

Matthias Heinkenschloss

List of Publications by Year in descending order

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62
papers

1,674
citations

279487

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times ranked

948
citing authors

#	ARTICLE	IF	CITATIONS
1	Shape optimization in steady blood flow: A numerical study of non-Newtonian effects. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2005, 8, 127-137.	0.9	138
2	Balanced Truncation Model Reduction for a Class of Descriptor Systems with Application to the Oseen Equations. <i>SIAM Journal of Scientific Computing</i> , 2008, 30, 1038-1063.	1.3	104
3	Trust-Region Interior-Point SQP Algorithms for a Class of Nonlinear Programming Problems. <i>SIAM Journal on Control and Optimization</i> , 1998, 36, 1750-1794.	1.1	88
4	A Trust-Region Algorithm with Adaptive Stochastic Collocation for PDE Optimization under Uncertainty. <i>SIAM Journal of Scientific Computing</i> , 2013, 35, A1847-A1879.	1.3	83
5	Analysis of Inexact Trust-Region SQP Algorithms. <i>SIAM Journal on Optimization</i> , 2002, 12, 283-302.	1.2	80
6	A time-domain decomposition iterative method for the solution of distributed linear quadratic optimal control problems. <i>Journal of Computational and Applied Mathematics</i> , 2005, 173, 169-198.	1.1	71
7	Superlinear and quadratic convergence of affine-scaling interior-point Newton methods for problems with simple bounds without strict complementarity assumption. <i>Mathematical Programming</i> , 1999, 86, 615-635.	1.6	63
8	Inexact Objective Function Evaluations in a Trust-Region Algorithm for PDE-Constrained Optimization under Uncertainty. <i>SIAM Journal of Scientific Computing</i> , 2014, 36, A3011-A3029.	1.3	54
9	Balanced truncation model reduction for systems with inhomogeneous initial conditions. <i>Automatica</i> , 2011, 47, 559-564.	3.0	51
10	Global Convergence of Trust-region Interior-point Algorithms for Infinite-dimensional Nonconvex Minimization Subject to Pointwise Bounds. <i>SIAM Journal on Control and Optimization</i> , 1999, 37, 731-764.	1.1	49
11	Local Error Estimates for SUPG Solutions of Advection-Dominated Elliptic Linear-Quadratic Optimal Control Problems. <i>SIAM Journal on Numerical Analysis</i> , 2010, 47, 4607-4638.	1.1	46
12	Optimal control of unsteady compressible viscous flows. <i>International Journal for Numerical Methods in Fluids</i> , 2002, 40, 1401-1429.	0.9	40
13	A Matrix-Free Trust-Region SQP Method for Equality Constrained Optimization. <i>SIAM Journal on Optimization</i> , 2014, 24, 1507-1541.	1.2	40
14	Airfoil Design by an All-at-once Method*. <i>International Journal of Computational Fluid Dynamics</i> , 1998, 11, 3-25.	0.5	39
15	Fast Algorithms for Nonsmooth Compact Fixed-Point Problems. <i>SIAM Journal on Numerical Analysis</i> , 1992, 29, 1769-1792.	1.1	36
16	Shape optimization in unsteady blood flow: A numerical study of non-Newtonian effects. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2005, 8, 201-212.	0.9	36
17	Mesh Independence for Nonlinear Least Squares Problems with Norm Constraints. <i>SIAM Journal on Optimization</i> , 1993, 3, 81-117.	1.2	35
18	Local Error Analysis of Discontinuous Galerkin Methods for Advection-Dominated Elliptic Linear-Quadratic Optimal Control Problems. <i>SIAM Journal on Numerical Analysis</i> , 2012, 50, 2012-2038.	1.1	35

#	ARTICLE	IF	CITATIONS
19	Domain decomposition and model reduction for the numerical solution of PDE constrained optimization problems with localized optimization variables. <i>Computing and Visualization in Science</i> , 2010, 13, 249-264.	1.2	34
20	Neumann–Neumann Domain Decomposition Preconditioners for Linear-Quadratic Elliptic Optimal Control Problems. <i>SIAM Journal of Scientific Computing</i> , 2006, 28, 1001-1028.	1.3	33
21	Projected Sequential Quadratic Programming Methods. <i>SIAM Journal on Optimization</i> , 1996, 6, 373-417.	1.2	30
22	Domain decomposition and balanced truncation model reduction for shape optimization of the Stokes system. <i>Optimization Methods and Software</i> , 2011, 26, 643-669.	1.6	30
23	The effect of stabilization in finite element methods for the optimal boundary control of the Oseen equations. <i>Finite Elements in Analysis and Design</i> , 2004, 41, 229-251.	1.7	28
24	Solution of elliptic partial differential equations by an optimization-based domain decomposition method. <i>Applied Mathematics and Computation</i> , 2000, 113, 111-139.	1.4	23
25	Reduced order modeling based shape optimization of surface acoustic wave driven microfluidic biochips. <i>Mathematics and Computers in Simulation</i> , 2012, 82, 1986-2003.	2.4	23
26	On the solution of a two ball trust region subproblem. <i>Mathematical Programming</i> , 1994, 64, 249-276.	1.6	22
27	An interface optimization and application for the numerical solution of optimal control problems. <i>ACM Transactions on Mathematical Software</i> , 1999, 25, 157-190.	1.6	22
28	Large-Scale PDE-Constrained Optimization: An Introduction. <i>Lecture Notes in Computational Science and Engineering</i> , 2003, , 3-13.	0.1	22
29	Domain decomposition methods for advection dominated linear-quadratic elliptic optimal control problems. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2006, 195, 6428-6447.	3.4	22
30	A spatial domain decomposition method for parabolic optimal control problems. <i>Journal of Computational and Applied Mathematics</i> , 2007, 201, 88-111.	1.1	22
31	Formulation and Analysis of a Sequential Quadratic Programming Method for the Optimal Dirichlet Boundary Control of Navier-Stokes Flow. <i>Applied Optimization</i> , 1998, , 178-203.	0.4	20
32	An inexact low-rank Newton–ADI method for large-scale algebraic Riccati equations. <i>Applied Numerical Mathematics</i> , 2016, 108, 125-142.	1.2	18
33	Conditional-Value-at-Risk Estimation via Reduced-Order Models. <i>SIAM-ASA Journal on Uncertainty Quantification</i> , 2018, 6, 1395-1423.	1.1	18
34	An Optimal Control Problem for Flows with Discontinuities. <i>Journal of Optimization Theory and Applications</i> , 1997, 94, 273-309.	0.8	16
35	Application of the Discrete Empirical Interpolation Method to Reduced Order Modeling of Nonlinear and Parametric Systems. , 2014, , 101-136.		16
36	Optimal Transpiration Boundary Control for Aeroacoustics. <i>AIAA Journal</i> , 2003, 41, 1257-1270.	1.5	14

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37	Preconditioners for Karush-Kuhn-Tucker Matrices Arising in the Optimal Control of Distributed Systems. , 1998, , 15-32.		14
38	The numerical solution of a control problem governed by a phase field model. Optimization Methods and Software, 1997, 7, 211-263.	1.6	13
39	Optimal Control of Aeroacoustic Noise Generated by Cylinder Vortex Interaction. International Journal of Aeroacoustics, 2002, 1, 97-114.	0.8	13
40	A method for model identification and parameter estimation. Inverse Problems, 2013, 29, 025009.	1.0	11
41	Towards adjoint-based methods for aeroacoustic control. , 2001, , .		11
42	Adaptive Reduced-Order Model Construction for Conditional Value-at-Risk Estimation. SIAM-ASA Journal on Uncertainty Quantification, 2020, 8, 668-692.	1.1	10
43	Distributed Optimal Control of Diffusion-Convection-Reaction Equations Using Discontinuous Galerkin Methods. , 2013, , 389-397.		10
44	Efficient solution of large-scale algebraic Riccati equations associated with index-2 DAEs via the inexact low-rank Newton-ADI method. Applied Numerical Mathematics, 2020, 152, 338-354.	1.2	9
45	Parastillation and metastillation applied to bioethanol and neutral alcohol purification with energy savings. Chemical Engineering and Processing: Process Intensification, 2021, 162, 108334.	1.8	9
46	Numerical Solution of Optimal Control Problems Governed by the Compressible Navier-Stokes Equations. , 2001, , 43-55.		9
47	A Trust Region Method for Norm Constrained Problems. SIAM Journal on Numerical Analysis, 1998, 35, 1594-1620.	1.1	8
48	Balancing Neumann-Neumann Methods for Elliptic Optimal Control Problems. , 2005, , 589-596.		8
49	Numerical Solution of a Constrained Control Problem for a Phase Field Model. , 1994, , 171-187.		8
50	A new unified model to simulate columns with multiple phase divisions and their impact on energy savings. Computers and Chemical Engineering, 2020, 140, 106937.	2.0	7
51	An Inexact Trust-Region SQP Method with Applications to PDE-Constrained Optimization. , 2008, , 613-620.		6
52	Reduced Order Modeling for Time-Dependent Optimization Problems with Initial Value Controls. SIAM Journal of Scientific Computing, 2018, 40, A22-A51.	1.3	5
53	Model reduction with a-priori error bounds for a class of nonlinear electrical circuits. , 2009, , .		4
54	Shape Optimization of Shell Structure Acoustics. SIAM Journal on Control and Optimization, 2017, 55, 1347-1376.	1.1	3

#	ARTICLE	IF	CITATIONS
55	Adjoint-Based Methods in Aerodynamic Design-Optimization. , 1998, , 91-112.		3
56	Gauss-Newton methods with grid refinement. International Series of Numerical Mathematics, 1991, , 161-174.	1.0	3
57	Domain Decomposition and Model Reduction of Systems with Local Nonlinearities. , 2008, , 389-396.		3
58	Optimal Control of Aeroacoustic Flows: Transpiration Boundary Control. , 2002, , .		1
59	Surface-Based Scaffold Design: A Mechanobiological Approach. , 2005, , 183.		1
60	Parallel solvers for flow control based on domain decomposition. Proceedings in Applied Mathematics and Mechanics, 2013, 13, 395-396.	0.2	1
61	Numerical Methods for PDE Constrained Optimization with Uncertain Data. Oberwolfach Reports, 2013, 10, 239-293.	0.0	1
62	Thermal-fluid control via finite-dimensional approximation. , 1996, , .		0