

Philippe Toint

List of Publications by Year in descending order

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69
papers

4,626
citations

159358

30
h-index

106150

65
g-index

78
all docs

78
docs citations

78
times ranked

1978
citing authors

#	ARTICLE	IF	CITATIONS
1	A Globally Convergent Augmented Lagrangian Algorithm for Optimization with General Constraints and Simple Bounds. <i>SIAM Journal on Numerical Analysis</i> , 1991, 28, 545-572.	1.1	666
2	CUTE. <i>ACM Transactions on Mathematical Software</i> , 1995, 21, 123-160.	1.6	577
3	Lancelot. <i>Springer Series in Computational Mathematics</i> , 1992, , .	0.1	248
4	On an instance of the inverse shortest paths problem. <i>Mathematical Programming</i> , 1992, 53, 45-61.	1.6	248
5	Global Convergence of a Class of Trust Region Algorithms for Optimization with Simple Bounds. <i>SIAM Journal on Numerical Analysis</i> , 1988, 25, 433-460.	1.1	240
6	CUTEst: a Constrained and Unconstrained Testing Environment with safe threads for mathematical optimization. <i>Computational Optimization and Applications</i> , 2015, 60, 545-557.	0.9	196
7	Convergence of quasi-Newton matrices generated by the symmetric rank one update. <i>Mathematical Programming</i> , 1991, 50, 177-195.	1.6	154
8	Recent progress in unconstrained nonlinear optimization without derivatives. <i>Mathematical Programming</i> , 1997, 79, 397-414.	1.6	148
9	On the Complexity of Steepest Descent, Newton's and Regularized Newton's Methods for Nonconvex Unconstrained Optimization Problems. <i>SIAM Journal on Optimization</i> , 2010, 20, 2833-2852.	1.2	136
10	Local convergence analysis for partitioned quasi-Newton updates. <i>Numerische Mathematik</i> , 1982, 39, 429-448.	0.9	130
11	Partitioned variable metric updates for large structured optimization problems. <i>Numerische Mathematik</i> , 1982, 39, 119-137.	0.9	121
12	Global Convergence of a a of Trust-Region Methods for Nonconvex Minimization in Hilbert Space. <i>IMA Journal of Numerical Analysis</i> , 1988, 8, 231-252.	1.5	121
13	Transfers to sustain dynamic core-theoretic cooperation in international stock pollutant control. <i>Journal of Economic Dynamics and Control</i> , 2003, 28, 79-99.	0.9	118
14	On the Estimation of Sparse Hessian Matrices. <i>SIAM Journal on Numerical Analysis</i> , 1979, 16, 1060-1074.	1.1	111
15	On sparse and symmetric matrix updating subject to a linear equation. <i>Mathematics of Computation</i> , 1977, 31, 954-961.	1.1	109
16	Numerical methods for large-scale nonlinear optimization. <i>Acta Numerica</i> , 2005, 14, 299-361.	6.3	106
17	Convergence Properties of an Augmented Lagrangian Algorithm for Optimization with a Combination of General Equality and Linear Constraints. <i>SIAM Journal on Optimization</i> , 1996, 6, 674-703.	1.2	86
18	Worst-case evaluation complexity for unconstrained nonlinear optimization using high-order regularized models. <i>Mathematical Programming</i> , 2017, 163, 359-368.	1.6	84

#	ARTICLE	IF	CITATIONS
19	On the use of an inverse shortest paths algorithm for recovering linearly correlated costs. <i>Mathematical Programming</i> , 1994, 63, 1-22.	1.6	74
20	Some numerical results using a sparse matrix updating formula in unconstrained optimization. <i>Mathematics of Computation</i> , 1978, 32, 839-851.	1.1	60
21	Nonlinear programming without a penalty function or a filter. <i>Mathematical Programming</i> , 2010, 122, 155-196.	1.6	55
22	An adaptive cubic regularization algorithm for nonconvex optimization with convex constraints and its function-evaluation complexity. <i>IMA Journal of Numerical Analysis</i> , 2012, 32, 1662-1695.	1.5	48
23	On large scale nonlinear Network optimization. <i>Mathematical Programming</i> , 1990, 48, 125-159.	1.6	44
24	Self-Correcting Geometry in Model-Based Algorithms for Derivative-Free Unconstrained Optimization. <i>SIAM Journal on Optimization</i> , 2010, 20, 3512-3532.	1.2	44
25	Global Convergence of a Class of Trust Region Algorithms for Optimization Using Inexact Projections on Convex Constraints. <i>SIAM Journal on Optimization</i> , 1993, 3, 164-221.	1.2	42
26	On Large Scale Nonlinear Least Squares Calculations. <i>SIAM Journal on Scientific and Statistical Computing</i> , 1987, 8, 416-435.	1.5	38
27	Global convergence of the partitioned BFGS algorithm for convex partially separable optimization. <i>Mathematical Programming</i> , 1986, 36, 290-306.	1.6	37
28	Exploiting negative curvature directions in linesearch methods for unconstrained optimization. <i>Optimization Methods and Software</i> , 2000, 14, 75-98.	1.6	35
29	Numerical solution of large sets of algebraic nonlinear equations. <i>Mathematics of Computation</i> , 1986, 46, 175-189.	1.1	33
30	Numerical experiments with partially separable optimization problems. <i>Lecture Notes in Mathematics</i> , 1984, , 203-220.	0.1	32
31	Convergence of a Regularized Euclidean Residual Algorithm for Nonlinear Least-Squares. <i>SIAM Journal on Numerical Analysis</i> , 2010, 48, 1-29.	1.1	32
32	Correction to the Paper on Global Convergence of a Class of Trust Region Algorithms for Optimization with Simple Bounds. <i>SIAM Journal on Numerical Analysis</i> , 1989, 26, 764-767.	1.1	31
33	The inverse shortest paths problem with upper bounds on shortest paths costs. <i>Lecture Notes in Economics and Mathematical Systems</i> , 1997, , 156-171.	0.3	28
34	On the existence of convex decompositions of partially separable functions. <i>Mathematical Programming</i> , 1984, 28, 25-49.	1.6	27
35	Numerical experiments with the LANCELOT package (release A) for large-scale nonlinear optimization. <i>Mathematical Programming</i> , 1996, 73, 73-110.	1.6	27
36	Optimal estimation of Jacobian and Hessian matrices that arise in finite difference calculations. <i>Mathematics of Computation</i> , 1984, 43, 69-88.	1.1	25

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37	Adaptive Regularization Algorithms with Inexact Evaluations for Nonconvex Optimization. SIAM Journal on Optimization, 2019, 29, 2881-2915.	1.2	25
38	A Comparison Between Some Direct and Iterative Methods for Certain Large Scale Geodetic Least Squares Problems. SIAM Journal on Scientific and Statistical Computing, 1986, 7, 799-816.	1.5	24
39	Second-Order Optimality and Beyond: Characterization and Evaluation Complexity in Convexly Constrained Nonlinear Optimization. Foundations of Computational Mathematics, 2018, 18, 1073-1107.	1.5	24
40	On The Overspecification of Multinomial and Nested Logit Models Due to Alternative Specific Constants. Transportation Science, 1997, 31, 363-371.	2.6	20
41	A derivative-free trust-funnel method for equality-constrained nonlinear optimization. Computational Optimization and Applications, 2015, 61, 25-49.	0.9	19
42	Sharp Worst-Case Evaluation Complexity Bounds for Arbitrary-Order Nonconvex Optimization with Inexpensive Constraints. SIAM Journal on Optimization, 2020, 30, 513-541.	1.2	16
43	Performance of a Multifrontal Scheme for Partially Separable Optimization. , 1994, , 79-96.		16
44	LSNNO, a FORTRAN subroutine for solving large-scale nonlinear network optimization problems. ACM Transactions on Mathematical Software, 1992, 18, 308-328.	1.6	15
45	Convergence Properties of Minimization Algorithms for Convex Constraints Using a Structured Trust Region. SIAM Journal on Optimization, 1996, 6, 1059-1086.	1.2	15
46	A concise second-order complexity analysis for unconstrained optimization using high-order regularized models. Optimization Methods and Software, 2020, 35, 243-256.	1.6	12
47	Exploiting problem structure in pattern search methods for unconstrained optimization. Optimization Methods and Software, 2006, 21, 479-491.	1.6	10
48	Numerical experience with a derivative-free trust-funnel method for nonlinear optimization problems with general nonlinear constraints. Optimization Methods and Software, 2016, 31, 511-534.	1.6	9
49	Complexity of Partially Separable Convexly Constrained Optimization with Non-Lipschitzian Singularities. SIAM Journal on Optimization, 2019, 29, 874-903.	1.2	9
50	The Shanno-Toint Procedure for Updating Sparse Symmetric Matrices. IMA Journal of Numerical Analysis, 1981, 1, 403-413.	1.5	8
51	A Modification of an Algorithm by Golub and Plemmons for Large Linear Least Squares in the Context of Doppler Positioning. IMA Journal of Numerical Analysis, 1985, 5, 221-233.	1.5	8
52	A note on exploiting structure when using slack variables. Mathematical Programming, 1994, 67, 89-97.	1.6	8
53	A note on solving nonlinear optimization problems in variable precision. Computational Optimization and Applications, 2020, 76, 917-933.	0.9	8
54	An algorithm for the minimization of nonsmooth nonconvex functions using inexact evaluations and its worst-case complexity. Mathematical Programming, 2021, 187, 1-24.	1.6	8

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55	Transfers to Sustain Dynamic Core-Theoretic Cooperation in International Stock Pollutant Control. , 2006, , 251-274.		8
56	A Stochastic and Flexible Activity Based Model for Large Population. Application to Belgium. Jasss, 2015, 18, .	1.0	8
57	Recognizing underlying sparsity in optimization. Mathematical Programming, 2009, 119, 273-303.	1.6	7
58	High-order evaluation complexity for convexly-constrained optimization with non-Lipschitzian group sparsity terms. Mathematical Programming, 2021, 187, 47-78.	1.6	6
59	Forcing sparsity by projecting with respect to a non-diagonally weighted frobenius norm. Mathematical Programming, 1983, 25, 125-129.	1.6	5
60	Differentiating the Method of Conjugate Gradients. SIAM Journal on Matrix Analysis and Applications, 2014, 35, 110-126.	0.7	4
61	Simple examples for the failure of Newton's method with line search for strictly convex minimization. Mathematical Programming, 2016, 158, 23-34.	1.6	4
62	Large-Scale Nonlinear Constrained Optimization. , 1993, , 21-48.		4
63	Adaptive regularization minimization algorithms with nonsmooth norms. IMA Journal of Numerical Analysis, 2023, 43, 920-949.	1.5	2
64	Two new methods for solving large scale least squares in geodetic surveying computations. Bulletin Geodesique, 1986, 60, 311-328.	0.4	0
65	A SIF/LANCELOT Primer. Springer Series in Computational Mathematics, 1992, , 14-101.	0.1	0
66	The Specification of LANCELOT Subroutines. Springer Series in Computational Mathematics, 1992, , 244-305.	0.1	0
67	The SIF Reference Report. Springer Series in Computational Mathematics, 1992, , 180-243.	0.1	0
68	A Description of how LANCELOT Works. Springer Series in Computational Mathematics, 1992, , 144-154.	0.1	0
69	Installing LANCELOT on your System. Springer Series in Computational Mathematics, 1992, , 155-179.	0.1	0