

List of Publications

(for 2022 and before, later items can be found at the following link)

[Andreas Fischer \(Technische Universität Dresden\)](#)

All links are underlined and can simply be clicked.

- ◆ P. I. Stetsyuk, A. Fischer, O. M. Khomiak: **Ellipsoid methods with space scaling**. In: F. Aliev, T. Basar (eds.): Proceedings of the 8th International Conference on Control and Optimization with Industrial Applications, August 24-26, Baku, Azerbaijan, [Volume I](#), pp. 402-404
- ◆ A. Fischer, A. B. Zemkoho, S. Zhou: [Semismooth Newton-type method for bilevel optimization: global convergence and extensive numerical experiments](#). *Optimization Methods and Software* 37 (2022) 1770-1804
- ◆ A. Fischer, M. Jelitte, K. Schönefeld: [A local analysis for eigenvalue complementarity problems](#). *Pure and Applied Functional Analysis* 6 (2021) 1191-1210
- ◆ P. Stetsyuk, A. Fischer, O. Khomyak: [Maximum Penalty Function in Linear Programming \(Ukrainian\)](#). *Physico-Mathematical Modelling and Informational Technologies* 33 (2021) 156-160
- ◆ A. Fischer, A.F. Izmailov, M. Jelitte: [Newton-type methods near critical solutions of piecewise smooth nonlinear equations](#). *Computational Optimization and Applications* 80 (2021) 587-615
- ◆ A. Fischer, M. Jelitte: [On Noncritical Solutions of Complementarity Systems](#). In V.K. Singh et al (eds.): [Recent Trends in Mathematical Modeling and High Performance Computing](#), Birkhäuser, Cham 2021, pp. 129-141
- ◆ P. Stetsyuk, A. Fischer, O. Pichugina: [A penalty approach to linear programs with many two-sided constraints](#). In P. Pardalos et al. (eds.): *Mathematical Optimization Theory and Operations Research. MOTOR 2021. Lecture Notes in Computer Science*, vol 12755, Springer, Cham 2021, pp. 206-217
- ◆ A. Fischer, A.F. Izmailov, M.V. Solodov: [Unit stepsize for the Newton method close to critical solutions](#). *Mathematical Programming* 187 (2021) 697-721
- ◆ M. A. Dar, A. Fischer, J. Martinovic, G. Scheithauer: [Integer linear programming formulations for the minimum connectivity problem and model reduction principles](#). *Discrete Optimization* 40 (2021), Article No. 100623
- ◆ F. Theurich, A. Fischer, G. Scheithauer: [A branch-and-bound approach for a vehicle routing problem with customer costs](#). *EURO Journal on Computational Optimization* 9 (2021), Article No. 100003
- ◆ A. Fischer, A.F. Izmailov, M.V. Solodov: [Accelerating convergence of the globalized Newton method to critical solutions of nonlinear equations](#). *Computational Optimization and Applications* 78 (2021) 273-286

- ◆ A. Fischer, A.F. Izmailov, M. Jelitte: **Constrained Lipschitzian error bounds and noncritical solutions of constrained equations**. *Set-Valued Variational Analysis* 29 (2021) 745-765

2020 and before

- ◆ A. Fischer, A.F. Izmailov, W. Scheck: **Adjusting dual iterates in the presence of critical Lagrange multipliers**. *SIAM Journal on Optimization* 30 (2020) 1555-1581
- ◆ P. Stetsyuk, A. Fischer, O. Khomyak: **The generalized ellipsoid method and its implementation**. In M. Jaćimović et al. (eds.): *Communications in Computer Science vol. 1145 (Optimization and Applications - OPTIMA 2019)* Springer, Cham 2020, 355-370; [Shareable Link](#)
- ◆ P. Stetsyuk, A. Fischer, V. Lyashko: **An ellipsoid method for minimization of convex functions** (Ukrainian). *NAUKMA Research Papers. Computer Science* 2 (2019) 16-21
- ◆ A.F. Izmailov, P.I. Stetsyuk, A. Fischer: **Algorithm EMSHOR and its Octave realization** (Russian). *Компьютерная Математика* 2 (2019) 132-142
- ◆ J. Martinovic, M. Hähnel, G. Scheithauer, W. Dargie, A. Fischer: **Cutting stock problems with nondeterministic item lengths: a new approach to server consolidation**. *4OR* 17 (2019) 173-200; [Shareable Link](#)
- ◆ M.A. Dar, A. Fischer, J. Martinovic, G. Scheithauer: **A computational study of reduction techniques for the minimum connectivity inference problem**. In V.K. Singh et al. (eds): *Advances in Mathematical Methods and High Performance Computing*, Springer 2019, pp. 135-148
- ◆ R. Behling, A. Fischer, K. Schönefeld, N. Strasdat: **A special complementarity function revisited**. *Optimization* 68 (2019) 65-79; up to a certain limit, the paper can be downloaded from [here](#) without a license
- ◆ M.A. Dar, A. Fischer, J. Martinovic, G. Scheithauer: **An improved flow-based formulation and reduction principles for the minimum connectivity inference problem**. *Optimization* 68 (2019) 1963-1983; up to a certain limit the, paper can be downloaded from [here](#) without a license
- ◆ A. Fischer, A.F. Izmailov, M.V. Solodov: **Local attractors of Newton-type methods for constrained equations and complementarity problems with nonisolated solutions**. *Journal of Optimization Theory and Applications* 180 (2019) 140-169; [Shareable Link](#)
- ◆ J. Israel, A. Fischer, M. Dörpinghaus: **On wireless board-to-board communication with cascaded Butler matrices**. *15th International Symposium on Wireless Communication Systems (ISWCS 2018)*, Portugal
- ◆ A. Fischer, M. Herrich: **Newton-type methods for Fritz John systems of generalized Nash equilibrium problems**. *Pure and Applied Functional Analysis* 3 (2018) 587-602

- ◆ M. Hähnel, J. Martinovic, G. Scheithauer, A. Fischer, A. Schill, W. Dargie: **Extending the cutting stock problem for consolidating services with stochastic workloads**. *IEEE Transactions on Parallel and Distributed Systems* 29 (2018) 2478-2488; [PDF](#)
- ◆ J. Israel, A. Fischer: **Discrete worst-case SINR-maximization**. *Proceedings of the 17th IEEE International Conference on Ubiquitous Wireless Broadband (ICUWB 2017)*, IEEE 2018
- ◆ A. Fischer, M. Herrich, A.F. Izmailov, W. Scheck, M.V. Solodov: **A globally convergent LP-Newton method for piecewise smooth constrained equations: escaping nonstationary accumulation points**. *Computational Optimization and Applications* 69 (2018) 325-349; [Shareable Link](#)
- ◆ J. Martinovic, E. Jorswieck, G. Scheithauer, A. Fischer: **Integer linear programming formulations for cognitive radio resource allocation**. *IEEE Wireless Communications Letters* 6 (2017) 494-497
- ◆ C. P. Bras, A. Fischer, J. J. Judice, K. Schönefeld, S. Seifert: **A block active set algorithm with spectral choice line search for the symmetric eigenvalue complementarity problem**. *Applied Mathematics and Computation* 294 (2017) 36-48
- ◆ R. Behling, A. Fischer, G. Haeser, A. Ramos, K. Schönefeld: **On the constrained error bound condition and the projected Levenberg-Marquardt method**. *Optimization* 66 (2017) 1397-1411; up to a certain limit, the paper can be downloaded from [here](#) without a license
- ◆ J. Israel, A. Fischer, J. Martinovic: **Discrete and phase-only receive beamforming**. In V.K. Singh et al. (eds.): *Modern Mathematical Methods and High Performance Computing in Science and Technology*, Springer Proceedings in Mathematics & Statistics, Springer 2016, pp. 141-153; [Shareable Link](#)
- ◆ A. Fischer, M. Herrich, A.F. Izmailov, M.V. Solodov: **A globally convergent LP-Newton method**. *SIAM Journal on Optimization* 26 (2016) 2012-2033; see also the related report **Detailed numerical results for several variants of a globally convergent LP-Newton method**
- ◆ A. Fischer, M. Herrich, A.F. Izmailov, M.V. Solodov: **Convergence conditions for Newton-type methods applied to complementarity systems with nonisolated solutions**. *Computational Optimization and Applications* 63 (2016) 425-459; [Shareable Link](#)

2015 and before

- ◆ A. Fischer, G. Langensiepen, K. Luig, N. Strasdat, T. Thies: **Efficient optimization of hyper-parameters for least-squares support vector regression**. *Optimization Methods and Software* 30 (2015) 1095-1108; up to a certain limit, the paper can be downloaded from [here](#) without a license
- ◆ M. Jennings, B. Klein, R. Hähnel, D. Plettemeier, D. Fritsche, G. Tretter, C. Carta, F. Ellinger, T. Nordmann, M. Schroeter, K. Nieweglowski, K. Bock, J. Israel, A. Fischer, N. Ul Hassan, L. Landau, M. Dörpinghaus, G. Fettweis: **Energy-**

efficient transceivers for ultra-highspeed computer board-to-board communication. *Proceedings of the 15th IEEE International Conference on Ubiquitous Wireless Broadband (ICUWB 2015)*, IEEE 2015

- ◆ J. Israel, A. Fischer, J. Martinovic: **A branch-and-bound algorithm for discrete receive beamforming with improved bounds**. *Proceedings of the 15th IEEE International Conference on Ubiquitous Wireless Broadband (ICUWB 2015)*, IEEE 2015
- ◆ A. Fischer, G. Scheithauer: **Cutting and Packing Problems with Placement Constraints**. In G. Fasano, J.D. Pinter (eds.): *Optimized Packings with Applications*, Springer 2015, pp. 119-156
- ◆ A. Fischer: **Comments on: Critical Lagrange multipliers: What we currently know about them, how they spoil our lives, and what we can do about it**. *TOP* 23 (2015) 27-31; [Shareable Link](#)
- ◆ J. Israel, A. Fischer, J. Martinovic, E. Jorswieck, M. Mesyagutov: **Discrete Receive Beamforming**. *IEEE Signal Processing Letters* 22 (2015) 958-962; [Shareable Link](#)
- ◆ F. Heinicke, A. Simroth, G. Scheithauer, A. Fischer: **A railway maintenance scheduling problem with customer costs**. *EURO Journal on Transportation and Logistics* 4 (2015) 113-137; [Shareable Link](#)
- ◆ A. Fischer, M. Herrich, K. Schönefeld: **Generalized Nash Equilibrium Problems - Recent Advances and Challenges**. *Pesquisa Operacional* 34 (2014) 521-558; [PDF](#)
- ◆ A. Dreves, F. Facchinei, A. Fischer, M. Herrich: **A new error bound result for Generalized Nash Equilibrium Problems and its algorithmic application**. *Computational Optimization and Applications* 59 (2014) 63-84; [Shareable Link](#)
- ◆ R. Behling, A. Fischer, M. Herrich, A. Iusem, Y. Ye: **A Levenberg-Marquardt method with approximate projections**. *Computational Optimization and Applications* 59 (2014) 5-26; [Shareable Link](#)
- ◆ F. Facchinei, A. Fischer, M. Herrich: **An LP-Newton method: nonsmooth equations, KKT systems, and nonisolated solutions**. *Mathematical Programming* 146 (2014) 1-36; [Shareable Link](#)
- ◆ J. Israel, J. Martinovic, A. Fischer, M. Jennings, L. Landau: **Optimal antenna positioning for wireless board-to-board communication using a Butler matrix beamforming network**. *Proceedings of the 17th International ITG Workshop on Smart Antennas (WSA 2013)*
- ◆ F. Facchinei, A. Fischer, M. Herrich: **A family of Newton methods for nonsmooth constrained systems with nonisolated solutions**. *Mathematical Methods of Operations Research* 77 (2013) 433-443; [Shareable Link](#)
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Communications and Coding (SCC 2013)

- ◆ C. Brunner, A. Fischer, K. Luig, T. Thies: **Pairwise Support Vector Machines and their application to large scale problems**. *Journal of Machine Learning Research* 13 (2012) 2279-2292; for a previous version with some further material, see the Technical Report **Pairwise kernels, Support Vector Machines, and the application to large scale problems**
- ◆ R. Behling, A. Fischer: **A unified local convergence analysis of inexact constrained Levenberg-Marquardt methods**. *Optimization Letters* 6 (2012) 927-940; [Shareable Link](#)

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- ◆ A. Fischer, A. Friedlander: **A new line search inexact restoration approach for nonlinear programming**. *Computational Optimization and Applications* 46 (2010) 333-346; [Shareable Link](#)
- ◆ Y. Dong, A. Fischer: **A family of operator splitting methods revisited**. *Nonlinear Analysis* 72 (2010) 4307-4315
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- ◆ F. Richter, A. Fischer, R. Habendorf, G. Fettweis: **Transmitter-based minimization of error rates in the downlink of wireless systems**. GLOBECOM 2008, 3433-3437, IEEE 2008
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- ◆ R. Bartholomäus, A. Fischer, M. Klingner: **Real-time predictive control of hybrid fuel cell drive trains**. *5th IFAC Symposium on Advances in Automotive Control, IFAC Proceedings Volumes* 40 (10) (2007) 103-110
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- ◆ R. Bartholomaeus, A. Fischer: **Energy management of fuel cell vehicles -**

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- ◆ P. Kaletta, K. Wolf, A. Fischer: **Structural optimization in aircraft engineering using support vector machines**. In D. Ahr et al. (eds.): *Operations Research Proceedings 2003*, Springer, Heidelberg 2004, pp. 411-418; [doi](#)
- ◆ P. Kaletta, K. Wolf, A. Fischer, K. Löschner: **Optimization in aircraft engineering including approximate structural evaluations by support vector machines**. *Proceedings Applied Mathematics and Mechanics* 4 (2004) 612-613
- ◆ R. Irmer, A. Fischer: **Modeling and optimization of interference limited wireless communications**. *Proceedings Applied Mathematics and Mechanics* 4 (2004) 610-611
- ◆ A. Fischer, W. Schirotzek, K. Vettters: **Lineare Algebra (German textbook)**. Teubner, Wiesbaden 2003
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- ◆ T. S. Munson, F. Facchinei, M. C. Ferris, A. Fischer, C. Kanzow: **The Semismooth algorithm for large scale complementarity problems**. *Informs Journal on Computing* 13 (2001) 294-311

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- ◆ A. Fischer, H. Jiang: **Merit functions for complementarity and related problems: A survey**. *Computational Optimization and Applications* 17 (2000) 159-182; [Shareable Link](#)
- ◆ F. Facchinei, A. Fischer, C. Kanzow: **On the identification of zero variables in an interior-point framework: Complete numerical results**. Applied Mathematics Report 160T, Universität Dortmund, Germany 1998
- ◆ F. Facchinei, A. Fischer, C. Kanzow: **On the identification of zero variables in an interior-point framework**. *SIAM Journal on Optimization* 10 (2000) 1058-1078

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