UNIVERSITY OF KRAGUJEVAC
FACULTY OF SCIENCE

| May 16 - 19 | 2018 | Kragujevac | Serbia |

14 SMAK

SERBIAN MATHEMATICAL CONGRESS

BOOK OF ABSTRACTS

UNIVERSITY OF KRAGUJEVAC
FACULTY OF SCIENCE

XIV SERBIAN MATHEMATICAL CONGRESS
(14SMAK 2018)

BOOK OF ABSTRACTS

May 16–19, 2018
Kragujevac, Serbia

Book of Abstracts
XIV Sebian Mathematical Congress, May 16–19, 2018
Kragujevac, Serbia
https://imi.pmf.kg.ac.rs/kongres
ISBN 978-86-6009-055-5

Published By:

Faculty of Science
University of Kragujevac
Radoja Domanovića 12
34000 Kragujevac
Serbia
Tel.: +381 (0)34 336223
Fax: +381 (0)34 335040
Website: http://pmf.kg.ac.rs

Edited By: Tatjana Tomović
Front Cover: Željko Mališić
Printed By: InterPrint, Kragujevac, Serbia

Contents

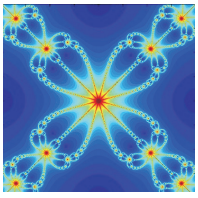
ORGANIZATION

ORGANIZERS

Faculty of Science, University of Kragujevac

CO-ORGANIZERS

Mathematical Society of Serbia



Serbian Mathematical Sciences Association

University of Kragujevac

Faculty of Mathematics, University of Belgrade

Faculty of Natural Sciences and Mathematics, Kosovska Mitrovica

Faculty of Natural Sciences and Mathematics, Niš

Faculty of Sciences, Novi Sad

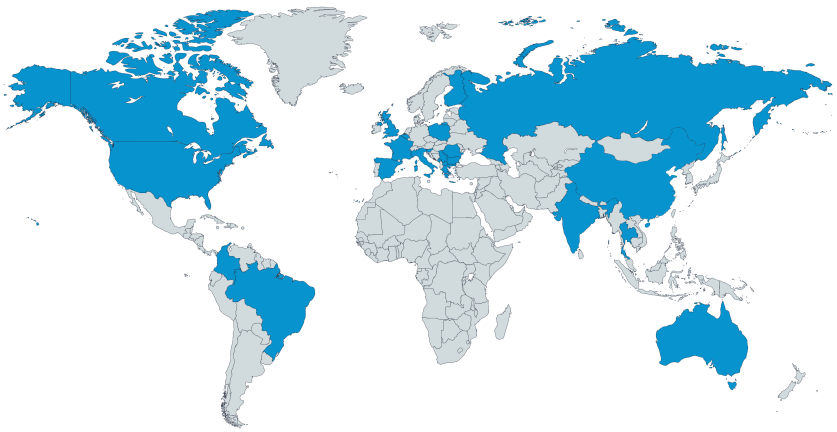
Mathematical Institute of the Serbian Academy of Sciences and Arts, Belgrade

SPONSORS

Ministry of Education, Science and Technological Development

Microsoft

INTERNATIONAL SCIENTIFIC COMMITTEE



Coordinator: Marija Stanić (Kragujevac, Serbia)

Real and Functional Analysis, Probability and Statistics, Differential Equations

1. Slađana Dimitrijević (Kragujevac, Serbia)
2. Sever Silvestru Dragomir (Melbourne, Australia)
3. Dragan Đorđević (Niš, Serbia)
4. Jacek Jachymski (Lódź, Poland)
5. Miljana Jovanović (Niš, Serbia)
6. David Kalaj (Podgorica, Montenegro)
7. Poom Kumam (Bang Mod, Bangkok, Thailand)
8. Jelena Manojlović (Niš, Serbia)
9. Miodrag Mateljević (Belgrade, Serbia)

10. Stevan Pilipović (Novi Sad, Serbia)
11. Stojan Radenović (Belgrade, Serbia)
12. Hari Mohan Srivastava (Victoria, British Columbia, Canada)

Logic, Algebra, Set Theory, Discrete Mathematics, Number Theory

1. Dragić Banković (Kragujevac, Serbia)
2. Bojana Borovićanin (Kragujevac, Serbia)
3. Richard Brualdi (Wisconsin, USA)
4. Miroslav Ćirić (Niš, Serbia)
5. Nada Damljanović (Čačak, Serbia)
6. Igor Dolinka (Novi Sad, Serbia)
7. Radosav Đorđević (Kragujevac, Serbia)
8. Aleksandar Ivić (Belgrade, Serbia)
9. Matti Jutila (Turku, Finland)
10. Sandi Klavžar (Ljubljana, Slovenia)
11. Miroslav Petrović (Kragujevac, Serbia)
12. Juan Pablo Rada Rincón (Medellín, Colombia)
13. Miodrag Rašković (Belgrade, Serbia)
14. Dragan Stevanović (Belgrade, Serbia)

Geometry, Topology, Algebraic Geometry and Topology

1. Đorđe Baralić (Belgrade, Serbia)
2. Bang-Yen Chen (Michigan, USA)
3. Haibao Duan (Beijing, China)
4. Jelena Grbić (Southampton, England, United Kingdom)
5. Božidar Jovanović (Belgrade, Serbia)
6. Louis H. Kauffman (Chicago, USA)
7. Miroslava Petrović-Torgašev (Kragujevac, Serbia)
8. Zoran Rakić (Belgrade, Serbia)
9. Ljubica Velimirović (Niš, Serbia)
10. Leopold Verstraelen (Leuven, Belgium)
11. Andrei Vesnin (Novosibirsk, Rusia)
12. Rade Živaljević (Belgrade, Serbia)

Applied Mathematics, Numerical Analysis

1. Lehel Banjai (Edinburgh, Scotland, United Kingdom)
2. Ernesto Birgin (São Paulo, Brazil)
3. Dejan Bojović (Kragujevac, Serbia)
4. Bernardo de la Calle Ysern (Madrid, Spain)
5. Ivan Gutman (Kragujevac, Serbia)
6. Mircea Ivan (Cluj-Napoca, Romania)
7. Boško Jovanović (Belgrade, Serbia)
8. Nataša Krejić (Novi Sad, Serbia)
9. Giuseppe Mastroianni (Potenza, Italy)
10. Gradimir Milovanović (Belgrade, Serbia)
11. Giovanni Monegato (Torino, Italy)
12. Sotirios Notaris (Athens, Greece)
13. Ramón Orive Rodrguez (Tenerife, Canary Islands, Spain)
14. Marko Petković (Niš, Serbia)
15. Ljiljana Pavlović (Kragujevac, Serbia)
16. Harishchandra Ramane (Dharwad, India)
17. Lothar Reichel (Kent, Ohio, USA)
18. Miodrag Spalević (Belgrade, Serbia)
19. Lubin Vulkov (Ruse, Bulgaria)

History and Teaching of Mathematics and Informatics

1. Milan Božić (Belgrade, Serbia)
2. Nebojša Ikodinović (Belgrade, Serbia)
3. Zoran Kadelburg (Belgrade, Serbia)
4. Aleksa Maleski (Skopje, Macedonia)
5. Đura Paunić (Novi Sad, Serbia)
6. Branislav Popović (Kragujevac, Serbia)
7. Đurđica Takači (Novi Sad, Serbia)

Computer Science

1. Aleksandar Cvetković (Belgrade, Serbia)
2. Miloš Ivanović (Kragujevac, Serbia)
3. Mirjana Ivanović (Novi Sad, Serbia)
4. Vasilios Katsikis (Athens, Greece)
5. Zoran Ognjanović (Belgrade, Serbia)
6. Boban Stojanović (Kragujevac, Serbia)
7. Milan Tasić (Niš, Serbia)

ORGANIZING COMMITTEE

1. Marija Stanić, president (Kragujevac, Serbia)
2. Suzana Aleksić (Kragujevac, Serbia)
3. Vojislav Andrić (Belgrade, Serbia)
4. Bojana Borovićanin (Kragujevac, Serbia)
5. Slađana Dimitrijević (Kragujevac, Serbia)
6. Milica Grbović (Kragujevac, Serbia)
7. Miloš Ivanović (Kragujevac, Serbia)
8. Aleksandar Jovanović (Kragujevac, Serbia)
9. Ana Kaplarević-Mališić (Kragujevac, Serbia)
10. Miomir Kovačević (Kragujevac, Serbia)
11. Aleksandar Milenković (Kragujevac, Serbia)
12. Branislav Popović (Kragujevac, Serbia)
13. Višnja Simić (Kragujevac, Serbia)
14. Mića Stanković (Niš, Serbia)
15. Nenad Stojanović (Kragujevac, Serbia)
16. Teodora Trifunović (Kragujevac, Serbia)
17. Tatjana Tomović (Kragujevac, Serbia)
18. Dragana Valjarević (Kosovska Mitrovica, Serbia)

[4] L. Jin and Y. Zhang, Discrete-time Zhang neural network of $\emptyset(\tau^3)$ pattern for time-varying matrix pseudoinversion with application to manipulator motion generation, Neurocomputing **142** (2014), 165–173.

[5] Y. Zhang, D. Guo, Y. Yin and Y. Chou, Taylor-type 1-step-ahead numerical differentiation rule for first-order derivative approximation and ZNN discretization, J. Comput. Appl. Math. **273** (2015), 29–40.

[6] Y. Zhang, Y. Wang, L. Jin, B. Mu and H. Zheng, Different ZFs leading to various ZNN models illustrated via online solution of time-varying underdetermined systems of linear equations with robotic application, Lecture Notes in Comput. Sci. **7952** (2013), 481–488.

Anti-Gaussian quadrature rule for trigonometric polynomials

Nevena Z. Petrović[1], Tatjana V. Tomović[1], Marija P. Stanić[1]

[1]Department of Mathematics and Informatics, Faculty of Science, University of Kragujevac, Serbia, nenap@kg.ac.rs, tomovict@kg.ac.rs, stanicm@kg.ac.rs

An anti-Gaussian quadrature formula is an $(n+1)$-point formula with algebraic degree of exactness $2n+1$. Its error is equal in magnitude but of opposite sign to that of the n-point Gaussian formula. In this paper, we investigate an anti-Gaussian quadrature rule with maximal trigonometric degree of exactness with respect to an even weight function on $[-\pi, \pi)$. Also, we give the method for its construction based on relations between nodes and weights of the quadrature rule for trigonometric polynomials and those of the quadrature rule for algebraic polynomials which were given in [1].

References

[1] G. V. Milovanović, A. S. Cvetković and M. P. Stanić, Trigonometric orthogonal systems and quadrature formulae, Comput. Math. Appl. **56** (2008), 2915–2931.

[2] D. P. Laurie, Anti-Gaussian quadrature formulas, Math. Comp. **65**(214) (1996), 739–747.

On some iteration schemes for numerical computation of fixed points

Ariana Pitea[1]

[1]Department of Mathematics and Informatics, Faculty of Applied Sciences, University Politehnica of Bucharest, Romania, arianapitea@yahoo.com

The talk refers to some new iteration schemes for reckoning fixed points on the setting of Banach spaces, satisfying various contractive conditions. Their rate of convergence is studied by comparison with other processes, including the classical ones of Mann, Ishikawa and Agarwal et al. Numerical examples are given to support the results presented. Some remarks with respect to different numerical iteration procedures are also in view. Some polynomiographs connected to this research are also presented.

References

[1] K. Gdawiec and W. Kotarski, Polynomiography for the polynomial infinity norm via Kalantari's formula and nonstandard iterations. Appl. Math. Comput. **307** (2017), 17–30.

[2] W. Sintunavarat and A. Pitea, On a new iteration scheme for numerical reckoning fixed points of Berinde mappings with convergence analysis, J. Nonlinear Sci. Appl. **9** (2016), 2553–2562.