

List of Publications

(for 2023 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. Stetsyuk, A. Fischer, O. Khomiak: [An exact nonsmooth penalty approach for a special class of linear programs](#). Proceedings of the 5th International Conference on Problems of Cybernetics and Informatics (PCI), August 28-30, 2023 IEEE Explore, Baku Azerbaijan
- ◆ A. Fischer, N. Strasdat: [An extended convergence framework applied to complementarity systems with degenerate and nonisolated solutions](#). *Pure and Applied Functional Analysis* 8 (2023) 1039-1054
- ◆ P. I. Stetsyuk, A. Fischer, O. M. Khomiak: [Unified Representation of the classical ellipsoid method](#). *Cybernetics and Systems Analysis* 59 (2023) 784-793
- ◆ A. Fischer, O. Khomyak, P. Stetsyuk: [The ellipsoid method and computational aspects](#). *Communications in Optimization Theory* 2023 (2023), Article ID 21, open access
- ◆ A. Fischer, I. Litvinchev, T. Romanova, P. Stetsyuk, G. Yaskov: [Quasi-packing different spheres with ratio conditions in a spherical container](#). *Mathematics* 11:9 (2023) , Article No. 2033, open access
- ◆ U. Scheithauer, T. Romanova, O. Pankratov, E. Schwarzer-Fischer, M. Schwentenwein, F. Ertl, A. Fischer: [Potentials of numerical methods for increasing the productivity of additive manufacturing processes](#). *Ceramics* 6 (2023) 630-650, open access
- ◆ T. E. Romanova, P. I. Stetsyuk, A. Fischer, G. M. Yaskov: [Proportional packing of circles in a circular container](#). *Cybernetics and Systems Analysis* 59 (2023) 82-89
- ◆ A. Fischer, A. F. Izmailov, M. Jelitte: [Stability of singular solutions of nonlinear equations with restricted smoothness assumptions](#). *Journal of Optimization Theory and Applications* 196 (2023) 1008-1035, open access
- ◆ 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

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- ◆ 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](#)
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- ◆ 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](#)

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- ◆ 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. Hahnel, 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
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- ◆ A. Fischer, M. Herrich, K. Schönefeld: [Generalized Nash Equilibrium Problems - Recent Advances and Challenges](#). *Pesquisa Operacional* 34 (2014) 521-558; [PDF](#)
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- ◆ 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](#)
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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](#)
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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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