

# Project: Graph theory and mathematical programming with applications in chemistry and engineering

## PUBLICATIONS IN 2008

### SCIENTIFIC MONOGRAPHS

1. Brualdi R.A., Cvetković D., *A Combinatorial Approach to Matrix Theory and Its Application*, CRC Press, Boca Raton, 2008.
2. Cvetković D., Rowlinson P., Simić S., *Eigenspaces of graphs*, Cambridge University Press, Cambridge, Digitaly printed version, 2008.
3. S. Guberinić, G. Šenborn, B. Lazić, *Optimal Trafic Control, Urban Intersections*, CRC Press, Boca Raton - London - New York, 2008.

### SCIENTIFIC PAPERS

#### Spectra of Graphs

1. Cvetković D., New theorems for signless Laplacian eigenvalues, *Bull. Acad. Serbe Sci. Arts, Cl. Sci. Math. Natur., Sci. Math.*, 137(2008), No. 33, 131-146.
2. F.K. Bell, D. Cvetković, P. Rowlinson, S.K. Simić, Graphs for which the least eigenvalue is minimal, I, *Linear Algebra and Appl.*, 429(2008), 234-241.
3. F.K. Bell, D. Cvetković, P. Rowlinson, S.K. Simić, Graphs for which the least eigenvalue is minimal, II, *Linear Algebra and Appl.*, 429(2008), 2168-2179.
4. D.M. Cardoso, D. Cvetković, P. Rowlinson, S.K. Simić, A sharp lower bound for the least eigenvalue of the signless Laplacian of a non-bipartite graph, *Linear Algebra and Appl.*, 429 (2008), 2770-2780.
5. M. Aouchiche, F.K. Bell, D. Cvetković, P. Hansen, P. Rowlinson, S.K. Simić, D. Stevanović, Variable neighborhood search for extremal graphs, 16. Some conjectures related to the largest eigenvalue of a graph, *Europ. J. Oper. Res.*, 191(3)(2008), 661-676.

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9. S.K. Simić, Z. Stanić, The polynomial reconstruction is unique for the graphs whose deck-spectra are bounded from below by  $2$ , *Linear Algebra and Appl.*, 428(2008), 186-1873.
10. D. Stevanović, On the Randić index and Diameter of Chemical Graphs, in: *Recent Results in the Theory of Randić Index*, I. Gutman, B. Furtula (Eds.), Mathematical Chemistry Monographs, Vol. 6, University of Kragujevac, Kragujevac, 2008, pp. 49-55.
11. D. Stevanović, Maximizing Wiener index of graphs with fixed maximum degree, *MATCH Commun. Math. Comput. Chem.* 60 (2008), 71-83.
12. D. Stevanović, M. Aouchiche, P. Hansen, On the spectral radius of graphs with a given domination number, *Linear Algebra Appl.* 428 (2008), 1854-1864.
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14. D. Stevanović, P. Hansen, The minimum spectral radius of graphs with a given clique number, *Electron. J. Linear Algebra* 17 (2008), 110-117.
15. Petrović M., Borovićanin B., The spectral radius of tricyclic graphs with  $n$  vertices and  $k$  pendant vertices, *Ars Combinatoria*, 86(2008), 77-88.
16. Petrović M., Borovićanin B., Aleksić T., Bicyclic graphs for which the least eigenvalue is minimum, *Linear Algebra Appl.* (2008), doi: 10.1016/j.laa.2008.10.026.
17. Z. Radosavljević, B. Mihailović, M. Rašajski: Decomposition of Smith graphs in maximal reflexive cacti. *Discrete Mathematics*, 308 (2008), 355-366.
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### **Chemical Graph Theory**

1. Gutman, I., On graphs whose energy exceeds the number of vertices, *Linear Algebra Appl.* 429 (2008) 2670-2677.
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3. S. Pirzada, I. Gutman, Energy of a graph is never the square root of an odd integer, *Applicable Analysis and Discrete Mathematics* 2 (2008) 118-121.
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5. G. Indulal, I. Gutman, On the distance spectra of some graphs, *Mathematical Communications*, 13 (2008) 123-131.
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24. Gutman, G. Indulal, R. Todeschini, Generalizing the McClelland bounds for total pi-electron energy, *Zeitschrift fur Naturforschung* 63a (2008) 280-282.
25. Gutman, S. Stanković, Comparing the stability of tribenzo[b,n,pqr]perylene and

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  35. Gutman, A. R. Ashrafi, The edge version of the Szeged index, *Croatica Chemica Acta* 81 (2008) 263-266.
  36. M. H. Khalifeh, H. Yousefi-Azari, A. R. Ashrafi, I. Gutman, The edge Szeged index of product graphs, *Croatica Chemica Acta* 81 (2008) 277-281.
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  38. S. Radenković, I. Gutman, Relation between Wiener index and spectral radius, *Kragujevac Journal of Science* 30 (2008) 57-64.
  39. P. Toropova, A. A. Toropov, I. Gutman, QSPR modeling of water solubility of minerals by optimal descriptors calculated with SMILES, *Kragujevac Journal of Science* 30 (2008) 65-72.
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### **Optimization**

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2. F. Maffray, N. Trotignon and K. Vušković, Algorithms for square-3PC(.,.)-free Berge graphs, *SIAM Journal on Discrete Mathematics* 22 (1) (2008) 51-71.
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### **PROCEEDINGS PAPERS**

1. S. Bonifacio, N. M. M. de Abreu, C. T. M. Vinagre, I. Gutman, Grafos hiperenergeticos a nao hiperenergeticos, Proceedings of XXXI Congresso Nacional de Matematica Aplicada e Computacional (CNMAC 2008), Belem (Brazil), pp. 1-6.
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## PAPERS IN PRINT

1. D. Cvetković, S.K. Simić, Towards a spectral theory of graphs based on the signless Laplacian, I, *Publ. Math. Inst. (Beograd)*, to appear.
2. T. Biyikoğlu, S.K. Simić, Z. Stanić, Some notes on cographs, *Ars Combinatoria*, to appear.
3. F. Belardo, E.M. Li Marzi, S.K. Simić, Bidegreed trees with a small index, *MATCH Commun. Math. Chem.*, to appear.
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