

Immanuel M Bomze

List of Publications by Year in descending order

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Version: 2024-02-01

104
papers

3,321
citations

186265

28
h-index

197818

49
g-index

106
all docs

106
docs citations

106
times ranked

1735
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|---|-----|-----------|
| 1 | Two-stage stochastic standard quadratic optimization. <i>European Journal of Operational Research</i> , 2022, 299, 21-34. | 5.7 | 5 |
| 2 | Mining for diamonds – Matrix generation algorithms for binary quadratically constrained quadratic problems. <i>Computers and Operations Research</i> , 2022, 142, 105735. | 4.0 | 2 |
| 3 | Fast Cluster Detection in Networks by First Order Optimization. <i>SIAM Journal on Mathematics of Data Science</i> , 2022, 4, 285-305. | 1.8 | 2 |
| 4 | Uncertainty Preferences in Robust Mixed-Integer Linear Optimization with Endogenous Uncertainty. <i>SIAM Journal on Optimization</i> , 2022, 32, 292-318. | 2.0 | 0 |
| 5 | Does moral play equilibrate?. <i>Economic Theory</i> , 2021, 71, 305-315. | 0.9 | 2 |
| 6 | Trust Your Data or Not – StQP Remains StQP: Community Detection via Robust Standard Quadratic Optimization. <i>Mathematics of Operations Research</i> , 2021, 46, 301-316. | 1.3 | 4 |
| 7 | Interplay of non-convex quadratically constrained problems with adjustable robust optimization. <i>Mathematical Methods of Operations Research</i> , 2021, 93, 115-151. | 1.0 | 4 |
| 8 | The <i>Ophiuchi</i> region revisited with <i>Gaia</i> EDR3. <i>Astronomy and Astrophysics</i> , 2021, 652, A2. | 5.1 | 18 |
| 9 | Frank – Wolfe and friends: a journey into projection-free first-order optimization methods. <i>4or</i> , 2021, 19, 313-345. | 1.6 | 10 |
| 10 | Constructing Patterns of (Many) ESSs Under Support Size Control. <i>Dynamic Games and Applications</i> , 2020, 10, 618-640. | 1.9 | 3 |
| 11 | Extended stellar systems in the solar neighborhood. <i>Astronomy and Astrophysics</i> , 2020, 639, A64. | 5.1 | 24 |
| 12 | Active Set Complexity of the Away-Step Frank – Wolfe Algorithm. <i>SIAM Journal on Optimization</i> , 2020, 30, 2470-2500. | 2.0 | 9 |
| 13 | Hessian Barrier Algorithms for Linearly Constrained Optimization Problems. <i>SIAM Journal on Optimization</i> , 2019, 29, 2100-2127. | 2.0 | 4 |
| 14 | First-order Methods for the Impatient: Support Identification in Finite Time with Convergent Frank – Wolfe Variants. <i>SIAM Journal on Optimization</i> , 2019, 29, 2211-2226. | 2.0 | 11 |
| 15 | Pure infection – immunization dynamics for partnership games: A correction. <i>Games and Economic Behavior</i> , 2019, 114, 315-317. | 0.8 | 0 |
| 16 | Nonconvex min – max fractional quadratic problems under quadratic constraints: copositive relaxations. <i>Journal of Global Optimization</i> , 2019, 75, 227-245. | 1.8 | 3 |
| 17 | Egon Balas (1922-2019). <i>European Journal of Operational Research</i> , 2019, 278, 1-2. | 5.7 | 0 |
| 18 | Notoriously hard (mixed-)binary QPs: empirical evidence on new completely positive approaches. <i>Computational Management Science</i> , 2019, 16, 593-619. | 1.3 | 1 |

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|----|---|-----|-----------|
| 19 | Extended trust-region problems with one or two balls: exact copositive and Lagrangian relaxations. <i>Journal of Global Optimization</i> , 2018, 71, 551-569. | 1.8 | 13 |
| 20 | Emerging and innovative OR applications: a special issue in honor of Walter J. Gutjahr. <i>Central European Journal of Operations Research</i> , 2018, 26, 259-263. | 1.8 | 0 |
| 21 | The Complexity of Simple Models – A Study of Worst and Typical Hard Cases for the Standard Quadratic Optimization Problem. <i>Mathematics of Operations Research</i> , 2018, 43, 651-674. | 1.3 | 13 |
| 22 | On minimal Hölder gaps and Shannon entropy balance. <i>Portugaliae Mathematica</i> , 2018, 75, 1-10. | 0.4 | 0 |
| 23 | Building a completely positive factorization. <i>Central European Journal of Operations Research</i> , 2018, 26, 287-305. | 1.8 | 6 |
| 24 | A fresh CP look at mixed-binary QPs: new formulations and relaxations. <i>Mathematical Programming</i> , 2017, 166, 159-184. | 2.4 | 11 |
| 25 | Forty years of the <i>European Journal of Operational Research</i> : A bibliometric overview. <i>European Journal of Operational Research</i> , 2017, 262, 803-816. | 5.7 | 242 |
| 26 | Copositivity and Complete Positivity. <i>Oberwolfach Reports</i> , 2017, 14, 3071-3120. | 0.0 | 0 |
| 27 | Copositivity for second-order optimality conditions in general smooth optimization problems. <i>Optimization</i> , 2016, 65, 779-795. | 1.7 | 10 |
| 28 | New Lower Bounds and Asymptotics for the cp-Rank. <i>SIAM Journal on Matrix Analysis and Applications</i> , 2015, 36, 20-37. | 1.4 | 27 |
| 29 | Narrowing the difficulty gap for the Celis – Dennis – Tapia problem. <i>Mathematical Programming</i> , 2015, 151, 459-476. | 2.4 | 25 |
| 30 | New results on the cp-rank and related properties of co(mpletely)positive matrices. <i>Linear and Multilinear Algebra</i> , 2015, 63, 384-396. | 1.0 | 28 |
| 31 | The structure of completely positive matrices according to their CP-rank and CP-plus-rank. <i>Linear Algebra and Its Applications</i> , 2015, 482, 191-206. | 0.9 | 13 |
| 32 | Copositive Relaxation Beats Lagrangian Dual Bounds in Quadratically and Linearly Constrained Quadratic Optimization Problems. <i>SIAM Journal on Optimization</i> , 2015, 25, 1249-1275. | 2.0 | 20 |
| 33 | Copositivity and constrained fractional quadratic problems. <i>Mathematical Programming</i> , 2014, 146, 325-350. | 2.4 | 24 |
| 34 | Rounding on the standard simplex: regular grids for global optimization. <i>Journal of Global Optimization</i> , 2014, 59, 243-258. | 1.8 | 11 |
| 35 | From seven to eleven: Completely positive matrices with high cp-rank. <i>Linear Algebra and Its Applications</i> , 2014, 459, 208-221. | 0.9 | 23 |
| 36 | Constraint selection in a build-up interior-point cutting-plane method for solving relaxations of the stable-set problem. <i>Mathematical Methods of Operations Research</i> , 2013, 78, 35-59. | 1.0 | 4 |

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|----|--|-----|-----------|
| 37 | Copositivity detection by difference-of-convex decomposition and $\bar{\rho}$ -subdivision. Mathematical Programming, 2013, 138, 365-400. | 2.4 | 17 |
| 38 | On the cp-Rank and Minimal cp Factorizations of a Completely Positive Matrix. SIAM Journal on Matrix Analysis and Applications, 2013, 34, 355-368. | 1.4 | 30 |
| 39 | Separable standard quadratic optimization problems. Optimization Letters, 2012, 6, 857-866. | 1.6 | 2 |
| 40 | Standard bi-quadratic optimization problems and unconstrained polynomial reformulations. Journal of Global Optimization, 2012, 52, 663-687. | 1.8 | 10 |
| 41 | Unconstrained formulation of standard quadratic optimization problems. Top, 2012, 20, 35-51. | 1.6 | 4 |
| 42 | Copositive optimization – Recent developments and applications. European Journal of Operational Research, 2012, 216, 509-520. | 5.7 | 107 |
| 43 | Think co(mpletely)positive ! Matrix properties, examples and a clustered bibliography on copositive optimization. Journal of Global Optimization, 2012, 52, 423-445. | 1.8 | 50 |
| 44 | Infection and immunization: A new class of evolutionary game dynamics. Games and Economic Behavior, 2011, 71, 193-211. | 0.8 | 53 |
| 45 | A first-order interior-point method for linearly constrained smooth optimization. Mathematical Programming, 2011, 127, 399-424. | 2.4 | 12 |
| 46 | Graph-based quadratic optimization: A fast evolutionary approach. Computer Vision and Image Understanding, 2011, 115, 984-995. | 4.7 | 65 |
| 47 | Quadratic factorization heuristics for copositive programming. Mathematical Programming Computation, 2011, 3, 37-57. | 4.8 | 13 |
| 48 | Copositivity cuts for improving SDP bounds on the clique number. Mathematical Programming, 2010, 124, 13-32. | 2.4 | 12 |
| 49 | A note on Burer’s copositive representation of mixed-binary QPs. Optimization Letters, 2010, 4, 465-472. | 1.6 | 17 |
| 50 | Multi-Standard Quadratic Optimization: interior point methods and cone programming reformulation. Computational Optimization and Applications, 2010, 45, 237-256. | 1.6 | 15 |
| 51 | Nonlinear Optimization. Lecture Notes in Mathematics, 2010, , . | 0.2 | 10 |
| 52 | Global Optimization: A Quadratic Programming Perspective. Lecture Notes in Mathematics, 2010, , 1-53. | 0.2 | 3 |
| 53 | Solving Two-Stage Stochastic Steiner Tree Problems by Two-Stage Branch-and-Cut. Lecture Notes in Computer Science, 2010, , 427-439. | 1.3 | 7 |
| 54 | A Conic Duality Frank-Wolfe-Type Theorem via Exact Penalization in Quadratic Optimization. Mathematics of Operations Research, 2009, 34, 83-91. | 1.3 | 7 |

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|----|---|-----|-----------|
| 55 | New and old bounds for standard quadratic optimization: dominance, equivalence and incomparability. <i>Mathematical Programming</i> , 2008, 115, 31-64. | 2.4 | 47 |
| 56 | One-third rules with equality: Second-order evolutionary stability conditions in finite populations. <i>Journal of Theoretical Biology</i> , 2008, 254, 616-620. | 1.7 | 13 |
| 57 | Perron's Frobenius property of copositive matrices, and a block copositivity criterion. <i>Linear Algebra and Its Applications</i> , 2008, 429, 68-71. | 0.9 | 18 |
| 58 | Copositive Optimization. , 2008, , 561-564. | | 4 |
| 59 | New results for molecular formation under pairwise potential minimization. <i>Computational Optimization and Applications</i> , 2007, 38, 329-349. | 1.6 | 13 |
| 60 | Improved SDP bounds for minimizing quadratic functions over the ℓ^1 -ball. <i>Optimization Letters</i> , 2006, 1, 49-59. | 1.6 | 7 |
| 61 | Optimization of functions with rank-two variation over a box. <i>European Journal of Operational Research</i> , 2005, 161, 598-617. | 5.7 | 0 |
| 62 | Quartic Formulation of Standard Quadratic Optimization Problems. <i>Journal of Global Optimization</i> , 2005, 32, 181-205. | 1.8 | 16 |
| 63 | HYPER SENSITIVITY ANALYSIS OF PORTFOLIO OPTIMIZATION PROBLEMS. <i>Asia-Pacific Journal of Operational Research</i> , 2004, 21, 297-317. | 1.3 | 3 |
| 64 | Undominated d.c. Decompositions of Quadratic Functions and Applications to Branch-and-Bound Approaches. <i>Computational Optimization and Applications</i> , 2004, 28, 227-245. | 1.6 | 12 |
| 65 | Ellipsoidal Approach to Box-Constrained Quadratic Problems. <i>Journal of Global Optimization</i> , 2004, 28, 1-15. | 1.8 | 17 |
| 66 | The combinatorics of pivoting for the maximum weight clique. <i>Operations Research Letters</i> , 2004, 32, 523-529. | 0.7 | 4 |
| 67 | Regularity versus Degeneracy in Dynamics, Games, and Optimization: A Unified Approach to Different Aspects. <i>SIAM Review</i> , 2002, 44, 394-414. | 9.5 | 57 |
| 68 | A Complementary Pivoting Approach to the Maximum Weight Clique Problem. <i>SIAM Journal on Optimization</i> , 2002, 12, 928-948. | 2.0 | 32 |
| 69 | Annealed replication: a new heuristic for the maximum clique problem. <i>Discrete Applied Mathematics</i> , 2002, 121, 27-49. | 0.9 | 44 |
| 70 | Branch-and-bound approaches to standard quadratic optimization problems. <i>Journal of Global Optimization</i> , 2002, 22, 17-37. | 1.8 | 39 |
| 71 | Title is missing!. <i>Journal of Global Optimization</i> , 2002, 24, 163-185. | 1.8 | 168 |
| 72 | On Copositive Programming and Standard Quadratic Optimization Problems. <i>Journal of Global Optimization</i> , 2000, 18, 301-320. | 1.8 | 145 |

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|----|---|-----|-----------|
| 73 | Linear-Time Copositivity Detection for Tridiagonal Matrices and Extension to Block-Tridiagonality. SIAM Journal on Matrix Analysis and Applications, 2000, 21, 840-848. | 1.4 | 25 |
| 74 | A New "Annealed" Heuristic for the Maximum Clique Problem. Nonconvex Optimization and Its Applications, 2000, , 78-95. | 0.1 | 8 |
| 75 | Copositivity Aspects of Standard Quadratic Optimization Problems. , 2000, , 1-11. | | 2 |
| 76 | The Maximum Clique Problem. , 1999, , 1-74. | | 468 |
| 77 | On Standard Quadratic Optimization Problems. Journal of Global Optimization, 1998, 13, 369-387. | 1.8 | 126 |
| 78 | Uniform Barriers and Evolutionarily Stable Sets. , 1998, , 225-243. | | 3 |
| 79 | Evolution towards the Maximum Clique. Journal of Global Optimization, 1997, 10, 143-164. | 1.8 | 124 |
| 80 | Global Escape Strategies for Maximizing Quadratic Forms over a Simplex. Journal of Global Optimization, 1997, 11, 325-338. | 1.8 | 18 |
| 81 | Evolutionary Approach to the Maximum Clique Problem: Empirical Evidence on a Larger Scale. Nonconvex Optimization and Its Applications, 1997, , 95-108. | 0.1 | 39 |
| 82 | Stationary distributions under mutation-selection balance: structure and properties. Advances in Applied Probability, 1996, 28, 227-251. | 0.7 | 38 |
| 83 | Stationary distributions under mutation-selection balance: structure and properties. Advances in Applied Probability, 1996, 28, 227-251. | 0.7 | 16 |
| 84 | Block pivoting and shortcut strategies for detecting copositivity. Linear Algebra and Its Applications, 1996, 248, 161-184. | 0.9 | 30 |
| 85 | Parallelizable evolutionary dynamics principles for solving the maximum clique problem. Lecture Notes in Computer Science, 1996, , 676-685. | 1.3 | 1 |
| 86 | Lotka-Volterra equation and replicator dynamics: new issues in classification. Biological Cybernetics, 1995, 72, 447-453. | 1.3 | 74 |
| 87 | Stability by Mutation in Evolutionary Games. Games and Economic Behavior, 1995, 11, 146-172. | 0.8 | 45 |
| 88 | Does Neutral Stability Imply Lyapunov Stability?. Games and Economic Behavior, 1995, 11, 173-192. | 0.8 | 56 |
| 89 | Lotka-Volterra equation and replicator dynamics: new issues in classification. Biological Cybernetics, 1995, 72, 447-453. | 1.3 | 12 |
| 90 | Generalizing convexity for second order optimality conditions. Lecture Notes in Economics and Mathematical Systems, 1994, , 137-144. | 0.3 | 2 |

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|-----|---|-----|-----------|
| 91 | A finite algorithm for solving general quadratic problems. Journal of Global Optimization, 1994, 4, 1-16. | 1.8 | 37 |
| 92 | The dynamics of self-evaluation. Applied Mathematics and Computation, 1994, 64, 47-63. | 2.2 | 3 |
| 93 | Using copositivity for global optimality criteria in concave quadratic programming problems. Mathematical Programming, 1993, 62, 575-580. | 2.4 | 23 |
| 94 | A Global Optimization Algorithm for Concave Quadratic Programming Problems. SIAM Journal on Optimization, 1993, 3, 826-842. | 2.0 | 34 |
| 95 | A dynamical characterization of evolutionarily stable states. Annals of Operations Research, 1992, 37, 229-244. | 4.1 | 16 |
| 96 | Copositivity and nonconvex optimization. , 1992, , 75-79. | | 1 |
| 97 | Cross entropy minimization in uninvadable states of complex populations. Journal of Mathematical Biology, 1991, 30, 73-87. | 1.9 | 61 |
| 98 | Dynamical aspects of evolutionary stability. Monatshefte Fur Mathematik, 1990, 110, 189-206. | 0.9 | 62 |
| 99 | Game Theoretical Foundations of Evolutionary Stability. Lecture Notes in Economics and Mathematical Systems, 1989, , . | 0.3 | 49 |
| 100 | Remarks on the recursive structure of copositivity. Journal of Information and Optimization Sciences, 1987, 8, 243-260. | 0.3 | 5 |
| 101 | Measurable supports, reducible spaces and the structure of the optimal π -field in unbiased estimation. Monatshefte Fur Mathematik, 1986, 101, 27-38. | 0.9 | 2 |
| 102 | Non-cooperative two-person games in biology: A classification. International Journal of Game Theory, 1986, 15, 31-57. | 0.5 | 97 |
| 103 | Lotka-Volterra equation and replicator dynamics: A two-dimensional classification. Biological Cybernetics, 1983, 48, 201-211. | 1.3 | 157 |
| 104 | The role of mendelian genetics in stragetetic models on animal behaviour. Journal of Theoretical Biology, 1983, 101, 19-38. | 1.7 | 30 |