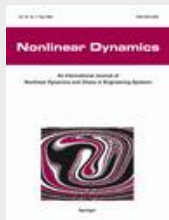




- [1] Hedrih (Stevanović) K., (2006), *Transversal Vibration of a Parametrically Excited Beam: Influence of Rotatory Inertia and Transverse Shear on Stochastic Stability of Deformable Forms and Processes*, ©Freund Publishing House Ltd. *International Journal of Nonlinear Sciences and Numerical Simulation*,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

**Impakt factor casopisa u 2005 godini 2,345 prema Kobssonu., a u 2006 je dostigao 4,386 (2006). 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), *Energy analysis in the nonlinear hybrid system containing linear and nonlinear subsystem coupled by hereditary element*, *Nonlinear Dynamics*, Springer, DOI 10.1007/s11071-007-9197-2



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## Solid Mechanics and Its Applications

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

DOI 10.1007/1-4020-3268-4\_4

Book Series Solid Mechanics and Its Applications

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)

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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 correspond...

... 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 Winker 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

JOURNAL

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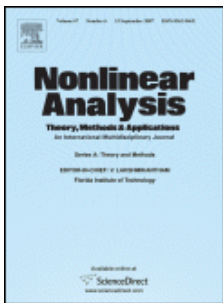
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**Nonlinear Analysis: Hybrid Systems** - ISSN: 1751-570X

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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**Modes of the homogeneous chain dynamics** • ARTICLE

*Signal Processing*, Volume 86, Issue 10, October 2006, Pages 2678-2702

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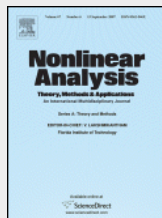
International Journal of Experimental Heat Transfer, Thermodynamics, and Fluid Mechanics

**An auxiliary size distribution model for the ultrasonically produced water droplets • ARTICLE**  
*Experimental Thermal and Fluid Science, Volume 30, Issue 6, June 2006, Pages 559-564*

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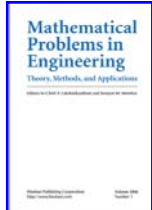
**The integrity of dynamical systems • ARTICLE**

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

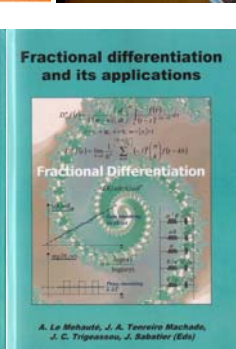
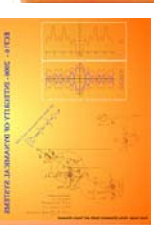
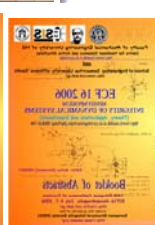
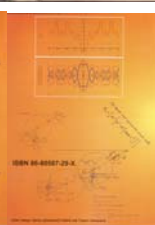
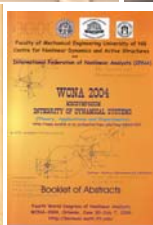
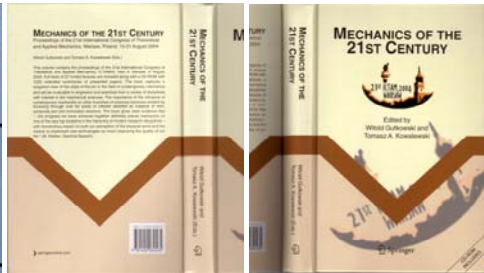
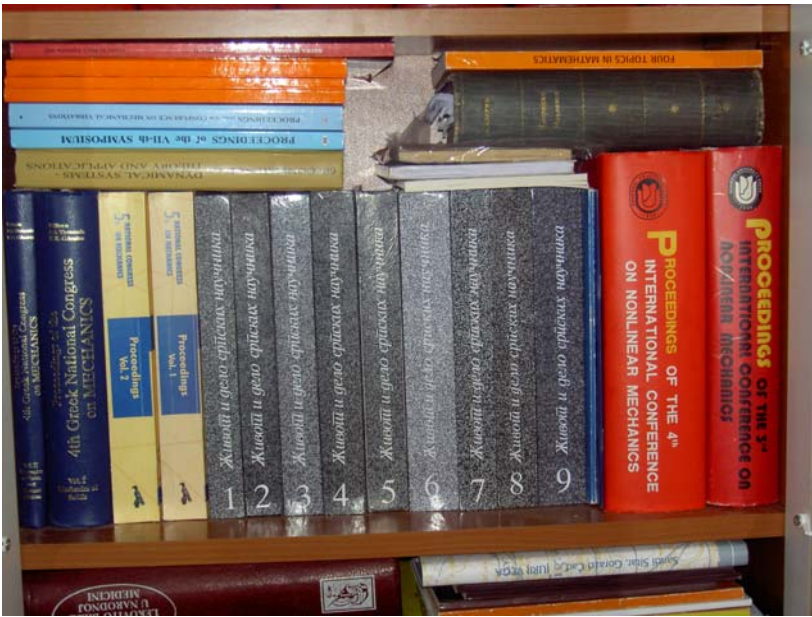
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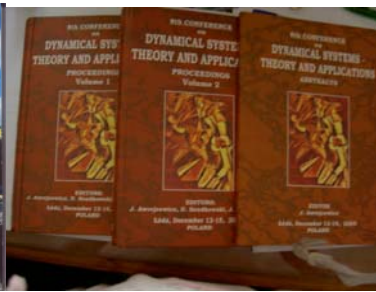
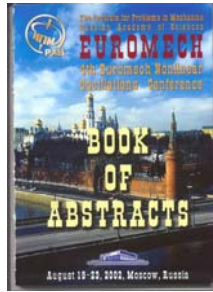
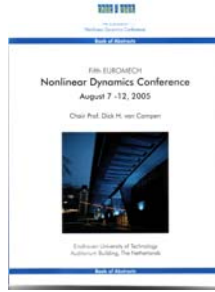
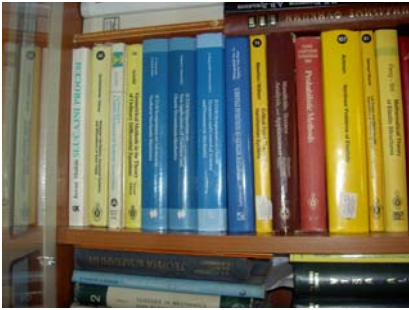
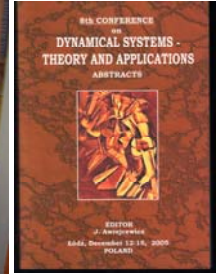
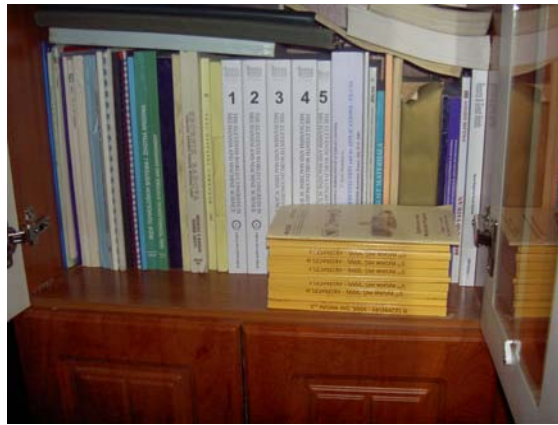
Hedrih (Stevanović), K., (2006), The transversal creeping vibrations of a fractional derivative order constitutive relation of nonhomogeneous beam, *Mathematical Problems in Engineering*, Special issue : Nonlinear Dynamics and their Applications in engineering sciences, Geust Editor: Jose Manoel Barhesar, Volume 2006 (2006), Article ID 46236, 18 pages, [www.hindawi.com](http://www.hindawi.com)  
doi:10.1155/MPE/2006/46236, Volume 2006, No. 5, pp. 61-78.













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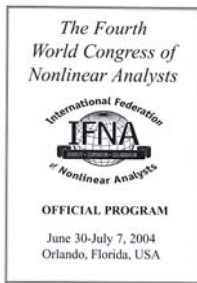
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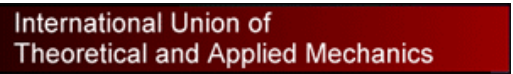
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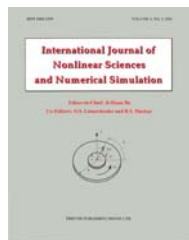
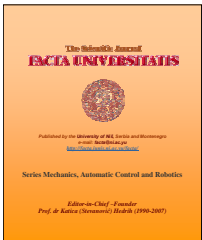


**ANN, APM 2007 Advanced Problems in Mechanics; JDM-SDM; GAMM, EuroMech; SDRM, IFNA, American Academy of Mechanics, Int. ASME.**



**Ja bih izdvojila sledece 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 factor casopisa u 2005 godini 2,345 prema Kobssonu a u 2006 je dostigao 4,386 (2006). Vidi prilog**

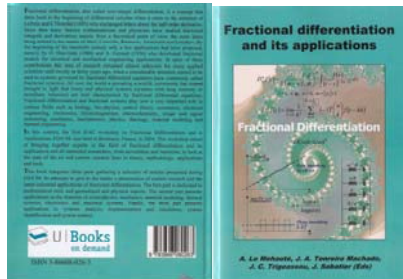


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- [5] Hedrih (Stevanović), K., (2007), *Dynamics of coupled systems*, *Journal Nonlinear Analysis: Hybrid Systems and Applications*, Elsevier (corrected proof, in press) doi: 10.1016/j.nahs.2006.06.003



- [6] 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. **Izšlo iz stampe pocetkom 2006.**



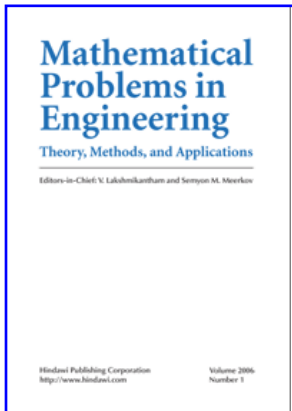
- [7] Hedrih (Stevanović) K., (2006), *Modes of the Homogeneous Chain Dynamics*, *Signal Processing, Elsevier*, 86(2006), 2678-2702.. ISSN: 0165-1684 [www.sciencedirect.com/science/journal/01651684](http://www.sciencedirect.com/science/journal/01651684)

## ***I. Spisak jednog dela publikovanih radiova ili uradjenih i pripremljenih za štampu u 2006 godini***

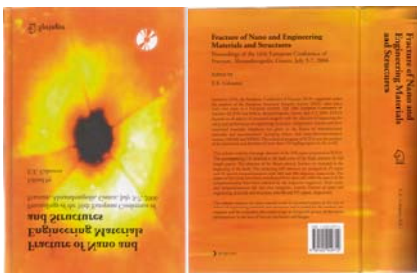
- [2] Hedrih (Stevanović), K., (2007), *Dynamics of coupled systems*, *Journal Nonlinear Analysis: Hybrid Systems and Applications*, Elsevier (corrected proof, in press) doi: 10.1016/j.nahs.2006.06.003
- [3] Hedrih (Stevanović), K., (2007), *Energy analysis in the nonlinear hybrid system containing linear and nonlinear subsystem coupled by hereditary element*, *Nonlinear Dynamics*, Springer, DOI 10.1007/s11071-007-9197-2
- [4] Hedrih (Stevanović), K., (2007), *Transversal vibrations of the axially moving sandwich belts*, *Archive of Applied Mechanics*, Springer, (2007) 77, pp. 523-539/ DOI 10.1007/s00419-006-0105-x
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- [7] Hedrih (Stevanović) K., (2006), *Transversal Vibrations of Double-Plate Systems*, *Acta Mechanica Sinica, Springer*, (2006) 22, pp. 487-501 (hard cover and on line).
- [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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- [13] Hedrih (Stevanović), K., (2006), *Transversal vibrations of the axially moving double belt system with creep layer*, Preprints, 2<sup>nd</sup> IFAC Workshop on Fractional Differentiation and its Applications, 19-21 July, 2006, Porto, Portugal, pp.230-235.+CD. IFAC WS 2006 0007 PT, ISBN 972-8688-42-3, 978-972-8688-42-4. ISBN, <http://www.iser.ipp.pl>
- [14] 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.  
**Izasio iz stampe pocetkom 2006.**

- [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.
- [16] 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
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- [18] Hedrih (Stevanović), K., (2006), **Energy interaction between linear and nonlinear oscillators (Energy transient through the subsystems in the hybrid system)**, *Ukrainskii Matematicheskii Zhurnal*, (accepted)
- [19] Hedrih (Stevanović), K., (2006), The transversal creeping vibrations of a fractional derivative order constitutive relation of nonhomogeneous beam, *Mathematical Problems in Engineering*, Special issue : Nonlinear Dynamics and their Applications in engineering sciences, Guest Editor: Jose Manoel Barhesar, Volume 2006 (2006), Article ID 46236, 18 pages, [www.hindawi.com](http://www.hindawi.com) doi:10.1155/MPE/2006/46236, Volume 2006, No. 5, pp. 61-78.



[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>



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

\*\*\*\*\*

**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 federacija 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



\* Kharkovskijg Univerzitetu (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.

[4] Hedrih (Stevanović), K. (2006), *Transversal vibrations of the axially moving sandwich double belt system with creep layer*, 2nd Workshop on Fractional Calculus and Its Applications – IFAC FDA 2006. 19 - 21 July, 2006, Porto, Portugal, <http://www.gecad.isep.ipp.pt/FDA06/> predsedavla jednim zasedanje sekcije.

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## **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, Građevinski 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 Tatomir 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 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 fur Mathematik und ihre Grenzgebiete Berlin* (desetak recenzija u 2006)

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

*Facta Universitatis Series Mechanics, Automatic Control and Robotics*, University of Niš (1990-)

*Facta Universitatis Series Living and Working Environmental Protection*, University of Niš (1995-)

*Facta Universitatis Series Mechanical Engineering*, University of Niš (1993-)

Neurosciences letters, Elsevier, Journal of Sound and Vibrations, Elsevier,

European Polymer Journal, Elsevier,

FME Transaction, Faculty of Mechanical Engineering University of Belgrade,

Material Letters, Elsevier,

Journal Nonlinear Analysis - Theory, Methods and Applications, Series B: Real-world Applications, Pergamon Press,

Signal Processing, Elsevier,



### **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 projektima 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 Matematički institut NANU (Kiev) i Matematički institut SANU (Beograd) (Rukovodioci projekata sa ukrajinske strane A.M. Samolenko i O.M.Sarkovski)*

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

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

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

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

\* *Cited (quoted) in:*

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

**Hedrih (Stevanović) 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 *Aplied 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\* Euiromech - *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 SUNĀEVOG ZUPĀNIKA KAO UTICAJNI FAKTOR DINAMIKE PLANETARNOG PRENOSNIKA*, *Prihvaćeno za KONGRES TEORIJSKE I PRIMENJENE MEHANIKE*, Kopaonik 2007.

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