

Michael Ulbrich

List of Publications by Year in descending order

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58
papers

1,613
citations

394421

19
h-index

345221

36
g-index

60
all docs

60
docs citations

60
times ranked

928
citing authors

#	ARTICLE	IF	CITATIONS
1	Semismooth Newton Methods for Operator Equations in Function Spaces. SIAM Journal on Optimization, 2002, 13, 805-841.	2.0	170
2	A globally convergent primal-dual interior-point filter method for nonlinear programming. Mathematical Programming, 2004, 100, 379-410.	2.4	150
3	Nonmonotone Trust-Region Methods for Bound-Constrained Semismooth Equations with Applications to Nonlinear Mixed Complementarity Problems. SIAM Journal on Optimization, 2001, 11, 889-917.	2.0	84
4	Optimization with PDE Constraints. Mathematical Modelling: Theory and Applications, 2009, , .	0.2	77
5	A mesh-independence result for semismooth Newton methods. Mathematical Programming, 2004, 101, 151.	2.4	75
6	Non-monotone trust region methods for nonlinear equality constrained optimization without a penalty function. Mathematical Programming, 2003, 95, 103-135.	2.4	64
7	Superlinear and quadratic convergence of affine-scaling interior-point Newton methods for problems with simple bounds without strict complementarity assumption. Mathematical Programming, 1999, 86, 615-635.	2.4	63
8	A New Relaxation Scheme for Mathematical Programs with Equilibrium Constraints. SIAM Journal on Optimization, 2010, 20, 2504-2539.	2.0	58
9	Imitating human reaching motions using physically inspired optimization principles. , 2011, , .		51
10	Global Convergence of Trust-region Interior-point Algorithms for Infinite-dimensional Nonconvex Minimization Subject to Pointwise Bounds. SIAM Journal on Control and Optimization, 1999, 37, 731-764.	2.1	49
11	A Semismooth Newton Method with Multidimensional Filter Globalization for ℓ_1 -Optimization. SIAM Journal on Optimization, 2014, 24, 298-333.	2.0	47
12	Optimal control of unsteady compressible viscous flows. International Journal for Numerical Methods in Fluids, 2002, 40, 1401-1429.	1.6	40
13	Constrained optimal control of Navier-Stokes flow by semismooth Newton methods. Systems and Control Letters, 2003, 48, 297-311.	2.3	38
14	Superlinear Convergence of Affine-Scaling Interior-Point Newton Methods for Infinite-Dimensional Nonlinear Problems with Pointwise Bounds. SIAM Journal on Control and Optimization, 2000, 38, 1938-1984.	2.1	37
15	Primal-dual interior-point methods for PDE-constrained optimization. Mathematical Programming, 2009, 117, 435-485.	2.4	34
16	A Continuous Adjoint Approach to Shape Optimization for Navier Stokes Flow. International Series of Numerical Mathematics, 2009, , 35-56.	1.1	32
17	A bilevel optimization approach to obtain optimal cost functions for human arm movements. Numerical Algebra, Control and Optimization, 2012, 2, 105-127.	1.6	31
18	Nichtlineare Optimierung. , 2012, , .		30

#	ARTICLE	IF	CITATIONS
19	A Semismooth Newton-CG Method for Constrained Parameter Identification in Seismic Tomography. SIAM Journal of Scientific Computing, 2015, 37, S334-S364.	2.8	27
20	Constrained Optimization with Low-Rank Tensors and Applications to Parametric Problems with PDEs. SIAM Journal of Scientific Computing, 2017, 39, A25-A54.	2.8	23
21	A class of distributed optimization methods with event-triggered communication. Computational Optimization and Applications, 2014, 57, 517-553.	1.6	21
22	On the Analysis of the Discretized Kohn-Sham Density Functional Theory. SIAM Journal on Numerical Analysis, 2015, 53, 1758-1785.	2.3	20
23	A Stochastic Semismooth Newton Method for Nonsmooth Nonconvex Optimization. SIAM Journal on Optimization, 2019, 29, 2916-2948.	2.0	17
24	An Interior-Point Approach for Solving Risk-Averse PDE-Constrained Optimization Problems with Coherent Risk Measures. SIAM Journal on Optimization, 2021, 31, 1-29.	2.0	16
25	Adaptive Regularized Self-Consistent Field Iteration with Exact Hessian for Electronic Structure Calculation. SIAM Journal of Scientific Computing, 2013, 35, A1299-A1324.	2.8	15
26	A Proximal Gradient Method for Ensemble Density Functional Theory. SIAM Journal of Scientific Computing, 2015, 37, A1975-A2002.	2.8	15
27	Modeling and Analysis of Human Navigation with Crossing Interferer Using Inverse Optimal Control. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 475-480.	0.4	13
28	A Continuous Perspective on Shape Optimization via Domain Transformations. SIAM Journal of Scientific Computing, 2021, 43, A1997-A2018.	2.8	13
29	Moreau's Yosida regularization in shape optimization with geometric constraints. Computational Optimization and Applications, 2015, 62, 181-216.	1.6	12
30	Accelerated iterative distributed controller synthesis with a Barzilai-Borwein step size. , 2012, , .		11
31	Distributed Stability Tests for Large-Scale Systems With Limited Model Information. IEEE Transactions on Control of Network Systems, 2015, 2, 298-309.	3.7	11
32	Analysis of shape optimization problems for unsteady fluid-structure interaction. Inverse Problems, 2020, 36, 034001.	2.0	11
33	Towards adjoint-based methods for aeroacoustic control. , 2001, , .		11
34	Adjoint based optimal control of partially miscible two-phase flow in porous media with applications to CO2 sequestration in underground reservoirs. Optimization and Engineering, 2015, 16, 103-130.	2.4	10
35	Mathematical programs with complementarity constraints in the context of inverse optimal control for locomotion. Optimization Methods and Software, 2017, 32, 670-698.	2.4	10
36	An Inexact Bundle Algorithm for Nonconvex Nonsmooth Minimization in Hilbert Space. SIAM Journal on Control and Optimization, 2019, 57, 3137-3165.	2.1	9

#	ARTICLE	IF	CITATIONS
37	Numerical Solution of Optimal Control Problems Governed by the Compressible Navier-Stokes Equations. , 2001, , 43-55.		9
38	Optimization Criteria for Human Trajectory Formation in Dynamic Virtual Environments. Lecture Notes in Computer Science, 2010, , 257-262.	1.3	8
39	Advanced Numerical Methods for PDE Constrained Optimization with Application to Optimal Design in Navier Stokes Flow. International Series of Numerical Mathematics, 2012, , 257-275.	1.1	7
40	Distributed control design with local model information and guaranteed stability. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 4010-4017.	0.4	7
41	A Self-Concordant Interior Point Approach for Optimal Control with State Constraints. SIAM Journal on Optimization, 2015, 25, 770-806.	2.0	6
42	Fr�chet Differentiability of Unsteady Incompressible Navier–Stokes Flow with Respect to Domain Variations of Low Regularity by Using a General Analytical Framework. SIAM Journal on Control and Optimization, 2017, 55, 3226-3257.	2.1	6
43	A Multigrid Semismooth Newton Method for Semilinear Contact Problems. Journal of Computational Mathematics, 2017, 35, 486-528.	0.4	6
44	An introduction to partial differential equations constrained optimization. Optimization and Engineering, 2018, 19, 515-520.	2.4	5
45	On a Nonsmooth Newton Method for Nonlinear Complementarity Problems in Function Space with Applications to Optimal Control. Applied Optimization, 2001, , 341-360.	0.4	3
46	Automatic Differentiation: A Structure-Exploiting Forward Mode with Almost Optimal Complexity for Kantorovi�Trees. , 1996, , 327-357.		3
47	On the local convergence of a stochastic semismooth Newton method for nonsmooth nonconvex optimization. Science China Mathematics, 2022, 65, 2151-2170.	1.7	3
48	Distributed controller design for a class of sparse singular systems with privacy constraints. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 190-197.	0.4	2
49	An Approximation Scheme for Distributionally Robust Nonlinear Optimization. SIAM Journal on Optimization, 2020, 30, 1996-2025.	2.0	2
50	Optimal Control of Partially Miscible Two-Phase Flow with Applications to Subsurface CO2 Sequestration. Lecture Notes in Computational Science and Engineering, 2013, , 81-98.	0.3	2
51	A Newton-CG Method for Full-Waveform Inversion in a Coupled Solid-Fluid System. Lecture Notes in Computational Science and Engineering, 2013, , 99-117.	0.3	2
52	An Inexact Bundle Method and Subgradient Computations for Optimal Control of Deterministic and Stochastic Obstacle Problems. International Series of Numerical Mathematics, 2022, , 467-497.	1.1	2
53	Newton Differentiability of Convex Functions in Normed Spaces and of a Class of Operators. SIAM Journal on Optimization, 2022, 32, 1265-1287.	2.0	2
54	Immersed Boundary Methods for Fluid-Structure Interaction and Shape Optimization within an FEM-Based PDE Toolbox. Lecture Notes in Computational Science and Engineering, 2013, , 25-56.	0.3	1

#	ARTICLE	IF	CITATIONS
55	An Approximation Scheme for Distributionally Robust PDE-Constrained Optimization. SIAM Journal on Control and Optimization, 2022, 60, 1410-1435.	2.1	1
56	Fortschritte in der Optimalsteuerung. Automatisierungstechnik, 2009, 57, 267-268.	0.8	0
57	MINLP-Based Routing for Electric Vehicles with Velocity Control in Networks with Inhomogeneous Charging Stations., 2020, , .		0
58	OPTE special issue on PDE-constrained optimization. Optimization and Engineering, 2021, 22, 1985-1987.	2.4	0