PROJECT 174033: GRAPH THEORY AND MATHEMATICAL PROGRAMMING WITH APPLICATIONS TO CHEMISTRY AND COMPUTER SCIENCE

Publications in 2014.

MONOGRAPHS AND CHAPTERS IN MONOGRAPHS

1. D. Stevanović,
Spectral Radius of Graphs,
Academic Press (Elsevier imprint), Waltham, 2014.

2. D. Stevanović,
Mathematical Properties of Zagreb Indices, (in Serbian)
Akademska misao, Beograd, 2014.

3. T. G. Crainic, T. Davidović, D. Ramljak,
Designing Parallel Meta-Heuristic Methods,
in *High Performance and Cloud Computing in Science and Education*,
edited by Despotović-Zrakić, M., Milutinović, V., Belić, A., IGI-Global (2014), 260-280.

JOURNAL PAPERS

Subproject 1: Spectral graph theory

1. N.M.M. de Abreu, K.T. Balnska, S.K. Simić, K.T. Zwierzynski,
More on non-regular bipartite graphs with maximum degree four not having +-1 as eigenvalues,
Appl. Anal. Discrete Math. 8 (2014), 123-154.

2. I.M. Jovanović, Z. Stanić,
Spectral distances of graphs based on their different matrix representations,
Filomat, 28 (2014), 723-734.

3. H. Abdo, D. Dimitrov, T. Reti, D. Stevanović,
Estimating the Spectral Radius of a Graph by the Second Zagreb Index,
MATCH Commun. Math. Comput. Chem. 72 (2014), 741-751.

4. C. da Fonseca, D. Stevanović,

Further Properties of the Second Zagreb Index
MATCH Commun. Math. Comput. Chem. 72 (2014), 655-668.

5. A. Vasilyev, R. Darda, D. StevanoviĹ,
Trees of given order and independence number with minimal first Zagreb index,
MATCH Commun. Math. Comput. Chem. 72 (2014), 775-782.

6. C. da Fonseca, M. Ghebleh, A. Kanso, D. StevanoviĹ,
Counterexamples to a Conjecture on Wiener Index of Common Neighborhood Graphs
MATCH Commun. Math. Comput. Chem. 72 (2014), 333-338.

7. T. Koledin, Z. StaniĹ,
Reflexive bipartite regular graphs,
Linear Algebra and Its Applications, 442 (2014), 145-155.

8. S.K. SimiĹ, M. AndjeliĹ, C.M. da Fonseca, D. ĢivkoviĹ,
Notes on the second largest eigenvalue of a graph,
Linear Algebra Appl. 465 (2014), 262ï 274.

9. S. MajstoroviĹ, D. StevanoviĹ,
Graphs with the largest eigenvalue of modularity matrix equal to zero,
Electron. J. Linear Algebra, 27 (2014), 611-618.

10. M. AndjeliĹ, D. M. Cardoso,
Spectral characterization of families of split graphs,
Graphs and Combinatorics, DOI: 10.1007/s00373-013-1387-8.

11. I. Barbedo, D. M. Cardoso, D. CvetkoviĹ, P. Rama, S. K. SimiĹ,
A recursive construction of regular exceptional graphs with least eigenvalue -2,
Portugal. Math. 71 (2) (2014), 79-96.

12. Z. StaniĹ,
Further results on controllable graphs,
Discrete Applied Mathematics, 166 (2014), 215-221.

13. G. Caporossi, D. CvetkoviĹ, P. Rowlinson,
Spectral reconstruction and isomorphism of graphs using variable neighborhood search,
Bull. Acad. Serbe Sci. Arts, Cl. Sci. Math. Natur., Sci. Math. 146 (39) (2014), 23-38.

Subproject 2: Chemical graph theory

1. S. RadenkoviĹ, J. Toġ oviĹ, R. W. A. Havenith, P. Bultinck,
Ring currents in benzo- and benzocyclobutadieno-annelated biphenylene derivates,
ChemPhysChem, DOI:10.1002/cphc.201402468.

2. K. Xu, M. Liu, K. C. Das, I. Gutman, B. Furtula,
A survey on graphs extremal with respect to distance-based topological indices
MATCH Communications in Mathematical and in Computer Chemistry, 71 (2014), 461-508.

3. I. Gutman, B. Furtula, C. Elphick,
Three new/old vertex-degree-based topological indices,
MATCH Communications in Mathematical and in Computer Chemistry, 72 (2014), 617-632.

4. I. Gutman, B. Furtula, S. B. Bozkurt,
On Randiĺ energy,
Linear Algebra and its Applications, 442 (2014), 50-57.

5. S. Radenkoviĺ, J. Kojiĺ, J. Petronijeviĺ, M. Antiĺ,
Effect of benzo-annelation on local aromaticity in heterocyclic conjugated compounds,
J. Phys. Chem. A, 118 (2014), 11591-11601.

6. S. Radenkoviĺ, I. Gutman, M. Antiĺ,
A case of breakdown of the Pauling bond order concept
Chemical Physics Letters, 614 (2014), 104ï 109.

7. B. Furtula, G. Lekishvili, I. Gutman,
A graph theoretical approach to cis/trans isomerism,
Journal of the Serbian Chemical Society, 79 (2014), 805-813.

8. B. Furtula, I. Gutman, S. Ediz,
On difference of Zagreb indices,
Discrete Applied Mathematics, 178 (2014), 83-88.

9. I. Gutman, B. Furtula, V. Kataniĺ,
New bounds and approximations for total ´-electron energy - a critical test,
Kragujevac Journal of Science, 36 (2014), 79-86.

10. A. Vasilyev, D. Stevanoviĺ,
MathChem: a Python package for calculating topological indices,
MATCH Commun. Math. Comput. Chem. 71 (2014), 657-680.

11. N. Milosavljeviĺ, D. Stevanoviĺ,
Detour Index of Hexagonal Chains,
MATCH Commun. Math. Comput. Chem. 72 (2014), 137-152.

Subproject 3: Mathematical programming

1. J. Kratica, J. Kojiĺ, A. Saviĺ,

Two metaheuristic approaches for solving multidimensional two-way number partitioning problem,
Computers & Operations Research, 46 (2014), 59-68.

2. J. Kratica, ņ. Dugoġija, A. SaviĺI,
A new mixed integer linear programming model for the multi level uncapacitated facility location problem,
Applied Mathematical Modelling, 38 (7-8) (2014), 2118-2129.

3. T. DavidoviĺI, D. TeodoroviĺI, M. Ġelmiĺ,
Bee Colony Optimization Part I: The Algorithm Overview,
Yugoslav Journal of Operational Research, DOI:10.2298/YJOR131011017D.

4. D. TeodoroviĺI, M. Ġelmiĺ, T. DavidoviĺI,
Bee Colony Optimization Part II: The Applications Survey,
Yugoslav Journal of Operational Research, DOI: 10.2298/YJOR131029020T.

5. J. Kratica, V. Kovaļ eviĺI-Vujļ iĺ, M. Ļangaloviĺ, N. MladenoviĺI,
Strong metric dimension: A survey,
Yugoslav Journal of Operations Research, 24 (2) (2014), 187-198.

6. N. NikoliĺI, M. Ļangaloviĺ, I. GrujiciĺI,
Symmetry properties of resolving sets and metric bases in hypercubes,
Optimization letters, DOI: 10.1007|s11590-014-0790-2.

7. R. JovanoviĺI, V. TosiĺI, M. Ļangaloviĺ, M. StanojeviĺI,
Anticipatory modulation of air navigation charges to balance the use of airspace network capacities,
Transportation Research, part A- Policy and Practice, 61 (2014), 84-99.

Subproject 4: Structural graph theory and algorithms

1. P. Aboulker, M. RadovanoviĺI, N. Trotignon, T. Trunck, K. Vuġkoviĺ,
Linear balanceable and subcubic balanceable graphs,
Journal of Graph Theory, DOI:10.1002/jgt.21728.

2. T. DivniĺI, Lj. PavloviĺI, B. Liu,
Extremal graphs for the RandiĺI index when minimum, maximum degrees and order of graphs are odd,
Optimization, DOI: 10.1080/02331934.2014.919500.

3. T. DivniĺI, M. MilivojeviĺI, Lj. PavloviĺI,
Extremal graphs for the geometric-arithmetic index with given minimum degree,
Discrete Applied Mathematics, 162 (2014), 386-390.

Subproject 5: Graph spectra in computer science

1. D. StevanoviĆ,
Remarks on dynamic load balancing of integer loads and integral graphs,
Appl. Math. Comput. 226 (2014), 38-43.

2. M. G. Yoon, P. Rowlinson, D. CvetkoviĆ, Z. StaniĆ,
Controllability of multi-agent dynamical systems with a broadcasting control signal,
Asian J. Control, 16 (4) (2014), 1066-1072.

3. F. Comellas, R. Elsasser, D. StevanoviĆ,
Preface: Special issue on Applications of Graph Spectra in Computer Science,
Discrete Appl. Math. 176 (2014), 1-2.

4. V. CvjetkoviĆ, M. ņokiĆ, B. ArsiĆ, M. Ćurļiĺ,
The ontology supported intelligent system for experiment search in the scientific research center,
Kragujevac Journal of Science, 36 (2014), 95-110.

Papers in conference proceedings

1. B. ArsiĆ, M. ņokiĆ, V. CvjetkoviĆ, P. SpaleviĆ, M. Çivanoviĺ, M. MladenoviĆ,
Integration of bioactive substances data for preclinical testing with cheminformatics and bioinformatics resources,
23nd International Electrotechnical and Computer Science Conference ERK 2014, IEEE, Slovenia, September 22-24, 2014

2. T. Jakġiĺ Kruger, T. DavidoviĆ,
Model Convergence Properties of the Constructive Bee Colony Optimization Algorithm,
In Proc. *XLI Symp. Operat. Res.* SYM-OP-IS 2014, Divļibare, Sept. 16-19 (2014), 340-345.

3. M. Milojevic JevriĆ, T. DavidoviĆ,
Meta-Heuristics Application to Optimise Ball Bearings Dynamical Load Ratings and Rating Life,
In Proc. *XLI Symp. Operat. Res.* SYM-OP-IS 2014, Divļibare, Sept. 16-19 (2014), 753-758.

Papers accepted for publication

1. M. AndjeliĆ, C.M. da Fonseca, S.K. SimiĆ, D. ÇivkoviĆ,
On the multiplicities of eigenvalues of graphs and their vertex deleted subgraphs: old and new results,

Electronic J. Linear Algebra

2. T. Jakgiĺ Kruger, T. Davidoviĺ, D. Teodoroviĺ, M. Ċelmiĺ,
The Bee Colony Optimization Algorithm and its Convergence,
Int. J. Bio-Inspired Computation, 2014.

3. I. M. Jovanoviĺ,
Self-returning walks and graphlets,
Utilitas Mathematica

4. P. Aboulker, P. Charbit, M. Chudnovsky, N. Trotignon, K. Vugkoviĺ,
Vertex elimination orderings for hereditary graph classes,
Discrete Mathematics.

5. M. Lepoviĺ,
On strongly regular graphs of order 3(2p+1) and 4(2p+1), where 2p+1 is a prime number,
Vietnam J. Math.

6. S. Thomassé, N. Trotignon, K. Vugkoviĺ,
A polynomial Turing-kernel for weighted independent set in bull-free graphs,
Proceedings of WG 2014, Lecture Notes in Computer Science, Springer-Verlag.

7. B. Arsiĺ, M. ṇokic, N. Stefanoviĺ,
Mapping ebXML standards to ontology,
Proceedings of ICIST2014, 4th International Conference on Information Society and Technology, Serbia