

## Publications of A. Martin

- [1] A. Martin. A polynomially solvable case of the separation problem for the Steiner partition inequalities. *Methods of Operations Research*, 62:277 – 284, 1990.
- [2] M. Jünger, A. Martin, G. Reinelt, and R. Weismantel. Simultaneous placement in the sea of gates layout style. *Methods of Operations Research*, 62:273 – 275, 1990.
- [3] C.E. Ferreira, M. Grötschel, S. Kiefl, C. Krispenz, A. Martin, and R. Weismantel. Some integer programs arising in the design of main frame computers. *ZOR – Methods and Models of Operations Research*, 38:77 – 100, 1993.
- [4] A. Martin and R. Weismantel. Packing paths and steiner trees: Routing of electronic circuits. *CWI Quarterly*, 6:185 – 204, 1993.
- [5] M. Grötschel, A. Martin, and R. Weismantel. Routing in grid graphs by cutting planes. In G. Rinaldi and L.A. Wolsey, editors, *Integer Programming and Combinatorial Optimization*, Proceedings of the 3rd IPCO Conference, pages 447 – 463, 1993.
- [6] M. Jünger, A. Martin, G. Reinelt, and R. Weismantel. Quadratic 0/1 optimization and a decomposition approach for the placement of electronic circuits. *Mathematical Programming*, 63:257 – 279, 1994.
- [7] M. Grötschel, A. Martin, and R. Weismantel. Routing in grid graphs by cutting planes (extended version). *ZOR – Methods and Models of Operations Research*, 41:255 – 275, 1995.
- [8] M. Grötschel, A. Martin, and R. Weismantel. Packing Steiner trees: Polyhedral investigations. *Mathematical Programming*, 72:101 – 123, 1996.
- [9] M. Grötschel, A. Martin, and R. Weismantel. Packing Steiner trees: A cutting plane algorithm and computational results. *Mathematical Programming*, 72:125 – 145, 1996.
- [10] M. Grötschel, A. Martin, and R. Weismantel. Packing Steiner trees: Further facets. *European Journal on Combinatorics*, 17:39 – 52, 1996.
- [11] M. Grötschel, A. Martin, and R. Weismantel. Packing Steiner trees: Separation algorithms. *SIAM Journal on Discrete Mathematics*, 9:233 – 257, 1996.
- [12] M. Grötschel, A. Martin, and R. Weismantel. Optimum path packing on wheels: The consecutive case. *Computers Math. Applic.*, 31:23 – 35, 1996.

- [13] C.E. Ferreira, A. Martin, C.C. de Souza, R. Weismantel, and L.A. Wolsey. Formulations and valid inequalities for node capacitated graph partitioning. *Mathematical Programming*, 74:247 – 266, 1996.
- [14] C.E. Ferreira, A. Martin, and R. Weismantel. Solving multiple knapsack problems by cutting planes. *SIAM Journal on Optimization*, 6:858 – 877, 1996.
- [15] R. Borndörfer, A. Eisenblätter, M. Grötschel, and A. Martin. Stable-set and other techniques for frequency assignment problems. In *Anais da I Oficina Nacional em Problemas de Corte & Empacotamento*, pages 17–21. Univ. de São Paulo, Instituto de Matemática e Estatística, 1996.
- [16] M. Grötschel, A. Martin, and R. Weismantel. The Steiner tree packing problem in VLSI-design. *Mathematical Programming*, 78:265 – 281, 1997.
- [17] C.E. Ferreira, A. Martin, C.C. de Souza, R. Weismantel, and L.A. Wolsey. The node capacitated graph partitioning problem: A computational study. *Mathematical Programming*, 81:229 – 256, 1998.
- [18] R. Borndörfer, A. Eisenblätter, M. Grötschel, and A. Martin. Frequency Assignment in Cellular Phone Networks. *Annals of Operations Research*, 76:73–93, 1998.
- [19] A. Martin and R. Weismantel. The intersection of knapsack polyhedra and extensions. In R.E. Bixby, E.A. Boyd, and R.Z. Ríos-Mercado, editors, *Integer Programming and Combinatorial Optimization*, Proceedings of the 6th IPCO Conference, pages 243 – 256, 1998.
- [20] T. Koch and A. Martin. Solving Steiner tree problems in graphs to optimality. *Networks*, 32:207 – 232, 1998.
- [21] R. Borndörfer, C.E. Ferreira, and A. Martin. Decomposing matrices into blocks. *SIAM Journal on Optimization*, 9:236 – 269, 1998.
- [22] W. Bruns, J. Gubeladze, M. Henk, A. Martin, and R. Weismantel. A counterexample to an integer analogue of carathéodory’s theorem. *Journal für die Reine und Angewandte Mathematik*, 510:179 – 185, 1999.
- [23] G. Dahl, A. Martin, and M. Stoer. Routing through virtual paths in layered telecommunication networks. *Operations Research*, 47:693 – 702, 1999.
- [24] A. Martin. Integer programs with block structure. Preprint SC 99-03, Konrad-Zuse-Zentrum für Informationstechnik Berlin, 1999. Habilitation Thesis.
- [25] R.E. Bixby and A. Martin. Parallelizing the dual simplex method. *INFORMS Journal on Computing*, 12:45 – 56, 2000.

- [26] T. Koch, A. Martin, and S. Voß. SteinLib: An updated library on Steiner tree problems in graphs. In D.-Z. Du and X. Cheng, editors, *Steiner Trees in Industries*, pages 285–325. Kluwer, 2001.
- [27] A. Martin. General mixed integer programming: Computational issues for branch-and-cut algorithms. In D. Naddef and M. Jünger, editors, *Computational Combinatorial Optimization*. Springer, Berlin, 2001.
- [28] P. Chamoni, R. Leisten, A. Martin, J. Minnemann, and H. Stadtler, editors. *Operations Research Proceedings 2001*. Springer, Heidelberg, 2002.
- [29] J. Bokowski and A. Martin. Egoisten schaden sich selbst. Technical Report 2251, Darmstadt University of Technology, Department of Mathematics, 2002.
- [30] A. Martin. Large scale optimization. In *Encyclopedia of Life Support Systems (EOLSS), Chapter 6.5*, pages 411 – 428. UNESCO, 2002.
- [31] A. Eisenblätter, A. Fügenschuh, T. Koch, A. Koster, A. Martin, T. Pfender, O. Wegel, and R. Wessäly. Modelling feasible network configurations for UMTS. In G. Anandalingam and S. Raghavan, editors, *Telecommunications network design and management*, pages 1 – 24. Kluwer, 2002.
- [32] H. Marchand, A. Martin, R. Weismantel, and L.A. Wolsey. Cutting planes in integer and mixed integer programming. *Discrete Applied Mathematics*, 123/124:391 – 440, 2002.
- [33] A. Eisenblätter, A. Fügenschuh, H.-F. Geerdes, D. Junglas, T. Koch, and A. Martin. Optimization methods for UMTS radio network planning. In D. Ahr, R. Fahrion, M. Oswald, and G. Reinelt, editors, *Operations Research Proceedings 2003*, pages 31 – 38. Springer, Berlin, 2003.
- [34] A. Eisenblätter, A. Fügenschuh, H.-F. Geerdes, D. Junglas, T. Koch, and A. Martin. Integer programming methods for UMTS radio network planning. In *Proc. of WiOpt’04*, Cambridge, UK, 2004.
- [35] A. Fügenschuh, A. Martin, and P. Stöveken. Integrated optimization of school starting times and public bus services. In A. Fügenschuh and J. van der Veen, editors, *Proceedings of the Oberwolfach Workshop ‘Mathematics in the Supply Chain’*, pages 183 – 186, 2004.
- [36] D.C. Sternel, D. Junglas, A. Martin, and M. Schäfer. Optimisation of partitioning for parallel flow simulation on block structured grids. In B.H.V. Topping and C.A. Mota Soares, editors, *Proceedings of the Fourth International Conference on Engineering Computational Technology*, Stirling, United Kingdom, 2004. Civil-Comp Press. paper 93.
- [37] A. Fügenschuh, A. Martin, and P. Stöveken. IOSANA: Integrierte Optimierung der Schulanfangszeit und des Nahverkehrs-Angebots. In D.C. Mattfeld, editor, *Optimierung im öffentlichen Nahverkehr*, pages 170 – 189, 2004.

- [38] A. Fügenschuh and A. Martin. Computational integer programming and cutting planes. In R. Weismantel K. Aardal, G. Nemhauser, editor, *Handbooks in Operations Research and Management Science*, volume 12, pages 69 – 122. Kluwer, 2005.
- [39] A. Fügenschuh and A. Martin. Was haben Schüler und Großbanken gemeinsam? *Mathematik Lehren*, 129:50 – 54, 2005.
- [40] A. Fügenschuh, A. Martin, and P. Stöveken. Integrated optimization of school starting times and public bus services. In H. Fleuren, D. den Hertog, and P. Kort, editors, *Operations Research Proceedings 2004*, pages 150 – 157. Springer, Berlin, 2005.
- [41] A. Fügenschuh, A. Martin, C. Mehler, and P. Stöveken. Ein Planungstool zur Schulzeitstaffelung. In H.-O. Günther, D. Mattfeld, and L. Suhl, editors, *Supply Chain Management und Logistik*, pages 419 – 436. Physica-Verlag Heidelberg, 2005.
- [42] T. Achterberg, T. Koch, and A. Martin. Branching rules revisited. *Operations Research Letters*, 33:42 – 54, 2005.
- [43] M. Glocker, A. Martin, and O. von Stryk. Optimale kooperative Steuerung von Mehrflugzeugsystemen. In *thema forschung*, volume 3, pages 14 – 18. TU Darmstadt, 2005.
- [44] A. Martin and M. Möller. Cutting planes for the optimisation of gas networks. In H.G. Bock, E. Kostina, H.X. Phu, and R. Rannacher, editors, *Modeling, Simulation and Optimization of Complex Processes*, pages 307 – 330. Springer, Heidelberg, 2005.
- [45] M. Armbruster, M. Fügenschuh, Ch. Helmberg, N. Jetchev, and A. Martin. LP-based genetic algorithm for the minimum graph bisection problem. In *Operations Research Proceedings 2005, Bremen, September 7-9, 2005*, pages 315–320. Springer, Berlin, 2005.
- [46] A. Fügenschuh and A. Martin. A multicriterial approach for optimizing bus schedules and school starting times. *Annals of Operations Research*, 147:119 – 216, 2006.
- [47] A. Eisenblätter, H.-F. Geerdes, T. Koch, A. Martin, and R. Wessälly. UMTS radio network evaluation and optimization beyond snapshots. *Mathematical Methods of Operations Research*, 63:1 – 29, 2006.
- [48] T. Achterberg, T. Koch, and A. Martin. MIPLIB 2003. *Operations Research Letters*, 34:1–12, 2006.
- [49] H. Birkhofer, A. Fügenschuh, U. Günther, D. Junglas, A. Martin, T. Sauer, S. Ulbrich, M. Wäldele, and S. Walter. Topology- and Shape-Optimization of Branched Sheet Metal Products. In H. Haasis, H. Kopfer, and J. Schönberger, editors, *Operations Research Proceedings 2005*, pages 327 – 336. Springer, Berlin, 2006.

- [50] M. Armbruster, M. Fügenschuh, Ch. Helmberg, N. Jetchev, and A. Martin. Hybrid genetic algorithm within branch-and-cut for the minimum graph bisection problem. In *Proceedings of 6th European Conference, EvocOP 2006, Budapest, Hungary, April 10-12, 2006*, volume 3906 of *Lecture Notes in Computer Science*, pages 1–12. Springer, Berlin, 2006.
- [51] A. Fügenschuh, H. Homfeld, A. Huck, and A. Martin. Locomotive and Wagon Scheduling in Freight Transport. In Riko Jacob and Matthias Müller-Hannemann, editors, *ATMOS 2006 - 6th Workshop on Algorithmic Methods and Models for Optimization of Railways*, 2006.
- [52] A. Fügenschuh and A. Martin. Mathematische Modelle zur betrieblichen Optimierung. *Z! - das Zukunftsmagazin*, 1:3, 2006.
- [53] U. Günther, A. Martin, K. Ritter, and T. Wagner. Cash recycling systems: Prediction and optimization. In *PAMM, Proceedings of Applied Mathematics and Mechanics*, volume 6, pages 667 – 668, 2006.
- [54] A. Fügenschuh, M. Herty, A. Klar, and A. Martin. Combinatorial and continuous models for the optimization of traffic flows on networks. *SIAM Journal on Optimization*, 16:1155 – 1176, 2006.
- [55] A. Martin, M. Möller, and S. Moritz. Mixed integer models for the stationary case of gas network optimization. *Mathematical Programming B*, 105:563 – 582, 2006.
- [56] U. Günther and A. Martin. Mixed integer models for branched sheet metal products. In *PAMM, Proceedings of Applied Mathematics and Mechanics*, volume 6, pages 697 – 698, 2006.
- [57] D. Mahlke, A. Martin, and S. Moritz. A simulated annealing algorithm for transient optimization in gas networks. *Mathematical Methods of Operations Research*, 66:99 – 116, 2007.
- [58] A. Fügenschuh, W. Hess, A. Martin, and S. Ulbrich. Diskrete und kontinuierliche Modelle zur Topologie- und Geometrie-Optimierung von Blechprofilen. In P. Groche, editor, *Tagungsband 1. Zwischenkolloquium SFB 666*, pages 37 – 47. Meisenbach Verlag, Bamberg, 2007.
- [59] U. Günther and A. Martin. Modellierung von Fertigungsrestriktionen bei der Herstellung von verzweigten Blechbauteilen. In P. Groche, editor, *Tagungsband 1. Zwischenkolloquium SFB 666*, pages 47 – 53. Meisenbach Verlag, Bamberg, 2007.
- [60] A. Anderl, M. Kormann, T. Rollmann, Z. Wu, A. Martin, S. Ulbrich, and U. Günther. An approach to algorithm-based design in product development. *Konstruktion*, 5:79 – 82, 2007.

- [61] D. Mahlke, A. Martin, and A. Zelmer. Optimale Auslegung gekoppelter Energienetze. In *thema forschung*, volume 3, pages 12 – 17. TU Darmstadt, 2007.
- [62] M. Wäldele, A. Fügenschuh, H. Birkhofer, and A. Martin. Algorithmenbasierte Produktentwicklung für integrale Blechbauweisen höherer Verzweigungsordnung. In *5. Gemeinsames Kolloquium Konstruktionstechnik 2007*, Dresden, 2007.
- [63] A. Fügenschuh and A. Martin. Mixed-integer models for topology optimization in sheet metal design. In *PAMM, Proceedings of Applied Mathematics and Mechanics*, volume 7, pages 2060049–2060050, 2007.
- [64] E. Handschin, D. Waniek, A. Martin, D. Mahlke, and A. Zelmer. Gekoppelte optimale Auslegung von Strom-, Gas- und Wärmenetzen. In *Optimierung in der Energiewirtschaft, VDI-Berichte Nr. 2018*, pages 133 – 146, 2007.
- [65] A. Fügenschuh, H. Homfeld, A. Huck, A. Martin, and Y. Zhi. Scheduling locomotives and car transfers in freight transport. *Transportation Science*, pages 478 – 491, 2008.
- [66] M. Armbruster, Ch. Helmberg, M. Fügenschuh, and A. Martin. A comparative study of linear and semidefinite branch-and-cut methods for solving the minimum graph bisection problem. In A. Lodi, A. Panconesi, and G. Renaldi, editors, *Integer Programming and Combinatorial Optimization*, Proceedings of the IPCO 2008 Conference, LNCS 5035, pages 112 – 124, 2008.
- [67] M. Armbruster, Ch. Helmberg, M. Fügenschuh, and A. Martin. On the graph bisection cut polytope. *SIAM Journal on Discrete Mathematics*, 22:1073 – 1098, 2008.
- [68] A. Fügenschuh, S. Göttlich, M. Herty, A. Klar, and A. Martin. A discrete optimization approach to large scale supply networks based on partial differential equations. *SIAM Journal on Scientific Computing*, 30:1490 – 1507, 2008.
- [69] G. Leugering, A. Martin, and M. Stingl. Topologie und dynamische Netzwerke: Anwendungen der Zukunft. In V. Mehrmann M. Grötschel, K. Lucas, editor, *Produktionsfaktor Mathematik*, acatech diskutiert, pages 323 – 340, 2008.
- [70] A. Fügenschuh, W. Hess, L. Schewe, A. Martin, and S. Ulbrich. Verfeinerte Modelle zur Topologie- und Geometrie-Optimierung von Blechprofilen mit Kammern. In P. Groche, editor, *Tagungsband 2. Zwischenkolloquium SFB 666*, pages 17 – 28. Meisenbach Verlag, Bamberg, 2008.

- [71] U. Günther, A. Martin, and T. Shang. Integration von Fertigungsrestriktionen - Ein Ansatz aus der Graphentheorie. In P. Groche, editor, *Tagungsband 2. Zwischenkolloquium SFB 666*, pages 29 – 34. Meisenbach Verlag, Bamberg, 2008.
- [72] A. Fügenschuh, S. Göttlich, M. Herty, C. Kirchner, and A. Martin. Efficient reformulation and solution of a nonlinear PDE-controlled flow network model. *Computing*, 85(3):245 – 265, 2009. DOI: 10.1007/s00607-009-0038-7.
- [73] M. Wäldele, H. Birkhofer, A. Fügenschuh, and A. Martin. Modeling properties for the design of branched sheet metal products. In A. Chakrabarti, editor, *Research into Design: Supporting Multiple Facets of Product Development*, pages 287 – 294. Research Publishing, 2009.
- [74] E. Handschin, D. Mahlke, A. Martin, C. Rehtanz, D. Waniek, and A. Zelmer. Kostenoptimierte Planung gekoppelter Strom-, Gas- und Wärmenetze. In R. Schultz and H.-J.Wagner, editors, *Innovative Modellierung und Optimierung von Energiesystemen*, pages 9 – 38. LIT Verlag, 2009.
- [75] A. Epe, D. Mahlke, A. Martin, H.-J. Wagner, C. Weber, O. Woll, and A. Zelmer. Betriebsoptimierung zur ökonomischen Bewertung von Speichern. In R. Schultz and H.-J.Wagner, editors, *Innovative Modellierung und Optimierung von Energiesystemen*, pages 153 –178. LIT Verlag, 2009.
- [76] A. Fügenschuh, B. Geißler, A. Martin, and A. Morsi. The transport PDE and mixed-integer linear programming. In Cynthia Barnhart, Uwe Clausen, Ulrich Lauther, and Rolf H. Möhring, editors, *Models and Algorithms for Optimization in Logistics*, number 09261 in Dagstuhl Seminar Proceedings, Dagstuhl, Germany, 2009. Schloss Dagstuhl - Leibniz-Zentrum fuer Informatik, Germany.
- [77] D. Mahlke, A. Martin, and S. Moritz. A mixed integer approach for time-dependent gas network optimization. *Optimization Methods and Software*, 25:625 – 644, 2010.
- [78] T. Göllner, U. Günther, W. Hess, A. Martin, and S. Ulbrich. Form- und Topologieoptimierung verzweigter Blechbauteile. In P. Groche, editor, *Tagungsband 3. Zwischenkolloquium SFB 666*, pages 25 – 32. Meisenbach Verlag, Bamberg, 2010.
- [79] D. Mahlke, A. Martin, and A. Zelmer. Reliable systems - supply and demand from a comprehensive perspective. In *thema forschung*, volume 1, pages 66 – 69. TU Darmstadt, 2010.
- [80] A. Martin, J. Müller, and S. Pokutta. On clearing coupled day-ahead electricity markets. In *23rd Australasian Finance and Banking Conference 2010*, 2010. Available at SSRN: <http://ssrn.com/abstract=1660528>.

- [81] U. Lorenz, A. Martin, and J. Wolf. Polyhedral and algorithmic properties of quantified linear programs. In *M. de Berg, U. Meyer (eds), Algorithms - ESA 2010, 18th Annual European Symposium, Liverpool, UK, September 6-8, 2010. Proceedings*, volume 6346 of *Lecture Notes in Computer Science*, pages 512–523, 2010.
- [82] P. Domschke, B. Geißler, O. Kolb, J. Lang, A. Martin, and A. Morsi. Combination of nonlinear and linear optimization of transient gas networks. *INFORMS Journal on Computing*, 23:605 – 617, 2011.
- [83] B. Geißler, O. Kolb, J. Lang, G. Leugering, A. Martin, and A. Morsi. Mixed integer linear models for the optimization of dynamical transport networks. *Mathematical Methods of Operations Research*, 73:339 – 362, 2011.
- [84] T. Ederer, U. Lorenz, A. Martin, and J. Wolf. Quantified linear programs: A computational study. In *C. Demetrescu, M. Halldórsson (eds), Algorithms - ESA 2011, 19th Annual European Symposium, Saarbrücken, Germany, September 5-9, 2011. Proceedings*, volume 6942 of *Lecture Notes in Computer Science*, pages 203 – 214, 2011. DOI: 10.1007/978-3-642-23719-5.
- [85] A. Martin, B. Geißler, C. Hayn, A. Morsi, L. Schewe, B. Hiller, J. Humpola, T. Koch, T. Lehmann, R. Schwarz, J. Schweiger, E. Pfetsch, M. Schmidt, M. Steinbach, B. Willert, and R. Schultz. Optimierung Technischer Kapazitäten in Gasnetzen. In *Optimierung in der Energiewirtschaft*, VDI-Berichte 2157, pages 105 – 114, 2011.
- [86] B. Geißler, A. Martin, A. Morsi, and L. Schewe. Optimale Schaltentscheidungen für Gasnetze. In *Optimierung in der Energiewirtschaft*, VDI-Berichte 2157, pages 127 – 138, 2011.
- [87] T. Göllner, U. Günther, W. Hess, A. Martin, and S. Ulbrich. Topology and geometry optimization of branched sheet metal products. In *PAMM, Proceedings of Applied Mathematics and Mechanics*, volume 11, pages 713 – 714, 2011.
- [88] B. Geißler, A. Martin, A. Morsi, and L. Schewe. Using piecewise linear functions for solving MINLPs. In J. Lee and S. Leyffer, editors, *Mixed Integer Nonlinear Programming*, volume 154 of *The IMA Volumes in Mathematics and its Applications*, pages 287 – 314. Springer Science+Business Media, New York, 2012.
- [89] M. Armbruster, M. Fügenschuh, Ch. Helmberg, and A. Martin. LP and SDP branch-and-cut algorithms for the minimum graph bisection problem: A computational comparison. *Mathematical Programming C*, 4:275 – 306, 2012.



- [90] A. Martin, S. Pokutta, and L. Schewe. Optimierung in der Energiewirtschaft: lokale vs. globale Optimallösungen. *Chemie Ingenieur Technik*, 84:832 – 839, 2012.
- [91] A. Martin, K. Klamroth, J. Lang, G. Leugering, A. Morsi, M. Oberlack, M. Ostrowski, and R. Rosen, editors. *Mathematical Optimization of Water Networks*, volume 162 of *International Series of Numerical Mathematics*. Birkhäuser, 2012.
- [92] A. Morsi, B. Geißler, and A. Martin. *Mixed Integer Optimization of Water Supply Networks*, volume 162 of *International Series of Numerical Mathematics*, chapter 3, pages 35 – 54. Birkhäuser, 2012.
- [93] O. Kolb, A. Morsi, J. Lang, and A. Martin. *Nonlinear and Mixed Integer Linear Programming*, volume 162 of *International Series of Numerical Mathematics*, chapter 4, pages 55 – 65. Birkhäuser, 2012.
- [94] C.E. Ferreira, U. Günther, and A. Martin. Mathematical models and polyhedral studies for integral sheet metal design. *SIAM Journal on Optimization*, 22:1493 – 1517, 2012.
- [95] R. Borndörfer, N.-D. Hoang, M. Karbstein, T. Koch, and A. Martin. How many Steiner terminals can you connect in 20 years? In Michael Jünger and Gerhard Reinelt, editors, *Facets of Combinatorial Optimization*, pages 215–244. Springer, 2013.
- [96] T. Koch, A. Martin, and M. Pfetsch. Progress in academic computational integer programming. In Michael Jünger and Gerhard Reinelt, editors, *Facets of Combinatorial Optimization*, pages 483–506. Springer, 2013.
- [97] A. Martin, J. Müller, and S. Pokutta. Strict linear prices in non-convex European day-ahead electricity markets. *Optimization Methods and Software*, 29:189 – 221, 2014.
- [98] M. E. Pfetsch, A. Fügenschuh, B. Geißler, N. Geißler, R. Gollmer, B. Hiller, J. Humpola, T. Koch, T. Lehmann, A. Martin, A. Morsi, J. Rövekamp, L. Schewe, M. Schmidt, R. Schultz, R. Schwarz, J. Schweiger, C. Stangl, M. C. Steinbach, S. Vigerske, and B. M. Willert. Validation of nominations in gas network optimization: models, methods, and solutions. *Optimization Methods and Software*, 30:1–39, 2014.
- [99] A. Fügenschuh, B. Geißler, R. Gollmer, Ch. Hayn, R. Henrion, B. Hiller, J. Humpola, T. Koch, T. Lehmann, A. Martin, R. Mirkov, A. Morsi, J. Rövekamp, L. Schewe, M. Schmidt, R. Schultz, R. Schwarz, J. Schweiger, C. Stangl, M.C. Steinbach, and B.M. Willert. Mathematical optimization for challenging network planning problems in unbundled liberalized gas markets. *Energy Systems*, 5:449–473, 2014.

- [100] M. Pruckner, C. Thurner, A. Martin, and R. German. A coupled optimization and simulation model for the energy transition. In K. Fischbach, M. Großmann, U. Krieger, and T. Staake, editors, *MMB & DFT 2014, Proceedings of the International Workshop SOCNET 2014 and FGENET 2014*, volume 16, pages 97 – 104, Bamberg, 2014.
- [101] A. Heidt, H. Helmke, F. Liers, and A. Martin. Robust runway scheduling using a time-indexed model. In D. Schäfer, editor, *Proceedings of the SESAR Innovation Days (2014) EUROCONTROL*, 2014. ISBN 978-2-87497-077-1.
- [102] A. Martin. Diskrete Optimierung als Anregung für Suffizienz-Strategien. In U. Kunkel, editor, *Suffizienz in der Baukultur: Besser, Anders, Weniger*, db-Kongress 2014, pages 18 – 19, Darmstadt, 2014. Konradin Medien GmbH.
- [103] B. Geißler, A. Martin, A. Morsi, and L. Schewe. The MILP-relaxation approach. In Thorsten Koch, Benjamin Hiller, Marc E. Pfetsch, and Lars Schewe, editors, *Evaluating Gas Network Capacities*, SIAM-MOS series on Optimization, chapter 6, pages 103–122. SIAM, 2015.
- [104] L. Schewe, T. Koch, A. Martin, and M. Pfetsch. Mathematical optimization for evaluating gas network capacities. In Thorsten Koch, Benjamin Hiller, Marc E. Pfetsch, and Lars Schewe, editors, *Evaluating Gas Network Capacities*, SIAM-MOS series on Optimization, chapter 5, pages 87–102. SIAM, 2015.
- [105] A. Bärmann, F. Liers, A. Martin, M. Merkert, Ch. Thurner, and D. Weninger. Solving network design problems via iterative aggregation. *Mathematical Programming Computation*, 7:189 – 217, 2015. DOI 10.1007/s12532-015-0079-1.
- [106] G. Gamrath, T. Koch, A. Martin, M. Miltenberger, and D. Weninger. Progress in presolving for mixed integer programming. *Mathematical Programming Computation*, 7:367–398, 2015.
- [107] A. Bärmann, A. Heidt, A. Martin, S. Pokutta, and Ch. Thurner. Polyhedral approximation of ellipsoidal uncertainty sets via extended formulations: a computational case study. *Computational Management Science*, 13:151–193, 2015.
- [108] J. Lang, G. Leugering, A. Martin, and Tischendorf C. Mathematische modellierung, simulation und optimierung. *Mitteilungen der Deutschen Mathematiker-Vereinigung*, 23:30–35, 2015.
- [109] A. Bärmann, A. Martin, and O. Schneider. Optimal balancing of the power load of trains in a railway network via timetabling. In Leo Kroon and Marie Schmidt, editors, *Proceedings of the CASPT 2015 conference*, pages 1–16, 2015. Available under <http://www>.

[mso.math.fau.de/fileadmin/wima/publications/Baermann\\_Martin\\_Schneider-Optimal\\_Balancing\\_of\\_the\\_Power\\_Consumption.pdf](http://mso.math.fau.de/fileadmin/wima/publications/Baermann_Martin_Schneider-Optimal_Balancing_of_the_Power_Consumption.pdf).

- [110] V. Grimm, A. Martin, M. Schmidt, M. Weibelzahl, and G. Zöttl. Transmission and generation investment in electricity markets: The effects of market splitting and network fee regimes. *European Journal of Operational Research*, 254:493 – 509, 2016.
- [111] V. Grimm, A. Martin, M. Weibelzahl, and G. Zöttl. On the long run effects of market splitting: Why more price zones might decrease welfare. *Energy Policy*, 94:453 – 467, 2016.
- [112] A. Heidt, H. Helmke, M. Kapolke, F. Liers, and A. Martin. Robust runway scheduling under uncertain conditions. *Journal of Air Transport Management*, 56:28–37, 2016.
- [113] F. Liers, A. Martin, and S. Pape. Binary Steiner trees: Structural results and an exact solution approach. *Discrete Optimization*, 21:85 – 117, 2016.
- [114] M. Kröhn, T. Gellermann, B. Geißler, A. Martin, and N. Reuter. Energieeffiziente Automatisierung am Beispiel Klärschlammverbrennung. In *AALE 2016, Automatisierung im Fokus von Industrie 4.0*, 13. Fachkonferenz, Lübeck, 2016.
- [115] M. Kröhn, T. Gellermann, B. Geißler, A. Martin, and N. Reuter. Optimierte Prozessführung sorgt für große Energieeinsparungen bei Klärschlammverbrennung. *atp-edition, Automatisierungstechnische Praxis*, 9:29 – 31, 2016.
- [116] J. C. Müller, S. Pokutta, A. Martin, S. Pape, A. Peter, and T. Winter. Pricing and clearing combinatorial markets with singleton and swap orders: Efficient algorithms for the futures opening auction problem. *Mathematical Methods of Operations Research*, 85(2):155–177, April 2017.
- [117] A. Bärmann, A. Martin, and H. Schülldorf. A decomposition method for multiperiod railway network expansion – with a case study for Germany. *Transportation Science*, 51(4):1102–1121, 2017.
- [118] F. Liers, A. Martin, and A. Peter. Mathematical analysis of runway scheduling with aircraft precedences. Technical report, Department Mathematik, FAU Erlangen-Nürnberg, 2017. To appear in Springer volume dedicated to the KoMSO Challenge Workshop on “Mathematical Modeling, Simulation and Optimization for Air Traffic Management”.
- [119] A. Bärmann, A. Martin, and O. Schneider. A comparison of performance metrics for balancing the power consumption of trains in a railway network by slight timetable adaptation. *Public Transport*, 9:95–113, 2017.

- [120] F. M. Hante, G. Leugering, A. Martin, L. Schewe, and M. Schmidt. Challenges in optimal control problems for gas and fluid flow in networks of pipes and canals: From modeling to industrial applications. In Pammy Manchanda, René Lozi, and Abul Hasan Siddiqi, editors, *Industrial Mathematics and Complex Systems: Emerging Mathematical Models, Methods and Algorithms*, pages 77–122. Springer Singapore, Singapore, 2017.
- [121] G. Leugering, A. Martin, M. Schmidt, and M. Sirvent. Nonoverlapping domain decomposition for optimal control problems governed by semilinear models for gas flow in networks. *Control and Cybernetics*, 46:191 – 225, 2017.
- [122] M. Gugat, G. Leugering, A. Martin, M. Schmidt, M. Sirvent, and D. Wintergerst. MIP-based instantaneous control of mixed-integer PDE-constrained gas transport problems. *Computational Optimization and Applications*, 70:267 – 294, 2017.
- [123] M. Gugat, G. Leugering, A. Martin, M. Schmidt, M. Sirvent, and D. Wintergerst. Towards simulation based mixed-integer optimization with differential equations. *Networks*, 72:60 – 83, 2018.
- [124] C. Menden, J. Mehringer, A. Martin, and M. Amberg. Forecasting spare parts demand with clustering approaches. In *Proceedings of the International Symposium of Forecasting*, Boulder (CO), 2018.
- [125] R. Burlacu, H. Egger, M. Groß, A. Martin, M. Pfetsch, L. Schewe, M. Sirvent, and M. Skutella. Maximizing the storage capacity of gas networks: a global minlp approach. *Optimization and Engineering*, 20:543–573, 2019.
- [126] C. Menden, J. Mehringer, A. Martin, and M. Amberg. Vorhersage von Ersatzteilbedarfen mit Hilfe von Clusteringverfahren. *HMD Praxis der Wirtschaftsinformatik*, Apr 2019.
- [127] T. Kufner, G. Leugering, A. Martin, J. Medgenberg, J. Schelbert, L. Schewe, M. Stingl, C. Strohmeyer, and M. Walther. Towards a lifecycle oriented design of infrastructure by mathematical optimization. *Optimization and Engineering*, 20:215–249, 2019.
- [128] G. Gamrath, A. Gleixner, T. Koch, M. Miltenberger, D. Kniasew, D. Schlögel, A. Martin, and D. Weninger. Tackling industrial-scale supply chain problems by mixed-integer programming. Technical report, Department Mathematik, FAU Erlangen-Nürnberg, 2019. To appear in Journal of Computational Mathematics.
- [129] T. Nepomuceno, T. Carneiro, P. Henrique, M. Adnan T. Nepomuceno, and A. Martin. AutoIoT: a framework based on user-driven MDE for generating IoT applications. In *Proceedings of the 35th ACM/SIGAPP Symposium On Applied Computing*, Brno, Czech Republic (online), 2020.

- [130] L. Bäuml, A. Bärmann, and A. Martin. Optimization for a life cycle assessment of lithium-ion batteries. *Automobiltechnische Zeitschrift (ATM)*, 4:56 – 59, 2020.