Michael L Overton

List of Publications by Year
in descending order

70 papers	3,902 citations	186265 28 h-index	123424 61 g-index
74 all docs	74 docs citations	74 times ranked	1931 citing authors

#	Article	IF	Citations
1	On properties of univariate max functions at local maximizers. Optimization Letters, 2022, 16, 2527-2541.	1.6	2
2	Local minimizers of the Crouzeix ratio: a nonsmooth optimization case study. Calcolo, 2022, 59, .	1.1	1
3	Analysis of limited-memory BFGS on a class of nonsmooth convex functions. IMA Journal of Numerical Analysis, 2021, 41, 1-27.	2.9	6
4	Finding the strongest stable massless column with a follower load and relocatable concentrated masses. Quarterly Journal of Mechanics and Applied Mathematics, 2021, 74, 223-250.	1.3	1
5	Analysis of the gradient method with an Armijo–Wolfe line search on a class of non-smooth convex functions. Optimization Methods and Software, 2020, 35, 223-242.	2.4	9
6	First-Order Perturbation Theory for Eigenvalues and Eigenvectors. SIAM Review, 2020, 62, 463-482.	9.5	33
7	Gradient Sampling Methods for Nonsmooth Optimization. , 2020, , 201-225.		37
8	Numerical investigation of Crouzeix's conjecture. Linear Algebra and Its Applications, 2018, 542, 225-245.	0.9	27
9	Low-Order Control Design using a Reduced-Order Model with a Stability Constraint on the Full-Order Model. , 2018, , .		4
10	Polynomial root radius optimization with affine constraints. Mathematical Programming, 2017, 165, 509-528.	2.4	1
11	Variational analysis of the Crouzeix ratio. Mathematical Programming, 2017, 164, 229-243.	2.4	6
12	A BFGS-SQP method for nonsmooth, nonconvex, constrained optimization and its evaluation using relative minimization profiles. Optimization Methods and Software, 2017, 32, 148-181.	2.4	67
13	Hybrid expansion–contraction: a robust scaleable method for approximating the H_∞ norm. IMA Journal of Numerical Analysis, 2016, 36, 985-1014.	2.9	20
14	Polynomial Stabilization with Bounds on the Controller Coefficients∗−∗−##. IFAC-PapersOnLine, 2015, 48, 382-387.	0.9	1
15	Narrowing the difficulty gap for the Celis–Dennis–Tapia problem. Mathematical Programming, 2015, 151, 459-476.	2.4	25
16	An Efficient Algorithm for Computing the Generalized Null Space Decomposition. SIAM Journal on Matrix Analysis and Applications, 2015, 36, 38-54.	1.4	13
17	Fixed Low-Order Controller Design and H∞ Optimization for Large-Scale Dynamical Systems. IFAC-PapersOnLine, 2015, 48, 25-30.	0.9	10
18	Variational Analysis of the Spectral Abscissa at a Matrix with a Nongeneric Multiple Eigenvalue. Set-Valued and Variational Analysis, 2014, 22, 19-43.	1.1	2

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19	Nonsmooth optimization via quasi-Newton methods. Mathematical Programming, 2013, 141, 135-163.	2.4	234
20	Fast Approximation of the H_∞ Norm via Optimization over Spectral Value Sets. SIAM Journal on Matrix Analysis and Applications, 2013, 34, 709-737.	1.4	40
21	Robust stability at the Swallowtail singularity. Frontiers in Physics, 2013, 1, .	2.1	11
22	Explicit Solutions for Root Optimization of a Polynomial Family With One Affine Constraint. IEEE Transactions on Automatic Control, 2012, 57, 3078-3089.	5.7	14
23	Some Regularity Results for the Pseudospectral Abscissa and Pseudospectral Radius of a Matrix. SIAM Journal on Optimization, 2012, 22, 281-285.	2.0	6
24	A Sequential Quadratic Programming Algorithm for Nonconvex, Nonsmooth Constrained Optimization. SIAM Journal on Optimization, 2012, 22, 474-500.	2.0	82
25	On Nesterovâ€™s nonsmooth Chebyshevâ€"Rosenbrock functions. Nonlinear Analysis: Theory, Methods & Applications, 2012, 75, 1282-1289.	1.1	22
26	Fast Algorithms for the Approximation of the Pseudospectral Abscissa and Pseudospectral Radius of a Matrix. SIAM Journal on Matrix Analysis and Applications, 2011, 32, 1166-1192.	1.4	56
27	Characterization and construction of the nearest defective matrix via coalescence of pseudospectral components. Linear Algebra and Its Applications, 2011, 435, 494-513.	0.9	16
28	Explicit solutions for root optimization of a polynomial family. , 2010, , .		2
29	Multiobjective Robust Control with HIFOO 2.0. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 144-149.	0.4	102
30	Fixed-order H<sup>&#x221E;</sup> controller design via HIFOO, a specialized nonsmooth optimization package. , 2008, , .		31
31	H<sub>&#x221E;</sub> strong stabilization via HIFOO, a package for fixed-order controller design. , 2008, , .		23
32	Change of Editorship. IMA Journal of Numerical Analysis, 2007, 27, i-i.	2.9	0
33	Optimizing the asymptotic convergence rate of the Diaconisâ€"Holmesâ€"Neal sampler. Advances in Applied Mathematics, 2007, 38, 382-403.	0.7	7
34	Large-scale semidefinite programs in electronic structure calculation. Mathematical Programming, 2007, 109, 553-580.	2.4	55
35	An Algorithm to Compute {oldmath{Sep_{lambda}}}. SIAM Journal on Matrix Analysis and Applications, 2006, 28, 348-359.	1.4	3
36	Stabilization via Nonsmooth, Nonconvex Optimization. IEEE Transactions on Automatic Control, 2006, 51, 1760-1769.	5.7	119

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37	Variational analysis of functions of the roots of polynomials. Mathematical Programming, 2005, 104, 263-292.	2.4	8
38	A Robust Gradient Sampling Algorithm for Nonsmooth, Nonconvex Optimization. SIAM Journal on Optimization, 2005, 15, 751-779.	2.0	332
39	Algorithms for the computation of the pseudospectral radius and the numerical radius of a matrix. IMA Journal of Numerical Analysis, 2005, 25, 648-669.	2.9	34
40	The reduced density matrix method for electronic structure calculations and the role of three-index representability conditions. Journal of Chemical Physics, 2004, 120, 2095-2104.	3.0	220
41	Variational Analysis of the Abscissa Mapping for Polynomials via the Gauss-Lucas Theorem. Journal of Global Optimization, 2004, 28, 259-268.	1.8	13
42	Design of Hermite Subdivision Schemes Aided by Spectral Radius Optimization. SIAM Journal of Scientific Computing, 2003, 25, 643-656.	2.8	14
43	Two numerical methods for optimizing matrix stability. Linear Algebra and Its Applications, 2002, 351-352, 117-145.	0.9	62
44	Optimal Stability and Eigenvalue Multiplicity. Foundations of Computational Mathematics, 2001, 1, 205-225.	2.5	29
45	Variational Analysis of the Abscissa Mapping for Polynomials. SIAM Journal on Control and Optimization, 2001, 39, 1651-1676.	2.1	12
46	Optimal Stability and Eigenvalue Multiplicity. Foundations of Computational Mathematics, 2001, 1, 205-225.	2.5	39
47	An Efficient Primal-Dual Interior-Point Method for Minimizing a Sum of Euclidean Norms. SIAM Journal of Scientific Computing, 2000, 22, 243-262.	2.8	117
48	Extending Mehrotra and Gondzio higher order methods to mixed semidefinite-quadratic-linear programming. Optimization Methods and Software, 1999, 11, 67-90.	2.4	5
49	Two Heuristics for the Euclidean Steiner Tree Problem. Journal of Global Optimization, 1998, 13, 95-106.	1.8	21
50	Primal-Dual Interior-Point Methods for Semidefinite Programming: Convergence Rates, Stability and Numerical Results. SIAM Journal on Optimization, 1998, 8, 746-768.	2.0	339
51	Computing Limit Loads by Minimizing a Sum of Norms. SIAM Journal of Scientific Computing, 1998, 19, 1046-1062.	2.8	71
52	On the Lidskii--Vishik--Lyusternik Perturbation Theory for Eigenvalues of Matrices with Arbitrary Jordan Structure. SIAM Journal on Matrix Analysis and Applications, 1997, 18, 793-817.	1.4	118
53	Complementarity and nondegeneracy in semidefinite programming. Mathematical Programming, 1997, 77, 111-128.	2.4	111
54	Perturbing the Critically Damped Wave Equation. SIAM Journal on Applied Mathematics, 1996, 56, 1353-1362.	1.8	19

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55	Eigenvalue optimization. Acta Numerica, 1996, 5, 149-190.	10.7	192
56	Stability theory for dissipatively perturbed hamiltonian systems. Communications on Pure and Applied Mathematics, 1995, 48, 583-610.	3.1	26
57	Second Derivatives for Optimizing Eigenvalues of Symmetric Matrices. SIAM Journal on Matrix Analysis and Applications, 1995, 16, 697-718.	1.4	68
58	Differential properties of the spectral abscissa and the spectral radius for analytic matrix-valued mappings. Nonlinear Analysis: Theory, Methods & Applications, 1994, 23, 467-488.	1.1	27
59	A Hybrid Algorithm for Optimizing Eigenvalues of Symmetric Definite Pencils. SIAM Journal on Matrix Analysis and Applications, 1994, 15, 1141-1156.	1.4	11
60	On the Optimal Design of Columns Against Buckling. SIAM Journal on Mathematical Analysis, 1992, 23, 287-325.	1.9	89
61	Large-Scale Optimization of Eigenvalues. SIAM Journal on Optimization, 1992, 2, 88-120.	2.0	166
62	On the Sum of the Largest Eigenvalues of a Symmetric Matrix. SIAM Journal on Matrix Analysis and Applications, 1992, 13, 41-45.	1.4	85
63	Stable perturbations of nonsymmetric matrices. Linear Algebra and Its Applications, 1992, 171, 249-273.	0.9	20
64	Numerical Computation: The State of the Art. Annals of the New York Academy of Sciences, 1990, 607, 116-127.	3.8	0
65	On Minimizing the Special Radius of a Nonsymmetric Matrix Function: Optimality Conditions and Duality Theory. SIAM Journal on Matrix Analysis and Applications, 1988, 9, 473-498.	1.4	43
66	On Minimizing the Maximum Eigenvalue of a Symmetric Matrix. SIAM Journal on Matrix Analysis and Applications, 1988, 9, 256-268.	1.4	180
67	Projected Hessian Updating Algorithms for Nonlinearly Constrained Optimization. SIAM Journal on Numerical Analysis, 1985, 22, 821-850.	2.3	197
68	A quadratically convergent method for minimizing a sum of euclidean norms. Mathematical Programming, 1983, 27, 34-63.	2.4	95
69	Numerical methods for solving inverse eigenvalue problems. Lecture Notes in Mathematics, 1983, , 212-226.	0.2	11
70	Canonical incidence matrices of graphs. BIT Numerical Mathematics, 1979, 19, 271-273.	2.0	4