List of publications by Gabriele Eichfelder

Preprints (submitted works)

M. De Santis, G. Eichfelder, D. Patria and **L. Warnow**, Using Dual Relaxations in Multiobjective Mixed-Integer Quadratic Programming. *OptimizationOnline*, 2023.

Books

[1] **G. Eichfelder**, Variable Ordering Structures in Vector Optimization.
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[2] **G. Eichfelder**, Adaptive Scalarization Methods in Multiobjective Optimization.
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[3] **G. Eichfelder** and **E. Quintana**, Set-based Robust Optimization of Uncertain Multiobjective Problems via Epigraphical Reformulations.
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[4] **G. Eichfelder** and **O. Stein**, Limit sets in continuous global multiobjective optimization.
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[5] **G. Eichfelder, L. Grüne, L. Krügel** and **J. Schiel**, Relaxed assumptions and a simplified algorithm for multiobjective MPC.
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[6] **G. Eichfelder, O. Stein** and **L. Warnow**, A solver for multiobjective mixed-integer convex and nonconvex optimization.
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[12] **R. Baier, G. Eichfelder** and **T. Gerlach**, Optimality Conditions for Set Optimization using a Directional Derivative based on Generalized Steiner Sets. *Optimization*, 71(8), 2273–2314 (2022).

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[15] **M. De Santis**, **G. Eichfelder,** and **D. Patria**, On the exactness of the eps-constraint method for bi-objective integer nonlinear programming. *Operations Research Letters*, 50(3), 356–361 (2022).

[16] **G. Eichfelder** and **P. Groetzner**, A note on completely positive relaxations of quadratic problems in a multiobjective framework, *Journal of Global Optimization*, 82, 615–626 (2022).

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Software

For more information see https://www.tu-ilmenau.de/en/mmor/software

AdEnA — AdEnA - Advanced Enclosure Algorithm. AdEnA is a software to solve multi-objective optimization problems. In particular, it is able to solve multi-objective convex optimization problems as well as multi-objective mixed-integer quadratic optimization problems. Implemented with MATLAB and Python, MIT Licence.
https://github.com/LeoWarnow/AdEnA

ASMO — ASMO - A Solver for Multiobjective Optimization. ASMO is a solver for solving multiobjective optimization problems using scalarizations with an adaptive parameter selection. Implemented with MATLAB, GNU General Public Licence.
https://github.com/GEichfelder/ASMO

BB-MOQIP — BB-MOQIP - A solver for multiobjective convex quadratic integer problems. Implemented with MATLAB, GNU General Public Licence.
https://github.com/mariannadesantis/BBMOQIP

HyPaD — HyPaD - Hybrid Patch Decomposition Algorithm. HyPaD is a solver for multi-objective mixed-integer convex optimization problems. Implemented with MATLAB and Python, MIT Licence.
https://github.com/LeoWarnow/HyPaD

MOBO — MOBO - A Multiobjective Bilevel Optimization Solver. MOBO is a solver for continuous multiobjective bilevel optimization problems. Implemented with MATLAB, GNU General Public Licence.
https://github.com/GEichfelder/MOBO

MOMIBB — MOMIBB - Multiobjective Mixed-Integer Branch-and-Bound Algorithm. MOMIBB is a solver for multi-objective mixed-integer optimization problems. Implemented with MATLAB, MIT Licence.
https://github.com/LeoWarnow/MOMIBB

MOMIX — MOMIX - A Solver for Multiobjective Mixed Integer Convex Optimization. Implemented with MATLAB, GNU General Public Licence.
https://github.com/mariannadesantis/MOMIX

SBB — SBB - A Spherical Branch and Bound Algorithm. Implemented with R, GNU General Public Licence.
https://github.com/jwieditz/SphericalBranchAndBound