

June 2010.  
(A Short Survey)

## KATICA (Stevanović) HEDRIH

*Full professor-Scientific Research Full Professor – Project Leader of Project ON144002  
in Mathematical Institute SANU Belgrade (2009- )*

*Full professor and the Head of the Chair for Mechanics (1977-1979, 1981-1983, 1986-2004)*

*Head of Centre of Nonlinear Dynamics and Active Structure (2005-2009)  
at the Mechanical Engineering Faculty of the University of Niš*

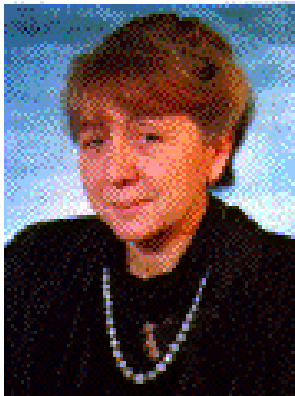
*Academician of Ukrainian Higher Education Academy of Sciences*

*Member of Serbian Scientific Society*

*Academician of the Academy of Nonlinear Sciences*

*Scientific Secretary of the Yugoslav Section of Academy of Nonlinear Sciences (1997-2010)*

*Member of American Academy of Mechanics*



Katica (Stevanović) HEDRIH, Doctor of Technical Sciences, **Scientific Research Full Professor in Mathematical Institute SANU-Belgrade**, University Professor, Bachelor Mechanical Engineer, Full Professor and the Head of the Chair for Mechanics at the Mechanical Engineering Faculty of the University of Niš (1977-1979, 1981-1983, 1986-2004) and a Full Professor of the Mechanical Engineering Faculty, University of Priština, Project Leader of republic scientific projects: Subproject – Current problems of mechanics with applications (1995-2000), Project 1616 - Real Problems on Mechanics (2001-2004) at the Mathematical Institute of SASA in Belgrade, Project 1828 –Dynamics and Control of Active Structure (2001-2004) at Faculty of Mechanical Engineering Niš, current Project ON144002 Theoretical and Applied Mechanics of the Rigid and Solid Bodies. Mechanics of Materials (2006-2010) an academician of the **Higher Education Academy of Sciences of Ukraine** (since 1996), a **member of Serbian Scientific Society** (starting from 2008) and an academician of the **International Academy of Nonlinear Sciences ANS. – Moscow** (since 1997), Editor-in-chief of the University of Niš scientific journal “**FACTA UNIVERSITATIS**” (1989-2004) and Editor-in-Chief of the Series Mechanics, Automatic Control and Robotics (1990-2011), member of Editorial Board of **Int. Journal Nonlinear Sciences and Numerical Simulations, Freund Publishing House LTD** (1999-), and **J. Mathematical Problems in Engineering**, Hindawi Publishing Corp. <http://www.hindawi.com/> (2004-), a member of GAMM and Tensor Society, member of International ASME, American Academy of Mechanics and a European Society for Mechanics Member. She is also reviewer and referee of the numerous university scientific publications and papers published by Elsevier, Springer, Hindawi Press, Freund Publishing House and other. Referee of *Zentralblatt* (with more than 100 reviews). She is the author of the monographs: *Vectors of the Mass Moments (1998)*, *Analytical Dynamics of Discrete Hereditary Systems (co-author O.A. Goroshko, 2001)*. and *The Vector Method of the Heavy Rotor Kinetic Parameters Analysis and Nonlinear Dynamics (2001)*. She was the chief and project-leader of a number of scientific projects in areas of mechanics and mechanical engineering. She is one of co-authors of the research project and SASA edition-publication - The Life and Work of Serbian Scientists with four published bibliographies. She is the author of a number of scientific papers, and of university study books and textbooks in the area of Oscillations Theory, Theory of Elasticity, Strength of Materials, Mechanics, Mathematical Physics, Philosophy of Natural Sciences, History of Mechanics. She was a supervisor of a number of magisterium of sciences (10) and doctoral dissertations (8) in the area of technical sciences – nonlinear and deformable body mechanics and member of numerous commission for evaluation of the dissertations. Her papers and books were cited many times and two paper were cited by *Yu. A. Mitropolskiy and B.I.Moseenkov in Monograph: Asimptotičeskie rešenija uravnenij v časnih proizvodnih*, Kiev 1976, (Listed under No. 138 and 139). Her first doctors of technical sciences are now university professors and Project leader and supervisor of new generation of the Ph. D. students.

Katica R. (Stevanović) HEDRIH was born on August 28<sup>th</sup> 1944 in Bobovište. As a member of the first Yugoslav competition team she was a contestant of the Fifth Mathematical Olympics in Vroclav.

Poland, in 1963. She graduated mechanical engineering, the first in generation, as the best graduated student of the faculty and the University of Niš in 1966/67. She carried the “štafeta mladosti” in 1969. She got a Magisterium of Science degree in the area of mechanics (1972) and became a Doctor of the Technical Sciences (1975) at the Mechanical Engineering Faculty of University in Niš, and she also took and passed the candidate minimum (1971) in Mathematical Physics, the area of Nonlinear Oscillations and Nonlinear Differential Equations at the Mathematical Institute of the Ukrainian National Academy of Science in Kiev evaluated by commission headed by academician Y. A. Mitropolskiy. She is a University full professor since 1986.

She was the organizer of two Yugoslav congresses on theoretical and Applied Mechanics (YUCTAM Niš-1995 and Vrnjačka Banja 1997), as well as of a number of minisymposia of international rank ((YUSNP Niš 1991 and YUSNM Niš 2000, ISNM NSA Niš 2003, Integrity of Dynamical Systems at IFNA WCNA, Orlando, 2004; Integrity of Dynamical Systems –European Fracture Conference EFC16-Greece 2006 and APM Saint Petersburg 2007; MS – Analytical Mechanics at Nonlinear Dynamic Shanghai 2007, MS – Kinetic Control and Vibrorheology at ESMC Lisbon 2009 and ICDVC Hangzhou 2010m and other.).

She is the author of a number (10) of university study books and textbooks in the area of Oscillations Theory, Theory of Elasticity, Strength of Materials, Mechanics, Partial Differential Equations and Integral Equations with Application in Engineering, Philosophy of Natural Sciences, History of Mechanics.

She attended, with invited lectures or as invited participant, numerous University Mechanics Seminars or Scientific Meetings in the area of nonlinear mechanics (University of Rochester Seminar 1989, USA; University of Waterloo Seminar on Mechanics 1989., Canada; Rochester Institute of Technology, 1989.; IUTAM Symposium-Nonlinearity and Chaos in Engineering Dynamics, UCL 1993.; Inter. Conf.: *Stability, Control and Rigid Bodies Dynamics - ICSCD 96*, Donetsk – Mariupol; Seminar on *National Technical University of Athens, 1986.*; *SANU - Serbian Greek Symposium on Solid Mechanics 1997.*; *Greek-Germany-Polish-Serbian Symposium on Mechanics - Recent Advances in Mechanics, Xanthi, 1998, Democritus University of Thrace*; Third International Symposium on Classical and Celestial Mechanics, Velikie Luki, Russia, 1998; *Parallel General Lecture-Third International Conference on Nonlinear Mechanics ICNM 1998, Shanghai, China*; *5th National Congress on Mechanics, Ioannina, 1998. Patras 2007*; *Int. IEEE-Conference Control Oscillations and Chaos COC 2000 Saint Petersburg, Russia*; *ISUMEL Lvov 2001,2003,2005,2007,2009 Ukraine*; Int. Symposium *Dynamical Systems and Applications-Lodz 2001, 2010. Poland*; Int. Conf. *Differential Geometry and it's Applications*, Tensor Society Tsukuba, Japan 2002.and Sapporo 2007; Int. Symposium *Analysis, Manifolds and Mechanics*, Calcutta, 2003, University of Kalyani, India, 2003 and 2007, IUTAM Symposium *Chaotic Dynamics and Control of Systems and Processes in Mechanics*, Roma 2003. ....Workshops IFAC FDA Bordeaux 2004, Porto 2006, Ankara 2008, ENOC Moscow 2002, Eidhoven 2005, DINCON Brasil 2010, Nonlinear Vibrations Virginia Tech 2010, ICDVC Hangzhou 2010, and other) and contribution papers, of a large number of leading international congresses and scientific meetings, as well as of university scientific seminars (Ukraine, Canada, USA, Germany, Byelorussia, Greece, Israel, Austria, Bulgaria, Chesz, China, England, Denmark, Russia, Poland, Japan, Romania, Turkey, Portugal, France, India, Australia, Brazil, ...) in the area of mechanics and Nonlinear Dynamics and she is the author of over 400 bibliographical units in areas of mechanics, technical sciences and mathematics. Her papers were referenced in well-known reference journals. She is the author of the monographies: *Vectors of the Mass Moments (1998)*, *Analytical Dynamics of Discrete Hereditary Systems (co-author O.A. Goroshko, Ukraine 2001)*. and *The Vector Method of the Heavy Rotor Kinetic Parameters Analysis and Nonlinear Dynamics (2001)*. She was the chief and project-leader of a number of scientific projects in areas of mechanics and mechanical engineering starting from the 1977. Shi is founder and chair of two Scientific Seminars; Theoretical and Applied Mechanics at Mechanical Engineering Faculty University of Niš (1976-2004) and Nonlinear Dynamics – Milutin Mulanković (staring from 2005). Katica (Stevanović) HEDRIH is, also, a member of numerous International Scientific Meeting held in Ukraine, Yugoslavia, Poland, China, Turket, Makedonia, Serbia, India and other.

She was, as a student a member of the first University Council in Niš (1975), and as a full professor a member of the first Educational-scientific Council of the University in Niš (1987-1988), and a member of the governing board (1994) of the Mathematical Institute SASA in Belgrade.

Books:

*Vectors of the Mass Moments (Topics from Mathematics and Mechanics)*, *Selected Chapters of Nonlinear Oscillation Theory*, *Selected Chapters of Elasticity Theory*, *Collections of solved exams*

*problems of Elasticity Theory, Collections of solved exams problems of Oscillation Theory, Collections of solved exams problems of Oscillation Theory (co-author P. Kozić), Collections of solved exams problems of Strength of Materials (co-author M. Maksić), Natural Sciences today (co-authors M. Antić and D. Djordjević), Ljubomir Klerić (SASA Life and work of Serbian Scientists – First volume), Kosta Alković (SASA Life and work of Serbian Scientists – Third volume), Tatomir P. Andjelić (SASA Life and work of Serbian Scientists – Sixth volume) and Danilo P. Rašković (SASA Life and work of Serbian Scientists – Tenth volume) and Tatomir P. Andjelić (CD – 125 anniversary of Mathematical Institute Belgrade), Partial Differential and Integral Equations with Applications (co-authors S. Janković and P. Protić), Analytical Dynamics of Discrete Hereditary Systems (co-author O.A. Goroshko), The Vector Method of the Heavy Rotor Kinetic Parameters Analysis and Nonlinear Dynamics, and other.*

Editor in Chief of the Following Journals: *Facta Universitatis* (1990-2001), *Facta Universitatis Series Mechanics, Automatic Control and Robotics*, University of Niš (1991- 2009 ), and Editor of a number of Scientific Proceedings and ANN Monograph Advances in Nonlinear Sciences (Vol. 2, 2008)..

Member of Editorial Board of the following Journals: *International Journal of Nonlinear Sciences and Numerical Simulations*, Freund Publishing House LTD ( od 1999-), *Facta Universitatis Series Living and Working Environmental Protection*, University of Niš (2001- ), *Nauka Tehnika Bezbednost* (Science Technique Security), Institut bezbednosti, Beograd (2001- 2005) , *J. Mathematical Problems in Engineering*, Hindawi Press (2004-), *Journal of Non-Linear Modeling in Science and Engineering*, <http://www.demon.co.uk/cambsci/ijnms.html>, Scientific Technical Review SA (2006-) and other.

Referee of *Zentralblatt für Mathematik und ihre Grenzgebiete Berlin* (more than 100 reviews) and 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, *Acta Mechanica Sinica*, JVS, *Journal of Solid and Structures*, *Nonlinear Dynamics*, *J. Of Nonlinear Mechanics*, The Proceedings of Shanghai International Symposium on Nonlinear Science & Applications'03, as a special issue of *International Journal of Bifurcation & Chaos* published by World Scientific Co., *Archive of Applied Mechanics - Manuscript Central Account Info (SY-23)*-Springer, *Workshop Preprints/Proceedings No 2004-1 IFAC workshop on Fractional Differentiation and its Applications FDA 04*, ENSEIRB, Bordeaux France, July 19-21, 2004. *Signal Processing*, Elsevier, ENOC 2005, EuroMech, and other.

**Professors:** *Draginja Nikolić, professor of Mathematics, Professor Dr Ing. Math. Danilo P. Rašković, Academician Yuriy Alekseevich Mitropoljskiy, Academician Tatomir P. Andjelić, Professor dr Dragoslav Mitrinović, Profesasor dr Jurij Korobov and other.*

**Subject Reference:** *Mechanics, Nonlinear Mechanics, Theory of Oscillations, Theory of Elasticity, Elastodynamics, Photoelasticity, Piezoelectricity, Ultrasonics, Electromechanical Systems, Mechanical Engineering, Applied Mathematics, Physical Mathematics; Strength of Materials, Machine Dynamics, Computational Mechanics, Control Motions and Nonlinear Dynamical Systems, Analytical Dynamics, Damage and Fracture Dynamics, Active Structure Dynamical Systems, History and Philosophy of Sciences.*

**Honours and Awards:**

Best graduate student of 1966/67 at Faculty of Mechanical Engineering, and Best graduate student of 1966/67 at University of Niš.

Best Thesis of Bachelor's (Master) degree at Yugoslav Faculties of Engineering, 1967.

**Fact:** *For period of 33 years (from 1960 to 1993) between students at Mechanical Engineering Faculty University of Niš K. (Stevanović) Hedrih is student whit best examine evaluations (9,67) and all exams in first examination term.*

Member of the Olympic Team of Yugoslavia at International Mathematical Olympiad in Vroclav Poland (1963)

“*Štafeta mladosti*” in 1969 and **Gold Watch Prize-present of Yugoslav President** with Signature Tito, 1969.

Medallion (Plague)“*Archimed*” and Charter 2007 of Scientific-Technical Institute of Serbian Army for scientific work.

Prize *Saint Volodimir (Nagrada Svatoga Volodimira)* for 2010 of Ukrainian Higher Education Academy of Sciences

Medallion (Plague) and Charter 2008 of Cankaya University, Ankara, Turkey for Scientific advances in ***IFAC FDA Workshop Fractional differentiation and Applications.***

Medallion (Plague) and Charter 2010 of Cankaya University, Ankara, Turkey for Scientific advances in ***International Conference Nonlinear Sciences and Complexity – NSC 2010.***

Gold Medallion of Faculty of Mechanical Engineering of Niš.1985,  
Medallion of Faculty of Mechanical Engineering of Niš for First Postgraduate Student – First Magistar of Technical Science (Mechanics) 1995.

Prize of Local Editorial Zentralblatt Belgrade 1999;

First Prize of the Yugoslav Association of Pedagogues for Pedagogical Critique 2000;

*Short lectures at Scientific Congresses and Symposiums approximately 200; Invited Scientific Lectures at Scientific Congresses and Symposiums, and Seminars: approximately 50. Invited Plenary and Keynote Lectures more then 20.*

*Supervisor of Doctor of Technical Sciences Theses 8; Supervisor of Magister of Technical Sciences Theses 10; Member of scientific commissions for evaluations of scientific levels and defense of Doctor of Technical Sciences Theses 26 and of Magister of Technical Sciences Theses 27; Supervisor of graduated student (equivalent to Master degree now) works 10 and member of commissions for defense more then 100.*

*Scientific Project Leader 7 in area of basic sciences (Mechanics) and each with duration of 5 years and Scientific Sub Project Leader 3 supported by Ministry of Science; Researcher at Projects of Technology 5; Professional Projects in Mechanical Engineering (Project Leader (4) or Research (3)). Scientific Papers in International and National Journals and Chapters in Books: approximately 90, and total approximately more then 300.*

***Scientific Visits and participation in the Seminars or international Scientific Meetings*** : multiple visits to Ukraine-Kiev, Lvov and Kharkov (1969, 1970, 1996, 1998, 2001, 2003), Russia-Moscow State University and Institute on Mechanics as well as Institute of Control and Institute of Mechanical Engineering Problems in Russia (1995, 97, 98, 2000, 2002, 2005, 2007, 2008), Poland- University of Cracow, Warsaw and Poznanj and Lodz (1963, ..... 1999, 2001, 2003, 2005, 2007, 2009), Germany GAMM ....., England (1993, 2003), Byelorussia, University of Waterloo, (1989), Canada, Institute of Technology Rochester (1989), Cornell University (1989) USA., Israel Institute of Technology (1992), Technical University of Athens (1997), Shanghai University China (1998, 2002), Poland Technical University Lodz (2000), Technical University of Denmark, Lyngby, Copenhagen Denmark (1977, 1999), Tsukuba University and Tensor Society Japan (2002), M.C. Chaki Centre for Mathematics and Mathematical Sciences, Calcutta, India, 2003, University of Kalyani, India, 2003., University La Sapienza Roma IUTAM (2003), Romania Politehnika Timisoara (2002), Technical University of Wien (2003), Greece Aristotelian University Tessaloniki (2003), Tianjin University China 2004, University of Ljubljana (2002), ENSEIRB Bordeaux 2004, WCNA Orlando 2004, University of Luisiana, Lafayette USA 2006, University Otto von Geuricke 2004., Politehnika Warsaw 2004, University of Luxembourg 2005, ..... ICTAM Adelaide, Australia 2009, Porto 2008, Lisabon Portugal 2009, Brasil 2010, Virginia Tech 2010, University in Hagzhou 2010.)

Prof. Dr K. (Stevanović) Hedrih has been further honored with inclusion in Who's Who in Serbia and as a fellow of the American Biographical Institute Research Association. The American Biographical Institute also named her "Woman of the Year" for 1997, with biographical listings in Five Thousand Personalities of the World and the International Directory of Distinguished Leadership. International Directory of Distinguished Leadership (by the Editorial Board ABI)- Eighth Edition 1998. Member of the ABI's Research Board of Advisors -RBA 1998. Distinguished biography of the MILLENNIUM HALL OF FAME 1998- ABI. (Hall of Fame Testimonial Plaque). 2000 Millennium MEDAL OF HONOR - ABI 1998. ABI - American Biographical Institute - Research Fellow Recognition 1996 - 24K gold-plated coin engraved ABI Research Fellow. K. Hedrih is listed in the Directory of the European Research and Development and the Who's Who in European Research and Development 2003. 2000 Outstanding People if the 20th Century - Incorporating the Outstanding Achievement Awards, International Biographical Center Cambridge, CB2 3QP, England.(1998)  
IBC

#### ***Professional Career:***

Assistant, Faculty of Mechanical Engineering, University of Niš, (1968-1975)

Assistant Professor, Faculty of Mechanical Engineering, University of Niš, (1975-1981)

Associate Professor, Faculty of Mechanical Engineering, University of Niš, (1981-1985)

Full Professor, Faculty of Mechanical Engineering, University of Niš, (1986-....)

Full Professor – Scientific Research Full Professor at Mathematical Institute SANU Belgrade (2009-...)

Full Professor on Mechanics at Technical Faculty in Bor University of Belgrade (1986-1989)

Full Professor on Theory of Vibrations Mechanical Engineering University of Priština (1994-)

Elected for Full Professor on Mechanics at Faculty of Technical Academy of Yugoslav National Army (1998)

**Head of the Chair for Mechanics (1977-1979, 1981-1983, 1986-2004)**

Vice-dean of Faculty of Mechanical Engineering University of Niš (1978-1980).

Seminar Leader: Theoretical and Applied Mechanics at Faculty of Mechanical Engineering University of Niš (1976-2005) and Seminar Nonlinear Dynamics – Milutin Milanković (2005-2009).

No

Project Leader in area of Mechanics at Mathematical Institute SANU - Belgrade (1990 - .....);

Project leader in area of Mechanical Engineering and Mechanics at Faculty of Mechanical Engineering University of Niš (1976 – 1995, 2001-2005, 2006-2010);

Expert of Yugoslav Ministry of Sciences, Technology and Development in area 1111 Mathematics, 1113 Physics and 1223 Mechanical Engineering.

President of Organizing Committee and Member of Scientific Committee of XXI Yugoslav Congress of Theoretical and Applied Mechanics Niš 1995 and XXII Yugoslav Congress of Theoretical and Applied Mechanics Vrnjačka Banja 1997; Symposium of Serbian Society of Mechanics "Nonlinear Problems in Mechanics" Arandjelovac 1983; "YUGOSLAV CONFERENCE ON NONLINEAR DETERMINISTIC AND STOCHASTIC PROCESSES IN DYNAMICAL SYSTEMS WITH APPLICATIONS" Niš 1991;; Minisymposium "Nonlinearity and Chaos in Engineering Dynamics" Niš 1995., The Fifth Symposium on Nonlinear Mechanics – The Nonlinear Sciences at the Threshold of Third Millennium Niš 2000.

Member of Governing Board of Mathematical Institute SANU Beograd (1994).

**SPISAK RADOVA**

**Katice R. (Stevanovic) Hedrih  
u periodu 2005-2010**

**(List of Selected Papers – Period 2005-2010)**

**I. Radovi publikovani u časopisima za period 2005-2010 godina**

(sa ISSN brojevima, kao i sa i bez impact faktora)

**I. List of Papers published in Scientific Journals with categorization )**

**2010.**

1\* Hedrih (Stevanović) K., Optimal control in nonlinear system with no ideal constraints, Commun Nonlinear Sci Numer Simulat, journal homepage: [www.elsevier.com/locate/cnsns](http://www.elsevier.com/locate/cnsns), CNSNS 1579 No. of Pages 13, Model 3G

[Optimal control in nonlinear system with no ideal constraints](#), *Communications in Nonlinear Science and Numerical Simulation*, *In Press, Accepted Manuscript*, Available online 6 May 2010,

Katica R. (Stevanović) **Hedrih**

 [Preview](#)  [PDF \(574 K\)](#) | [Related Articles](#) (Science Direct)

(Stevanović) Hedrih KR. Optimal control in nonlinear system with no ideal constraints. Commun Nonlinear Sci Numer Simulat (2010), doi:10.1016/j.cnsns.2010.04.053

**ISSN 1007-5704**

**M23=3**

2\* Hedrih (Stevanović) K., Simonović J. D., *Non-linear dynamics of the sandwich double circular plate system*, Int. J. Non-Linear Mech. (2010), doi:10.1016/j.ijnonlinmec.2009.12.007

International Journal of Non-Linear Mechanics 2009. 12. 007.

[Non-linear dynamics of the sandwich double circular plate system](#),

*International Journal of Non-Linear Mechanics*, *In Press, Corrected Proof*, Available online 4 January 2010

Katica R. (Stevanović) **Hedrih**, Julijana D. Simonović

 [Preview](#)  [PDF \(1676 K\)](#) | [Related Articles](#) (Science Direct)

K.R.(Stevanović) Hedrih, J.D.Simonović, Non-linear dynamics of the sandwich double circular platesystem, Int. J.Non-Linear Mech. (2010), doi:10.1016/j.ijnonlinmec.2009.12.007

**ISSN 0020-7462**

**M21=8**

**IF= 1.716**

3\* Katica R. (Stevanovic) Hedrih and Vera Nikolic-Stanojevic, **A MODEL OF GEAR TRANSMISSION: FRACTIONAL ORDER SYSTEM DYNAMICS**, (Research Article), Mathematical Problems in Engineering, Received 24 January 2010; Revised 2 March 2010; Accepted 6 May 2010.  
(<http://www.hindawi.com/journals/mpe/aip.972873.html>)  
<http://www.hindawi.com/journals/mpe/aip.6.html>

**ISSN 1024-123x**      **M23=3**      **IF =0.553**

4\* Hedrih (Stevanović) K., Vibrations of a Heavy Mass Particle Moving along a Rough Line with Friction of Coulomb Type, ©Freund Publishing House Ltd., International Journal of Nonlinear Sciences & Numerical Simulation 10(11): 1705-1712, 2009  
[http://www.freundpublishing.com/International\\_Journal\\_Nonlinear\\_Sciences\\_Numerical%20Simulation/Mat\\_hPrev.htm](http://www.freundpublishing.com/International_Journal_Nonlinear_Sciences_Numerical%20Simulation/Mat_hPrev.htm)

K.R. (Stevanović) Hedrih, Vibrations of a Heavy Mass Particle Moving along a Rough Line with Friction of Coulomb Type, International Journal of Nonlinear Sciences and Numerical Simulation, Vol. 11, No.3 March 2010, pp. 203-210.

**ISSN 1565-1339**      **M21=8**      **IF= 8.479**

5\* Hedrih (Stevanović) K., Hedrih A. N., Eigen modes of the double DNA chain helix vibrations has been qualified for publication in Journal of Theoretical and Applied Mechanics (JTAM), no. 1, vol. 48, 2010., pp. 219-231

**ISSN 1429-2955**      **M23=3**

6\* Hedrih (Stevanović K., Tensor equations of discrete dynamically defined and undefined systems with hereditary and creep light elements, Analele Stiintice Ale Universitatii "Alexandru Ioan Cuza" Din (ASI (S.N) Matematica -Scientific Annals of "Al.I. Cuza" University of Iasi, Matematica, Tom XCI, 2010, f. 1, pp. 131-149.

**ISSN 1221-8421**      **M23=3**

7\* Hedrih (Stevanović) K., Raičević V., Jović S., Vibro-impact of a Heavy Mass Particle Moving along a Rough Circle with Two Impact Limiters, ©Freund Publishing House Ltd., International Journal of Nonlinear Sciences & Numerical Simulation 10(11): 1713-1726, 2009

[http://www.freundpublishing.com/International\\_Journal\\_Nonlinear\\_Sciences\\_Numerical%20Simulation/Mat\\_hPrev.htm](http://www.freundpublishing.com/International_Journal_Nonlinear_Sciences_Numerical%20Simulation/Mat_hPrev.htm)

K.R. (Stevanović) Hedrih, V. Raičević, S. Jović, Vibro-impact of a Heavy Mass Particle Moving along a Rough Circle with Two Impact Limiters, International Journal of Nonlinear Sciences and Numerical Simulation, Vol. 11, No.3 March 2010, pp. 211-223.

**ISSN 1565-1339**      **M21=8**      **IF= 8.479**

8\* Camelia Frigioiu, Katica (Stevanovic) Hedrih - On the Geometrization of the Rheonomic Lagrangian Mechanical Systems Analele Universit\_ at\_ ii Oradea, Fasc. Matematica, Tom XVII (2010), Issue No. 1, 89-97

**ISSN 1221 – 1265**      **M24=3**

## 2009

9\* Hedrih (Stevanović) K., Energy transfer in the hybrid system dynamics (energy transfer in the axially moving double belt system), Special Issue, **ARCHIVE OF APPLIED MECHANICS**, DOI 10.1007/s00419-008-0285-7. Archive of Applied Mechanics, (2009) vol.79, No.6-7 pp. 529-540.

<http://www.springerlink.com/nainfo.nbs.bg.ac.yu.2048/content/2081u5426316886m/>

<http://nainfo.nbs.bg.ac.yu.nainfo.nbs.bg.ac.yu.2048/Kobson/service/jcr.aspx?ISSN=0939-1533>

**ISSN 0939-1533**      **M23=3**      **IF= 0.993**

10\* Hedrih (Stevanović K., Main chains and eigen modes of the fractional order hybrid multipendulum system dynamics, **IOP PUBLISHING PHYSICA SCRIPTA**, vol. T136, Phys. Scr. 78 (2008) 000000 (12pp) doi:10.1088/0031-8949/78/8/000000

<http://www.iop.org/EJ/journal/1402-489>

**ISSN 0031-8949**      **M23=3**      **IF= 1.088**

11\* Hedrih (Stevanović) K., Jović S., Models of Technological Processes on the Basis of Vibro-impact Dynamics, Scientific Technical Review, Vol.LIX,No.2,2009,pp.51-72.

**YU ISSN 1820-0206**      **M51=2**

## 2008

12\* Hedrih (Stevanović K., Energy analysis in a nonlinear hybrid system containing linear and nonlinear subsystems coupled by hereditary element (Article ), **NONLINEAR DYNAMICS** , (2008 ) vol.51 br.1-2 str. 127 - 140. DOI 10.1007/s11071-007-9197-2  
ISSN 0924-090X (Print) 1573-269X , (Online), [Volume 51, Numbers 1-2 / January, 2008](#), pp. 127-140. DOI 10.1007/s11071-007-9197-2, SpringerLink Date, Tuesday, January 30, 2007.

<http://www.springerlink.com.nainfo.nbs.bg.ac.yu:2048/content/rg2302474v1ru044/>  
<http://nainfo.nbs.bg.ac.yu.nainfo.nbs.bg.ac.yu:2048/Kobson/service/jcr.aspx?ISSN=0924-090X>  
**ISSN 0924-090X M21=8 IF = 1.758**  
**ISSN 0924-090X (Print) 1573-269X , (Online)**

13\* Hedrih (Stevanović K., Transversal forced vibrations of an axially moving sandwich belt system, *Archive of Applied Mechanics*, Springer, (2008) vol.78 br.9 str. 725-735

<http://www.springerlink.com.nainfo.nbs.bg.ac.yu:2048/content/2081u5426316886m/>  
<http://nainfo.nbs.bg.ac.yu.nainfo.nbs.bg.ac.yu:2048/Kobson/service/jcr.aspx?ISSN=0939-1533>  
**ISSN 0939-153 M23=3 IF= 0.825**

14\* Hedrih (Stevanović K. and Simonović J., Transversal Vibrations of a Double Circular Plate System with Visco-elastic Layer Excited by a Random Temperature Field, *International Journal of Nonlinear Sciences and Numerical Simulation*, 2008, Vol. 9, No.1, pp.47-50. <http://www.ijnsns.com/2008/TOC9.1.doc>

<http://nainfo.nbs.bg.ac.yu.nainfo.nbs.bg.ac.yu:2048/Kobson/service/jcr.aspx?ISSN=1565-1339>  
**ISSN 1565-1339 M21=8 IF= 8.479**

15\* Katica (Stevanović) Hedrih, (2008), Energy transfer in double plate system dynamics, **Acta Mechanica Sinica**, Volume 24, Number 3 / June, 2008, pp. 331-344, DOI 10.1007/s10409-007-0124-z, Springer Berlin / Heidelberg, ISSN (567-7718 (Print) 1614-3116 (Online),

<http://www.springerlink.com.nainfo.nbs.bg.ac.yu:2048/content/rg2302474v1ru044/>  
<http://www.springerlink.com.nainfo.nbs.bg.ac.yu:2048/content/248380442p246217/>  
**ISSN 0567-7718 M22=5 IF=0.939**

16\* Katica (Stevanović) Hedrih, (2008), Energy interaction between linear and nonlinear oscillators (Energy transient through the subsystems in the hybrid system), *ISSN 1027-3190. Ukr. mat. Őurn.*, 2008, t. 60, # 6, pp. 796-814.

<http://springerlink.com/content/5717572370176j67/>  
<http://nainfo.nbs.bg.ac.yu.nainfo.nbs.bg.ac.yu:2048/Kobson/service/ElecasDet.aspx?ID=34971&ISSN=0041-5995>  
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**ISSN 1027-3190**

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Kongres Internacionalne unije teorijske i primenjene mehanike **IUTAM ICTAM** se održava jednom u četiri godina i selekcija radova je veoma stroga. Oko 50% se odbija, a mali broj dobije priliku da usmeno predstavi svoje rezultate, u većini su to poster i sa 3 minuta prikaza.

U okviru **IUTAM ICTAM** Adelaide 2008, Katica R. (Stevanović) Hedrih održala je "Session Lecture" u trajanju od 20 minuta uključujući i diskusiju, u okviru sekcije Oscilacije struktura - SM19 :: Structural vibrations, u kojoj su predsedavali Co-chairs: *Marian Wiercigroch* (UK) and *Pedro Ribeiro* (Portugal).

Kategorizacija učešća u ICTAM sa orlnim kratkim predavanjem može se smatrati velikim priznanjem naučne rezultate, posebno, kada istraživač dolazi iz male zemlje, koja nije velesila u nauci, kakva je Srbije.

Naziv predavanja je:

**Katica R. (Stevanović) Hedrih (August 29, 2008, Fri-11:20-B)**

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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.*

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.*

Hedrih (Stevanović), K. (2006), TENSOR EQUATIONS OF THE DYNAMICS OF THE DISCRETE SYSTEMS WITH HEREDITARY AND CREEP LIGHT ELEMENTS, 9<sup>th</sup> International Conf. of TENSOR 2006., THE 9<sup>th</sup> INTERNATIONAL CONFERENCE OF TENSOR SOCIETY ON DIFFERENTIAL GEOMETRY, FUNCTIONAL&COMPLEX, INFORMATICS AND THEIR APPLICATIONS, Japan, Sept. 4-8, 2006. *Tensor Society. 30.minutno predavanje po pozivu.*

Hedrih (Stevanović) K. and Simonović, J., (2006), *Characteristic Eigen Numbers and Frequencies of the Transversal Vibrations of Sandwich System*, SEECCM 06 –First South-East European Conference on Computational Mechanics, Proceedings, Editors – M. Kojic and M Papadrakakis, Kragujevac, pp. 90-94. + CD. <http://www.seeccn.kg.ac.yu>. ISBN 86-81037-13-7, COBISS.SR-ID 131758092, udc 531/533(082)

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)

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>

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

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.

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.

## 2005.

Katica (Stevanović) Hedrih, *Transversal vibrations of the axially moving sandwich belts , Invited Lecture – 40 minutes, ISRAMES December 2-4, 2005. Kalyani, West Bengal, India. The International Symposium on "Recent Advances in Mathematical Sciences and Earth Sciences" 2nd to 4th December 2005. Department of Mathematics, University of Kalyani.*

*Katica (Stevanović) Hedrih: Measurements of dynamical systems integrity and fracture mechanics, Invited plenary lecture, ISUMEL 2005 Lviv, Ukraine, 7-й МІЖНАРОДНИЙ СІМПОЗИУМ УКРАЇНСЬКИХ ІНЖЕНЕРІВ-МЕХАНІКІВ У ЛЬВОВІ, (МСУІМЛ — 7), 18 — 20 травня 2005 р., Присвячений 160-річчю Національного університету „Львівська політехніка”*

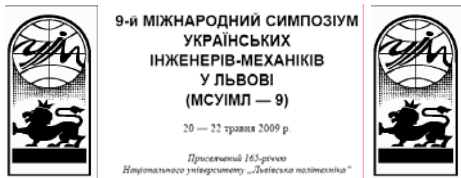
**VII\* Plenarna prefavanja ili predavanja po pozivu na naucnim skupovima štampani u apstraktu ili u celini  
(Plenary Lecture, Invited Lecture or Keynote Lecture presented at scientific meetings and published as Abstract of paper or full paper)**

**2010.**

Hedrih (Stevanović) K., (2010), Discontinuity of kinetic parameter properties in nonlinear dynamics of mechanical systems, **Keynote Invited Lecture**, 9th Brazilian Conference on Dynamics, Control and Their Applications - 9<sup>o</sup> Congresso Temático de Dinâmica, Controle e Aplicações, June 07-11, 2010. UneSP, Sao Paulo (Serra negra), Brazil, Technical Program and Booklet of Abstracts, DINCON 2010, FUNUNeSP, Chair: pp. 14, Abstrac pp. 26  
<http://www.rc.unesp.br/igce/demac/dincon2010/instrucao.php>

**2009.**

**9th Internationa Symposium Ukrainian Mechanical Engineers Lvov 2009 – ISUMEL 2009**



Član Naučnog odbora i učesnik sa plenarnim predavanjem.

**Održana predavanja**

*Invited Plenary Lecture (45 minuta)- plenarno predavanje po pozivu u "Aktavom zalu" Lvovske politehnike.*

1\* *Katica (Stevanović) HEDRIH, (2009), Main chains and eigen modes of the hybrid homogeneous fractional order multichain system, Invited Plenary Lecture (45 minuta), Proceedings of 9th International Symposium Ukrainian Mechanical Engineers Lvov 2009 – ISUMEL 2009, Ministarstvo obrazovanja i nauke Ukraine, Lvov Polztechnique, Naukoviz žurnal "Mashonoznanstvo", ISBN 078-966-06-8, pp. 6-8.*

Minisymposium Keynote Lecture:

Katica (Stevanović) Hedrih, Free and forced vibration of the heavy material particle along line with friction: Direct and inverse task of the theory of vibrorheology, 7<sup>th</sup> EUROMECH Solid Mechanics Conference, J. Ambrósio et.al. (eds.), Lisbon, Portugal, September 7-11, 2009, ESMC 2009 Book of Abstracts "Mini Symposia, izdanje Instituto Superior Tecnico, Lisbon, APMTAC, 2009, pp. 597-598, ISBN 9789899 626423

Katica (Stevanović) Hedrih, Free and forced vibration of the heavy material particle along line with friction: Direct and inverse task of the theory of vibrorheology, Booklet of Abstracts - ESMC Lisbon 2009, Minisymposium Keynote Lecture, Minisymposium MS-24-Kinetics, Control and Vibrorheology - KINCONVIB – 2009, Faculty of Mechanical Engineering University of Niš, pp. 51-52.  
**ISBN 978-86-80587-94-3 COBISS.SR – ID 169182988 BarCod 9-788680-58794-3**

**2008.**

*Katica (Stevanović) HEDRIH, (2208), Dynamically determined and undetermined hereditary discrete systems (External and internal degrees of freedom in the hybrid hereditary dynamics ), Invited Lecture-Key note Lecture, The Euromech Colloquium 498 Nonlinear Dynamics of Composite and Smart Structure (NDCS) -Nonlinear Dynamics and Chaos of Composite and Smart Structures (NDCS), May 21-23, 2008, Kazimierz Dolny, POLAND. Lublin 2008, pp. 29-39.*

Katica (Stevanović) Hedrih, Mathematical analogy between hybrid system dynamics, 45 minutes Invited Plenary Lecture, Book of Extended Abstracts, Edited by Alexander M. Kovalev (IAMM NASU, [kovalev@iamm.ac.donetsk.ua](mailto:kovalev@iamm.ac.donetsk.ua)), 10<sup>th</sup> International Conference "Stability, Control and Rigid Bodies Dynamics" Donetsk (Ukraine), June 2008, pp. 125-127.

## 2007.

Hedrih (Stevanović), K., (2007), *Hybrid Systems and Hybrid Dynamics: Theory and Applications*, **Invited Plenary Lecture**, 8<sup>th</sup> 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.

Hedrih (Stevanović), K., *Hybrid System Dynamics*, Proceedings, Invited Lecture, First International Congress of Serbian Society of Mechanics, Editors: D. Šumarac and D. Kuzmanović, Srpsko društvo za mehaniku, 10-13, April, 2007, pp. 79-84. <http://www.ssm.org.yu/congress2007/authors.html>

Goroško O. A. and Hedrih (Stevanović) K., Advances in development of the analytical dynamics of the hereditary discrete systems, Key Note Lecture, Minisymposium, Booklet of Abstracts - IDND 2007 – Analytical Dynamics of Discrete Hereditary System, pp. 27-34.

Goroshko O.A. and Hedrih (Stevanović), K., (2007), Construction of the Lagrange mechanics of the hereditary systems, Minisymposium Opening Minisymposia Lecture of the International Summer School APM – Advanced Problem in Mechanics- Integrity of Dynamical Systems, Saint Petersburg 2007., in Booklet of Abstracts - IDND 2007 – Analytical Dynamics of Discrete Hereditary System, Shanghai 2007, pp. 63-84.

Hedrih (Stevanović), K., (2007), *Tensor equations of the dynamics of the discrete systems with hereditary and creep light elements*, Conference on Differential Geometry, Lagrange and Hamilton Spaces. Dedicated to Acad. Radu Miron at his 80<sup>th</sup> anniversary, 2007, A.I.Cuza, University, Faculty of Mathematics, Iasi, Romania.. Book of Abstracts, pp. 18-22.

Hedrih (Stevanović), K., Hybrid System Dynamics, Proceedings, First International Congress of Serbian Society of Mechanics, Editors: D. Šumarac and D. Kuzmanović, Srpsko društvo za mehaniku, 10-13, April, 2007, pp. 79-84.

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, Book of Abstracts, pp. 7-8.

## 2006.

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.

Hedrih (Stevanović), K. (2006), TENSOR EQUATIONS OF THE DYNAMICS OF THE DISCRETE SYSTEMS WITH HEREDITARY AND CREEP LIGHT ELEMENTS, 9<sup>th</sup> International Conf. of TENSOR 2006., THE 9<sup>th</sup> INTERNATIONAL CONFERENCE OF TENSOR SOCIETY ON DIFFERENTIAL GEOMETRY, FUNCTIONAL & COMPLEX, INFORMATICS AND THEIR APPLICATIONS, Japan, Sept. 4-8, 2006. *Tensor Society. 30. minutno predavanje po pozivu.*

Katica R. (Stevanović) Hedrih, DYNAMICS OF SANDWICH STRUCTURES (DINAMIKA SENDVIČ STRUKTURA), Invited Plenary Lecture, Međunarodne 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.

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.*

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.*

## 2005.

Katica (Stevanović) Hedrih, *Transversal vibrations of the axially moving sandwich belts , Invited Lecture – 40 minutes, ISRAMES December 2-4, 2005. Kalyani, West Bengal, India. The International Symposium on "Recent Advances in Mathematical Sciences and Earth Sciences" 2nd to 4th December 2005. Department of Mathematics, University of Kalyani.*

*Katica (Stevanović) Hedrih: Measurements of dynamical systems integrity and fracture mechanics, Invited plenary lecture, ISUMEL 2005 Lviv, Ukraine, 7-й МІЖНАРОДНИЙ СІМПОЗИУМ УКРАЇНСЬКИХ ІНЖЕНЕРІВ-МЕХАНІКІВ У ЛЬВОВІ, (МСУІМЛ — 7), 18 — 20 травня 2005 р., Присвячений 160-річчю Національного університету „Львівська політехніка”*

## VIII\* Član naučnog odbora internacionalnih aucnih skupova ili organizator minisimpozijuma

*(Member of Scientific Committee of interantional scientific meetings and organizer of Minisymposia included in the Program of interantional scientific meetings )*

## 2010.

\* M11-Minisymposia Kinetics, Control and Vibrorheology at ICDVC-2010- The Third International Conference on Dynamics, Vibration and Control, 12-14 May 2010, Hangzhou,, China, Chinese Society of Theoretical and Applied Mechanics, 2010. <http://saa.zju.edu.cn/icdvc2010/>

Član Naučnog odbora i organizator Minisimpozijuma

*Member of Scientific Committee of interantional scientific meeting and organizer of Minisymposia included in the Program.*

\*The 3rd INTERNATIONAL CONFERENCE "NONLINEAR DYNAMICS - 2010", at the NATIONAL TECHNICAL UNIVERSITY, "KHARKOV POLYTECHNICAL INSTITUTE", KHARKOV, UKRAINE, the 3rd ND-KhPI 2010 , the Nonlinear Dynamics Conference, from 21 until 24 September, 2010

Član Naučnog odbora.

*Member of Scientific Committee of interantional scientific meeting.*

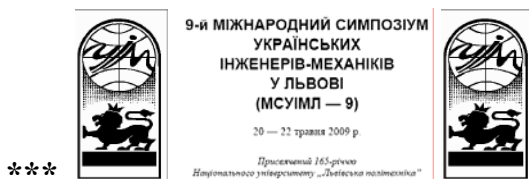
\* "3rd Conference on Nonlinear Science and Complexity" (NSC10), Cankaya University, Ankara, Turkey in the period of 26 - 29 July, 2010.

<http://nsc10.cankaya.edu.tr/index.php>



Član Naučnog odbora.  
*Member of Scientific Committee of international scientific meeting.*

## 2009.



9th International Symposium Ukrainian Mechanical Engineers Lvov 2009 – ISUMEL 2009, Ministerstvo obrazovanva i nauke Ukraine, Lvov Polztechnique, Naukoviz žurnal "Mashonoznanstvo", ISBN 078-966-06-8.

Član Naučnog odbora i učesnik sa plenarnim predavanjem.  
*Member of Scientific Committee of international scientific meeting and Plenary Lecturer.*

\*10<sup>th</sup> Conference on Dynamical Systems – Theory and Applications, Proceedings, DSTA Lodz 2009, Lodz, December 7-10, 2009, Poland, Department for Automatic and Biomechanics, Lodz, (see Proceedings - ISBN 978-83-929120-4-0, Vol. I and II).

Član Naučnog odbora.  
*Member of Scientific Committee of international scientific meeting.*

\* Minisymposium MS-24-Kinetics, Control and Vibrorheology - KINCONVIB - 2009, European Society of Mechanics, Instituto Superior Tecnico - Lisbon and Mechanical Engineering Faculty in Niš - Project ON144002 - Seminar Nonlinear Dynamics - Milutin Milanković and MATHEMATICAL INSTITUTE SANU, Project ON144002, 2009.

**ISBN 978-86-80587-94-3 COBISS.SR – ID 169182988 BarCod 9-788680-58794-3**

Organizator minisimpozijuma.  
*Organizer of Minisymposia included in the Program.*

## 2008.

\*The Euromech Colloquium 498 Nonlinear Dynamics of Composite and Smart Structure (NDCS) - Nonlinear Dynamics and Chaos of Composite and Smart Structures (NDCS), May 21-23, 2008, Kazimierz Dolny, POLAND. Lublin 2008, pp. 29-39.

Član Naučnog odbora i plenarno predavanje po pozivu.  
*Member of Scientific Committee of international scientific meeting and Invited Lecture-Key note Lecture.*

## 2007.

\* APM Saint Petersburg 2007 pp., Minisymposium, The International Summer School APM – Advanced Problem in Mechanics, Saint Petersburg 2007., pp. 133-156.

APM 2007 – *Minisymposium Integrity of Dynamical Systems – organized by 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*

**ISBN 86-80587-67-2 COD 9 7886 80587677, BarCod 9 7886 80587677**

Organizator minisimpozijuma po pozivu.

*Invited organizer of Minisymposia included in the Program.*

\* First International Congress of Serbian Society of Mechanics, Editors: D. Šumarac and D. Kuzmanović, Srpsko društvo za mehaniku, 10-13, April, 2007, pp. 79-84.  
<http://www.ssm.org.yu/congress2007/authors.html>

Član Naučnog odbora i plenarno predavanje po pozivu.

*Member of Scientific Committee of interantional scientific meeting and Invited Lecture-Key note Lecture.*

\* IDND 2007 – *Analytical Dynamics of Discrete Hereditary Systems – Organized by Katica (Stevanović) Hedrih, Izdavač Mašinski fakultet u Nišu zam - Minisymposia - Analytical mechanics of the hereditary discrete systems*

Second International Symposium on Nonlinear Dynamics, 27-30 Oct., 2007, Shanghai, Donhua University, China, p-198. ISBN 978 – 86 – 80587 – 72 – 1 COBISS.SR – ID 144265740. BarCod 9 788680 56772 1  
<http://www.2007isnd.com/>

**ISBN 978 – 86 – 80587 – 72 – 1 COBISS.SR – ID 144265740. BarCod 9 788680 56772 1**

Organizator minisimpozijuma po pozivu.

*Invited organizer of Minisymposia included in the Program.*

\* *Minisymposium - Integrity of Dynamical Systems- ECF16, Organized 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. COBISS. SR - ID 130756620. UDK 531:01 /048); 530:182(048); 530:42 (048); 53:005.745 (100).*

**ISBN 86-80587-57-5.**

**BarCod 9 788680 587578. COBISS. SR - ID 130756620**

Organizator minisimpozijuma po pozivu.

*Invited organizer of Minisymposia included in the Program.*

## 2006.

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.

*Member of Scientific Committee of interantional scientific meeting.*

## 2005.

Katica (Stevanović) Hedrih, *Transversal vibrations of the axially moving sandwich belts , Invited Lecture – 40 minutes, ISRAMES December 2-4, 2005. Kalyani, West Bengal, India. The International Symposium on "Recent Advances in Mathematical Sciences and Earth Sciences" 2nd to 4th December 2005. Department of Mathematics, University of Kalyani.*

Član Naučnog odbora.

*Member of Scientific Committee of interantional scientific meeting.*

*Katica (Stevanović) Hedrih: Measurements of dynamical systems integrity and fracture mechanics, Invited plenary lecture, ISUMEL 2005 Lviv, Ukraine, 7-й МІЖНАРОДНИЙ СИМПОЗИУМ УКРАЇНСЬКИХ ІНЖЕНЕРІВ-МЕХАНІКІВ У ЛЬВОВІ, (МСУІМЛ — 7), 18 — 20 травня 2005 р., Присвячений 160-річчю Національного університету „Львівська політехніка”*

Član Naučnog odbora.

*Member of Scientific Committee of interantional scientific meeting.*

## **IX. Učešće u vodećem naučnom kongresu IUTAM ICTAM u oblasti teorijske i primenjene mehanike u svetu (period 2005-2010)**

Kongres Internacionalne unije teorijske i primenjene mehanike **IUTAM ICTAM** se održava jednom u četiri godina i selekcija radova je veoma stroga. Oko 50% se odbija, a mali broj dobije priliku da usmeno predstavi svoje rezultate, u većini su to posteri sa 3 minuta prikaza.

U okviru **IUTAM ICTAM** Adelaide 2008, *Katica R. (Stevanović) Hedrih* održala je "Session Lecture" u trajanju od 20 minuta uključujući i diskusiju, u okviru sekcije Oscilacije struktura - **SM19 :: Structural vibrations**, kojom su predsedavali Co-chairs: *Marian Wiercigroch* (UK) and *Pedro Ribeiro* (Portugal).

Kategorizacija učešća u ICTAM sa orlnim kratkim predavanjem može se smatrati velikim priznanjem naučne rezultate, posebno, kada istražrač dolazi iz male zemlje, koja nije velesila u nauci, kakva je Srbije.

Naziv predavanja je:

*Katica R. (Stevanović) Hedrih (August 29, 2008, Fri-11:20-B)*

**Phenomenological mapping method and mathematical analogy of hybrid system dynamics**, XXII International Congress of Theoretical and Applied Mechanics Abstracts Book, Edited by J. Dernier, M.D. Fim and T. Mattner, Adelaide 2008, p. 317, ISSN 978-0-9805142-0-9, p. 317, and CD-ROM ISSN 978-0-9805142-1-6, pp. 10135, 1-2..

(vidi WEB [ictam2008.adelaide.edu.au](http://ictam2008.adelaide.edu.au)).

**X\* U okviru projekta ON144002 radi seminar Nonlinear Dynamics - Milutin Milankovic na Mašinskom fakultetu. Vidi seroju publikaciju: Booklet of Abstracts - Minisymposium and WEB <http://www.mi.sanu.ac.rs/seminars/seminar16.htm>**

## **XI\* Rukovodilac projekata u periodu 2000-2010:**

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

\* **ON1616 Realni problemi mehanike (2001-2005)**

\* **ON1616 Real Problem of Mechanics (2001-2005)**

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

Project Leader: *Katica (Stevanović) Hedrih*

Researchers: *41.*

Researcher months: *approximately 98 months.*

Deo doktorske teze uradio *Ljubiša Perić* a radion na doktorskoj tezi mr *Dragan Jovanović.*

\* **ON1828 Dinamika i upravljanje aktivnih konstrukcija (2001-2005)**

\* **ON1828 Dynamics and Control of active Structures (2001-2005)**

Institution Coordinator: *Faculty of Mechanical Engineering University of Niš*

Project Leader: *Katica (Stevanović) Hedrih*

Researchers: *21*

Researcher months: *approximately months.*

Deo doktorske teze uradio *Ljubiša Perić* a doktorsku tezu radio mr *Dragan Jovanović.*

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

\* **Project ON144002 -Theoretical and Applied Mechanics of the Rigid and Solid Bodies.**

**Mechanics of Materials (2006-2010)**

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

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

Project Leader: *Katica (Stevanović) Hedrih*

Researchers: *38.*

Researcher months: *approximately 136 months.*

*U okviru istraživanja na projektu doktorsku disertaciju završ i odbranio mr Dragan Jovanović.* Magistarske teze uradili i odbranili Julijana Simonović i Srdjan Jović. Sada rade istraživanja za izradu doktorata mr Julijana Simonović, mr Ljiljana Veljović i mr Srdjan Jović (mentor prof dr Vladimir Raičević).

### **XIII\* Mentor odbranjenih doktorskih disertacija i magistarskih teza u periodu 2005-2010.**

Mentor doktorske disertacije *dr Dragan Jovanović:*

**Jovanović D.,** (2009), *Potencijalna energija i stanje napona u materijalu sa prslinom, (Potential energy and stress state in material with crack)*, Doktorska disertacija, (odbrana 10 novembra 1009), Mašinski fakultet u Nišu, str.237.

Mentor magistarske teze *Mr Julijane Simonovic*

**Simonović J.,** (2008), *Dinamika mehaničkih sistema složenih struktura,* magistarski rad odbranjen 8 maj 2008. Mašinski fakultet u Nišu, str. 249.

Serijska konsultacije u izradi magistarske teze istraživaču na projektu ON144002 mr Srdjanu Joviću:

**Јовић С.,** (2009). *Енергијска анализа динамике виброударних система,* магистарски рад, одбрањен 06. Новембра 2009. Факултет техничких наука у Косовској Митровици Универзитета у Приштини, стр. 239.

u saradnji sa mentorom magistarske teze *prof dr Vladimirom Raičevićem,*

### **XIVI\* Članstvo u redakcijama časopisa, uredništvima, naučnim društvima**

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

**1\* Editor in Chief of the Following Journals:**

*Facta Universitatis* (1990-2001) with 13 Series .

<http://facta.junis.ni.ac.rs/>

*Facta Universitatis Series Mechanics, Automatic Control and Robotics,* University of Niš (1991- 2008)

<http://facta.junis.ni.ac.rs/macar/macar.html>

ISSN 0354 – 2009      M24=3    IF =0,371

**2\* Associate Editor (2004-)**

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

(<http://www.hindawi.com/journals/mpe/aip.972873.html>)

<http://www.hindawi.com/journals/mpe/aip.6.html>

<http://www.hindawi.com/journals/mpe/editors.html>

<http://www.hindawi.com/13168039.html>

ISSN 1024-123x      M23=3      IF =0.553

**3\* Member of Editorial Board of the Following Journals:**

*International Journal of Nonlinear Sciences and Numerical Simulations,* ©Freund Publishing House Ltd., (2000-)

<http://www.cs.uky.edu/~jzhang/nsns.html>

<http://www.ijnsns.com/>

[http://www.freundpublishing.com/International\\_Journal\\_Nonlinear\\_Sciences\\_Numerical%20Simulation/Math.htm](http://www.freundpublishing.com/International_Journal_Nonlinear_Sciences_Numerical%20Simulation/Math.htm)

ISSN 1565-1339      M21=8      IF= 8.479

Scientific Technical Review, Vojske Srbije, (2005-) YU ISSN 1820-0206

<http://www.vti.mod.gov.yu/ntp/index.htm>

YU ISSN 1820-0206      M51=2      IF =0,040

*Journal of the Serbian Society for Computational Mechanics (2006- )*

[www.sscm.kg.ac.rs/jsscm/](http://www.sscm.kg.ac.rs/jsscm/)

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

Archive of Applied Mechanics - Manuscript Central Account Info (SY-23)-Springer, (4 recenzije samo u 2006)  
Nonlinear Dynamics, Springer više recenzija  
Workshop Preprints/Proceedings No 2006-2 IFAC workshop on Fractional Differentiation and its Applications FDA  
06, Porto (desetak recenzija)  
The European Union Control Association (32 recenzija u 2006)  
*ESIS European Conference of fracture 2006 (31 recenziju u 2006)*  
*Zentralblatt für Mathematik und ihre Grenzgebiete Berlin* (desetak recenzija u 2006)  
*Facta Universitatis Series Mechanics, Automatic Control and Robotics*, University of Niš (1990-)  
**Mathematical Problems in Engineering**, Hindawi Publishing Corp. <http://www.hindawi.com/>  
Neurosciences letters, Elsevier, Journal of Sound and Vibrations, Elsevier,  
European Polymer Journal, Elsevier,  
FME Transaction, Faculty of Mechanical Engineering University of Belgrade,  
Material Letters, Elsevier,  
Journal Nonlinear Analysis - Theory, Methods and Applications, Series B: Real-world Applications, Pergamon Press,  
Signal Processing, Elsevier,  
Journal of Porous Materials, Springer  
ENOC 2005, EuroMech  
Journal of Nonlinear Mechanics  
Nonlinear Dynamics

and other.

#### **XV\* Članstvo u akademijama nauka i naučnim društvima u kojima se obavlja izbor članova tajnim glasanje na osnovu naučnih rezultata Member of Academy of Sciences and Scientific Societies with elections on the basis of scientific results:**

\* Ukrainian Higher Education Academy of Sciences - Akademija nauka visokih škola i univerziteta Ukrajine ( od 1996-)



[www.anvsu.org.ua](http://www.anvsu.org.ua)

\* Naučno društvo Srbije - Serbian Scientific Society ( 2008- )



**Naučno društvo Srbije**

**Serbian Scientific Society**

<http://www.rcub.bg.ac.rs/~nds/>

<http://www.rcub.bg.ac.rs/~nds/indexe.html>

\* Akademija nelinearnih nauka – Academy of Nonlinear Sciences - Moscow (1997- )

\* Južnoslovenska akademija nelinearnih nauka u Srbiji JANN - SouthSlavian Academy of Nonlinear Sciences – SANS Belgrade (1997- )  
<http://www.masfak.ni.ac.rs/sitegenius/topic.php?id=786>

\* Naučni sekretar JANN – Scientific Secretary of SANS (1998-20010)

#### **XVI\* Member of Professional-Scientific Societies:**

American Academy of Mechanics AAM  
Member of GAMM – Germany (since 1972)  
Member of Tensor Society - Japan  
Member of International ASME – International American Society of Mechanical Engineers USA (od 2000 - )  
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 Serbian Society of Computational Mechanics  
[www.sscm.kg.ac.rs/jssem/](http://www.sscm.kg.ac.rs/jssem/)  
Member of Society of Nonlinear dynamics in Human Factors – Adelaide , Australia.

## XVII\*Citati ( Subject: Citation ) (2005-2010)

Najmanje dvadesetak citata, u periodu 2006-2010, u časopisima sa ISI liste, a više od 150 u radovima publikovanim u domaćim časopisima i doktoraskim i magistarskim disertacijama autora iz Srbije.

### \* Citati u časopisima sa ISI liste (izbor)

Na primer:

\* 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/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, vol.51. No.9/05 Issue 485, pp. 560-569. ISSN 0039-2480. **ISI List**

\*\*

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-Petersburg State Marine Technological University, Saint-Petersburg (1997)

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; Nonlinear Dynamics, Volume 51, Numbers 1-2 / January, 2008 , DOI: 10.1007/s11071-007-9198-1

### \* Citati na moje radove nalaze se i u sledećim publikovanim radovima:

Q. Li and Y. H. Chen, Why traction-free? Piezoelectric crack and Coulombic traction, Journal Article , *Archive of Applied Mechanics, Volume 78, Number 7 / July, 2008* DOI: 10.1007/s00419-007-0180-7

Pei-Wei Zhang, Zhen-Gong Zhou and Lin-Zhi Wu, Coupled field state around three parallel non-symmetric cracks in a piezoelectric/piezomagnetic material plane, Journal Article. *Archive of Applied Mechanics, Volume 79, Number 10 / October, 2009* , DOI: 10.1007/s00419-008-0270-1

Yufeng Xing and Bo Liu, Closed form solutions for free vibrations of rectangular Mindlin plates, Journal Article, *Acta Mechanica Sinica, Volume 25, Number 5 / October, 2009* , DOI: 10.1007/s10409-009-0253-7

Yufeng Xing and Bo Liu, New exact solutions for free vibrations of rectangular thin plates by symplectic dual method, Journal Article, *Acta Mechanica Sinica, Volume 25, Number 2 / April, 2009*, DOI: 10.1007/s10409-008-0208-4  
Journal Article

Q. Li and Y. H. Chen, Why traction-free? Piezoelectric crack and Coulombic traction, *Archive of Applied Mechanics, Volume 78, Number 7 / July, 2008*, DOI: 10.1007/s00419-007-0180-7

### \* Citati u delima domaćih autora:

Veliki broj citata u sledećim disertacijama:

**Jovanović D.**, (2009), *Potencijalna energija i stanje napona u materijalu sa prslinom, (Potential energy and stress state in material with crack)* , (odbrana 10 novembra 1009), Doktorska disertacija, Mašinski fakultet u Nišu, str.237.

**Simonović J.**, (2008), *Dinamika mehaničkih sistema složenih struktura*, magistarski rad odbranjen 8 maj 2008. Mašinski fakultet u Nišu, str. 249.

**Јовић С.**, (2009). *Енергијска анализа динамике виброударних система*, магистарски рад, одбрањен 06. Новембра 2009. Факултет техничких наука у Косовској Митровици Универзитета у Приштини, стр. 239.

**Mirko Blagojević** (2008), Naponsko i deformaciono stanje elemenata cikloreduktora pri dinamičkom opterećenju, Mašinski fakultet u Kragujevcu, str.224..

**\* Jedan broj citata na moje radove se može naći u radovima publikovanim u sledećim časopisima:**

\* Scientific Technical Review, Vojske Srbije, (2005-) YU ISSN 1820-0206  
<http://www.vti.mod.gov.yu/ntp/index.htm>  
YU ISSN 1820-0206 M51=2 IF =0,040

\* *Facta Universitatis Series Mechanics, Automatic Control and Robotics*, University of Niš (1991- 2008). <http://facta.junis.ni.ac.rs/macar/macar.html>  
ISSN 0354 – 2009 M24=3 IF =0,371

\* FME Transactions - Scientific Journal published by Faculty of Mechanical Engineering. Faculty of Mechanical Engineering, University of Belgrade  
<http://www.mas.bg.ac.rs/transactions/index.html>  
YU ISSN 1451-2092 M51=2

## **XVIII\* Nagrade i priznanja u periodu 2005-2010**

Medallion (Plague)“*Archimed*” and Charter 2007 of Scientific-Technical Institute of Serbian Army for scientific work.

Medallion (Plague) and Charter 2008 of Cankaya University, Ankara, Turkey for Scientific advances in IFAC FDA Workshop.

## **XIX\* Recenzije za inostrane fondacije i ministarstva nauke (Referee for aboard foundation of sciences and Ministry of Sciences other countries)**

Recenzija sdržaja projekta registrovanog pod oznakom:

**Project proposal No. 101/09/1481 submitted in the current round of GA CR Call for Proposals.**

iz osnovnih nauka na poziv Češke fondacije za nauku (CSF - GACR - application for 2009 - 101/09/1481, Subject: CSF - Czech Science Foundation, "CSF - Czech Science Foundation" <[info@gacr.cas.cz](mailto:info@gacr.cas.cz)>) prema pozivu d 3 jula 2008 godine.

U potpisu poyiva je:

Hana Jirmanova

Head of Department of Technical Sciences

Email: [hana.jirmanova@gacr.cas.cz](mailto:hana.jirmanova@gacr.cas.cz)

On behalf of the **Czech Science Foundation (GA CR)**, the major funding body in the Czech Republic that supports all scientific areas of basic research including the international projects, to ask you whether you would be prepared to evaluate a project proposal No. 101/09/1481 submitted in the current round of GA CR Call for Proposals.

## **XX\* Predavanja na sminarima u Matematičkom institutu SANU u periodu 2005-2010.**

### **1\* Mechanics Colloquium - Odeljenje za mehaniku Matematickog instituta SANU**

SREDA, 17. mart 2010. u 18 sati:

*Katica (Stevanovic) Hedrih, Matematicki institut SANU Beograd*

**TRIGGER OF COUPLED SINGULARITIES IN NONLINEAR DYNAMICS OF A HEAVY MASS PARTICLE ALONG ROTATE ROUGH CIRCLE**

SREDA, 14. oktobar 2009. u 18 sati:

*Katica R. (Stevanovic) Hedrih, Masinski fakultet, Nis*

**VISIBILITY OF NONLINEARITY**

UTORAK, 14. oktobar 2008. u 14 sati:

*Prof. Katica (Stevanović) Hedrih, Mašinski fakultet Niš*

**PHENOMENOLOGICAL MAPPING METHOD AND MATHEMATICAL ANALOGY OF HYBRID SYSTEM DYNAMICS**

SREDA, 5. decembar 2007. u 18 sati:

*Katica (Stevanović) Hedrih, Mašinski fakultet, Niš*

**PREDSTAVLJANJE REZULTATA PROJEKTA ON 144002**

**Projekt ON144002 Teorijska i primenjena mehanika krutih i cvrstih tela. Mehanika materijala. (2006-2010)**

SREDA, 17. oktobar 2007. u 18 sati:

*Katica (Stevanovic) Hedrih, Masinski fakultet, Nis*

**Pojmovi nelinearne dinamike i Aleksandr Mikhailovich Lyapunov (1857 ~V 1918) A.M.Lyapunov**

SREDA, 16. maj 2007. u 18 sati:

*Katica (Stevanovic) Hedrih, Mašinski fakultet, Niš*

**Novi prikazi klasicne dinamike rotora (ili Novi pogled u Kinetiku rotora)**

SREDA, 17. maj 2006. u 18 sati:

*Katica (Stevanovic) Hedrih, Julijana D. Simonovic (Masinski fakultet, Nis)*

**SLOBODNE TRANSVERZALNE OSCILACIJE ELASTICNO SPREGNUTIH KRUNIH PLOVA**

SREDA, 12. april 2006. u 18 sati:

*K. S. Hedrih*

**Transversal vibrations of the axially moving sandwich band and string (Transverzalne oscilacije aksijalno pokretne sendvic trake i strune)**

SREDA, 01. mart 2006. u 18 sati:

*Katica (Stevanovic) Hedrih*

**Nelinearna dinamika - Interdisciplinarni pristup**

SREDA, 26. oktobar 2005. u 18 sati:

*Katica (Stevanović) Hedrih*

**Transversal Vibration of a Parametrically Excited Beam: Influence of Rotatory Inertia and Transverse Shear on Stochastic Stability of Deformable Forms and Processes**

SREDA, 21. septembar 2005. u 18 sati:

*Katica (Stevanović) Hedrih*

**Dostignuća Nelinearne dinamike**



SREDA, 08. jun 2005. u 18 sati:

*Katica Stevanovic-Hedrih,*

**Memorijalno predavanje povodom 20. godina od smrti [prof. Danila Raskovica](#)  
Prof. dr ing dipl. math. Danilo P. Raskovic (1910-1985), upravnik Odeljenja za mehaniku  
Matematickog instituta SANU u 1962. godini.**

SREDA, 25. maj 2005.:

16:00-16:40, Katica Stevanovic-Hedrih,

**Mere integriteta dinamičkih sistema.**

SREDA, 02. mart 2005. u 18 sati:

*Katica Stevanovic Hedrih*

**VISEFREKVENTNE NELINEARNE OSCILACIJE TANKE ELASTICNE LJUSKE SA  
POZITIVNOM GAUSS-OVOM KRIVINOM I KONACNIM DEFORMACIJAMA**

(Predavanje je posveceno secanju na profesora dr Ing. dipl. Math. Danila P. Raskovica (10. septembar 1910-29. januar 1985), jednog od Upravnika Odeljenja za mehaniku Matematickog instituta SANU (1962), a povodom 20. godina od smrti.)

SREDA, 01. decembar 2004. u 18 sati:

*Katica Stevanovic Hedrih, Spasoje Gadzic*

**O JEDNOM MODELU DINAMIKE KRUTIH TELA VELIKIH BRZINA**

## **2\* Seminar Nonlinear dynamics - Milutin Milankovic - Project ON144002**

Cetvrtak, 8. oktobar 2009. u 11,00 h na Masinskom fakultetu u Nisu, u svecanoj sali 401.

*Katica R. (Stevanovic) Hedrih*

**Vibrations, Energy and Powers of Force Works of a Material Particle Motion along Rough Line  
with Friction of Coulomb Type**

Cetvrtak, 15. oktobar 2009. u 11,00 h na Masinskom fakultetu u Nisu, u svecanoj sali 401.

*Katica R. (Stevanovic) Hedrih*

**Vibro-impact system dynamics: Heavy material particle oscillations along rough circle with radial  
two side impact limiter of the elongations**

Cetvrtak, 22. oktobar 2009. u 11,00 h na Masinskom fakultetu u Nisu, u svecanoj sali 401.

*Katica R. (Stevanovic) Hedrih*

**Considering Transfer of Signals through Hybrid Fractional Order Homogeneous Structure**

Cetvrtak, 29. oktobar 2009 u 11,00 h na Masinskom fakultetu u Nisu, u svecanoj sali 401.

*Katica R. (Stevanovic) Hedrih*

**Optimal Control in Engineering systems with trigger of coupled singularities**

Četvrtak, 12. februar 2009. u 12.00 h na Mašinskom fakultetu u Nišu, u Laboratoriji L 307.

*Katica R. (Stevanović) Hedrih*

**„Beseda o MEHANICI, mojim profesorima, kolegama i studentima“**

Nastavak besede i diskusija.

Četvrtak, 5. februar 2009. u 12,00 h na Mašinskom fakultetu u Nišu, u Laboratoriji L 307.

*Katica R. (Stevanovic) Hedrih*

**„Beseda o MEHANICI, mojim profesorima, kolegama i studentima“**

**(„Onn Mechanics, as well as on my Professors, Colleagues and Students“)**

povodom 445 godina od rođenja [Galileo Galilei](#) (15 February 1564 – 8 January 1642) i 130 godina od rođenja [Milutina Milankovića](#) (1879 - 1958), posvećeno profesorima [Draginji Nikolić](#), [Danilu Raskoviću](#), [Tatomiru Andjeliću](#) i [Yuriju Mitropoljskom](#).

Sreda, 3. decembar 2008. u 18.00 h

Katica R. (Stevanović) Hedrih

**MAIN CHAINS AND EIGEN MODES OF THE FRACTIONAL ORDER HYBRID MULTI  
PENDULUM SYSTEM DYNAMICS**

ČETVRTAK, 6. DECEMBRA 2007. godine sa početkom u 11.00 časova

Katica (Stevanović) Hedrih

**Mehanika krutog tela i Leonhard EULER  
Rigid body dynamics and Leonhard Euler (1707-1783)**

ČETVRTAK, 5. APRILA 2007. godine sa početkom u 13.00 časova

Katica (Stevanović) Hedrih

**Hibridni sistemi i hibridne dinamike: Teorija i primene  
Hybrid Systems and Hybrid Dynamics: Theory and Applications**

### **3\* Seminar for Geometry, education and visualization with applications**

ČETVRTAK, 06.05.2010. u 17 sati, sala 301f, MI

Katica Stevanovic Hedrih

**Vektori položaja materijalnih tacaka reonomnog sistema i njihovi tangentni triedri i N-jedri  
vektorskih baza u razlicitim sistemima krivolinijskih koordinata**

ČETVRTAK, 12.11.2009. u 17 h Matematički fakultet u Beogradu

Katica (Stevanović) Hedrih

**Coriolis-ova sila inercije u dinamici mehanickog sistema i transformacije koordinata iz Descartes-  
ovog u generalisani sistem ortogonalnih krivolinijskih koordinata  
(predavanje je posveceno akademiku Milevi Prvanovic, povodom 80-tog rodjendana)**

### **4\* Seminar for the History and Philosophy of Mathematics and Mechanics**

UTORAK, 06. april 2010. u 12:15 sati

*Prof. Dr Katica R. Stevanovic-Hedrih, Matematički institut SANU, Beograd*

**KOORDINATNI SISTEMI I KOORDINATE VEKTORA I SILE INERCIJE**

UTORAK, 16. mart 2010. u 12:15 sati

*Prof. Dr Katica R. Stevanović-Hedrih, Matematički institut SANU, Beograd*

**POVODOM: VEKTOR, ŠTA JE TO?**

UTORAK, 20. oktobar 2009. u 12:15 sati

*Prof. Dr Katica Stevanović-Hedrih, Mašinski fakultet, Univerzitet u Nišu*

**FORMALIZAM TRANSFORMACIJE KOORDINATA, DINAMIČKI (MEHANIČKI) SISTEMI I  
SILE INERCIJE**

UTORAK, 18. novembar 2008. u 12:15 sati

*Prof. dr Katica Stevanović-Hedrih, Mašinski fakultet, Univerzitet u Nišu*

**MEHANIKA KRUTOG TELA I LEONARD OJLER**

UTORAK, 24. mart 2009. u 12:15 sati

*Prof. Dr Katica Stevanović-Hedrih, Mašinski fakultet, Univerzitet u Nišu*

**GALILEO GALILEI I KINETIKA**

### **5\* Seminar on Applied Mathematics**

Utorak, 24.11.2009. u 14:15, sala 301f, MI SANU:

*Katica R. (Stevanović) Hedrih*

**THE OPTIMAL CONTROL IN ENGINEERING NONLINEAR SYSTEMS WITH TRIGGER OF COUPLED SINGULARITIES**

Utorak, 17.02.2009. u 14:15, sala 305, MI BG:

*Katica (Stevanović) Hedrih, Mašinski fakultet, Niš*

**MAIN CHAINS AND EIGEN MODES OF THE FRACTIONAL ORDER HYBRID SYSTEM VIBRATIONS**

**XX\* Gostovanje na nasim seminarima inostranih profesora po pozivu na inicijativu K. Hedrih u periodu 2006-2010.:**

March 28, 2009 at 11,30h

**Valery V. Kozlov**, Real member and vice-president of Russian Academy of Science, Steklov Mathematical Institute RAS, Moscow, Russia

*Opening Lecture Seminar Nonlinear Dynamics – Milutin Milankovic*

**В.В. Козлов: СПЕКТРАЛЬНЫЕ СВОЙСТВА КОНЕЧНОМЕРНЫХ ОПЕРАТОРОВ И ЗАДАЧА О ГИРОСКОПИЧЕСКОЙ СТАБИЛИЗАЦИИ**

**Valery V. Kozlov: Spektralna svojstva konačnodimenzionalih operatora i zadatak giroskopske stabilizacije**

SREDA, 11. novembar 2009. u 18 sati:

*E.E. Gdoutos, Office of Theoretical and Applied Mechanics of the Academy of Athens School of Engineering, Democritus University of Thrace, GR-671 00 Xanthi, Greece E-mail:*

*egdoutos@civil.duth.gr*

**FAILURE MECHANISMS OF COMPOSITE SANDWICH STRUCTURES**

SREDA, 7. maj 2008. u 18 sati:

*Prof. Giuseppe Rega, Dipartimento di Ingegneria Strutturale e Geotecnica, Sapienza Università di Roma*

**CONTROL OF BIFURCATION, CHAOS AND BASIN INTEGRITY: THEORETICAL ISSUES AND APPLICATION**

PETAK, 23. NOVIMBRA 2007. godine sa početkom u 11,00 časova

*Academician Radu Miron, Faculty of Mathematics, University "Al.I.Cuza" Iasi, Iasi, Romania*

*UNIVERSITATEA „ALEXANDRU IOAN CUZA”, FACULTATEA DE MATEMATICĂ*

*Bulevardul Carol I, nr. 11 / 700506 – Iași, ROMANIA, E-mail: radu.miron@uaic.ro*

*održaće predavanje pod nazivom*

**Lagrangian and Finslerian Mechanics of Nonconservative Mechanical Systems**

U PETAK, 23. NOVIMBRA 2007. godine sa početkom u 12,00 časova

*Camellia Frigoiu, University "Dunarea de Jos", Department of Mathematics*

*Str. Domneasca nr 47, Galati - 800008, ROMANIA, [Camelia.Frigoiu@ugal.ro](mailto:Camelia.Frigoiu@ugal.ro)*

**The Dynamical Systems of Rheonomic Finslerian Mechanical Systems**

U UTORAK, 12. DECEMBRA 2006. godine sa početkom u 14,00 časova

*Alexander P. Seyranian D.Sc, Ph.D, Leading Research Fellow, Institute of Mechanics, Moscow State Lomonosov University, održaće predavanje pod nazivom*

**MULTIPARAMETER STABILITY THEORY WITH MECHANICAL APPLICATIONS**

U CETVRTAK, 1. JUNA 2006. godine sa pocetkom u 12,00 casova

*J.T. Katsikadelis, Academy of Athens, Office of Theoretical and Applied Mechanics & School of Civil*

Engineering, National Technical University of Athens, Greece.

**The BEM for Nonlinear Vibrations of Plates with Variable Stiffness and Mass Properties**