

## **KATICA (Stevanović) HEDRIH**

*Full professor-Scientific Research Full Professor – Project Leader of Project ON174001 (2011-2019)  
in Mathematical Institute Serbian Academy of Sciences and Arts 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)  
Vice-dean for scientific-teaching area (1978-1980) at the Mechanical Engineering Faculty of the  
University of Niš*

*Academician of Ukrainian Higher schools and universities Academy of Sciences (from 1996)  
Academician of Ukrainian Higher Education Academy of Sciences  
Member of Serbian Scientific Society (from 2008) and  
scientific secretary of Department of Natural mathematical sciences (2010-2016)  
External member of “Matica Srpska” Novi Sad (from 2010?)  
Academician of the Academy of Nonlinear Sciences Moscow (from 1997)  
Scientific Secretary of the Yugoslav Branch of Academy of Nonlinear Sciences (1997-2010)  
Member of American Academy of Mechanics  
Member of International American Society of Mechanical Engineeris (from 2000)  
Member of Tensor Society (from 1992)  
Member of GAMM (from 1974)*

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**Katica (Stevanović) HEDRIH**, Doctor of Technical Sciences, *Scientific Research Full Professor in Mathematical Institute Serbian Academy of Science and Arts, 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), Sub-Project: 04M03A Current Problems on Mechanics and Applications (1996-2000), 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), **ON174001** - Dynamics of hybrid systems with complex structures. Mechanics of materials. (2011-2019) at the Mathematical Institute of SASA in Belgrade, an academician of *THE of Ukrainian Higher schools and universities Academy of Sciences (from 1996)*, an academician of the *Higher Education Academy of Sciences of Ukraine* (since 1996), a *member of Serbian Scientific*

*Society* (starting from 2008) and an academican 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 (1990-2007), member of Editorial Board of *Int. Journal Nonlinear Sciences and Numerical Simulations, Freund Publishing House LTD* (1999-2009), and *J. Mathematical Problems in Engineering*, Hindawi Publishing Corp.<http://www.hindawi.com/> (2004-2016), 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 (with more than 100 reviews). 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), *The Vector Method of the Heavy Rotor Kinetic Parameters Analysis and Nonlinear Dynamics* (2001) and *Dynamics of Vubroimpact systems* (with S.Jović and V. Raičević, 2015). 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 (10) in the area of technical sciences – nonlinear and deformable body mechanics and member of numerous commission for evaluation of the mafister of Science and docyoral dissertation (more than 52). Her papers and books were cited many times and two paper were cited by Yu. A. Mitropolskiy and B.I.Moseenkov in *Monograph: Asimptotičeskie rešenja uravneniy v časnih proizvodnih*, Kiev 1976, (Listed under No. 138 and 139) and also one paper in monograph *Aly Nayfeh, Dean T. Mook, (1976), Nonlinear oscillations, John Wiley and Sons, 1976, New York*. Also important citations four papers by *Katica (Stevanović) Hedrih, published in the period 2002-2010, in the field of the application of a differential fractional order calculus in the mechanics of discrete and deformable systems, are cited, among others, in the leading and prestigious reference journal Applied Mechanics Reviws, 2010, published by International American*

*Society of Mechanical Engineers (Int.ASME), USA*) in paper by Yuri Rossikin and Marina Shitikova. 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 vilige Bobovište, Aleksinac. After Second world war she live in Niš. 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 at September 30, 1967, mechanical engineering, the first in generation (started at October 1, 1963), as the best graduated student of the faculty and, also, at 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 Theoretical and Mathematical Physics, the area of Nonlinear Oscillations and Nonlinear Differential Equations at the Institute of Mathematics 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 February 3, 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 E FC16-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, Tokiyo 2015, Tsukuba 2016, Matsumoto 2-017; 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, Eindhoven 2005, Rome 2011, Wiena 2015, Budapest 2017; DINCON Brasil 2010, Nonlinear Vibrations Virginia Tech 2010, ICVDC 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 (starting from 2005). Katica (Stevanović) HEDRIH is, also, a member of the numerous International Scientific Meeting held in Ukraine, Yugoslavia, Poland, China, Turkey, 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 (1994-1998) of the Mathematical Institute of Serbian Academy of Science and Arts in Belgrade. Shi was a vice-dean of Faculty of Mechanical Engineering at University of Niš. Shi was head of Department of Mechanics (2010-2012) at Mathematical Institute of Serbian Academy of Science and Arts 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* (1990-2004), *Facta Universitatis Series Mechanics, Automatic Control and Robotics*, University of Niš (1991- 2007 ), and Editor of a number of Scientific Proceedings and ANN Monograph *Advances in Nonlinear Sciences* (Vol. 2, 2008) and other.

Member of Editorial Board of the following Journals: *International Journal of Nonlinear Sciences and Numerical Simulations*, Freund Publishing House LTD (period 1999-2009), *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 (2004-2016), *Journal of Non-Linear Modeling in Science and Engineering*, <http://www.demon.co.uk/cambsci/ijnms.html>,

Scientific Technical Review SA (2006-2016), Journal of Serbian Society for Computational Mechanics (Serbian Society for Computational Mechanics, from 2007, <http://www.sscm.kg.ac.rs/jsscm/>) 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, 2003-2019), *Facta Universitatis Series Mechanics*, *Automatic Control and Robotics*, University of Niš (1990-2004), *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. academician Nikola Obradović, academician Vojislav Djurić, acadmivian Petar Miljanić, Professor Victor Saljnikov, Lecturer Vojislav Birviš and other.

**Subject Reference:** *Mechanics, Nonlinear Machanics, Theory of Oscillations, Theory of Elasticity, Elastodynamcs, Photoelasticity, Piezoelectrucity, 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. **Gold hand's wach is award** (presented by scientist Branimir Janković First Revtor of University of Niš ).

Best Thesis of Bachelor's (Master) degree at Yugoslav Faculties of Engineering and Natural mathematical sciences , 1967, by Electronic Industry EI Niš (presented by director Vladimir Jasić).

**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. Shi defendded diploma work September 30, 1967, bevore starting period “apsolvent” for her generation.

Member of the Olympic Team of Yugoslavia at International Mathematical Olympiad in Vroclav Poland (1963) as result of numerous diploma of susesful results at competition in Yougodlavia im mathematics.

“*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 and member of Editorial Board of the **Journal Scientific Technical Review** of Serbian Army..

Prize **Saint Volodimir (Nagrada Svatoga Volodimira)** for 2010 of Ukrainian Higher Shools and Universitues 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 in 1995** of Faculty of Mechanical Engineering of Niš for First Postgraduate Student – First Magistar.of Technical Science (in Mechanics, shu started at March 1970 and defendded Magistar of science dissertation in 1972).

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 than 20.*

*Supervisor of Doctor of Technical Sciences Theses 10; 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 than 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 than 300.*

***Scientific Visits and participation in the Seminars or international Scientific Meetings*** : multiple visits to Ukraine-Kiev, Donetsk, Lvov and Kharkov (1969, 1970, 1996, 1998, 2001, 2003, 2015, 2017), 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 and Sedlice (1963, ..... 1999, 2001, 2003, 2005, 2007, 2009, 2013, 2015, 2017), Germany GAMM ....., England (1993, 2003), Byelorussia, University of Waterloo, (1989), ICTAM Montreal 2016, 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, 2015, 2016, 2017), M.C. Chaki Centre for Mathematics and Mathematical Sciences, Calcutta, India, 2003, University of Kalyani, India, 2003., University La Sapienza Roma IUTAM (2003, 2011, 2017, 2018, 2019), Romania Politehnika Timisoara (2002), Technical University of Wien (2003, 2015), Greece Aristotelian University Tesseloniki (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., Politechnika Warsaw 2004, University of Luxembourg 2005, ..... ICTAM Adelaide, Australia 2008, Porto 2008, Lisbon Portugal ESMC 2009, Brasil 2010, Virginia Tech 2010, University in Hanzhou 2010, Beijing 2013 China. Iasshu Alexander Ion Kuza University 2013m 2015, Romania, GAMM annual scientific meetings Graz 1974., Leipzig 1882, Dresden, Darmstadt, ... Germany, and other

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 of the 20th Century - Incorporating the Outstanding Achievement Awards, International Biographical Center Cambridge, CB2 3QP, England.(1998). Also in 2018, 2019 numerous invitation by *Marquis Who's Who* in the form: "*Katica R. (Stevanovic) Hedrih, you have been chosen for Marquis Who's Who. This impressive distinction is reserved for less than 3% of professionals world-wide!*"

***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 at Mechanical Engineering University of Priština (1994-2008)

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:** Seminar in Theoretical and Applied Mechanics at Faculty of Mechanical Engineering University of Niš (1976-2005) and Seminar Nonlinear Dynamics – Milutin Milanković (2005-2009) in Niš under the auspice of Mathematical Institute of Serbian Academy of Science and Arts - Belgrade.

Project Leader in area of Mechanics at Mathematical Institute of Serbian Academy of Science and Arts - Belgrade (1990 - .....);

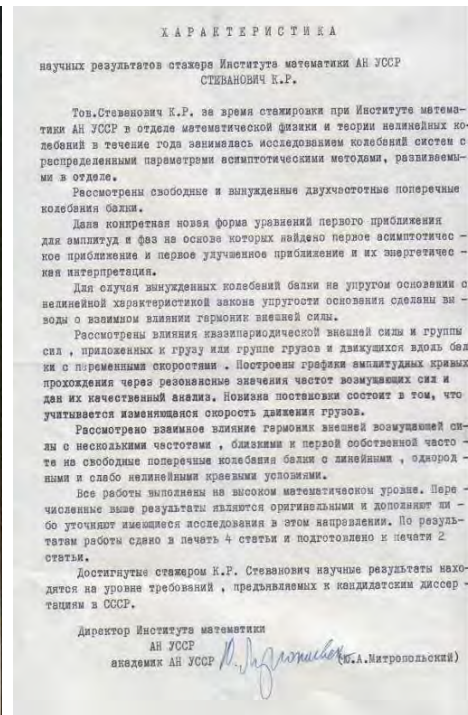
Project leader in area of Mechanical Engineering and Mechanics at Faculty of Mechanical Engineering University of Niš (1976 – 1995, 2001-2005, 2006-2010, 2011-2019);

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 Serbian Academy of Science and Arts, Beograd (1994-1998).

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**Асимптотичний метод  
Крилова-Боголюбова-Митропольського**

**Юрій Олексійович Митропольський**  
(21 грудня 1916 (дніпро 1917), Шичань — †14 червня 2008<sup>11</sup> Київ)

**Боголюбов Микола Миколайович (старший)**  
(8 (21) березня 1908, Нижній Новгород, Російська імперія — 13 лютого 1992, Москва, Росія)

**Крилов Микола Митрофанович**  
(вас. Микола Митрофанович Крилов, 17 (30) листопада 1878, Пензабас, Російська імперія — †11 липня 1955, Москва, СРСР)



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Research and Authentic Author Scientific Results

**Katica R. (Stevanović) Hedrih**

in the period longer than half a century (from 1963-2019)

[http://www.mi.sanu.ac.rs/novi\\_sajt/research/conferences/ksh/Eng%20Scientific%20results%20K.%20Hedrih.pdf](http://www.mi.sanu.ac.rs/novi_sajt/research/conferences/ksh/Eng%20Scientific%20results%20K.%20Hedrih.pdf)

[http://www.mi.sanu.ac.rs/novi\\_sajt/research/conferences/ksh/ABOUT%20HEDRIH.htm](http://www.mi.sanu.ac.rs/novi_sajt/research/conferences/ksh/ABOUT%20HEDRIH.htm)

[http://www.mi.sanu.ac.rs/novi\\_sajt/research/conferences/ksh/default.htm](http://www.mi.sanu.ac.rs/novi_sajt/research/conferences/ksh/default.htm)

**Mathematical  
Institute  
SANU**

**Nonlinear Dynamics –  
Scientific work of Prof. Dr Katica (Stevanovic) Hedrih**

Belgrade, 04.-06. September, 2019

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Stevanović (Hedrih) K., (1963), *Graph of Eelenatary and rational functions with skew or/and parallel to coordinate axes asymptots*, Bigg Matura Work (Maturski rad) supervision by Draginja Nikolić, mathematician and Gimnasuym professor., Gimnaium “Srevan Srenac” in Niš, defended at June 1963.

Stevanović (Hedrih) K., (1967), *Nonliear oscillations and applications to nonlinear syscem with automatic control*, Diploma work of Bachilir (Master) degree of mechanical engineer, Faculty of Technical Sciences in Niš, deended September 30, 1967, Supervision: Prof. dr. Ing. Math Danilo P. Rašković (Yugoslavia). (Best Thesis of Bachelor's (Master) degree at Yugoslav Faculties of Engineering and Natural mathematical sciences, 1967, by Electronic Industry EI Niš (presented by director Vladimir Jasić)).

Stevanović (Hedrih) K., *Rešrnje jednačone transverzalnih oscilacija jednoraspone grede asimptotskim metodama nelinearne mehanike (Solution of the equation of transversal oscillation one span beam by asymptotic method of nonlinear mechanics)*, [in Serbian], Magistar of Sciences Degree Thesis, Faculty of Technical Sciences in Niš, 1972. Supervision: Prof. dr. Ing. Math Danilo P. Rašković (Yugoslavia) and academician Yuriy Alekseevich Mitropolskiy (Ukraine).

Hedrih (Stevanović) K., *Application of the Asymptotic Method for the Investigation of the Nonlinear Oscillations of Elastic Bodies - Energy Analysis of the Oscillatory Motions of Elastic Bodies*, [in Serbian], Doctor's Degree Thesis, Faculty of Mechanical Engineering in Niš, (1975). Supervision: Prof. dr. Ing. Math Danilo P. Rašković (Yugoslavia) and academician Yuriy Alekseevich Mitropolskiy (Ukraine).

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**1\* The first published works half a century ago (52 years old), whose contents are still current, event today in 2019:**

**Stevanović R. Katica** (later merried family name Hedrih), Ubrzanje drugog reda (trzaj ili džerk) materijalne tačke koja se kreće konstantnom sektorskom brzinom (Acceleration of second order of a material particle moving with constant sectorial velocity , Naučni podmladak, 1967, str. 69-70.

In this paper, in the case of the motion of a kinematic point, in the plane with a constant sectoral velocity,  $r^2 \cdot = C = 2S$ , **the components of its second order acceleration of the radial and circular direction, as well as its angular acceleration of the second order** of rotation around the center of attraction, have been derived. The following theorem has been proved:

*The circular component of the vector of the acceleration of the second order of the kinematic point, which is considered constant at the sectoral velocity, is equal to the product of the double sectoral velocity (constants  $C = 2S$ ), the square of the reciprocal value of the radius, and the radial component of the acceleration vector of the kinematic point.*

**Rašković P. Danilo and Stevanović R. Katica** (later merried family name Hedrih), Ubrzanje drugog reda (trzaj ili džerk) krutog tela pri obrtanju oko nepomične

tačke (Acceleration of second order of a rigid body rotates around fixed point), Zbornik radova Tehničkog fakulteta Univerziteta u Nuišu, 1966/1967, стр. 93-100.

In this paper, **the acceleration of the second order (truncation, Ruch, Rucken, Jerk, pulse) of some point of a rigid body, as well as its angular acceleration of the second order**, is determined by its rotation around a fixed point. First author, Rašković P. Danilo, by the matrix method, determined the acceleration of the second order of a point in a rigid body, as well as its angular acceleration of the second order, in its rotation around a fixed point. The second author, Stevanović R. Katica, using the vector method, has determined, in the natural coordinate system, the normal, tangential and complementary additional components of the second-order acceleration vector of a certain point of the rigid body, as well as its angular acceleration of the second order, in its rotation around a fixed point in the case of a regular progressive precession.

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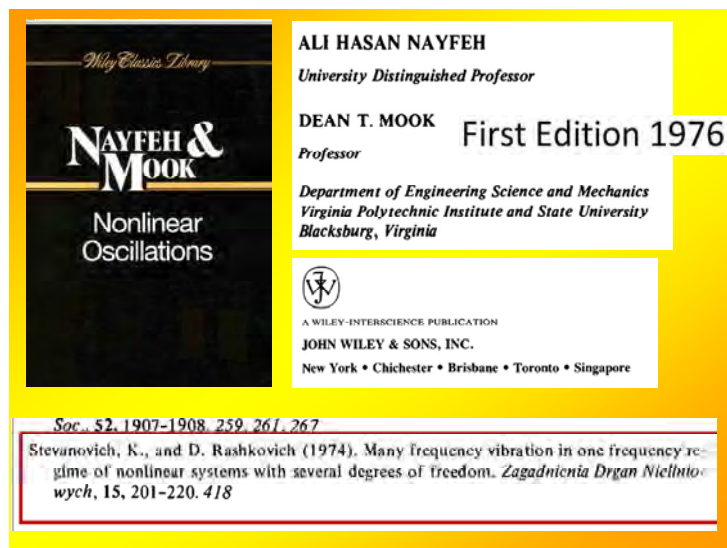
**2 \* First quoted papers 46 years ago in world leading monographs, asymptotic solutions of partial differential equations on nonlinear oscillations, and contents are still today, 2019, current:**

### Paper

**Stevanovich, K.** (later merried family name *Hedrih*) and Raskovich D., (1974), Many frequency vibration in one frequency regime of nonlinear systems with several degrees of freedom, *Zagadnienia Drgan Nieliniowych*, 15201-220,418., is cited in the list of the references of this important monograph. I learn about this four decades late.

**quoted in the international monograph**

**Aly Nayfeh, Dean T. Mook, (1976), Nonlinear oscillations**, John Wiley and Sons, 1976, New York.



## Papers

**Katica Stevanovich** (later married family name *Hedrih*) in (1972), Two-frequency no stationary forced vibrations of beam, **Mathematical Physics**, Kiev, Vol. 12, 1972, pp. 127-140. (in Russian language)

**Katica Stevanovich** (later married family name *Hedrih*), (1971), Transversal vibrations of a beam loaded by system, moving along beam with changeable velocity, containing mass particles each excited by corresponding single frequency force, Edition **Asymptotic and qualitative methods in theory of nonlinear vibrations**, Editor **Yu.A. Mitropolyski**, Institute of Mathematics Academy of Sciences of NANU, UKRAINE, USSR, Kiev, 1971, pages 15. (in Russian language).

## quoted in the international monograph

**Yu.A. Mitropolyski and B.I. Moseenkov: Asymptotic solutions of partial differential equations**, Institute of Mathematics Academy of Sciences of NANU, UKRAINE, Kiev, 1976 (in Russian language).



**List of Some Citations (List of Quotations) of Some Books and Papers written by Katica Stevanović (Hedrih) or Katica (Stevanović) Hedrih (January 2003)**

1. \* \* \* Katica Stevanović (Hedrih), *О поперечных колебаниях балки под воздействием системы масс и приложений к ним пульсирующих сил, движущимися с переменной скоростью*, Ed. Аналитические и качественные методы в теории нелинейных колебаний. Редактор Ю. А. Митрополский. Институт Математики АН УССР, Киев, 1971, стр. 15.  
Paper cited (quoted) in Monograph: **Yu.A.Mitropolskiy and B.I.Moseenkov: Asimptotičeskie rešenija uravnenij v časnyh proizvodnyh**, Kiev 1976, (Listed under No. 138).

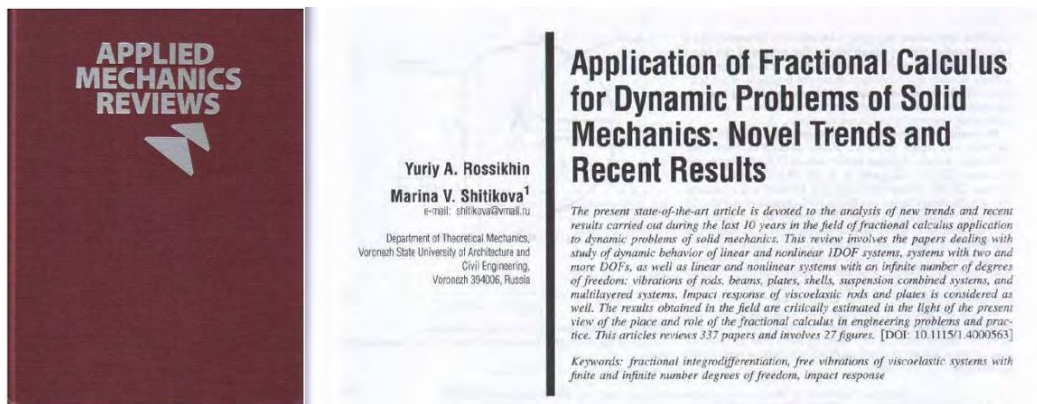
2. \* \* \* Katica Stevanović (Hedrih), *Двухчастотные нестационарные вынужденные колебания балки*, *Математическая физика*, вып. 12, Киев, 1972, стр. 127-140.  
Paper cited (quoted) in Monograph: **Yu.A.Mitropolskiy and B.I.Moseenkov: Asimptotičeskie rešenija uravnenij v časnyh proizvodnyh**, Kiev 1976, (Listed under No. 139).

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*Katce (Stevanović) Hedrih contributed to the analytic dynamics of discrete systems of the fraction type through a number of published papers in journals and proceedings and through plenary lectures at international scientific meetings in the period 2002-2019.*

*It contributed to the introduction of constitutive relations expressed in non-integer rational order derivative terms for analyzing the dynamics of plates and beams with variable cross sections as well as the sandwich system of coupled*

*deformable body systems (beams, plates, membranes and strings) and derived terms describing the component modes of their free and forced oscillations in the dynamics of such system of deformable bodies, as well as complex hybrid systems. She introduced and defined the concepts of the standard light mechanical element of the fractional type, and the corresponding generalized functions of the fractional type energy dissipation. It defines a standard electric resistor of a fractional type by defining its constituent electric-voltage-electric relay by a non-integer fractional order derivative and a generalized fractional-type electrical energy dissipation function. She has presented a number of theorems on the change in the energy of the systems and the oscillatory oscillation systems of the fractional type.*



The papers by Katica (Stevanović) Hedrih, published in the period 2002-2010, in the field of *the application of a differential fractional order calculus in the mechanics* of discrete and deformable systems, *are cited*, among others, in the leading and prestigious reference journal *Applied Mechanics Reviews, 2010*, published by *International American Socciery of Mechanical Engineers (Int.ASME), USA*:

1. Hedrih (Stevanović) K., (2008), *Dynamics of coupled systems*, *Journal Nonlinear Analysis: Hybrid Systems*, Elsevier, Volume 2, Issue 2, June 2008, Pages 310-334. [doi:10.1016/j.nahs.2006.06.003](https://doi.org/10.1016/j.nahs.2006.06.003) in line at <http://www.sciencedirect.com/science/journal/1751570X>

2. Hedrih (Stevanović) K., *Vibration Modes of a axially moving double belt system with creep layer*, *Journal of Vibration and Control*, SAGE, (2008), 14(10-Sep): 1333-1347.

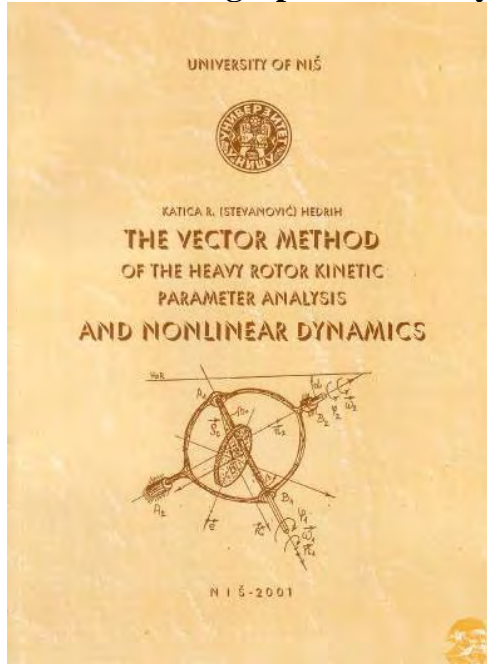
<http://nainfo.nbs.bg.ac.yu.nainfo.nbs.bg.ac.yu:2048/Kobson/service/jcr.aspx?ISSN=1077-5463>

3. 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, Hindawi press, Volume 2006 (2006), Article ID 46236, 18 pages, [www.hindawi.com](http://www.hindawi.com) [doi:10.1155/MPE/2006/46236](https://doi.org/10.1155/MPE/2006/46236), Volume 2006, No. 5, pp. 61-78.

4. Hedrih (Stevanović) K., Filipovski A., (2002), *Longitudinal Vibration of a Fractional Derivative Order Rheological Rod with Variable Cross Section*, *Facta Universitatis, Series*

\*\*\*\*\*

**Monographs written by Katica (Stevanović) Hedrih**



Oleg Aleksandrovič Goroško (Ukrajina) i Katica (Stevanović) Hedrih (Jugoslavija): Analitička dinamika (mehanika) diskretnih naslednih sistema, (Analytical Dynamics (Mechanics) of Discrete Hereditary Systems), University of Niš, 2001, Monograph, p. 426 (in Serbian), YU ISBN 86-7181-054-2. (recenzenti: Veljko A. Vujičić - Srbija, Jeremiah Jaredam Rushickij - Ukrajina, Milivoje Simonović - Srbija) UDC 531.011:531.391

Katica (Stevanović) Hedrih: Vector Method of the Heavy Rotor Kinetic Parameter Analysis and Nonlinear Dynamics, University of Niš 2001, Monograph, p. 252. (in English), (Reviewers: Academician NANU Ju. A. Mitropolskiy, Ukraina, academician ANN Veljko Vujičić, academician UHEAS Oleg Aleksandrovič Goroshko, Ukraina, and prof. dr Vlatko Brčić), YU ISBN 86-7181-046-1 UDC 531.38:514.742.4





Hedrih (Stevanović) , Katica, OSNOVI TEORIJE NELINEARNIH OSCILACIJA, Niš, 1973.  
<http://elibrary.matf.bg.ac.rs/> <http://elibrary.matf.bg.ac.rs/handle/123456789/3768>



Hedrih (Stevanović) , Katica, IZABRANA POGLAVLJA TEORIJE NELINEARNIH  
 OSCILACIJA, Univerzitet u Nišu, (Niš , 1975) ; <http://elibrary.matf.bg.ac.rs/>  
<http://elibrary.matf.bg.ac.rs/handle/123456789/3767>

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**Asymptotic methods of Non-Linear Mechanics:  
 The results of theoretical research  
 and application of Serbian scientists in the period 1968-2016  
 Preseted in a Lecture by Katica (Stevanović) Hedrih**

On the occasion of a century since the birth of Academician Yuri Alekseevich Mitropolski  
 (За Семинар Механике Одељења за механику МИ САНУ , Среда, 22 фебруар 2017, у 18 часова)

**Simonović J., (2011)**, Dinamika i stabilnost hibridnih dinamičkih sistema (Dynamics and Stability of Dynamics Hybrid Systems), [in Serbian], Doctor's Degree Thesis, Faculty of Mechanical Engineering in Niš, (submitted 2011), Supervisor K. Hedrih (Stevanović).

**Simonović J., (2008)**, Fenomeni dinamike mehaničkih sistema složenih struktura (Phenomen of Dynamics of Complex Structure Mecanical Systems), [in Serbian], Magistar of Sciences Degree Thesis, Faculty of Mechanical Engineering in Niš, 2008. Supervisor K. Hedrih (Stevanović).

**\*Janevski G, (2003)**, Nelinearne oscilacije ploča od kompozitnih materijala (Nonlinear vibrations of the composite plates), [in Serbian], Magistar of Sciences Degree Thesis, Faculty of Mechanical Engineering in Niš, 2003. Supervisor R. Pavlović.

**Filipovski A.**, (1995), Energijska analiza longitudinalnih oscilacija štapova promenljivog preseka (Energy analysis longitudinal oscillations of rods with changeable cross sections), [in Serbian], Magistar of Sciences Degree Thesis, Faculty of Mechanical Engineering in Niš, 1995. Supervisor K. Hedrih (Stevanović).

**Pavlov B.**, (1985), Novootkriveni fenomeni u nelunearnim dinamičkim sistemima sa analogijom na sisteme opisane MaThieu-ovom diferencijalnom jednačinom (New phenomena in non-linear dynamical systems with analogy to the systems described by Matheu differential equations), [in Serbian], Magistar of Sciences Degree Thesis, Faculty of Mechanical Engineering in Niš, 1985,. Supervisor K. Hedrih (Stevanović).

**Mitić Sl.**, (1985), ,Višefrekventna analiza oscilovanja tankih elastičnih ljuski sa konstantim krivinama i početnim nepravilnostima (Multi-frequency analysis of the vibrations of thin shells with constant curvature and initial inperfetions), [in Serbian], Magistar of Sciences Degree thesis, Faculty of Mechanical Engineering in Niš, 1985. Supervisor K. Hedrih(Stevanović).

**Pavlović R.**, (1982), Prilog nelinearnim oscilacijama plitkih cilindričnih ljuski (Contribution to the non-linear oscillations of the shallow shells), [in Serbian], Magistar of Sciences Degree Thesis, Faculty of Mechanical Engineering in Niš, 1982. Supervisor K. Hedrih(Stevanović).

**Kozić P.**, (1982), ,Izučavanje nelinearnih torzijskih oscilacija vratila asimptotskom metodom (Investigation of non-linear torsion oscillations of shafts by asymptotic method), [in Serbian], Magistar of Sciences Degree Thesis, Faculty of Mechanical Engineering in Belgrade, 1982. Working Supervisor K. Hedrih (Stevanović).

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*Supervisor and /or Research Leader for Magistar of Sciences and Doctoral  
dissertation of researchers*

*Katica R. (Stevanović) Hedrih*

*Mechanical Engineering Faculty University of Niš and Mathematica Institute  
SANU*

**Kozić P.**, Izučavanje nelinearnih torzijskih oscilacija vratila asimptotskom metodom (Investigation of non-linear torsion oscillations of shafts by asymptotic method), [in Serbian], Magistar of Sciences Degree Thesis, Faculty of Mechanical Engineering in Belgrade, 1982. Working in research Supervisor K. Hedrih (Stevanović).

**Kozić P.**, Stabilnost diskretnih mehaničkih sistema pri dejstvu slučajne pobude (Stability of discrete mechanical systems subjected by random excitations), [in Serbian], Doctor's Degree Thesis, Faculty of Mechanical Engineering in Niš, 1990. Supervisor K. Hedrih (Stevanović).

**Pavlović R.**, Prilog nelinearnim oscilacijama plitkih cilindričnih ljuski (Contribution to the non-linear oscillations of the shallow shells), [in Serbian],

Magistar of Sciences Degree Thesis, Faculty of Mechanical Engineering in Niš, 1982. Supervisor K. Hedrih(Stevanović).

**Pavlović R. R.,** Dinamička stabilnost kontinualnih sistema od kompozitnih materijala pod dejstvu slučajnih pobuda (Dynamic stability of continuous systems made from composite materials subjected to random excitation), [in Serbian], Doctor's Degree Thesis, Faculty of Mechanical Engineering in Niš, 1990. Supervisor K. Hedrih (Stevanović).

**Mitić Sl.,** Višefrekventna analiza oscilovanja tankih elastičnih ljuski sa konstantnim krivinama i početnim nepravilnostima (Multi-frequency analysis of the vibrations of thin shells with constant curvature and initial imperfections), [in Serbian], Magistar of Sciences Degree thesis, Faculty of Mechanical Engineering in Niš, 1985. Supervisor K. Hedrih(Stevanović).

**Mitić Sl.,** Stabilnost determinističkih i stohastičkih procesa u vibroudarnim sistemima Stability of deterministic and stochastic processes in vibroimpact systems), [in Serbian], Doctor's Degree Thesis, Faculty of Mechanical Engineering in Niš, 1989. Supervisor K. Hedrih (Stevanović).

**Jovanović D.,** Analiza naponskog i defrmacionog stanja ravno napregnutih ploča sa primenom na eliptično prstenastu ploču (Stress and strain analysis of plane loaded plate with applications to elliptical annular plate), [in Serbian], Magistar of Sciences Degree Thesis, Faculty of Mechanical Engineering in Niš, 1989. Supervisor K. Hedrih (Stevanović).

**Mitić Sn.,** Analiza naponskog i defrmacionog stanja ravno napregnutih ploča ( Stress and strain analysis of plane loaded plates), [in Serbian], Magistar of Sciences Degree Thesis, Faculty of Mechanical Engineering in Niš, 1989. Supervisor K. Hedrih (Stevanović).

**Pavlov B.,** Novootkriveni fenomeni u nelunearnim dinamičkim sistemima sa analogijom na sisteme opisane Mayhieu-ovom diferencijalnom jednačinom (New phenomena in non-linear dynamical systems with analogy tio the systems described by Matheu differential equations), [in Serbian], Magistar of Sciences Degree Thesis, Faculty of Mechanical Engineering in Niš, 1985,. Supervisor K. Hedrih (Stevanović).

**Filipovski A.,** Energijska analiza longitudinalnih oscilacija štapova promenljivog preseka (Energy analysis longitudinal oscillations of rods with changeable cross sections), [in Serbian], Magistar of Sciences Degree Thesis, Faculty of Mechanical Engineering in Niš, 1995. Supervisor K. Hedrih (Stevanović).

**Perić Lj.,** Prostorna analiza stanja napona i stanja deformacije napregntog piezokeramičkog materijala (Space analysis of stress and straon state of stressed piezoceramiv materials), Magistar of Sciences Degree Thesis, Faculty of Mechanical Engineering in Niš, 2004. Supervisor K. Hedrih (Stevanović).

**\*Janevski G,** Nelinearne oscilacije ploča od kompozitnih materijala (Nonlinear vibrations of the composite plates), [in Serbian], Magistar of Sciences Degree Thesis, Faculty of Mechanical Engineering in Niš, 2003. Supervisor R. Pavlović.

**Simonović J.,** Fenomeni dinamike mehaničkih sistema složenih struktura (Phenomen of Dynamics of Complex Structure Mecanical Systems), [in Serbian], Magistar of Sciences Degree Thesis, Faculty of Mechanical Engineering in Niš, 2008. Supervisor K. Hedrih (Stevanović).

**Jović S.,** Energijska analiza dinamike vibroudarnih sistema (Energy analysis of vibroimpact system dynamics), [in Serbian], Magistar of Sciences Degree Thesis,

Faculty of Technical Sciences in Kosovska Mitrovica, University of Priština, 2009. Supervisor V. Raičević, Project ON144002 Leader K. Hedrih (Stevanović).

**Perić Lj.**, Spregnuti tenzori stanja piezoeletričnih materijala (Coupled tensors of the piezoelectric material states), [in Serbian], Doctor's Degree Thesis, Faculty of Mechanical Engineering in Niš, 2005, Supervisor K. Hedrih (Stevanović).

**Knežević R.**, (2000), Nelinearni fenomeni u dinamici planetnih prenosnika (Nonlinear phenomena in dynamics of planetary gear transmission), [in Serbian], Doctor's Degree Thesis, Niš, Yugoslavia, Faculty of Mechanical Engineering in Niš, (200). Supervisor K. Hedrih (Stevanović).

**Jovanović D.**, Potencijalna energija i stanje napona u materijalu sa prslinom (Potential energy and stress state in material with crack), [in Serbian], Doctor's Degree Thesis, Faculty of Mechanical Engineering in Niš, 2009, Supervisor K. Hedrih (Stevanović).

\* **Janevski G.**, Dinamička stabilnost mehaničkih sistema pri dejstvu slučajnih opterećenja (Dynamic stability of mechanical system loaded by random excitation), Doctor's Degree Thesis, Faculty of Mechanical Engineering in Niš, 2010, Supervisor Kozić P.

**Jović S.**, Energijska analiza dinamike vibroudarnih sistema sa krivolinijskim putanjama i neidealnim vezama (Energy analysis of vibroimpact system dynamics with curvilinear paths and no ideal constraints), [in Serbian], Doctor's Degree Thesis, Faculty of Technical Sciences in Kosovska Mitrovica, University of Priština, 2011. Supervisor V. Raičević, Projects ON144002 and OI174001 Leader K. Hedrih (Stevanović).

**Simonović J.**, Dinamika i stabilnost hibridnih dinamičkih sistema (Dynamics and Stability of Dynamics Hybrid Systems), [in Serbian], Doctor's Degree Thesis, Faculty of Mechanical Engineering in Niš, 2011. Supervisor K. Hedrih (Stevanović).

**Veljović Lj.**, Nelinearne oscilacije giro-rotora (Non-linear oscillations of Gyro-rotors), [in Serbian], Doctor's Degree Thesis, Faculty of Mechanical Engineering in Niš, 2011. Supervisor K. Hedrih (Stevanović).

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**Membr or Member of Komisijon for defended Doctoral dissertations  
and/or consultations of following doctoranes**

Mr Predrag KOZIĆ (6 mart 1990) \*M  
Mr Ratko PAVLOVIĆ (25 maj 1990) \*M  
Mr Slavka MITIĆ (mart-april 1994) \*M  
Mr Dragan B. JOVANOVIĆ (2009) \*M  
Mr Rade KNEŽEVIĆ (mart 2000) \*M  
Mr Ljubiša PERIĆ (2004) \*M  
Mr Vlastimir DJOKIĆ (1980) \*K\*  
Mr Tomislav PETROVIĆ (1981) \*K  
Mr Vinko JEVTIĆ (1983) \*K  
Randjel BOGDANOVIĆ (1984) \*K  
Mr Dimitrov BOGOLJUB (1983 ili 95) \*K  
Mr Vera NIKOLIĆ (28 mart 1989) \*K  
Mr Zoran MICKIĆ (25 jun 1992) \*K  
Mr Bojan RANČIĆ (6 juli 1993) \*K  
Mr Branko DJEDOVIĆ (mart 1999) \*K  
Mr Dragoljub ŠURDILOVIĆ (1998) \*K  
Mr Dragan MANČIĆ (2002) \*K  
Mr Branko SARIĆ (2002) \*K  
dr Ivana Cvijić Atanasovska (2004) \*K

Mr Dragan Šarković (2007) \*K  
Mr Srdjan Jovic (2011) \*M  
Mr Ljiljana Veljović (2011) \*M  
Mr Julijana Simonovic (20011) \*M

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.....

and other.

**Consultation in doctoral research**

Me Novak Spasoječić (Consultations for Doctoral dissertation)

and otjer

**Одзив на autoreferate doktorskih disertacija (Response to auto-reports of doctoral disserarions)**

*Salo Valentin Andrejevich*

(УДК 539.3) ЧИСЛЕННО-АНАЛИТИЧЕСКИЙ МЕТОД РЕШЕНИЯ ЗАДАЧ СТАТИКИ НЕТОНКИХ ОРТОТРОПНЫХ ОБОЛОЧЕК С ОТВЕРСТИЯМИ ПРОИЗВОЛЬНЫХ РОЗМЕРОВ И ФОРМ - 01.02.04 – *Механика деформируемого твердого тела*

*Bogdan Ilich Kindratskiy*

Киндрацкий Богдан Ильич, «МНОГОКРИТЕРИАЛЬНЫЙ СТРУКТУРНО-ПАРАМЕТРИЧЕСКИЙ СИНТЕЗ МАШИНОСТРОИТЕЛЬНЫХ КОНСТРУКЦИЙ», ученой степени доктора технических наук по специальности 05.02.02 — машиноведение, УДК 621.001.2:519.168

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.....  
and other

**ON174001 - Dynamics of hybrid systems with complex structures. Mechanics of materials. (Period 2011-2019), supported by Ministry of Science Republic of Serbia** Researchers from tema of Project ON174001 defended Ph.D dissertation on the basis of the research scientific results of the Project ON174001

dr Ljiljana Veljovic (2011)  
dr Julijana Simonovic (2012)  
dr Srdjan Jovic (2011)  
dr Andjelka Hedrih (2016)  
dr Danilo Karlicic (2016)  
dr Ljubinko Kevac (2017)  
dr Radoslav Radulovic (2017)  
dr Milan Cajic (2017)  
dr Marija Mikic (2018)

**Nine (9) one day Mini-symposiums** are organized by researchers of Project ON174001 for promotion of scientific results of researchers by team of Project ON174001 Dynamics of hybrid systems with complex structures, in which a number of researchers from aboard and otjer Serbian research project were participants. Organization of 7 by new Ph.D researcher from project ON174001.

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**Membr of Komission for defended Magister of sciences dissertation and/or consultations of following doctoranes**

Predrag KOZIĆ (1981) \* M\*  
Ratko PAVLOVIĆ (20 oktobar 1982) \*M  
Slavka MITIĆ (17 jun 1985) \*M  
Ljubiša PERIĆ (April-maj 1992) \*M  
Blagoj PAVLOV (7 april 1993) \*M

Dragan B. JOVANOVIĆ (14 decembar 1990) \*M  
Snežana MITIĆ (14 decembar 1990) \*M  
Aleksandar FILIPOVSKI ( 16 jun 1995) \*M  
Tomislav PETROVIĆ, (1979) \*K  
Zvonimir MIŠETIĆ (1979) \*K  
Mile MAKSIĆ, (1982)K  
Miodrag VELIMIROVIĆ (1985) \*K  
Vojislav MILTENOVIĆ,(1979) \*K  
Zoran MICKIĆ (1983) \*K  
Dragoslav STEVANOVIĆ (15 MART 1984) \*K  
Dragoljub ŠURDILOVIĆ (3 mart 1986) \*K  
Bojan RANČIĆ (29 septembar 1987) \*K  
Branko DEDOVIĆ (21 septembar 1989) \*K  
Dejan DIMITRIJEVIĆ (30 decembar 1997 - Kragujevac) \*K  
Ljudmila KUDRJAVCEVA (sept. 2000) \*K  
Maja JOVANOVIĆ ( ) \*M  
Julijana Simonovic (2008) \*M  
Srdjan Jovic (2009) \*M\*K

and other

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.....

**Mentor of Postgraduate Magister of Science Study (1076-200) at Faculty of Mechanical Engineering University of Niš**

.....  
.....

Ratko PAVLOVIĆ  
Slavka MITIĆ  
Ljubiša PERIĆ  
Blagoj PAVLOV  
Dragan B. JOVANOVIĆ \\\nSnežana MITIĆ  
Aleksandar FILIPOVSKI  
Goran Janevski  
Maksić Mile

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.....

and other

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## **List of Projects**

*Project Leader and SubProject Leader Katica R. (Stevanović) Hedrih  
Mechanical Engineering Faculty University of Niš and Mathematica Institute SANU*

**Oscillations of the System with many degrees of Freedom and Elastic Bodies with Nonlinear Properties**, Basic Scientific Found of Region Niš (1979-1981). Mechanical Engineering Faculty University of Niš .

**Oscillations of the Special Elements and Systems**, B Basic Scientific Found of Region Niš (1981-1986). Some research results included in two Magistar of sciences theses of P. Kozić and R. Pavlović. Mechanical Engineering Faculty University of Niš. Stochastic Processes in Dynamical Systems-Applications on the Mechanical Engineering Systems, Basic Scientific Found of Region Niš (1986-1989). Some research results included in Magistar of sciences theses of Sl. Mitić and in two doctoral dissertations of P. Kozić and R. Pavlović. Mechanical Engineering Faculty University of Niš.

**Nonlinear Deterministic and Stochastic Processes with Applications in Mechanical Engineering Systems**, Ministry of Science and Technology Republic of Serbia, (1990-1995). Some research results included in two Magistar of sciences theses of Blagoj Pavlov and Aleksandar Filipovski and in a doctoral dissertation of Sl. Mitić. Mechanical Engineering Faculty University of Niš.

**Sub-Projects 5.1. Thema: Stress and Strain State of the Deformable Bodies and 5.2. Theme: Vector Interpretation of Body Kinetic Parameters, as a part of Project: Actual Problems on Mechanic (1990-1995)**, Project Leader prof. dr Mane Šašić Ministry of Sciences, Technology and Development of Republic Serbia. Some research results included in three Magistar of sciences theses of Ljubiša Perić, Dragan Jovanović and Snežana Mitić. Mathematical Institute SANU.

**Sub-Project: 04M03A Current Problems on Mechanics and Applications (1996-2000), as a part of Project: Methods and Models in Theoretical, Industrial and Applied Mathematics**, Sub-Project Leader prof. Katica R. (Stevanović) Hedrih. Project Leader prof. dr Gradimir Milovanović, Ministry of Sciences, Technology and Development of Republic Serbia. Mathematica Institute SANU. (between researchers at **Sub-Project: 04M03A** are Dragović Vladimir, Jovanović Božidar, Gajić Borislav, Milena Radnović)

**Project 1616 – Real Problems on Mechanics (2002-2004)**, Basic Science-Mathematics and Mechanics, Ministry of Sciences, Technology and Development of Republic Serbia. Some research results included in two doctoral dissertations of Ljubiša Perić and Dragan Jovanović. Mathematical Institute SANU and Mechanical Engineering Faculty University of Niš.

**Project ON1828 Dynamics and Control of active Structures (2001-2005)**, Basic Science-Mathematics and Mechanics, Ministry of Sciences, Technology and Development of Republic Serbia. Some research results included in two doctoral

dissertations of Ljubiša Perić and Dragan Jovanović. Mechanical Engineering Faculty University of Niš.

**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. Some research results included in two Magistar of sciences theses of Srdjan Jović, and Julijana Simonović and in four doctoral dissertations of Dragan Jovanović, Srdjan Jović, Ljiljana Veljović and Julijana Simonović. Institution Coordinator: Mathematical Institute Serbian Academy of Sciences and Arts and Mechanical Engineering Faculty University of Niš.

**ON174001 - Dynamics of hybrid systems with complex structures. Mechanics of materials. (2011-2019),** Ministry of Sciences and Technology of Republic of Serbia. Some research results included in three doctoral dissertations of Srdjan Jović, Ljiljana Veljović and Julijana Simonović. Institution Coordinator: Mathematical Institute Serbian Academy of Sciences and Arts, and 12 faculties in Serbia are realiyators, and between them Mechanical Engineering Faculties University of Belgrade and Niš, Faculty of Mathematics University of Belgrade, Inovation Centre of Electrotechnical faculty University of Belgrade, Faculty of technical sciences in Kosovska Mitrovic University of Priština, State University of Novi Pazar, Faculty of Engineering sciences of University of Kragujevac and other. .

[http://www.mi.sanu.ac.rs/novi\\_sajt/research/projects.php](http://www.mi.sanu.ac.rs/novi_sajt/research/projects.php)

[http://www.mi.sanu.ac.rs/novi\\_sajt/research/projects/174001a.php](http://www.mi.sanu.ac.rs/novi_sajt/research/projects/174001a.php)

**Researchers from tema of Project ON174001 defended Ph.D dissertation on the basis of the research scientific results of the Project ON174001**

dr Ljiljana Veljovic (2011)  
dr Julijana Simonovic (2012)  
dr Srdjan Jovic (2011)  
dr Andjelka Hedrih (2016)  
dr Danilo Karlicic (2016)  
dr Ljubinko Kevac (2017)  
dr Radoslav Radulovic (2017)  
dr Marija Mikic (2018)  
dr Milan Cajic (2017)

**Nine (9) one day Mini-symposiums** are organized by researchers of Project ON174001 for promotion of scientific results of researchers by team of Project ON174001 Dynamics of hybrid systems with complex structures, in which a number of researchers from abroad and other Serbian research project were participants. .

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## University publications written by Katica R. (Stevanović) Hedrih



Hedrih (Stevanović) , Katica, *IZABRANA POGLAVLJA TEORIJE ELASTIČNOSTI* (Some chapters in Theory of Elasticity), II IZDANJE - prošireno i dopunjeno, Mađinski fakulvez Niš (Niš, 1988) <http://elibrary.matf.bg.ac.rs/handle/123456789/3766>

Hedrih (Stevanović) , Katica , *ZBIRKA REŠENIH ZADATAKA IZ TEORIJE ELASTIČNOSTI* (Collection of solved tasks in Theoru of Elasticity), Naučna Knjiga, Beograd , 1991. <http://elibrary.matf.bg.ac.rs/handle/123456789/377>

Svetlana Janković, Petar Protić, K. (Stevanović) Hedrih, *Parcijalne diferencijalne i integralne jednačine sa primenama u inženjerstvu* (Partia; differential



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## Chapters in books written by Katica R. (Stevanović) Hedrih



Katica Stevanovic Hedrih, (2013), Nonlinear Dynamics of a Heavy Material Particle along a Circle Which Rotates and Optimal Control, Chapter in Book IUTAM Symposium on Chaotic Dynamics and Control of Systems and Processes in Mechanics, Editors: [G. Rega](#), and [F. Vestroni](#) , Volume 122 of the series Solid Mechanics and its Applications, pp 37-45. Kluwer and Springer , ISBN: 978-1-4020-3267-7 (Print) 978-1-4020-3268-4 (Online)  
<http://springerlink.com/content/v3426kp5483w3v00/?p=af7754855fef4487bf3c169778ad50e0&pi=3>

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. ISBN 3-86608-025-3 BARCOD 9-783866-0802063  
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Katica R. (Stevanović) Hedrih, Stochastic Dynamics of Hybrid Systems with Thermorheological Hereditary Elements, **Chapter in** Book 2009, Modeling, Simulation and Control of Nonlinear Engineering Dynamical Systems, State-of-the-Art, Perspectives and Applications, Editors: [Jan Awrejcewicz](#), pp 289-299. Springer, ISBN: 978-1-4020-8777-6 (Print) 978-1-4020-8778-3 (Online)  
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Katica R. (Stevanović) Hedrih, Energy and Nonlinear Dynamics of Hybrid Systems, 3. Chapter, Pages 29-83., Dynamical Systems and Methods  
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Springer, ISBN: 978-1-4614-0453-8 (Print) 978-1-4614-0454-5 (Online)

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*Katica (Stevanović) Hedrih and Tijana Ivancevic*, RIGOROUS KINETIC ANALYSIS OF THE RACKET FLICK-MOTION IN TENNIS FOR GENERATING TOPSPIN AND BACKSPIN, In: International Journal of Mathematics, Game Theory and Algebra, Volume 20, Issue 2, pp. 1–26 © 2011 Nova Science Publishers, Inc., ISSN: 1060-9881

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*Katica (Stevanović) Hedrih and Tijana Ivancevic*, RIGOROUS KINETIC ANALYSIS OF THE RACKET FLICK-MOTION IN TENNIS FOR GENERATING TOPSPIN AND BACKSPIN, *Chapter 5*, In In: Horizons in World Physics – Volume 276, pp. 167-192.

Editor: Albert Reimer 2011 Nova Science Publishers, Inc. ISBN 978-1-61324-654-2

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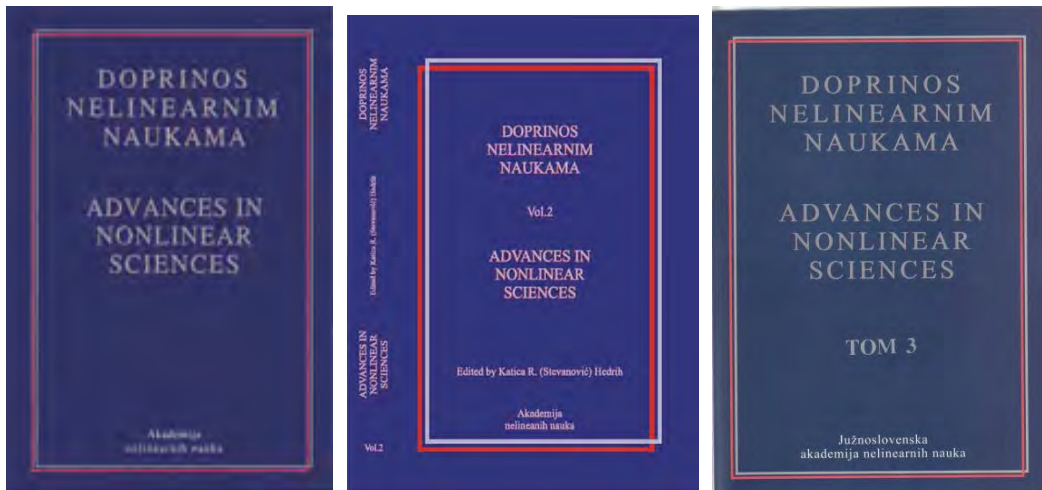
Andjelka N. Hedrih, Katica R. (Stevanović) Hedrih. (2014) Modeling Double DNA Helix Main Chains of the Free and Forced Fractional Order Vibrations. Ch 7 In: Advanced Topics on Applications of Fractional Calculus on Control Problems, System Stability and Modeling (eds: Mihailo Lazarevic, Nikos Mastorakis. (2014), pp. 145-183. and Appendix E pp. 192-200. WSEAS Press. ISBN: 978-960-474-348-3  
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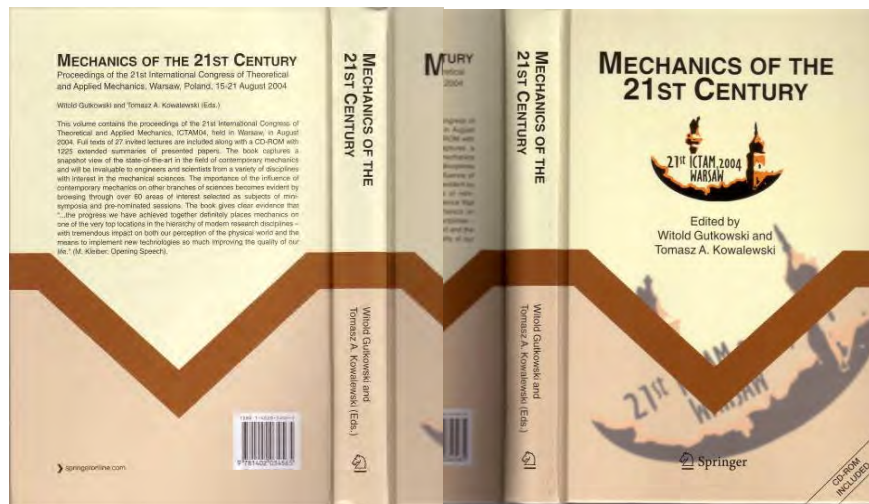
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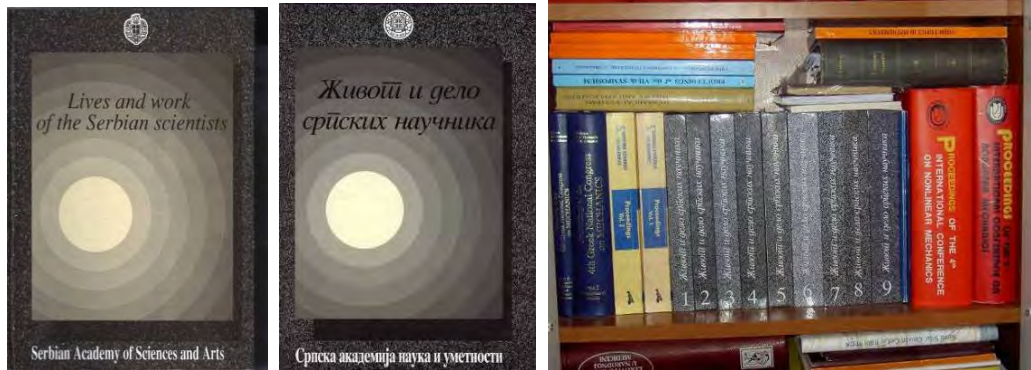
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## Hystory of sciences in Serbia writtem by Katica (Stevanović) Hedrih

Katica (Stevanović) Hedrih has done a number of scientific and research works and biobibliography of Serbian scientists, among them four published biobibliographies of scientists in the field of mechanics for **the edition of the SASA "Life and work of Serbian scientists"**. She did the fifth biobibliography on Professor Vlatko Brčić in co-operation with Stanko Brčić, and she submitted her review in 2018 and is still on the review.



**Edition SASA: Lives and Work of Serbian Scientists**, Edited by Academician **Miloje Sarić**, Edition of Serbian Academy of Sciences and Arts, Beograd. Biographies and Bibliographies. Committee for the Research into the lives and Vork of the Scientistts of Serbian Origin (In Serbian with Abstract in English).

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\* Hedrih (Stevanović), K.

Академик Љубомир Клерић (1844-1910), Биобиблиографија, поглавље у књизи: Живот и дело српских научника, уредник академик Милоје Сарић, Српска Академија наука и Уметности, Биографије и библиографије, књига И, , стр. 129-179, Београд 1996. САНУ Београд.

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in Volume III.

\* Hedrih (Stevanović), K.

Ректор Коста Алковић (1836-1909), Биобиблиографија, поглавље у књизи: Живот и дело српских научника, уредник академик Милоје Сарић, Српска Академија наука и Уметности, Биографије и библиографије, књига ИИИ, , стр. 33-71, Београд 1998. САНУ Београд.

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in Volume VI.

\* Katica (Stevanović) Hedrih,

Академик Татомир П. Андјелић (1903-1993), Биобиблиографија, поглавље у књизи: Живот и дело српских научника, уредник академик Милоје Сарић, Српска Академија наука и Уметности, Биографије и библиографије, књига ВИ, стр. 435-485, Београд 2000.

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\* Katica (Stevanović) Hedrih i Milovan Studović

Професор Данило П. Рашковић (1910-1985), Биобиблиографија, поглавље у књизи: Живот и дело српских научника, уредник академик Милоје Сарић, Српска Академија наука и Уметности, Биографије и библиографије, књига IX, стр., Београд 2003. (to appear) (Professor Danilo P. Rašković (1910-1985), Bio-bibliography, Chapter in book: Lives and work of the Serbian Scientists, Edited by Academician Vladan Djordjević, Edition of Serbian Academy of Sciences and Arts, Beograd. Biographies and Bibliographies. Committee for the Research into the lives and Work of the Scientists of Serbian Origin. Book IX., pp. 239-270, Beograd 2003.-to appear, (In Serbian with Abstract in English)).

Supplement Book in English

Lives and Work of the Serbian Scientists, Volume I-X, Book of Abstracts, 2007p. 458, Edited by Academician Vladan Djordjević, Dragomir Vitorovic and Dragoslav Marinkovic, Edition of Serbian Academy of Sciences and Arts, Beograd. Biographies and Bibliographies. Committee for the Research into the lives and Work of the Scientists of Serbian Origin:

Hedrih (Stevanović), K., Akademik Ljubomir Klerić (1844-1910), pp. 125-128.

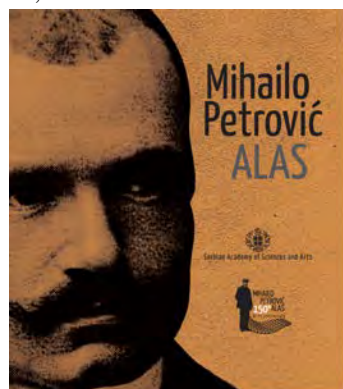
Hedrih (Stevanović), K., Rektor Kosta Alković (1836-1909), pp.3-4.

Katica (Stevanović) Hedrih, Akademik Tatomir P. Andjelić (1903-1993.), pp.9-12.

Katica (Stevanović) Hedrih i Milovan Studović, Profesor Danilo P. Rašković (1910-1985), pp. 303-306.

Katica (Stevanović) Hedrih published a single address-word about **Mihailo Petrović** in the monograph "**Legends of the Belgrade University**" of the University Library "Svetozar Marković" in Belgrade and one in the publication of the Serbian Academy of Sciences and Rectorate of the University of Belgrade "**Serbian Mathematicians**". One article about the patents of Mihailo Petrović, mathematician, was written for the Catalog of the exhibition in the Gallery of the Serbian Academy of Sciences and Arts, which is dedicated to the Jubilee for the 150th anniversary of the birth of the founder of the Serbian School of Mathematics Mihailo Petrović. For the monograph on Mihailo Petrovic, published by the Serbian Academy of Sciences and Arts on the occasion of the same anniversary, she wrote an article titled: "**Mechanics and Engineering in Mihailo Petrovic's work**".

She published more than a dozen articles on Serbian and International scientists, such as Euler, Lyapunov, Sofia Kovalyevska, Pushkin and others.







Katica (Stevanović) Hedrich held a large number of studies in history and philosophy of science and thus made a significant contribution not only to the promotion of the edition of SASA **Life and Work of Serbian Scientists**, writing a number of biobibliography for the first published issue of this series on Serbian scientists in the field of mechanics: Lj . Klerić, K.Alković, T. Andjelić, D. Rašković and Vlatko Brčić, but also the promotion of Serbian science through a series of lectures at MI SANU Seminars, SANU Gallery, M3, Ilija Kolarac Foundation etc.

Hedrih (Stevanović), K., Beseda o Mihajlu Petroviću, Legende Beogradskog Univerziteta, Univerzitet u Beogradu, Univerzitetska biblioteka „Svetozar Markovic“ u Beogradu, 2005, str. 37-48.

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Katica (Stevanović) Hedrih, Profesor Danilo P. Rašković (1910-1985)- Ceo život posvećen mehanici, inženjerstvu i matematici, Istorijska Baština, 19, str. 155-192. casopis za istoriju I arhivistiku, Arhiv Užice, 2010. ISSN 0352-2822 , BarCod ISBN 9770-352-282003

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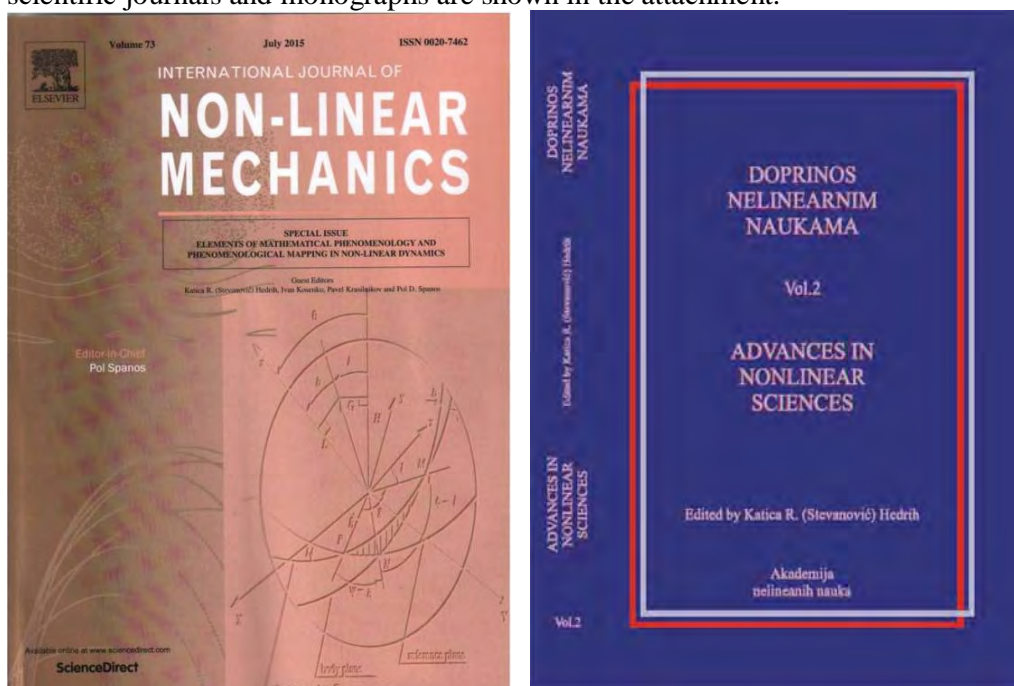
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Katica (Stevanović) Hedrih, Kostantin Kosta Alkovic I Ljubomir Klerič, prvi profesori mehanike i uticaj i uticaj mehanike na razvoj inženjerstva u Srbiji u drugoj polovini devetnaestog veka, Proceedings of YUCTAM, Vrnjačka Banja 1997, Round Table: OM. History of Mechanics in Yugoslavia, pp. 1-25.

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## Editorial works and scientific activity by Katica (Stevanović) Hedrih

Katica (Stevanović) Hedrih, as a competent scientist, has arranged a number of scientific publications, as a guest editor. The contributions of some of these published scientific journals and monographs are shown in the attachment.



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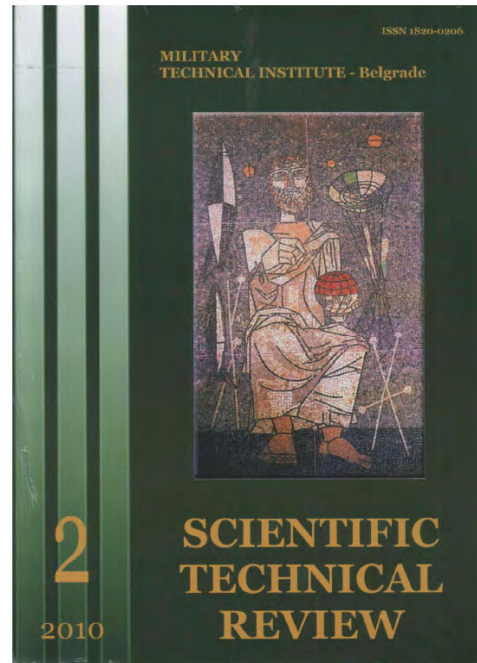
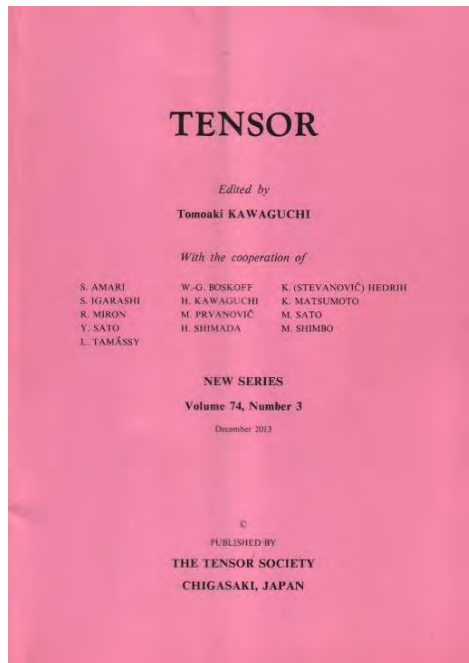
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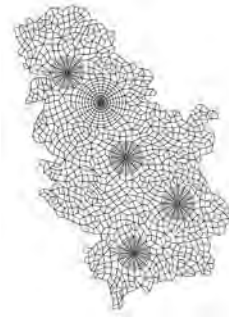
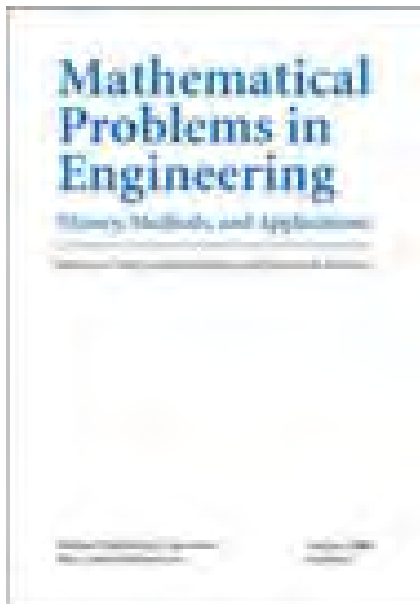
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Book cover for 'THEORETICAL AND APPLIED MECHANICS' (Theoretical and Applied Mechanics / Teorijska i primjenjena mehanika), Vol. 1-2, 2013. Edited by Katica R. (Stevanović) Hedrih and Žarko Mijajlović. Published by the Serbian Society of Mechanics, Belgrade 2012.

Book cover for 'THEORETICAL AND APPLIED MECHANICS' (Theoretical and Applied Mechanics / Teorijska i primjenjena mehanika), Vol. 41 (1979-1978). Edited by Katica R. (Stevanović) Hedrih and Žarko Mijajlović. Published by the Serbian Society of Mechanics, Belgrade 2014.



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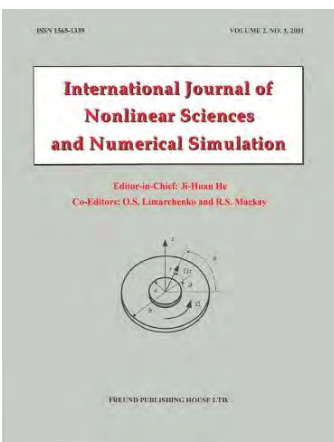
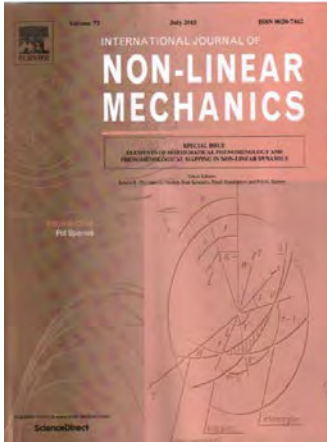
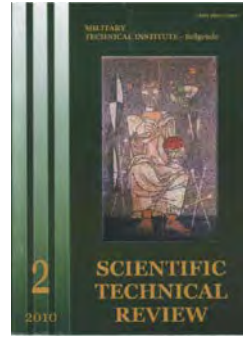
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- Vol. 2, No. 7/2, 1997
- Vol. 2, No. 8, 1998
- Vol. 2, No. 9, 1999
- Vol. 2, No. 10, 2000
- Vol. 3, No. 11, 2001
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- Vol. 3, No. 13, 2003
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- Vol. 5, No. 1, 2006
- Vol. 6, No. 1, 2007
- Vol. 7, No. 1, 2008 *New!*

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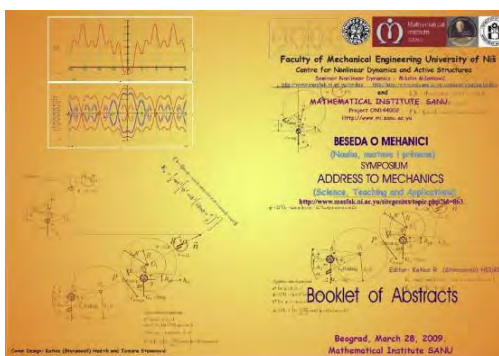
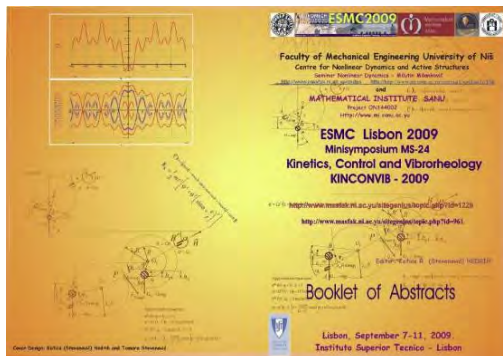
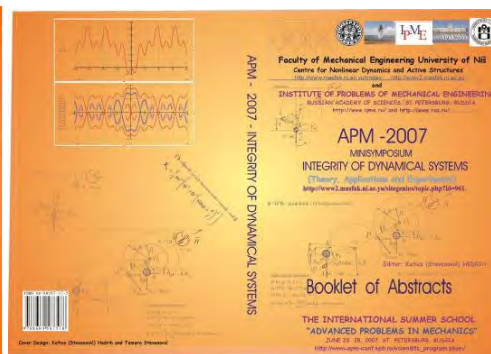
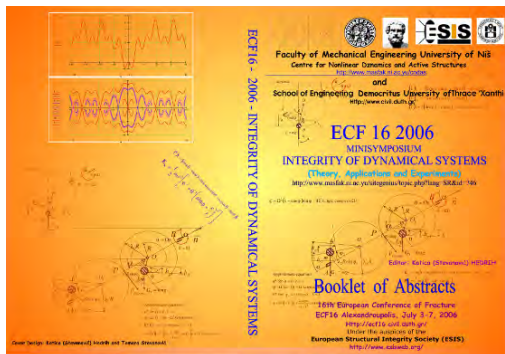
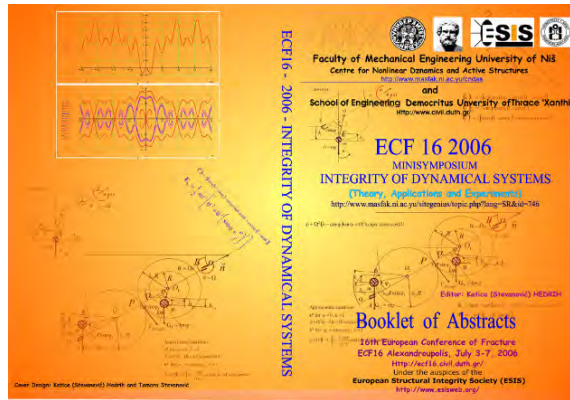
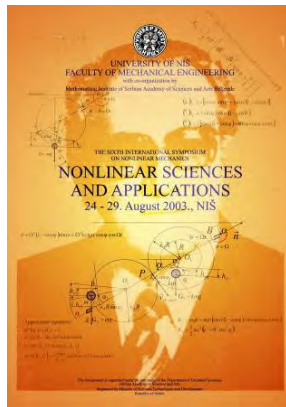
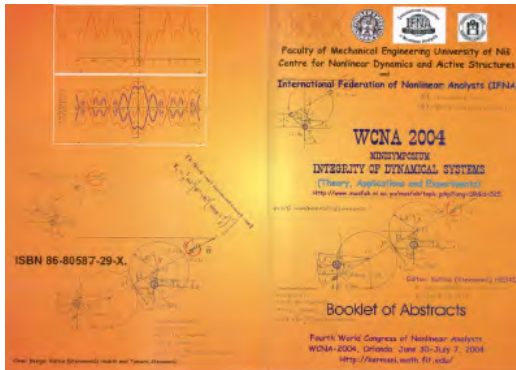
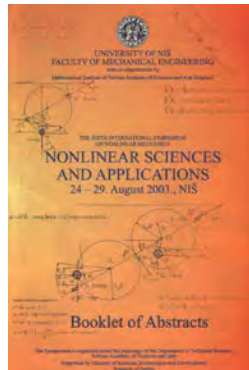
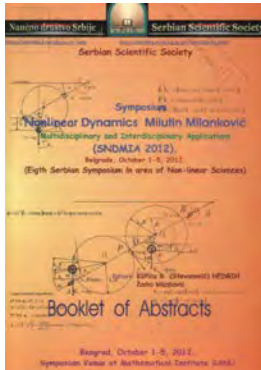
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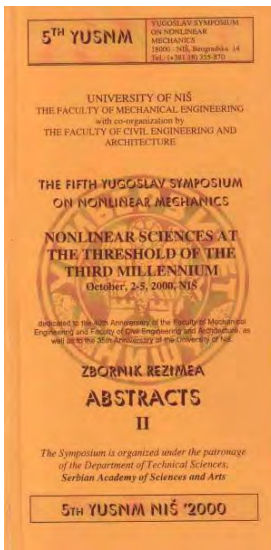
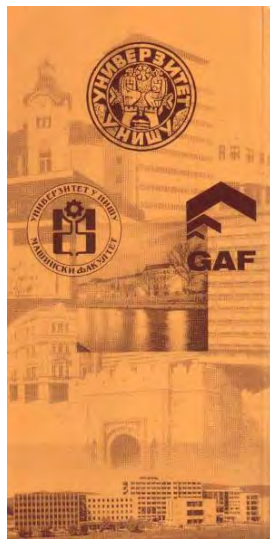
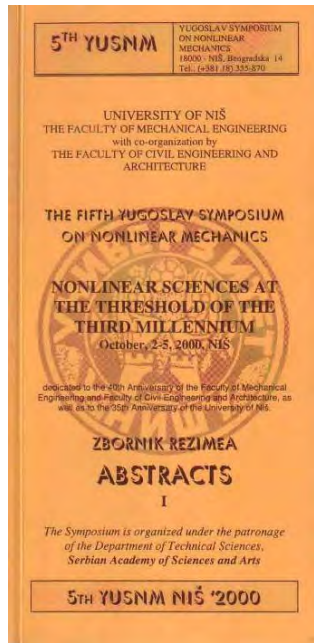
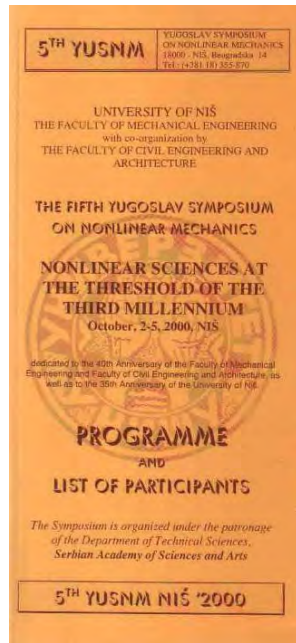
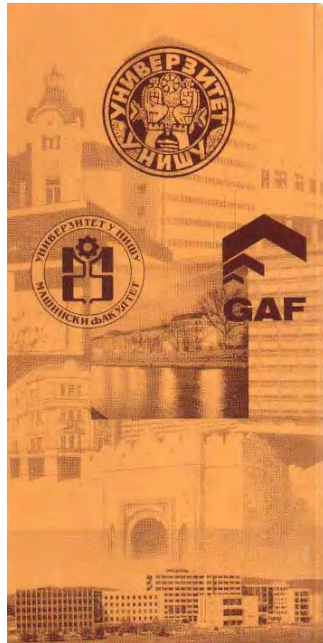


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## Organization of THE scientific meetings by Katica (Stevanović) Hedrih









*Serbian Symposium on Nonlinear Mechanics, Arandjelovac, 1984; Invited Lecturer Academician RAN and NANU Yu. A. Mitropolskiy (KIEV) in Niš*



*Invited Lecturer: Professor Willam Nash from MIT Massachusetts at Yugoslav Conference on Deterministic and Stochastic Processes in Dynamical Systems with Applications Nis 1991*



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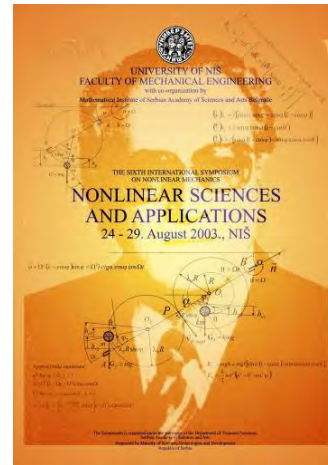
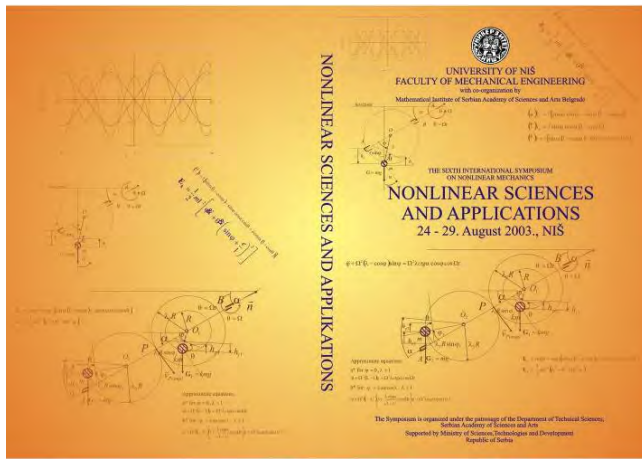


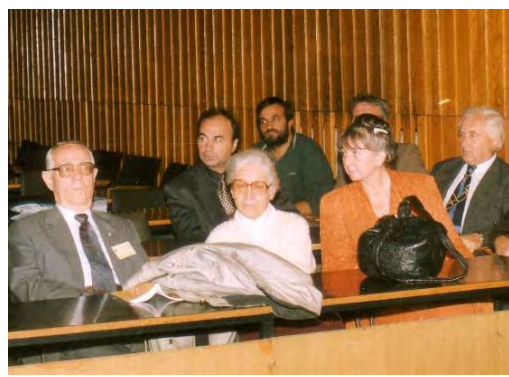
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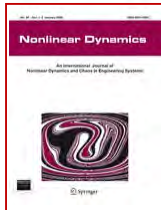




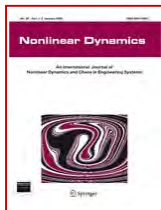
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2019



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**DOI: 10.1007/s11071-019-04988-6**  
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Katica R. (Stevanović) Hedrih, Stanko V. Brčić and Stepa Paunović , (2019), Application of photoelasticity to some nonlinear dynamic problems and stress state analysis in dams: A brief overview inspired by the results of Prof. Vlatko Brčić, Springer Proceedings, 2019. (accepted, in press)

Katica R. (Stevanović) Hedrih (2019), Independent fractional type modes of free and forced vibrations of discrete continuum hybrid systems of fractional type with multi-deformable bodies, Springer Proceedings, 2019. (accepted, in press)

Ivana D. Atanasovska, Katica R. (Stevanović) Hedrih and Dejan B. Momčlović,, (2019) A Theoretical Model for Vibro-impact Dynamics of Spur Gears with Tooth Flanks Wear, Springer Proceedings, 2019. (accepted, in press)

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## Scientific and public lectures

[Mathematical Institute of the Serbian Academy of Sciences and Arts](http://www.mi.sanu.ac.rs)

Seminar for History and Philosophy of Mathematics and Mechanics  
UTORAK, 26.03.2019. u 12:15 sati

*Katica R. (Stevanović) Hedrih, Matematički institut SANU*

MILUTIN MILANKOVIĆ OSUNČAN SEĆANJIMA AKADEMIKA TATOMIRA ANĐELIĆA, MILEVE PRVANOVIĆ I BOGOLJUBA STANKOVIĆA

[http://www.mi.sanu.ac.rs/novi\\_sajt/seminars/programs/seminar12.mar2019.php](http://www.mi.sanu.ac.rs/novi_sajt/seminars/programs/seminar12.mar2019.php)

[Mathematical Institute of the Serbian Academy of Sciences and Arts](http://www.mi.sanu.ac.rs)

Seminar on Computer Science and Applied Mathematics [Utorak, 26.02.2019. u 14:15, Sala 301f, MI SANU, Kneza Mihaila 36](http://www.mi.sanu.ac.rs)

*Katica R. (Stevanović) Hedrih, Department of Mechanics, Mathematical Institute of Serbian Academy of Science and Arts, Belgrade, Serbia*

FRACTIONAL TYPE MODES OF THE VIBRATIONS OF DISCRETE CONTINUUM HYBRID SYSTEMS CONTAINING MULTI-DEFORMABLE BODIES

[http://www.mi.sanu.ac.rs/novi\\_sajt/seminars/programs/seminar2.feb2019.php](http://www.mi.sanu.ac.rs/novi_sajt/seminars/programs/seminar2.feb2019.php)



Понедељак 13 мај

Катица (Стевановић) Хедрих: Математички институт САНУ

Милутин Миланковић осунчан изложбом акад. Ђ. Злоковића и сећањима

акад. Т. Анђелића, М. Првановић и Б. Станковића, (Milutin Milanković in memory of Serbian academicians: Dj. Zloković, T.P. Andkelić, M. Prvanović and B. Stanković),

Галерија науке и технике САНУ, <http://m3.cpn.rs/program.php>



**Галерија науке и технике САНУ,  
Ђуре Јакшића 2, Београд**  
**09. мај – 20. мај 2019. Сваког радног дана  
од 10 до 20 часова,  
суботом од 10 до 15 часова**

**ПОНЕДЕЉАК, 13. МАЈ**  
18:00  
Милутин Миланковић осунчан изложбом акад. Ћ. Злоковића и сећањима акад. Т. Анђелића, М. Првановић и Б. Станковића  
Предавање  
проф. др Катица Стевановић Хедрих, Математички институт САНУ

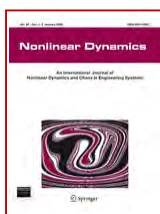


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Четвртак, 23 мај, 18:00  
У посети Музеју великана Харковске политехнике: А.М. Љапунов и Лав Ландау  
Лектор: проф. др Катица (Стевановић) Хедрих, Математички институт САНУ

Четвртак 23 мај  
Катица (Стевановић) Хедрих: Математички институт САНУ  
У посети Музеју великана Харковске политехнике: А. М. Љапунов и Лав Ландау (In Visit to Kharkov Politechnic important scientists: A. M. Lyapunov and Lav Landau), Галерија на Андрићевом венцу у Београду.  
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<https://link.springer.com/article/10.1007/s11071-017-3988-x>  
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[http://www.springer.com/engineering/mechanics/journal/11071?detailsPage=pltc1\\_1888917](http://www.springer.com/engineering/mechanics/journal/11071?detailsPage=pltc1_1888917)



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## Scientific Lectures at Scientific Seminars

[Mathematical Institute of the Serbian Academy of Sciences and Arts](http://www.mi.sanu.ac.rs)

Seminar for History and Philosophy of Mathematics and Mechanics

UTORAK, 08.05.2018. u 12:15 sati

Katica (Stevanović) Hedrih, Matematički institut SANU, Beograd

PETROVIĆEVI PRONALASCI, PATENTI I DELA KAO IDEJNE PRETEČE I NADAHNUĆA ZA NOVE I SAVREMENE NAUČNE I TEHNOLOŠKE DOPRINOSE  
[http://www.mi.sanu.ac.rs/novi\\_sajt/seminars/programs/seminar12.may2018.php](http://www.mi.sanu.ac.rs/novi_sajt/seminars/programs/seminar12.may2018.php)

[Mathematical Institute of the Serbian Academy of Sciences and Arts](#)

Seminar on Computer Science and Applied Mathematics

UTORAK, 29.05.2018. u 14:15, Sala 301f, MI SANU, Kneza Mihaila 36

*Katica (Stevanović) Hedrih, Matematički institut SANU, Beograd*

POGLED S DRUGE STRANE U DELA BARDA MATEMATIKE: PRONALASCI I PATENTI MIHAILA PETROVIĆA

[http://www.mi.sanu.ac.rs/novi\\_sajt/seminars/programs/seminar2.may2018.php](http://www.mi.sanu.ac.rs/novi_sajt/seminars/programs/seminar2.may2018.php)

[Mathematical Institute of the Serbian Academy of Sciences and Arts](#)

Seminar for History and Philosophy of Mathematics and Mechanics

UTORAK, 30.10.2018. u 12:15 sati

*Katica (Stevanović) Hedrih, Matematički institut SANU, Beograd*

PETROVIĆEVA TEORIJA „ELEMENTI MATEMATIČKE FENOMENOLOGIJE“ - NADAHNUĆE ZA NIZ MOJIH NAUČNIH DOPRINOSA

[http://www.mi.sanu.ac.rs/novi\\_sajt/seminars/programs/seminar12.oct2018.php](http://www.mi.sanu.ac.rs/novi_sajt/seminars/programs/seminar12.oct2018.php)

[Mathematical Institute of the Serbian Academy of Sciences and Arts](#)

Seminar on Computer Science and Applied Mathematics

UTORAK, 16.10.2018. u 14:15, Sala 301f, MI SANU, Kneza Mihaila 36

*Katica (Stevanović) Hedrih, Matematički institut SANU, Beograd*

ROLLING HEAVY BALL OVER THE SPHERE AND ANALYSIS OF DYNAMICS OF VIBRO-IMPACT SYSTEMS WITH ROLLING BALLS OVER THE SPHERE

[http://www.mi.sanu.ac.rs/novi\\_sajt/seminars/programs/seminar2.oct2018.php](http://www.mi.sanu.ac.rs/novi_sajt/seminars/programs/seminar2.oct2018.php)

[Mathematical Institute of the Serbian Academy of Sciences and Arts](#)

Seminar for History and Philosophy of Mathematics and Mechanics

UTORAK, 03.04.2018. u 12:15 sati

*Katica (Stevanović) Hedrih, Matematički institut SANU, Beograd*

FOTOELASTIČNOST VLATKA BRČIĆA

[http://www.mi.sanu.ac.rs/novi\\_sajt/seminars/programs/seminar12.apr2018.php](http://www.mi.sanu.ac.rs/novi_sajt/seminars/programs/seminar12.apr2018.php)

[Mathematical Institute of the Serbian Academy of Sciences and Arts](#)

Mechanics Colloquium

SREDA, 07.11.2018 u 18:00, Sala 301f, MI SANU, Kneza Mihaila 36

*Katica (Stevanović) Hedrih, Matematički institut SANU*

UBRZANJE DRUGOG REDA (TRZAJ) PRI OBRTANJU TELA OKO NEPOMIČNE TAČKE, *Povodom pola veka od publikovanja istoimenog rada*

[http://www.mi.sanu.ac.rs/novi\\_sajt/colloquiums/programs/mechcoll.nov2018.php](http://www.mi.sanu.ac.rs/novi_sajt/colloquiums/programs/mechcoll.nov2018.php)

[Mathematical Institute of the Serbian Academy of Sciences and Arts](#)

Seminar for RELATIVITY THEORY AND COSMOLOGICAL MODELS

SREDA, 07.11.2018. u 11:00, Sala 301f, MI SANU, Kneza Mihaila 36

*Katica (Stevanović) Hedrih, Matematički institut SANU*

UBRZANJE DRUGOG REDA (TRZAJ) PLANETA

[http://www.mi.sanu.ac.rs/novi\\_sajt/seminars/programs/seminar19.nov2018.php](http://www.mi.sanu.ac.rs/novi_sajt/seminars/programs/seminar19.nov2018.php)

[Mathematical Institute of the Serbian Academy of Sciences and Arts](#)

Seminar Mechanics of Machines and Mechanisms - Models and Mathematical Methods

UTORAK, 12.06.2018. u 17:00, Sala 301f, MI SANU, Kneza Mihaila 36

*Katica (Stevanović) Hedrih, Mathematical Institute of SASA*

PHASE TRAJECTORY METHOD AND TRIGGER OF COUPLED THREE SINGULAR POINTS IN INVESTIGATION OF DIFFERENT MODEL NONLINEAR DYNAMICS OF MULTI-STEP REDUCTOR/MULTIPLIER SYSTEMS

[http://www.mi.sanu.ac.rs/novi\\_sajt/seminars/programs/seminar21.jun2018.php](http://www.mi.sanu.ac.rs/novi_sajt/seminars/programs/seminar21.jun2018.php)

[Mathematical Institute of the Serbian Academy of Sciences and Arts](#)

Seminar Mechanics of Machines and Mechanisms - Models and Mathematical Methods

UTORAK, 12.06.2018. u 17:00, Sala 301f, MI SANU, Kneza Mihaila 36

*Katica (Stevanović) Hedrih, Mathematical Institute of SASA*

PHASE TRAJECTORY METHOD AND TRIGGER OF COUPLED THREE SINGULAR POINTS IN INVESTIGATION OF DIFFERENT MODEL NONLINEAR DYNAMICS OF MULTI-STEP REDUCTOR/MULTIPLIER SYSTEMS

[http://www.mi.sanu.ac.rs/novi\\_sajt/seminars/programs/seminar21.jun2018.php](http://www.mi.sanu.ac.rs/novi_sajt/seminars/programs/seminar21.jun2018.php)

[Mathematical Institute of the Serbian Academy of Sciences and Arts](#)

Seminar Mechanics of Machines and Mechanisms - Models and Mathematical Methods

UTORAK, 18.12.2018. u 17:00, Sala 301f, MI SANU, Kneza Mihaila 36

*Katica (Stevanović) Hedrih, Mathematical Institute of SASA, Belgrade, Serbia*

PRESENTATION OF THE RESEARCH RESULTS: PROJECT 174001 (2011-2018) DYNAMICS OF HYBRID SYSTEMS WITH COMPLEX STRUCTURES. MECHANICS OF MATERIALS.

[http://www.mi.sanu.ac.rs/novi\\_sajt/seminars/programs/seminar21.dec2018.php](http://www.mi.sanu.ac.rs/novi_sajt/seminars/programs/seminar21.dec2018.php)

## Научно друштво Србије и Задужбина Илије Коларца-ПРЕДАВАЊА

<http://www.kolarac.rs/>

[predavanja@kolarac.rs](mailto:predavanja@kolarac.rs)<[predavanja@kolarac.rs](mailto:predavanja@kolarac.rs)>;

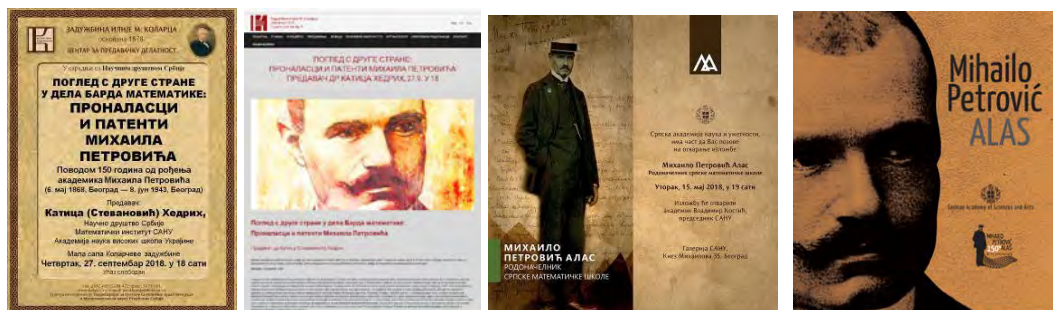
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*Поглед с друге стране у дела Барда математике: Проналасци и патенти Михаила Петровића,*

### Задужбина Илије Коларца-ПРЕДАВАЊА

Povodom obeležavanja Jubileja 150 godina od rođenja Mihaila Petrovića. Predavanje održano u četvrtak 27.09.2018.

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МИХАИЛО ПЕТРОВИЋ АЛАС: РОДОНАЧЕЛНИК СРПСКЕ МАТЕМАТИЧКЕ ШКОЛЕ

17. мај, 13 сати , Галерија САНУ

## **Мултидимензионалност легата барда математике: феноменолошко пресликавање, проналасци и патенти Михаила Петровића**

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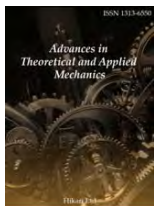
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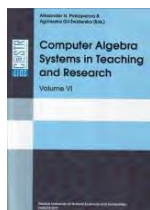
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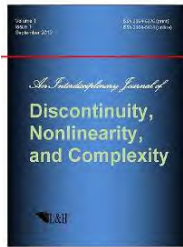
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*Katica (Stevanovi}) HEDRIH*, Tensor equations of the dynamics of the discrete systems with hereditary and/or fractional type light elements, Program and Abstracts of **The 15th INTERNATIONAL CONFERENCE OF TENSOR SOCIETY DIFFERENTIAL GEOMETRY AND ITS APPLICATIONS, AND INFORMATICS BESIDES**, Shinshu University, Aug. 21-25, 2017, pp. 4-6,

Hedrih (Stevanović) Katica , Non-linear dynamics of a heavy mass particle and rolling ball along curvilinear trace of series of circle arcs: Phase trajectory portraits, some analogies and vibro-impacts, 342- invited participant in MS-09 Nonlinear Dynamics in Engineering Systems , The 9th European Nonlinear Dynamics Conference (ENOC 2017) in Budapest, Hungary, 25-30 June, 2017 in the campus of Budapest University of Technology and Economics. [www.congressline.hu/enoc2017/](http://www.congressline.hu/enoc2017/); **ID.342**;  
<http://www.congressline.hu/enoc2017/abstracts/342.pdf>; **ISBN 978-963-12-9168-1**

**MS-09 Nonlinear Dynamics in Engineering Systems (ENOC 2017)**

**Co-organizers:**

Yuri Vladimirovich Mikhlin, *National Technical University "Kharkov Polytechnical Institute"*  
Matthew Cartmell, *The University of Sheffield*  
Konstantin Vitalievich Avramov, *NAS of Ukraine*

Hedrih (Stevanović) Katica , Energy method applied to the asymptotic methods of Non-linear mechanics, 343, Ibvited participant in MS-02 Asymptotic Methods, The 9th European Nonlinear Dynamics Conference (ENOC 2017) in Budapest, Hungary, 25-30 June, 2017 in the campus of Budapest University of Technology and Economics. [www.congressline.hu/enoc2017/](http://www.congressline.hu/enoc2017/); **ID.343**;  
<http://www.congressline.hu/enoc2017/abstracts/343.pdf>; **ISBN 978-963-12-9168-1**.

## **MS-02 Asymptotic Methods (ENOC 2017)**

### **Co-organizers:**

Igor V. Andrianov, *Aachen University*

Jan Awrejcewicz, *University of Lodz*

Leonid I. Manevitch, *Russian Academy of Sciences*

Hedrih Andjelka and Hedrih (Stevanović) Katica, Analysis of oscillatory motions of chromosomes during anaphase using biomechanical oscillatory model of mitotic spindle, 372, MS-13 Nonlinear Dynamics in Biological Systems. **The 9th European Nonlinear Dynamics Conference (ENOC 2017) in Budapest, Hungary, 25-30 June, 2017 in the campus of Budapest University of Technology and Economics.** [www.congressline.hu/enoc2017.ID.372.](http://www.congressline.hu/enoc2017.ID.372.), <http://congressline.hu/enoc2017/abstracts.php?page=10>, ISBN 978-963-12-9168-1

## **MS-13 Nonlinear Dynamics in Biological Systems**

### **Co-organizers:**

Gert van der Heijden, *University College, London*

Sachin Goyal, *University of California*

Gergely Röst, *University of Szeged*

Katica R. (Stevanović) Hedrih, EXTENDED CLASSICAL THEORY OF IMPACTS BY KINEMATICS AND DYNAMICS OF TWO ROLLING BODIES IN COLLISION, The 6th CONGRESS OF SERBIAN SOCIETY OF MECHANICS held at Tara Mountain, Hotel Omorika, June 19-21, 2017, Serbia

[http://www.ssm.org.rs/congress\\_2017/home.html](http://www.ssm.org.rs/congress_2017/home.html)

Proceedings, The 6th International Congress of Serbian Society of Mechanics, Tara, June 19-21, 2017, Edited by: Mihailo Lazarević et al. Published by Serbian Society of Mechanics and Faculty of Mechanical Engineering, University of Belgrade, Belgrade. ISBN 978-86-909973-6-7. **128 str.**

Katica R. (Stevanović) Hedrih, Phase portrait and energy surface of non-linear system with one degree of freedom: Characteristic examples, The 6th CONGRESS OF SERBIAN SOCIETY OF MECHANICS will be held at Tara Mountain, Hotel Omorika, June 19-21, 2017, Serbia

[http://www.ssm.org.rs/congress\\_2017/home.html](http://www.ssm.org.rs/congress_2017/home.html)

Proceedings, The 6th International Congress of Serbian Society of Mechanics, Tara, June 19-21, 2017, Edited by: Mihailo Lazarević et al. Published by Serbian Society of Mechanics and Faculty of Mechanical Engineering, University of Belgrade, Belgrade. ISBN 978-86-909973-6-7. **153 str.**

M3c: Andjelka N. Hedrih, Katica (Stevanović) Hedrih, Resonance as potentis mechanism for homolog chromosomes separation through biomechanical oscillatory model of mitotic spindle, The 6th CONGRESS OF SERBIAN SOCIETY OF MECHANICS will be held at Tara Mountain, Hotel Omorika, June 19-21, 2017, Serbia

[http://www.ssm.org.rs/congress\\_2017/home.html](http://www.ssm.org.rs/congress_2017/home.html)

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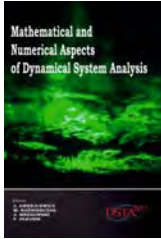
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Katica (Stevanović) Hedrih, **SARADNJA NAUČNIKA IZ SRBIJE I JAPANA**, 45 minutno predavanje u okviru seminara: Seminar for History and Philosophy of Mathematics and Mechanics, *Matematički institut SANU, Beograd*, **UTORAK, 24.10.2017. u 12:15 sati**, [http://www.mi.sanu.ac.rs/novi\\_sajt/seminars/programs/seminar12.oct2017.php](http://www.mi.sanu.ac.rs/novi_sajt/seminars/programs/seminar12.oct2017.php)

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Katica R. (Stevanović) Hedrih, ANGULAR VELOCITY AND INTENSITY CHANGE OF THE BASIC VECTORS OF POSITION VECTOR TANGENT SPACE OF A MATERIAL SYSTEM KINETIC POINT: 8 EXAMPLES, 45 minutno predavanje u okviru seminara: Seminar for RELATIVITY THEORY AND COSMOLOGICAL MODELS, *Matematički institut SANU, Beograd*, SREDA, 22.03.2017. u 11:00, Sala 301f, MI SANU, Kneza Mihaila 36,  
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## Organizacija Minisymposiums

**Organizacija Minisimpozijuma:** Katica R. (Stevanovic) Hedrih:  
**Mini-symposium on Computational Aspects of Classical and Celestial Mechanics, Stability and Motion Control** is organized in the framework of the workshop  
**Computer Algebra Systems in Teaching and Research**  
(CASTR'2017), Siedlce, Poland, October 18 – 22, 2017.

<http://www.castr.uph.edu.pl>

Invited organizers of Mini-symposium:

Pavel S. Krasilnikov (Moscow, Russia),  
Katica R. (Stevanovic) Hedrih (Belgrade, Sera),  
Alexei A. Tikhonov (St. Petersburg, Russia)

<http://www.castr.uph.edu.pl/scope>

Siedlce University of Natural Sciences and Humanities (Siedlce, Poland)

Warsaw University of Life Sciences - SGGW (Warsaw, Poland)

[http://www.mi.sanu.ac.rs/novi\\_sajt/research/projects/Strucni\\_izvestaj\\_CASTR.pdf](http://www.mi.sanu.ac.rs/novi_sajt/research/projects/Strucni_izvestaj_CASTR.pdf)

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**Organizacija Minisimpozijuma:** Katica R. (Stevanovic) Hedrih: and Ivana Atanasovska,  
**Mini-symposium on Nonlinear Dynamics u okviru**  
The 6th CONGRESS OF SERBIAN SOCIETY OF MECHANICS will be held at Tara Mountain, Hotel  
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**Uredjivanje knjiga apstrakata serije jednodnevnih minisimpozijuma Projekta ON174001:**

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[http://www.mi.sanu.ac.rs/novi\\_sajt/research/projects/minisimpozijum\\_14.03.2017.pdf](http://www.mi.sanu.ac.rs/novi_sajt/research/projects/minisimpozijum_14.03.2017.pdf)

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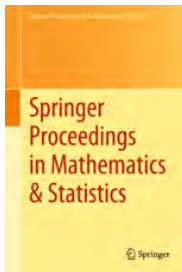
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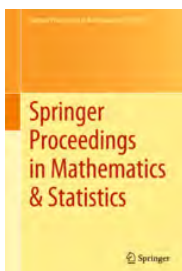
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#### *Presentation of Special Issue of International Journal of Non-Linear Mechanics*

**International Journal of Non-Linear Mechanics**

**Volume 73 , Pages 1-128, July 2015**

#### **Elements of mathematical phenomenology and phenomenological mapping in non-linear dynamics**

Edited by Katica R. (Stevanovic) Hedrih, Ivan Kosenko, Pavel Krasilnikov and Pol D. Spanos

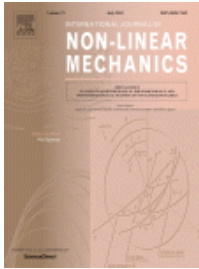
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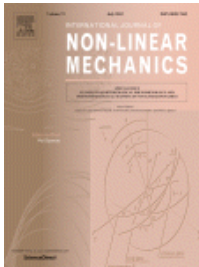
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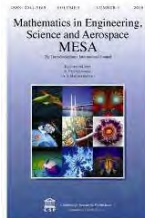
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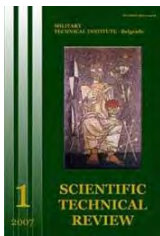
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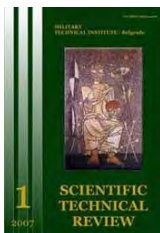
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## Scientific and public lectures

[Mathematical Institute of the Serbian Academy of Sciences and Arts](#)

**Seminar for the History and Philosophy of Mathematics, Mechanics and Astronomy**

Utorak, 10. mart 2015. u 12:15 sati

Katica (Stevanović) Hedrih, Matematički institut SANU

FILOZOFIJA PRISTUPA ISTRAŽIVANJU DINAMIKE BILIJARA

[http://www.mi.sanu.ac.rs/novi\\_sajt/seminars/programs/seminar12.mar2015.php](http://www.mi.sanu.ac.rs/novi_sajt/seminars/programs/seminar12.mar2015.php)

[Mathematical Institute of the Serbian Academy of Sciences and Arts](#)

**Mechanics Colloquim**

Petak, 8. maj 2015. u 14 casova, sala 301f:

Zajednicka sednica Odeljenja za matematiku, Odeljenja za mehaniku, Odeljenja za racunarstvo i primenjenu matematiku i Seminara za istoriju i filozofiju matematike

*Katica R. (Stevanovic) Hedrih, Matematički institut SANU*

PETROVIC'S ELEMENTS OF MATHEMATICAL PHENOMENOLOGY AND  
PHENOMENOLOGICAL MAPPINGS: THEORY AND APPLICATIONS

[http://www.mi.sanu.ac.rs/novi\\_sajt/colloquiums/programs/mechcoll.may2015.php](http://www.mi.sanu.ac.rs/novi_sajt/colloquiums/programs/mechcoll.may2015.php)

[Mathematical Institute of the Serbian Academy of Sciences and Arts](#)

### **Mathematical Colloquium**

Petak, 8.05.2015. u 14:00h, sala 301f, MI SANU

*Katica R. (Stevanovic) Hedrih, Matematički institut SANU*

PETROVIC'S ELEMENTS OF MATHEMATICAL PHENOMENOLOGY AND  
PHENOMENOLOGICAL MAPPINGS: THEORY AND APPLICATIONS

[http://www.mi.sanu.ac.rs/novi\\_sajt/colloquiums/programs/mathcoll.may2015.php](http://www.mi.sanu.ac.rs/novi_sajt/colloquiums/programs/mathcoll.may2015.php)

[Mathematical Institute of the Serbian Academy of Sciences and Arts](#)

### **Mechanics Colloquium**

Sreda, 1. april 2015. u 18 casova, sala 301f:

*Katica R. (Stevanovic) Hedrih, Matematički institut SANU*

ELEMENTS OF GEOMETRY, KINEMATICS AND DYNAMICS OF BILLIARDS

[http://www.mi.sanu.ac.rs/novi\\_sajt/colloquiums/programs/mechcoll.apr2015.php](http://www.mi.sanu.ac.rs/novi_sajt/colloquiums/programs/mechcoll.apr2015.php)

### **УТОРАК, 12. МАЈ**

18-19.15 часова

(Галерија науке и технике САНУ)

Отварање изложбе „Бројеви“

Говоре: др Зорана Курбалија

Новичић, ЦПН, академик Зоран

Петровић, Галерија науке и технике

САНУ, др Зоран Огњановић, МИ САНУ

18-19.15 часова

(Мала сала, Коларац)

„Поглед у савремена научна

достигнућа Петровићевом

теоријом елемената математичке

феноменологије“

проф. др Катица Стевановић

Хедрих, Машински факултет, Ниш

### **УТОРАК, 12. МАЈ**

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феноменологије“

проф. др Катица Стевановић

Хедрих, МИ САНУ

Мај месец математике 2015, уторак 12 мај 2015 у 16 часова, мала сала Коларац.  
Поглед у савремена научна достигнућа Петровићевом теоријом елемената математичке феноменологије.

Katica (Stevanovic) Hedrih,  
clan Naucnog drustva Srbije I akademik Akademije nauka visokih skola I univerziteta Ukrajine,  
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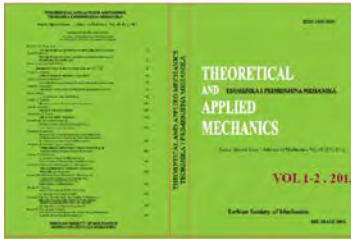
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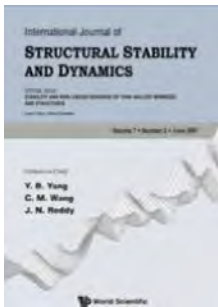


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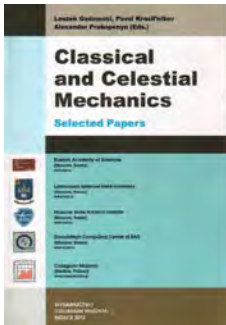


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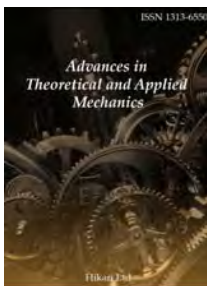
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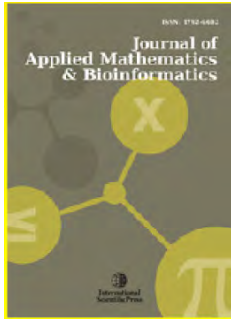


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Interdisciplinary and multidisciplinary sciences  
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Organizer: Katica R. (Stevanovic) Hedrih  
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#### Plenary Lectures and Semi-Plenary Lectures and Invited Participant.

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**Reviewer:**

**Nonlinear Dynamics, Non-Linear Mechanics, Mathematica Problem in Engineering  
Communication in Nnlinear Science and Numerical Simulations  
Iranian Journal of Science and Technology  
i drugi....**

## **Scientific and public lectures**

[Mathematical Institute of the Serbian Academy of Sciences and Arts](#)

Sreda 9.10.2013. 18 casova, sala 301f

Katica R. (Stevanovic) Hedrih, Matematički institut SANU Beograd i Masinski  
fakultet Univerziteta u Nisu

DISCRETE FRACTIONAL ORDER SYSTEM DYNAMICS

[Mathematical Institute of the Serbian Academy of Sciences and Arts](#)

**Seminar za istoriju i filozofiju matematike, mehanike i astronomije**

УТОРАК, 8. октобар 2013. у 12:15 сати

Проф. Др Катица (Стевановић) Хедрих, Математички институт САНУ

ЗАКОНИ, ПРИНЦИПИ И ТЕОРЕМЕ ДИНАМИКЕ. ФИЗИЧКИ И МАТЕМАТИЧКИ ОСНОВИ

[Mathematical Institute of the Serbian Academy of Sciences and Arts](#)

УТОРАК, 5. новембар 2013. у 12:15 сати

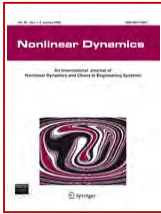
Prof. Dr Katica (Stevanović) Hedrih, Matematički institut SANU

BESEDA O MIHAILU PETROVIĆU, ELEMENTIMA MATEMATIČKE

FENOMENOLOGIJE I NELINEARNOJ DINAMICI

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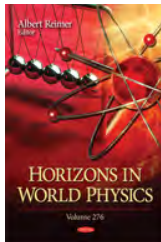


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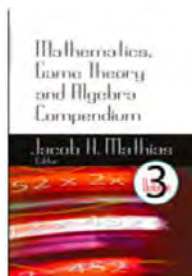


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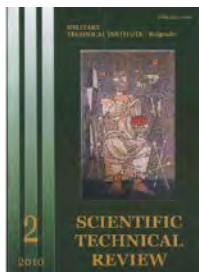
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Хедрих (Стевановић К., (2012), Михаило Петровић и фасцинантна нелинеарна динамика, 30-минутно предавање по позиву, **МАЈМЕСЕЦМАТЕМАТИКЕ - СРПСКИ МАТЕМАТИЧАРИ**, у организацији Ректората Универзитета у Београду и и Српска академија наука и уметности, Ректорат Универзитета у Београду, Студентски трг 1, Свечана сала, 28. мај 2012.

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## **Serbian Scientific Society**

### **Symposium Nonlinear Dynamics - Milutin Milanković**

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

**Multidisciplinary and Interdisciplinary Applications**

**(SNDMIA 2012), Belgrade, October 1-5, 2012.**

**(Eighth Serbian Symposium in area of Non-linear Sciences)**



supported by Project ON174001 (2011-2014)  
coordinated through  
Department of Mechanics at Mathematical Institute SANU

### Co-organizers scientists from

Serbian Society of Mechanics,  
Institute „Mihajilo Pupin“ Belgrade,  
Institute „Vinča“,  
The Society of Physical Chemists of Serbia  
Faculty of Physical Chemistry University of Belgrade and  
Faculty of Technical Sciences Kosovska Mitrovica, University of Pristina with allocated  
place in Kosovska Mitrovica.

У оквиру овог скупа одржала сам једну беседу на отварању, као један од два главна организатора, једно пленарно предавање и јесно саопштење. Бесда је најављена под називом:

*Address to Participant of Symposium: Hedrih (Stevanović) K. SYMPOSIUMS ON NONLINEAR MECHANICS IN SERBIA, ICNO AND ENOC*

док је пленарно предавање одежано у следећем термину:

**October 5, 2012 at 12,00h-12,40h, Plenary Lecture**

**Chairs:** H. Yabuno, Pavel Krasilnikov and Marina V. Shitikova

**PL-13. ID-81. PHENOMENOLOGICAL MAPPING AND MATHEMATICAL ANALOGY IN NONLINEAR DYNAMICAL SYSTEMS, K. (Stevanović) Hedrih**<sup>1,1</sup> Mathematical Institute SANU, Department of Mechanics, and Faculty of Mechanical Engineering University of Niš, Serbia,

Прво једноауторско саопштење сам представила сама:

**October 4, 2012 at 13,40h-15,00h, Contributed Lectures**

**CL-36. ID-80. STOCHASTIC PARAMETRICALLY EXCITED HEREDITARY SANDWICH MULTI BEAM DYNAMICAL SYSTEMS, K. (Stevanović) Hedrih**<sup>1</sup> Mathematical Institute SANU, Department of Mechanics, and Faculty of Mechanical Engineering University of Niš, Serbia.

Док је коауторско саопштење под називом:

**CL-37. ID-79. HYBRID SYSTEM DYNAMICS ON LAYER WITH NONLINEAR ELASTIC AND INERTIA PROPERTIES, K. (Stevanović) Hedrih**<sup>1</sup>, **M. Stamenković**<sup>2</sup>, **N. Nešić**<sup>2, 1</sup> Mathematical Institute SANU, Department of Mechanics, and Faculty of Mechanical Engineering University of Niš, Serbia,<sup>2</sup> Mathematical Institute SANU, Department of Mechanics, Kneza Mihaila 36/III, Serbia,

успешно саопштла деуги коаутор **Марија Stamenković**.

Двостранични апстрактни радова су публиковани у публикацији Симпозијума и преглед са одговарајућим библиографским падацима је дат у следећем приказу истих:

Hedrih (Stevanović) K., (2012), PHENOMENOLOGICAL MAPPING AND MATHEMATICAL ANALOGY IN NONLINEAR DYNAMICAL SYSTEMS, **Plenary Lecture**, Booklet of Abstracts of Symposium Nonlinear Dynamics – Milutin Milanković, Multidisciplinary and Interdisciplinary Applications (SNDMIA 2012), Belgrade, October 1-5, 2012. (Eighth Serbian Symposium in area of Non-linear Sciences), Editors: Katica R. (Stevanović) HEDRIH andf Žarko Mijajlović, Serbian Scientific Society, 2012, pp. 38-39. (<http://afrodita.rcub.bg.ac.rs/~nds/indexe.html>)

Hedrih (Stevanović) K. SYMPOSIUMS ON NONLINEAR MECHANICS IN SERBIA, ICNO AND ENOC, Address to Participant of Symposium, Booklet of Abstracts of Symposium Nonlinear

Dynamics – Milutin Milanković, Multidisciplinary and Interdisciplinary Applications (SNDMIA 2012), Belgrade, October 1-5, 2012. (Eighth Serbian Symposium in area of Non-linear Sciences), Editors: Katica R. (Stevanović) HEDRIH and Žarko Mijajlović, Serbian Scientific Society, 2012, pp. 172-178. (<http://afrodita.rcub.bg.ac.rs/~nds/indexe.html>)

Hedrih (Stevanović) K., (2012), STOCHASTIC PARAMETRICALLY EXCITED HEREDITARY SANDWICH MULTI BEAM DYNAMICAL SYSTEMS, Contributed Lecture, Booklet of Abstracts of Symposium Nonlinear Dynamics – Milutin Milanković, Multidisciplinary and Interdisciplinary Applications (SNDMIA 2012), Belgrade, October 1-5, 2012. (Eighth Serbian Symposium in area of Non-linear Sciences), Editors: Katica R. (Stevanović) HEDRIH and Žarko Mijajlović, Serbian Scientific Society, 2012, pp. 137-138..

(<http://afrodita.rcub.bg.ac.rs/~nds/indexe.html>)

K. (Stevanović) Hedrih, M. Stamenković, N. Nešić (2012), HYBRID SYSTEM DYNAMICS ON LAYER WITH NONLINEAR ELASTIC AND INERTIA PROPERTIES, Contributed Lecture, Booklet of Abstracts of Symposium Nonlinear Dynamics – Milutin Milanković, Multidisciplinary and Interdisciplinary Applications (SNDMIA 2012), Belgrade, October 1-5, 2012. (Eighth Serbian Symposium in area of Non-linear Sciences), Editors: Katica R. (Stevanović) HEDRIH and Žarko Mijajlović, Serbian Scientific Society, 2012, pp. 139-140. (<http://afrodita.rcub.bg.ac.rs/~nds/indexe.html>)

Била сам модератор Округлог стола на тему Етика научника, који се одржао веома успешно по оцени и домаћих и иностраних учесника.

**October 4, 2012 at 13,00h-13,40h, Round Table**

**Invitation for Chairs and Contribution Discussions:** Albert Luo, Hiroshi Yabuno, Pavel Krasilnikov, Mihai Zavr'evski, Marina V. Shitikova, Ljiljana Kolar Ani', Slobodan Ani', Ješko Upi', Žarko Mijajlović, K. (Stevanović) Hedrih I drugi.

**Round Table: "Ethic of Scientists and Evaluation of Scientific Research Results".**

**October 5, 2012 at 12,00h-12,40h, Plenary Lecture**

**Chairs:** H. Yabuno, Pavel Krasilnikov and Marina V. Shitikova

**PL-13. ID-81. PHENOMENOLOGICAL MAPPING AND MATHEMATICAL ANALOGY IN NONLINEAR DYNAMICAL SYSTEMS, K. (Stevanović) Hedrih**<sup>1,1</sup> Mathematical Institute SANU, Department of Mechanics, and Faculty of Mechanical Engineering University of Niš, Serbia,

Booklet of Abstracts - **Symposium Nonlinear Dynamics – Milutin Milanković**, Multidisciplinary and Interdisciplinary Applications, (SNDMIA 2012), Belgrade, October 1-5, 2012., (Eighth Serbian Symposium in area of Non-linear Sciences), Serbian Scientific Society. Str. 38-39.

<http://afrodita.rcub.bg.ac.rs/~nds/indexe.html>, ISBN 978-86-7746-344-1, COBISS.SR – ID 193221132, Barcode 978-86-7746-344-1:

[http://www.mi.sanu.ac.rs/projects/booklet\\_of\\_abstracts.pdf](http://www.mi.sanu.ac.rs/projects/booklet_of_abstracts.pdf)

ISBN 978-86-7746-344-1 COBISS.SR – ID 193221132

i Barcode sa brojem 978-86-7746-344-1:



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## Scientific and Public Lectures

Циклус предавања Одељења природно-математичких наука Научног друштва Србије

### НАУЧНИ ХОРИЗОНТИ ПРИРОДНОМАТЕМАТИЧКЕ НАУКЕ - ЈУЧЕ, ДАНАС И СУТРА

Предацање под насловом: Хедрих (Стевановић) К., (2012), О ТАНГЕНТНИМ ПРОСТОРИМА ВЕКТОРА ПОЛОЖАЈА МАТЕРИЈАЛНИХ ТАЧАКА РЕОНОМНОГ СИСТЕМА И ЊИХОВИМ КИНЕТИЧКИМ ДЕФОРМАЦИЈАМА, предавање, **НАУЧНИ ХОРИЗОНТИ - ПРИРОДНОМАТЕМАТИЧКЕ НАУКЕ - ЈУЧЕ, ДАНАС И СУТРА**, Циклус предавања Одељења природно-математичких наука Научног друштва Србије, Понедељак, 30. април 2012. године. <http://afrodita.rcub.bg.ac.rs/~nds/indexe.html>

### Семинари Математичког института САНУ Семинар механике Одељења за механику Математичког института САНУ

<http://www.mi.sanu.ac.rs/seminars/seminar12.htm>  
<http://www.mi.sanu.ac.rs/colloquiums/mechcoll.htm>

**SREDA, 11. april 2012. u 18 sati:**

*Проф. др Катица Р. (Стевановић) Хедрих*, руководилац пројекта ОИ 174001 и управник Одељења за механику

**Предацање под насловом:** Хедрих (Стевановић) К., (2012), Вектори момената маса, вектори ротатори и њихова примена на системе више спрегнутих тела који изводе спрегнуте ротације, предавање, „Семинар механике Одељења за механику Математичког института САНУ, среда 11 април 2012 у 18 часва (замена предавања због одсутности предавача, који није најавио спреченост да одржи предавање, види Записник Семинара механике Одељења за механику) .

<http://www.mi.sanu.ac.rs/colloquiums/mechcoll.htm>

Предавање одржано на основу садржаја и резултата из публикованих радова:

Hedrih (Stevanović K., (2012), Mass moment vectors and vector rotators and their applications to the rigid body multi-coupled rotations, (realized as Plenary Lecture, Certificate), Selected papers, CCMECH-7, 7<sup>th</sup> INTERNATIONAL SYMPOSIUM ON CLASSICAL AND CELESTIAL MECHANICS (CCMECH'2011), October 23 – 28, 2011, Edited by Leszek Gądomski, Pavel Krasilnikov and Alexander Prokopenya. The Russian Academy of Sciences, A. A. Dorodnicyn Computing Centre of RAS, Moscow State University, Moscow State Aviation Institute, and Collegium Mazovia in Siedlce (Poland), pp. 44-62. ISBN 978-83-63169-20-6.

Hedrih (Stevanović) Katica, (2012 ili 13), Vector method based on mass moment vectors and vector rotators applied to rigid-body multi-coupled rotations around no intersecting axes, invited and accepted by guset Editor Jan Awrejcevicz and submitted for possible publishing in special Issue of International Journal of Structural Stability and Dynamic, ( wait Editorial drcision of Editor in Chief of Journals). ISSN 0219-4554

**Sreda, 09. maj 2012. u 18 sati:**

*Проф. др Катица Р. (Стевановић) Хедрих, Математички институт САНУ Београд и  
Машињски факултет Универзитета у Нишу (Пројекат ОН174001)*

Предацање под насловом: Хедрих (Стевановић) К., (2012), Линеаризације и апроксимације са применама у механици: Методе, претпоставке, прве аналитичке апроксимације и грешке (Linearizations and approximations with applications in mechanics: Methods, assumptions, first analytic approximations and errors), предавање, Семинар механике Одељења за механику Математичког института САНУ, среда 9 маја 2012 у 18 часва (замена предавања због одсутности предавача, који је најавио спреченост да одржи предавање, види Записник Семинара механике Одељења за механику) . <http://www.mi.sanu.ac.rs/colloquiums/mechcoll.htm>

## **Семинари Математичког интитута САНУ Семинар за филозофију и историју математике, механике и астрономје**

<http://www.mi.sanu.ac.rs/seminars/seminar12.htm>

**UTORAK, 22. maj 2012. u 12:15 sati**

*Prof. Dr Katica R. (Stevanović) Hedrih, matematički institut SANU, Beograd*  
**FASCINANTNA NELINEARNA DINAMIKA TEŠKE MATERIJALNE TAČKE;  
APSTRAKCIJA REALNIH SISTEMA I OŽIVLJAVANJE MATEMATIKE**

Предацање под насловом: Хедрих (Стевановић) К., (2012), FASCINANTNA NELINEARNA DINAMIKA TEŠKE MATERIJALNE TAČKE; APSTRAKCIJA REALNIH SISTEMA I OŽIVLJAVANJE MATEMATIKE, предавање, Семинар за филозофију и историју математике, механике и астрономје, Математичког института САНУ, уторак, 22 мај 2012 у 12 часва.  
<http://www.mi.sanu.ac.rs/seminars/programs/seminar12.maj2012.htm>

Predavanje povodom 15 godina članstva u akademiji nauka visokih škola i univerziteta ukraine (od 1996)

**UTORAK, 23. oktobar 2012. u 12:15 sati**

*Katica R. (Stevanovic) Hedrih, Matematički institut SANU, Beograd*  
**JUBILEJ "OPŠTE TEORIJE STABILNOSTI" A. M. LJAPUNOVA**

Предацање под насловом: Хедрих (Стевановић) К., (2012), JUBILEJ "OPŠTE TEORIJE STABILNOSTI" A. M. LJAPUNOVA, предавање, Семинар за филозофију и историју математике, механике и астрономје, Математичког института САНУ, уторак, 23 октобра 2012 у 12 часва.  
<http://www.mi.sanu.ac.rs/seminars/programs/seminar12.oct2012.htm>

## **Семинари Математичког интитута САНУ Семинар Математичке методе механике**

<http://www.mi.sanu.ac.rs/mmm/>

Предацање под насловом: Хедрих (Стевановић) К., (2012), О ТАНГЕНТНИМ ПРОСТОРИМА ВЕКТОРА ПОЛОЖАЈА МАТЕРИЈАЛНИХ ТАЧАКА РЕОНОМНОГ СИСТЕМА И ЊИХОВИМ КИНЕТИЧКИМ ДЕФОРМАЦИЈАМА, предавање, Семинар Математичке методе механике,

Математички институт САНУ, Понедељак, 30. април 2012. године.  
<http://www.mi.sanu.ac.rs/mmm/srpski/indexs.html>

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## Семинари Математичког института САНУ Семинар "Математичке методе механике у примени".

Mathematical Methods of Mechanics and Applications and Project OI 174001

Matematicke metode mehanike u primeni

Projekat OI 174001 Dinamika hibridnih sistema slozenih struktura (2011-2014)

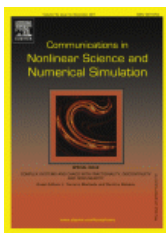
Seriya predavanja za istrazivace pripravnike i doktorante iz oblasti Kinetike, Elastodinamike, Analiticke mehanike, Primene tenzorskog racuna u mehanici, Teorije oscilacija i Nelinearne dinamike

Одржаван сваке среде у току 2011 и 2012 године.

<http://www.mi.sanu.ac.rs/colloquiums/program.htm>

Хедрих (Стевановић) К., (2011 и 2012), Seriya predavanja za istrazivace pripravnike i doktorante iz oblasti Kinetike, Elastodinamike, Analiticke mehanike, Primene tenzorskog racuna u mehanici, Teorije oscilacija i Nelinearne dinamike, Одржаван сваке среде у току 2011 и 2012 године и одржано више од 25'0 часова предавања докторских курсева и консултација са истраживачима са пројекта ОИ174001. Предавач ниједан час није наплатио, а предавања је одржао са поседбним надахнућем и радошћу преношења знања на младе истраживаче.. <http://www.mi.sanu.ac.rs/colloquiums/program.htm>

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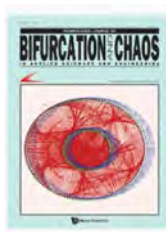
[www.elsevier.com/locate/cnsns](http://www.elsevier.com/locate/cnsns), CNSNS 1579 No. of Pages 13, Model 3G/

doi:10.1016/j.cnsns.2010.04.053. ISSN 1007-5704.

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Hedrih (Stevanović) K R. and Simonović J., Energies of the dynamics in a double circular plate non-linear system, #262; INTERNATIONAL JOURNAL OF BIFURCATION AND CHAOS, Vol. 21, No. 10, (2011). 00/1-19. pp. 2993-3011. DOI: 10.1142/S0218127411030301. ISSN 0218-1274.

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Frigioiu C, Hedrih (Stevanovic) K, Birsan I G (2011), Lagrangian geometrical model of the rheonomic mechanical systems, *Proceedings of World Academy of Science, Engineering and Technology*, 73, pp.1178-1184.

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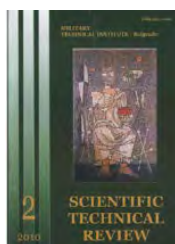
*World Academy of Science, Engineering and Technology*

Volume 73, January 2011, Pages 352-358



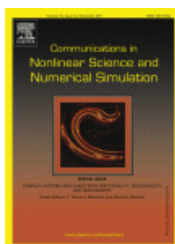
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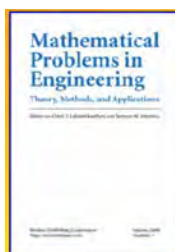
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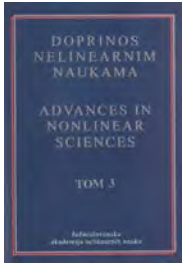
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Tensor, N. S., Vol. 72, No. 1(2010), pp. 14-33 #3



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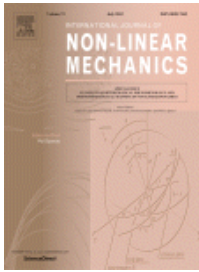
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<http://www.scopus.com/record/display.url?eid=2-s2.0-81555195275&origin=inward&txGid=38F76A400992B9C0EEC574F93BAF155A.v7ESLndDI8N8cE7qvy6w%3a2>



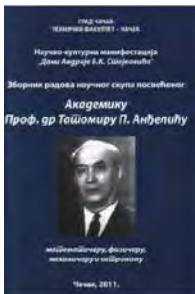
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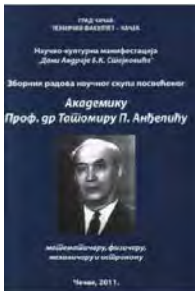
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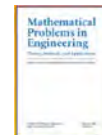
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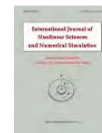
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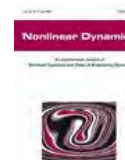
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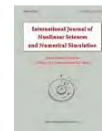


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[4] Booklet of Abstracts - *Minisymposium - Integrity of Dynamical Systems- ECF16*, Edited by Katica (Stevanović) Hedrih, invited organizer of Minisymposia *IDS-ECF - the 16th European Conference of Fracture*, Greece 2006, Centre for Nonlinear Dynamics 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. COBISS. SR - ID 130756620. UDK 531:01 /048); 530:182(048); 530:42 (048); 53:005.745 (100).

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*Seminar Nonlinear Dynamics - Milutin Milanković* - Booklet of Abstracts - BESEDA O MEHANICI (Nauka, nastava i primene), ADDRESS TO MECHANICS (Science, Teaching and Applications), urednik Katica (Stevanović) Hedrih., Project ON144002, *Beograd, March 28, 2009. Mathematical Institute SANU, 89 p.* ISBN 978-86-80593-42-5 COD 9788680 593425

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**(Paper presented at scientific meetings and published as full paper or published at CD)**

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VII щорічні Академічні читання пам'яті президента АН вищої школи України Віталія Іларіоновича Стріхи (1931 – 1999), 6 лютого 2010 року, Академія наук вищої школи України, Київський національний університет імені Тараса Шевченка, головний корпус, ауд. 233, Київ, вул. Володимирська, 60. Академік Катка Hedrih (Stevanović). «Nonlinear Dynamics of a Heavy Material Particle Along Rough Circle».

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## 2008.

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)).

*Katica (Stevanović) Hedrih*, Kinematical vector rotators in the rotor dynamics, 30 minutes First Sectional 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. 123-125.

*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.

Goroško O. A. and Hedrih (Stevanović) K., Advances in development of the analytical dynamics of the hereditary discrete systems, Booklet of Abstracts - IDND 2007 – Analytical Dynamics of Discrete Hereditary System, pp.27-34. *Booklet of Abstracts - IDND 2007 – Analytical Dynamics of Discrete Hereditary Systems – Editor Katica (Stevanović) Hedrih, Izdavač Mašinski fakultet u Nišu zam - Minisymposia - Analytical mechanics of the hereditary discrete systems - Second International Symposium on Nonlinear Dynamics, 27-30 Oct., 2007, Donghua University, Shanghai, China, p.198. . ISBN 978 – 86 – 80587 – 72 – 1 COBISS.SR – ID 144265740. BarCod 9 788680 56772 1 <http://www.2007isnd.com/>*

Goroshko O.A. and Hedrih (Stevanović), K., (2007), *Dynamics of the discrete hereditary systems*, The 2<sup>th</sup> International conference "NONLINEAR DYNAMICS - 2007", in honor of ALEXANDER MIKHAILOVICH LYAPUNOV 150<sup>th</sup> ANNIVERSARY, at the NTU "KHARKOV POLYTECHNICAL INSTITUTE", KHARKOV, UKRAINE, , Book of Abstracts, pp. 67.

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), Stochastic dynamics of hybrid systems with thermo-rheological hereditary elements, Edited by Awrejcewicz P. Olejnik and Mrozowski, Proceedings of IX INTERNATIONAL CONFERENCE ON DYNAMICAL SYSTEMS - THEORY AND APPLICATIONS, December 17-20, 2007. Łódź, POLAND, Technical University of Łódź. Department of Automatics and Biomechanics., Abstracts p. 62, Full Paper, pp.193-202.

*Booklet of Abstracts - APM 2007 – Minisymposium Integrity of Dynamical Systems – Editor Katica (Stevanović) Hedrih, Summer School. APM 2007 Advanced Problems in Mechanics, Russia, St. Petersburg June 20 - 28, 2007. Institute for Problems in Mechanical Engineering of the Russian Academy of Sciences, Izdavač Mašinski fakultet u Nišu , p. 379. ISBN 86-80587-67-2 COD 9 7886 80587677, BarCod 9 7886 80587677*

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.

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., (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.Cuya, University, Faculty of Mathematics, Iasi, Romania.. Book of Abstracts, pp. 18-22.

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

Hedrih (Stevanović), K. and Ljiljana Veljović, (2007), *Nonlinear dynamics of the heavy gyro-rotor with two skew rotating axes*. Second International Symposium on Nonlinear Dynamics, 27-30 Oct., 2007, Shanghai, China <http://www.2007isnd.com/>

## 2006.

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.*

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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)

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., preddava 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, Gradjevinski 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 - 9º 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/iqce/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 politehlike.*

*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), 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, Shanghai 2007, 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.*

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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.- Invited Lecture.*

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, Građevinski 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. Anđelić and Danilo P. Rasković 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 СІМПОЗІУМ УКРАЇНСЬКИХ ІНЖЕНЕРІВ-МЕХАНІКІВ У ЛЬВОВІ, (МСУІМЛ — 7), 18 — 20 травня 2005 р., Присвячений 160-річчю Національного університету „Львівська політехніка”*

**VIII\* Član naučnog odbora internacionalnih aucionih skupova ili organizator minisimpozijuma**  
*(Member of Scientific Committee of international scientific meetings and organizer of Minisymposia included in the Program of international 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 international 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 international scientific meeting.*

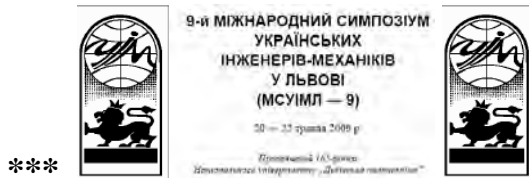
\* "3rd Conference on Nonlinear Science and Complexity" (NSC10), Cankaya University, Ankara, Turkey in the period of 26 - 29 July, 2010.

<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, Ministarstvo obrazovanja 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.

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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 interantional 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*

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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. COBIS. 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. COBIS. 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 international 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 international scientific meeting.*

*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”*

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

## IX. Učešće u vodećem naučnom kongresu IUTAM ICTAM u oblasti teorijske i primenjene mehanike u svetu (period 2005-2010) Participation in the IUTAM ICTAM (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 poster 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 seriju 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* period 2000-2010

\* **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.

Seriya 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

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

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

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 fur 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 school and University Academy of Sciences - Akademija nauka visokih skola i univerziteta Ukrajin ( od 1996-)

АКАДЕМІЯ НАУК ВИЩОЇ ШКОЛИ УКРАЇНИ (АН ВШ України)



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

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

**Академії наук вищої освіти України**

<http://anvou.org.ua/news/akademija-nauk-visoi-osviti-ukraini-ogolosue-konkurs-na-zdobutta-nagorod-svatogo-vojdimira-i-arosla/>



**АКАДЕМІЯ НАУК ВИЩОЇ ОСВІТИ УКРАЇНИ**

**LABORE ET SCIENTIA**

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



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

<http://afrodita.rcub.bg.ac.rs/~nds/indexe.htm>



<http://nds.edu.rs/clanstvo-naucno-drustvo-srbije/>

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

\* **Interbationa American Society of Mechanical Engineeris (Int. ASME)**



\* **EuroMech – European Society of Mechanics**



- \* **GANN (from 1972)**
- \* **Rebsir Society (Japan, from 1992)**
  - \* **Yugoslav Society of Mechanics and Serbian SoMechanics (from 1972 and other)**

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

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/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, 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 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 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

## **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 sdrzaja 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 institute 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, Ma~Zinski fakultet, Ni~Z*

**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 PLO?A**

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 (Stevanovic) 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 (Stevanovic) 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*

**VIŠEFREKVENTNE 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 Matematicki 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, MIBG:

*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 konačnodimenzionalnih 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**

PETAČ, 23. NOVEMBRA 2007. godine sa početkom u 11.00 časova

Academician **Radu Miron**, Faculty of Mathematics, University "A.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 PETAČ, 23. NOVEMBRA 2007. godine sa početkom u 12.00 časova

**Camellia Frigioiu**, University "Dunarea de Jos", Department of Mathematics  
Str. Domneasca nr 47, Galati - 800008, ROMANIA, [Camelia.Frigioiu@ugal.ro](mailto:Camelia.Frigioiu@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**

**ON174001 - Dynamics of hybrid systems with complex structures. Mechanics of materials. (2011-2014)**

**ON174001 – Dinamika hibridnih sistema složenih struktura. Mehanika materijala . (2011-2014)**

**Support:** *Ministry of Education, Sciences and Technology of Republic of Serbia*

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

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

**Researchers:** **38.**

## **LIST OF PAPERS and Monographs and Chapters in Monograph (from 2001 to 2005)**

### **Part IA\* Monographs and Chapters in Monograph:**

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 Symp. Book, **in Series Solid Mechanics and Its Applications, Edited by G.M.L.Gladwell, Springer**, 2005, XXVI, 504 p., Hardcover ISBN: 1-4020-3267-6  
 Serija IUTAM Symp. Book knjiga u seriji **Solid Mechanics and Its Applications, Edited by G.M.L.Gladwell, (Kluwer) Springer**, je jedna od najznacajnijih serija u oblasti savremene nelinearne mehanike a pod pokroviteljstvom IUTAM- Interacionalne unije teorijske i primenjene mehanike pod UNESCO-om i može se porediti sa radovima u časopisima **10% sa vrha ISI liste**.  
**Kategorija R21 = R51.**



<http://www.springeronline.com/sgw/cda/frontpage/0,11855,5-40356-69-33113256-00.html?changeHeader=true>  
<http://www.springeronline.com/sgw/cda/frontpage/0,11855,5-40106-69-33113256-00.html?changeHeader=true>

Katica (Stevanović) Hedrih: *Vector Method of the Heavy Rotor Kinetic Parameter Analysis and Nonlinear Dynamics, University of Niš 2001, Monograph, p. 252.* (in English), (Reviewers: Academician NANU Ju. A. Mitropoljskiy, Ukraina., Prof Veljko Vujčić, academicina UHEAS Oleg Aleksandrovič Goroshko, Ukraina, and prof. dr Vlatko Brčić), **YU ISBN 86-7181-046-1 UDC 531.38:514.742.4**



Monografija na engleskom, recenzije međunarodne, recenzent akademik Mitropoljski je ključno ime nelinearne mehanike među živim naučnicima pripadnik poznate škole asimptotskih metoda nelinearne mehanike Krilov Bogoljubov Mitropoljski  
 - Kategorija R11=R51.

Oleg Aleksandrovič Goroško (Ukrajina) i Katica (Stevanović) Hedrih (Jugoslavija): *Analitička dinamika (mehanika) diskretnih naslednih sistema*, (Analytical Dynamics (Mechanics) of Discrete Hereditary Systems), University of Niš, 2001, Monograph, p. 426 (in Serbian), YU ISBN 86-7181-054-2. (recenzenti: Veljko A. Vujičić - Srbija, Jeremiah Jaredam Rushickij - Ukrajina, Milivoje Simonović -Srbija) UDC 531.011:531.391



Medjunarodna recenzija, Savezno Ministarstvo za nauku SRJ je bilo sufinansijer i monografija je dobila pozitivnu recenziju i Eksperta Saveznog Ministarstva Dragoslava Šumarca.

Ova monografija je medjunarodnog karaktera, te s obzirom da je na srpskom treba da se vrednuje bar sa R51.

Katica (Stevanovic) Hedrih, (2005), *Partial Fractional Order Differential Equations of Transversal Vibrations of Creep-connected Double Plate Systems*, *Fractional Differentiation and its Applications* Edited by Alain Le Mahaute, J. A. Tenreiro Machado, Jean Claude Trigeassou and Jocelyn Sabatier, Volume 2 - Econophysics, mechanics, material modelling, thermal systems, electronics, electrical systems, France-Portugal, 2005., pp. 25-38. (prihveceno za stampu)

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.

Poglavlje-članak u tromnoj naucnoj knjizi.

Kategorija R21 = R51.



Hedrih (Stevanović) K., (2004), *Contribution to the coupled rotor nonlinear dynamics*, *Advances in nonlinear Sciences*, Monograph, Belgrade, Academy of Nonlinear Sciences, pp. 229-259. (Rnglish. ISBN 86-905633-0-X UDC 530-18299(082) 51-73:53(082) UKUP. STR. 261.

Monografija finansirana od Ministarstva nauke Srbije i u bazi podataka je.

Kategorija R51.

<http://www.masfak.ni.ac.yu/sitegenius/article.php?lang=SR&id=2958>



Katica (Stevanovic) Hedrih i Dragan Jovanovic: *Mehanika loma i ostenjenja-Matematička teorija - Recnik pojmova i prilozii*, recenzent prof. dr Mirko Vukobrat. Naučno-nastavno veće usvojilo pozitivnu recenziju i kategorisalo rukopis : pomocni univerzitetski udzbenik za poslediplomske studije. Rukopis procitala i prof. dr Rizica Nikolic i dala pozitivnu ocenu kao rukovodilac teme na projektu 1616, . 2003, str. 210. ISBN 86-80587-34-6 UDC 539.42:51-7(031)



Hedrih (Stevanović), K., *Discrete Continuum Method*, Symposium, Recent Advances in Analytical Dynamics Control, Stability and Differential Geometry, Proceedings Mathematical institute SANU Edited by Vladan Djordjević, p.151, 2002, pp.30-57. ISBN 86-80593-32-X. <http://www.mi.sanu.ac.yu/publications.htm>

Kategorija R52.

Katica Stevanović Hedrih (Serbia): *Homoclinic Orbits Layering in the Coupled Rotor Nonlinear Dynamics and Chaotic Clock Models*, SM17 – Multibody Dynamics (M. Geraldin and F. Pfeiffer), p. Lxiii – CD - SM10624, Mechanics of the 21st Century (21st ICTAM, Warsaw 2004) - CD ROM INCLUDED, edited by Witold Gutkowski and Tomasz A. Kowalewski, IUTAM, Springer 2005, ISBN 1-4020-3456-3, Hardcover., p. 421+CD. ISBN-13 978-1-4020-3456-5 (HB), ISBN-10 1-4020-3559-4(e-book), ISBN-13-978-1-4020-3559-3 (e-book). [www.springeronline.com](http://www.springeronline.com).

<http://www.springeronline.com/sgw/cda/frontpage/0,11855,5-185-22-48265835-detailsPage%253Dppmedia%257Ctoc%257Ctoc,00.html>



## Part I. B\* Selected Publications International Rank (ISI):

Hedrih (Stevanović) K., *A Trigger of Coupled Singularities*, **MECCANICA**, Vol.38, No. 6, 2003., pp. 623-642. International Journal of the Italian Association of Theoretical and Applied Mechanics, CODEN MECC B9, ISSN 025-6455, Kluwer Academic Publisher.

(Journal Citation Reports – JRC- Science Edition Journal Rankings Sorted by Journal Abbreviation; Rank 4001; Impact Factor IF=0.442).

(na listi MNTR RS je citiran sa sledeceim podacima

IF=0.422 0025-6455 MECCANICA)

<http://www.kluweronline.com/issn/0025-6455>

<http://www.springerlink.com/app/home/contribution.asp?wasp=ddfdd004a224ad7bd78087cafbb21c2&referrer=parent&ba ckto=issue.4,19;journal.8,47;linkingpublicationresults,1:102958,1>



Hedrih (Stevanović) K., *A Trigger of Coupled Singularities*, **MECCANICA**, Vol.39, No. 3, 2004., pp. 295-314. International Journal of the Italian Association of Theoretical and Applied Mechanics, **Meccanica**, Publisher: Springer Science+Business Media B.V., Formerly Kluwer Academic Publishers B.V.



ISSN: 0025-6455 (Paper) 1572-9648 (Online) DOI: 10.1023/B:MECC.0000022994.81090.5f, Issue: Volume 39, Number 3, Date: June 2004

Pages: 295 - 314

<http://www.springerlink.com/app/home/contribution.asp?wasp=ddefdd004a224ad7bd78087cafbb21e2&referrer=parent&backto=issue.6.12;journal.5.47;linkingpublicationresults.1:102958.1>

Hedrih (Stevanović) K., (2005), *Integrity of Dynamical Systems*, *Journal Nonlinear Analysis*, (in press) *Prihvaceno za štampu u decembru 2004 i nalazi se na Author Gateway Elseviera* ISSN: 1468-1218

[http://authors.elsevier.com/trackpaper.html?add\\_art=myarticles&from\\_source=notlogged&trk\\_article=N44382&trk\\_surname=Hedrih&Go.x=16&Go.y=9](http://authors.elsevier.com/trackpaper.html?add_art=myarticles&from_source=notlogged&trk_article=N44382&trk_surname=Hedrih&Go.x=16&Go.y=9)

<http://authors.elsevier.com/JournalDetail.html?PubID=620392&Precis=DESC>



### 3\* Part III. Selected Publications International Rank in other Aboard International Journals and Scientific Academies and important Scientific Societies in World :

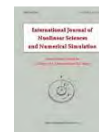
Hedrih (Stevanović) K., The Dissipation Function of a Nonconservative System of Mass Particles, *Tensor*, N.S., Vol.63, No.2(2002), pp.176-186. (Izašlo iz štampe u 2004). *Tensor Society, Japan* . ISSN 0040-3504.



Hedrih (Stevanović) K., (2003), Frequency equations of small oscillations mixed systems of the coupled discrete and continuous subsystems, *Mehanika tvrdogog tela (Rigid Body Mechanics)*, Donetsk, UDC 531.1:534.012:534.013., ISSN 0321-1975, vip. 33, pp. 174-189. Ukraine.. <http://www.iamm.ac.donetsk.ua/conf2002.html>

Hedrih (Stevanović) K. and Perić, Lj., *Application of Function of Complex Variable and MATLAB to Analysis of Piezoelectric Body Stress and Strain State with Crack*, *Int. Journal of Nonlinear Sciences and Numerical Simulations*, Vol.4, No.4, 2003, pp. 339-360. Freund Publishing House, LTD, ISSN 1565-1339. <http://www.cs.uky.edu/~jzhang/nsns.html>

<http://www.cs.uky.edu/~jzhang/NSNS/2003-04-04.html> UDC 539.42



Hedrih (Stevanović) K., Knežević and Cvetković, R., *Dynamics of Planetary Reductoe with Turbulent Damping*, *Int. Journal of Nonlinear Sciences and Numerical Simulations*, Vol. 2.N.3, 2001, pp. 265-277, ISSN 1565-1339. (in English), Freund Publishing House L.T.D.

<http://www.cs.uky.edu/~jzhang/NSNS/2001-02-03.html>



Hedrih (Stevanović) K., (2005), Partial Fractional Differential Equations of Creeping and Vibrations of Plate and their Solutions (First Part), *Journal of the Mechanical Behavior of Materials*, *Freund Publishing House Ltd*, (accepted for publishing).2005, pp. 305-314. ISSN 0334-8938. Editors: E.C. Aifantis, USA and Greece and S. Murakami, Japan

[http://www.freundpublishing.com/JOURNALS/materials\\_science\\_and\\_engineering.htm](http://www.freundpublishing.com/JOURNALS/materials_science_and_engineering.htm)



Hedrih (Stevanović) K., The Transversal Creeping Vibrations Of A Fractional Derivative Order Constitutive Relation of Non-Homogeneous Beam, *Journal Mathematical Problems in Engineering*, Special Issue on Nonlinear Dynamics and Their Applications to Engineering Sciences, Hindawi Publishing Corp.,

[http://www.hindawi.com/2006\\_pp](http://www.hindawi.com/2006_pp). (accepted for publishing).

<http://www.hindawi.com/journals/mpe/forthcoming/S1024123X05501133.html>

ISSN: 1024-123X, e-ISSN: 1563-5147



Hedrih (Stevanović), K. and Simonović, J., *Phase Portraits and Homoclinic Orbits – Visuatization of Nonlinear Dynamics of Reductor*, *Journal of Politechnica University Timisoara, Romonia, Mechanical Vibrations*,

*Transaction on Mechanical Engineering, Tom 47(61), Supplement, May 2002., Editura Politehnica., pp.76-86. ISSN 124-6077.*

Hedrih (Stevanović) K., *The Longitudinal and Transversal Creep Vibrations of a Fractional Order Constitutive Relation Beams*, Scientific Bulletin of the Politehnica, University of Timisoara, Transaction on Mechanics, Tom 48(62), Fasc. 1, 2003. pp. 5-12, 13-22, Editura Politehnica, Timisoara. ISSN 1224-6077. <http://www.utt.ro/english/pbseng.shtml>

Hedrih (Stevanović) K., (2004), *Discrete Continuum Method*, COMPUTATIONAL MECHANICS, WCCM VI in conjunction with APCOM'04, Sept. 5-10, 2004, Beijing, China, © 2004 Tsinghua University Press & Springer-Verlag, pp. 1-11, CD. IACAM International Association for Computational Mechanics – [www.iaam.info](http://www.iaam.info)

[http://www.wccm6-apcom04.org.cn/download/Congress%20Program\\_Draft.pdf](http://www.wccm6-apcom04.org.cn/download/Congress%20Program_Draft.pdf)

<http://www.wccm6-apcom04.org.cn/>

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Ovo je Supplement casopisu COMPUTATIONAL MECHANICS. Rad je po pozivu u okviru Minisimpozijuma publikovan.

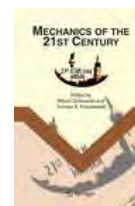


Hedrih (Stevanović) K., (2004), Homoclinic orbits layering in the coupled rotor nonlinear dynamics and 2chatic clock models: A paradigm for vibrations and noise in machines, Proceedings ICTAM04 Abstracts Book and CD-ROM Proceedings, pp. 320, SM17S-10624. <http://ictam04.ippt.gov.pl>

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The International Union of Theoretical and Applied Mechanics (IUTAM) - International Congress of Theoretical and Applied Mechanics, 21th ICTAM Warsaw, August 15-21, 2004  
Tomasz Kowalewski & Witold Gutkowski

*Invited for new Electronic Proceeding Elsevier za ponovno publikovanje.*



Hedrih (Stevanović) K., (2004), *Partial fractional order differential equations of transversal vibrations of creep connected double plates systems*, Workshop Preprints/Proceedings No 2004-1 IFAC workshop on Fractional Differentiation and its Applications FDA 04, ENSEIRB, Bordeaux France, July 19-21, 2004., pp. 299-304.

First IFAC workshop on Fractional Differentiation and its Applications FDA 04, ENSEIRB, Bordeaux France, July 19-21, 2004. <http://www.lap.u-bordeaux.fr/fda04/home.html>

*International Federation of Automatic Control (IFAC)-Invited for Three Tome Fractional Differentiation and its Applications, INES Book (2005).*

Hedrih (Stevanović) K., (2004), On Rheonomic Systems with Equivalent Holonomic Conservative Systems Applied to the Nonlinear Dynamics of the Watt's Regulator, Proceedings, Volume 2, The eleventh world congress in Mechanism and machine Sciences, IFToMM, China Machine press, Tianjin, China, April 1-4, 2004, pp. 1475-1479. ISBN 7-111-14073-7/TH-1438. <http://www.iftomm2003.com>

**Publisher: China Machine press, Tianjin, China**

Тянь Хуанг Tian Huang

Hedrih (Stevanović) K., (2004), Phase Portraits and Homoclinic Orbits Visualization of Nonlinear Dynamics of Multiple Step Reductor/Multiplier, Proceedings, Volume 2, The eleventh world congress in Mechanism and machine Sciences, IFToMM, China Machine press, Tianjin, China, April 1-4, 2004, pp. 1508-1512. ISBN 7-111-14073-7/TH-1438. <http://www.iftomm2003.com>

**Publisher: China Machine press, Tianjin, China**

Hedrih (Stevanović) Katica, (2004), *Creep Vibrations of a Fractional Derivative Order Constitutive Relation Deformable Bodies*, Proceedings Eighth American Congress of Applied Mechanics PACAM VIII. La Habana, Cuba, 5-9 January 2004, Series *Applied Mechanics in Americas*, Vol. 10. pp. 548-551, ISBN 959-7056-20-8. <http://www.pacam8.mcgill.ca/congress-program.doc>

<http://www.pacam8.mcgill.ca>, <http://cp.yahoo.net/search/cache?p=Hedrih&ei=UTF-8&cop=mss&url=uf0TBiYUb3iAJ:www.pacam8.mcgill.ca/congress-program.doc>

*Editors: J. Bravo Castillero, Martin Ostoja Strykowski and Reinaldo Rodriguez Ramo*

Proceedings je publikovan u ediciji *Applied Mechanics in the Americas, American Academy of Mechanics, Philadelphia, U.S.A., Volum 10.*

Hedrih (Stevanović) K., *Comments to the Fundamental Theorem and Extension of the Tensor of the Deformable Body*, Int. Jour. Tensor, Edited by Tomoaki Kawaguchi, Tensor Society, Chigasaki, Japan, Vol. 61, No. 3, December 1999., pp. 290-303. (in English) Published in January 2002. ISSN 0040-3604.



#### **Part IV. Selected Publications International Rank in Serbian international Journals:**

Katica (Stevanović) Hedrih, (2005), Eigen Amplitude Vectors and Functions Extended Orthogonality of Small Oscillations Mixed Systems of the Coupled Discrete and Continuous Subsystems, Facta Universitatis, Series Mechanics, Automatic Control and Robotics, Vol. 4 No. 17, 2005. pp. 225-243. YU ISSN 0534-2009. UDC 534.1:534.012:534.013.

<http://facta.junis.ni.ac.yu/facta/macar/macar200501/macar200501-04.html>



Hedrih (Stevanović) K. and Veljović, Lj., *Nonlinear Dynamics of the Heavy Gyro-Rotor with Two Rotating Axes*, Facta Universitatis, Series Mechanics, Automatic Control and Robotics, Vol. 4 No. 16, 2004. pp. 55-68. YU ISSN 0534-2009. UDC 534:531.8:531.011:517.9:531.381:530.182(043)

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Hedrih (Stevanović) K. and Perić, Lj., *Methods for Solving Problems of Electroelastic Piezoelectric Bodies with Defect Applying Spatial Analysis in Matlab*, Facta Universitatis, Series Mechanics, Automatic Control and Robotics, Vol. 3 No. 13, 2003. pp. 511-532. YU ISSN 0534-2009.

<http://facta.junis.ni.ac.yu/facta/macar/macar200301/macar200301-02.html>



Hedrih (Stevanović) K. and Simonović, J., *Nonlinear Phenomena in Dynamics of Car Model*, Facta Universitatis, Series Mechanics, Automatic Control and Robotics, Vol. 3 No. 14, 2003. pp. 865-879. YU ISSN 0534-2009.

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Katica (Stevanović) Hedrih, *Derivatives of the Mass Moment Vectors at the Dimensional Coordinate System N*, Facta Universitatis, Series Mathematics and Informatics, 13 (1998), pp. 139-150. (1998, published in 2001.) YU ISSN 0352-9665

(University Journal Facta Universitatis – Series Mathematics and Informatics, University of Niš, *Mathematical Reviews Annual Index 2000, Author Index M-Z, Key Index, Abbreviations of Names of Serials*, . American Mathematical Society, Providence, Rhode Island, USA.)

**Part V.**

**REFERENCES in 2004. and part 2005. Hedrih (Stevanović) Katica**

Hedrih (Stevanović) K., *Resonances and dynamical absorption of mixed system forces oscillations of the coupled discrete and continuous subsystems*, GAMM 2004, Dresden, Registered for Short-3 : Multibody systems and kinematics. [https://nbtw07.math.tu-dresden.de/gamm\\_2004/index.php](https://nbtw07.math.tu-dresden.de/gamm_2004/index.php)  
[http://www.tu-dresden.de/GAMM2004/sites/proceedings\\_e.html](http://www.tu-dresden.de/GAMM2004/sites/proceedings_e.html)

Hedrih (Stevanović) K., *The Dissipation Function of a Nonconservative System of Mass Particles*, **Tensor**, Japan, N.S., Vol.63, No.2(2002), pp.176-186. (Izašlo iz štampe u 2004).



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<http://www.pacam8.mcgill.ca>. <http://cp.yahoo.net/search/cache?p=Hedrih&ei=UTF-8&cop=mss&url=uf0TB YUb3iAJ:www.pacam8.mcgill.ca/congress-program.doc>

Hedrih (Stevanović) K., (2004), *Contribution to the coupled rotor nonlinear dynamics*, Advances in nonlinear Sciences, **Monograph**, Belgrade, Academy of Nonlinear Sciences, 229-259. (Serbian). ISBN 86-905633-0-X UDC 530-18299(082) 51-73:53(082) UKUP. STR. 261.

Hedrih (Stevanović) K., (2004), *Prilog nelinearnoj dinamici spregnutih rotora*, Doprinos nelinearnim naukama, Monografija, Akademija nelinearnih nauka, Beograd, str. 228-258. (srpski).



Hedrih (Stevanović) K., (2004), *Integrity of Dynamical Systems*, Booklet of Abstracts WCNA 2004 Minisymposium Integrity of Dynamical Systems, pp. 25-32.  
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International Journal Nonlinear Sciences and Numerical Simulations, Freund Publishing Haus  
European Polymer Journal, Elsevier  
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#### **Odziv na autoreferate doktorskih disertacija (Response to doctoral dissertations)**

##### ***Salo Valentin Andrejević***

(УДК 539.3) ЧИСЛЕННО-АНАЛИТИЧЕСКИЙ МЕТОД РЕШЕНИЯ ЗАДАЧ СТАТИКИ НЕТОНЫХ ОРТОТРОПНЫХ ОБОЛОЧЕК С ОТВЕРСТИЯМИ ПРОИЗВОЛЬНЫХ РАЗМЕРОВ И ФОРМ - 01.02.04 – *Механика деформируемого твердого тела*

##### ***Bogdan Ilich Kindratskiy***

Киндрацкий Богдан Ильич, «МНОГОКРИТЕРИАЛЬНЫЙ СТРУКТУРНО-ПАРАМЕТРИЧЕСКИЙ СИНТЕЗ МАШИНОСТРОИТЕЛЬНЫХ КОНСТРУКЦИЙ», ученой степени доктора технических наук по специальности 05.02.02 — машиноведение, УДК 621.001.2:519.168

#### **Predsedavanje na naučnim skupovima i članstvo u naučnim odborima:**

##### **Chairman at scientific meetings and member in Scientific Committee**

\* IFNA WCNA 2004. jednom plenarnom sednicom i Minisimpozijumom, Član naučnog odbora (GOC-WCNA 04)

\* The eleventh world congress in Mechanism and machine Sciences, IFToMM, Tianjin, China, April 1-4, 2004. predsedavala u sekciji Nonlinear Oscillations.

\* Conference on Nonlinear Dynamics, NTU “Kharkov Polytechnical Institute”, Sept 10-20, 2004. Predsedavala poluplenarnim predavanjem i učestvovala po pozivu u Closing Session.

\* Eighth American Congress of Applied Mechanics PACAM VIII. La Habana, Cuba, 5-9 January 2004. planirano je da predsedavam sekcijom Dynamics, ali nisam otputovala zbog nedostatka sredstava za put.

\* Scientific-expert conference on Railways - XII RAILKON'04, Faculty of Mechanical Engineering University of Niš. - jednom plenarnom sednicom na kojoj je održano predavanje po pozivu gosta iz Japana Hiroshi Yabuna.

\* The First International Conference on Computational Mechanics (CM'04), In memory of Prof.dr Mladen Berkovic, 46 MMM, © 2004, BELGRADE, SERBIA AND MONTENEGRO, NOVEMBER 15-17, 2004. predsedavala jednom sekcijom.

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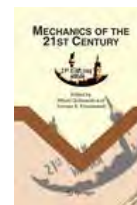
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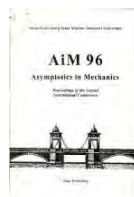
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