.**

### Articles

2 results



Transversal vibrations of double-plate systems

Hedrih, K.

Acta Mechanica Sinica, Springer, 21.07.2006, vol. 22, no. 5, pp. 487-501

Abstract: This paper presents an analytical and numerical analysis of free and forced transversal vibrations of an elastically connected double-plate system. Analytical solutions of a system of coupled partial differential equations, which describe correspondi...

... More

**Double plate system with a discontinuity in the elastic bonding layer**

(Stevanović) Hedrih, K.

Acta Mechanica Sinica, Springer, 17.03.2007, vol. 23, no. 2, pp. 221-229

Abstract: The double plate system with a discontinuity in the elastic bonding layer of Winkler type is studied in this paper. When the discontinuity is small, it can be taken as an interface crack between the bi-materials or two bodies (plates or beams). By com...

... More



**TENSOR N.S.**



Hedrih (Stevanović) K. and Gadžić S., (2007), *On a model of the material particle dynamics and of inert mass depending of velocity*, Tensor, N.S., Vol. 68, No. 1 (2007) pp.51645. #8



**TRANSVERSAL VIBRATIONS OF THE AXIALLY MOVING SANDWICH BELTS  
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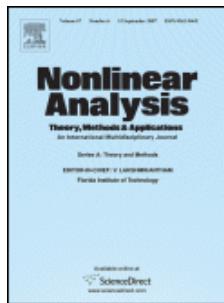
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**Nonlinear Analysis: Hybrid Systems - ISSN: 1751-570X**

Dynamics of coupled systems • ARTICLE

*Nonlinear Analysis: Hybrid Systems*, **In Press, Corrected Proof**, Available online 1 February 2007,

Katica (Stevanović) Hedrih

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2.

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Modes of the homogeneous chain dynamics • ARTICLE  
*Signal Processing*, Volume 86, Issue 10, October 2006, Pages 2678-2702

3. □



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International Journal of Experimental Heat Transfer, Thermodynamics, and Fluid Mechanics

**A n auxiliary size distribution model for the ultrasonically produced water droplets • ARTICLE**

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**The integrity of dynamical systems • ARTICLE**

*Nonlinear Analysis, Volume 63, Issues 5-7, 30 November 2005-15 December 2005, Pages 854-871*

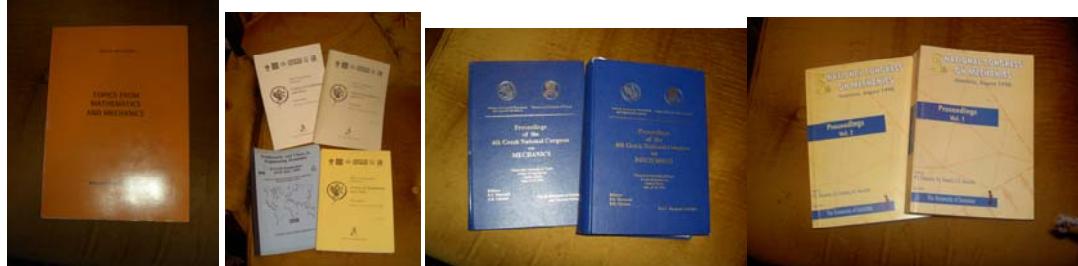
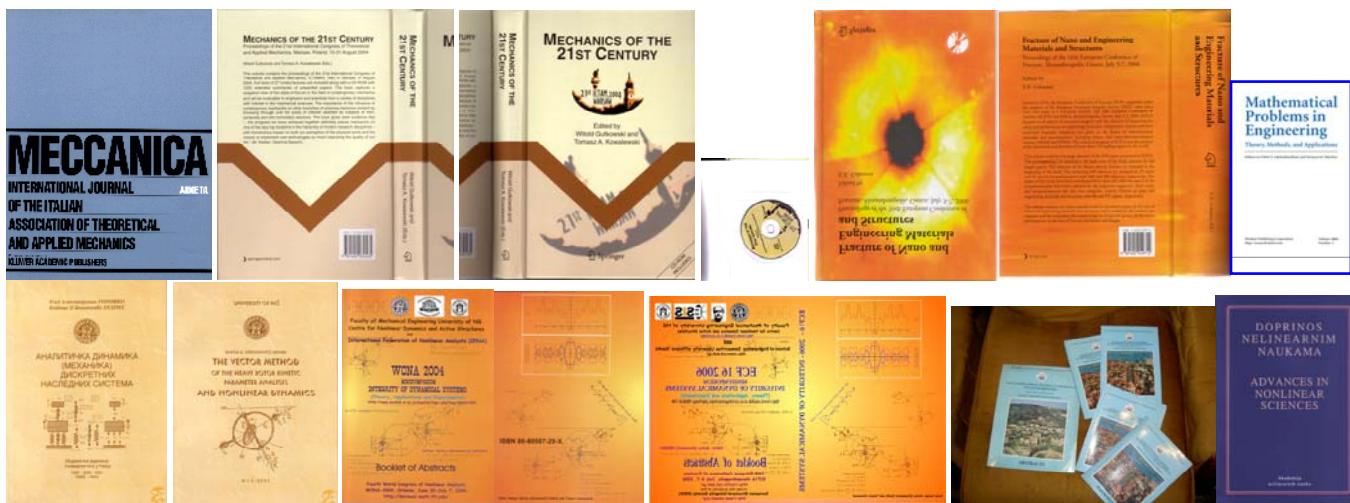
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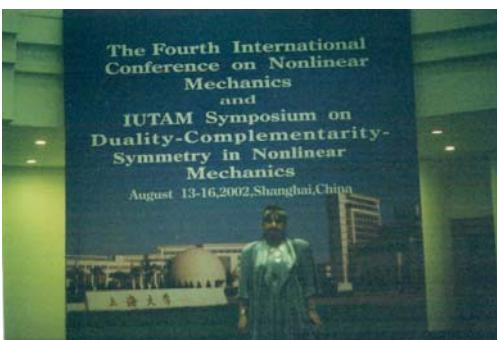
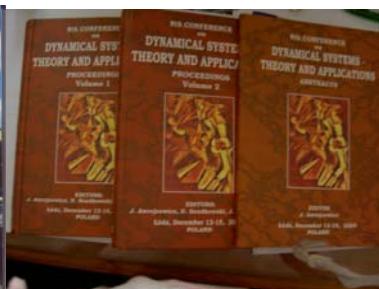
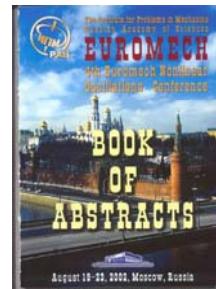
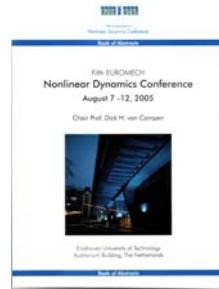
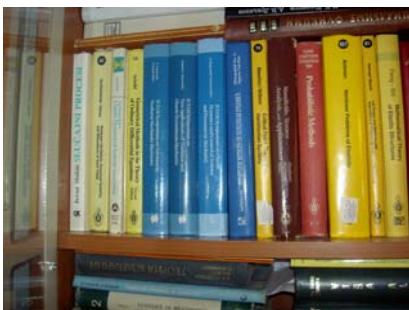
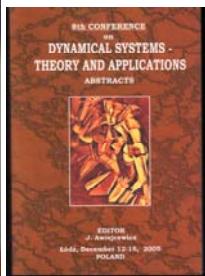
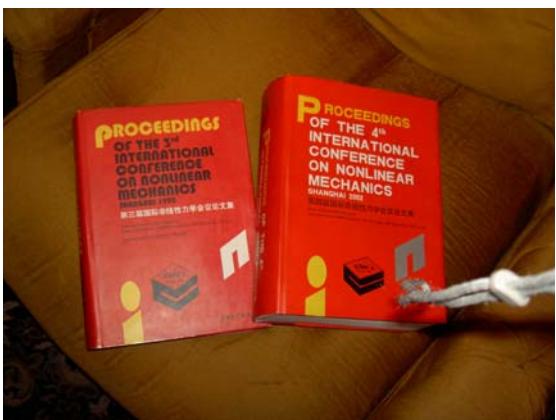
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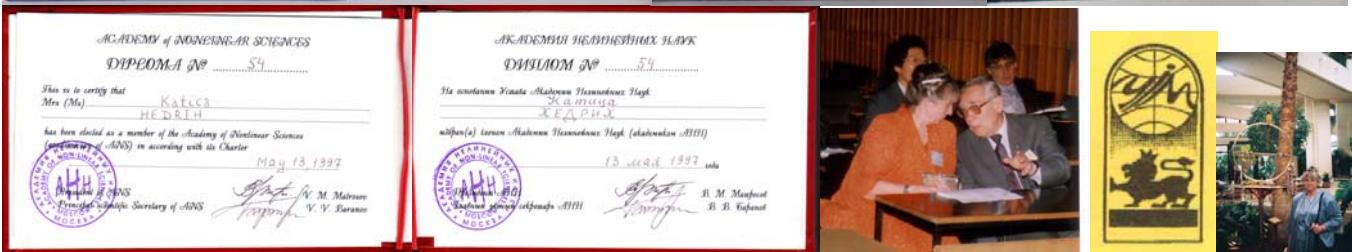
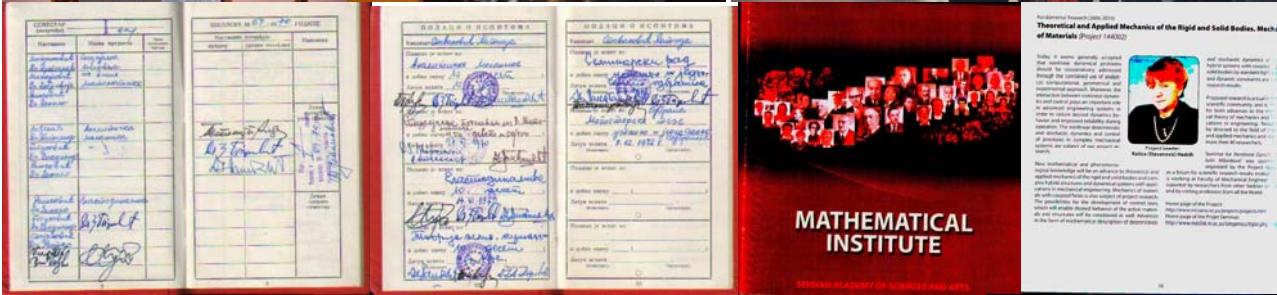






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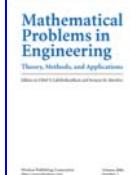
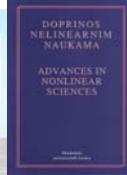
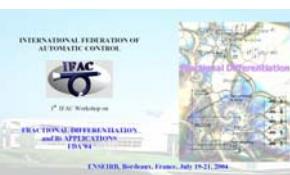
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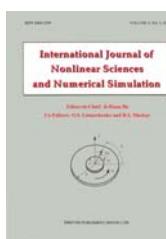
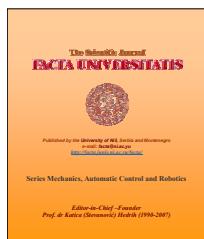


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### *Ja bih izdvojila sledeće radove publikovane u 2006 godini i redosled njihov je:*

- [2] Katica (Stevanović) Hedrih, (2006), *The frequency equation theorems of small oscillations of a hybrid system containing coupled discrete and continuous subsystems*, *Facta Universitatis, Series Mechanics, Automatic Control and Robotics*, Vol.5, No 1, 2006 pp. 25 - 41 <http://facta.junis.ni.ac.yu/facta/> / Sadrzi veci broj novih teorema



- [3] 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.

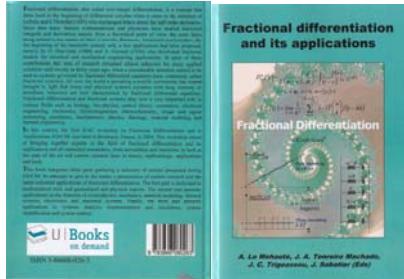
**Impakt faktor casopisa u 2005 godini 2,345 prema Kobsonu a u 2006 je dostigao 4,386 (2006). Vidi prilog**



- [4] 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.  
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- [5] Hedrih (Stevanović), K., (2007), *Dynamics of coupled systems*, **Journal Nonlinear Analysis: Hybrid Systems and Applications**, Elsevier (corrected proof, in press) doi: 10.1016/j.nahs.2006.06.003



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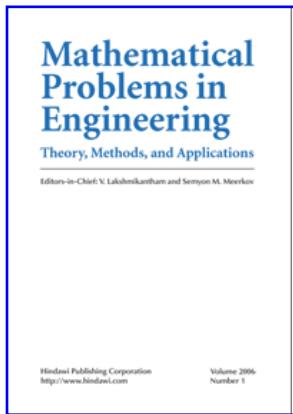
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- [8] Hedrih (Stevanović), K., (2007), *Double plate system with discontinuity in the elastic bounding layer*, **Acta Mechanica Sinica** DOI 10.1007/s10409-007-0061-x (corrected proof, in press)
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- [15] 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.
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- [20] 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>



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### **VIII. Publikovana predavanja, apstrakti i predavanja po pozivu, kao i saopštenja na medjunarodnim skupovima u 2006. u organizaciji**

- \* Evropskog društva za mehaniku (EUROMECH),
- \* IFAC (Internacionalne federacije za automatsko upravljanje),
- \* IFNA (Internacionalne federacije nelinearnih analizista) i Elsevier-a J. NA,
- \* Tensor Society (Medjunaridnog Tenzor društva),
- \* ESIS-a (Evropsko društvo za integritet konstrukcija) kao i prestižnog

\* Kharkovskog Univeriteta (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., prededava u zasedanju sekcije Multibody Dynanucs.

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[8] 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.

[9] Hedrih (Stevanović), K., (2007), *Energy Transfer in Hybrid System Dynamics*, Invited Participation, 6<sup>th</sup> Recent German-Greek-Polish Symposium, Recent Advances in Mechanics, September 17-21 2007, Alexandroupolis, Greece

[10] Hedrih (Stevanović), K., (2007), *Hybrid system dynamics*, with thermo-rheological hereditary elements, *Plenary Lecture*, 8-й МІЖНАРОДНИЙ СИМПОЗІУМ УКРАЇНСЬКИХ ІНЖЕНЕРІВ-МЕХАНІКІВ У ЛЬВОВІ (МСУІМЛ — 8), ISUMEL Lvov Internationa Symposim Ukrainian Mechanical Engieers in Lvov 2007.

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[13] 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/>

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Hedrih (Stevanović), K. , (Edited, 2007), **Nonlinear Dynamics and Aleksandr Mikhailovich Lyapunov** (1857 – 1918), Dedicated to 150th anniversary of academician A.M. Lyapunov, Scientific Technical Review, Vol.LVII, No.1,2007, pp; 1-10.

## XI. Apstrakti i predavanja po pozivu, kao i saopštenja na domaćim skupovima

[1] Katica R. (Stevanović) Hedrih, DYNAMICS OF SANDWICH STRUCTURES (DINAMIKA SENDVIČ STRUKTURA), Invited Plenary Lecture, Medjunarodne konferencije Savremeni problemi u građevinarstvu - Current Problems in Civil Engineering, Gradjevinski fakultet u Subotici, Univerziteta u Novom Sadu, 2 i 3. jun 2006. Abstracts and CD Full paper.

[2] Katica R. (Stevanović) Hedrih, ENERGY OSCILLATIONS IN THE SUBSYSTEM DYNAMICS OF THE HYBRID SYSTEM (OSCILACIJE ENERGIJE U DINAMICI PODSISTEMA HIBRIDNOG SISTEMA), *To the Memory of my Professors Tatjimir P. Andjelic and Danilo P. Raskovic First Heads of the Department of Mechanics at Mathematical Institute SASA , Jubilarni seminar . '60 godina Matematičkog instituta SANU'* a 40-to minutno predavanje po pozivu, publikovan Apstrakt.

[3] Katica R. (Stevanović) Hedrih, *Theoretical and Applied Mechanics of the Rigid and Solid Bodies. Mechanics of Materials (2006-2010)* (Teorijska i primenjena mehanika krutih i čvrstih tela. Mehanika materijala.), savremeni problemi, prikaz rezultata projekta ON144002 i Matematički institut SANU, Jubilarni seminar - '60 godina Matematičkog instituta SANU' a 30-to minutno predavanje po pozivu, publikovan Apstrakt.

**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.**

## X. 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 Dynamics , Springer više recenzyja u 2006

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

The European Union Control Association (32 recenzija u 2996)

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 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  
and other.

#### **Scientific Societies:**

American Academz 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

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

##### **XI.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 appearance 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 mechanics, ciji su nosioci Institut za primenjenu matematiku i mehaniku NANU (Donetsk) i Matematicki institut SANU (Beograd) (Rukovodioci projekata sa ukrajinske strane A.M. Kovaljov)

#### **XII. Subject: Citate**

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\* 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 (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; **ISI List**.

**Hedrih (Stevanovic') K.: veliki broj samocitata u časopisima sa visokim impact faktorom (preko 30 u 2006).**

**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 Luisiana, 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 – Budapestm Hungary;

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

#### **XIV. 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

[2] Hedrih (Stevanović) K., Knežević R., *PLIVANJE SUNÈEVOG ZUPÈANIKA 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

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