Stefan Ulbrich

List of Publications by Citations

68 papers	967 citations	19 h-index	29 g-index
74 ext. papers	1,096 ext. citations	1.6 avg, IF	4.71 L-index

#	Paper	IF	Citations
68	A globally convergent primal-dual interior-point filter method for nonlinear programming. *Mathematical Programming*, **2004**, 100, 379-410	2.1	116
67	On the superlinear local convergence of a filter-SQP method. *Mathematical Programming*, **2004**, 100, 217	2.1	58
66	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	2.1	56
65	A Sensitivity and Adjoint Calculus for Discontinuous Solutions of Hyperbolic Conservation Laws with Source Terms. *SIAM Journal on Control and Optimization*, **2002**, 41, 740-797	1.9	51
64	Adaptive Multilevel Inexact SQP Methods for PDE-Constrained Optimization. *SIAM Journal on Optimization*, **2011**, 21, 1-40	2	50
63	Adjoint-based derivative computations for the optimal control of discontinuous solutions of hyperbolic conservation laws. *Systems and Control Letters*, **2003**, 48, 313-328	2.4	44
62	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	1.9	41
61	Optimal control of unsteady compressible viscous flows. *International Journal for Numerical Methods in Fluids*, **2002**, 40, 1401-1429	1.9	35
60	Convergence of Linearized and Adjoint Approximations for Discontinuous Solutions of Conservation Laws. Part 1: Linearized Approximations and Linearized Output Functionals. *SIAM Journal on Numerical Analysis*, **2010**, 48, 882-904	2.4	33
59	Convergence of Linearized and Adjoint Approximations for Discontinuous Solutions of Conservation Laws. Part 2: Adjoint Approximations and Extensions. *SIAM Journal on Numerical Analysis*, **2010**, 48, 905-921	2.4	32
58	Primal-dual interior-point methods for PDE-constrained optimization. *Mathematical Programming*, **2009**, 117, 435-485	2.1	31
57	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	1.9	30
56	Cooling Fin Optimization on a TEFC Electrical Machine Housing Using a 2-D Conjugate Heat Transfer Model. *IEEE Transactions on Industrial Electronics*, **2018**, 65, 1711-1718	8.9	28
55	A framework for solving mixed-integer semidefinite programs. *Optimization Methods and Software*, **2018**, 33, 594-632	1.3	25
54	A Continuous Adjoint Approach to Shape Optimization for Navier Stokes Flow. *International Series of Numerical Mathematics*, **2009**, 35-56	0.4	24
53	Operator Preconditioning for a Class of Inequality Constrained Optimal Control Problems. *SIAM Journal on Optimization*, **2014**, 24, 435-466	2	21
52	A Discrete Adjoint Approach for the Optimization of Unsteady Turbulent Flows. *Flow, Turbulence and Combustion*, **2013**, 90, 763-783	2.5	21

51	Driving cycle-based design optimization of interior permanent magnet synchronous motor drives for electric vehicle application **2014**,		20
50	Nichtlineare Optimierung **2012**,		20
49	Model Order Reduction Techniques with a Posteriori Error Control for Nonlinear Robust Optimization Governed by Partial Differential Equations. *SIAM Journal of Scientific Computing*, **2017**, 39, S112-S139	2.6	19
48	Integration of manufacturing-induced properties in product design. *CIRP Annals - Manufacturing Technology*, **2012**, 61, 163-166	4.9	18
47	Combination of an adaptive multilevel SQP method and a space-time adaptive PDAE solver for optimal control problems. *Procedia Computer Science*, **2010**, 1, 1435-1443	1.6	13
46	The isothermal Euler equations for ideal gas with source term: Product solutions, flow reversal and no blow up. *Journal of Mathematical Analysis and Applications*, **2017**, 454, 439-452	1.1	11
45	An approach for robust PDE-constrained optimization with application to shape optimization of electrical engines and of dynamic elastic structures under uncertainty. *Optimization and Engineering*, **2018**, 19, 697-731	2.1	11
44	Towards adjoint-based methods for aeroacoustic control **2001**,		10
43	A certified model reduction approach for robust parameter optimization with PDE constraints. *Advances in Computational Mathematics*, **2019**, 45, 1221-1250	1.6	9
42	Optimal Boundary Control of Nonlinear Hyperbolic Conservation Laws with Switched Boundary Data. *SIAM Journal on Control and Optimization*, **2015**, 53, 1250-1277	1.9	9
41	Optimal flow control based on POD and MPC and an application to the cancellation of Tollmien♭Schlichting waves. *Optimization Methods and Software*, **2014**, 29, 1042-1074	1.3	8
40	Numerical Solution of Optimal Control Problems Governed by the Compressible Navier-Stokes Equations **2001**, 43-55		8
39	Time-varying process control for stringer sheet forming by a deterministic derivative-free optimization approach. *International Journal of Advanced Manufacturing Technology*, **2015**, 80, 817-828	3.2	7
38	Analysis of shape optimization problems for unsteady fluid-structure interaction. *Inverse Problems*, **2020**, 36, 034001	2.3	7
37	A Second Order Approximation Technique for Robust Shape Optimization. *Applied Mechanics and Materials*, **2011**, 104, 13-22	0.3	7
36	Fréhet 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	1.9	6
35	Total variation diminishing schemes in optimal control of scalar conservation laws. *IMA Journal of Numerical Analysis*, **2019**, 39, 105-140	1.8	6
34	An inexact ♭1 penalty SQP algorithm for PDE-constrained optimization with an application to shape optimization in linear elasticity. *Optimization Methods and Software*, **2013**, 28, 943-968	1.3	6

33	On the Existence and Approximation of Solutions for the Optimal Control of Nonlinear Hyperbolic Conservation Laws **1999**, 287-299		6
32	Manufacturing Integrated Algorithm-Based Product Design Case Study of a Snap-Fit Fastening. *Procedia CIRP*, **2016**, 50, 123-128	1.8	6
31	Robust optimisation formulations for the design of an electric machine. *IET Science, Measurement and Technology*, **2018**, 12, 939-948	1.5	6
30	Adaptive Observation Strategy for Dispersion Process Estimation Using Cooperating Mobile Sensors. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2014**, 47, 5302-5308		5
29	Model order reduction approaches for the optimal design of permanent magnets in electro-magnetic machines. *IFAC-PapersOnLine*, **2015**, 48, 242-247	0.7	5
28	Advanced Numerical Methods for PDE Constrained Optimization with Application to Optimal Design in Navier Stokes Flow. *International Series of Numerical Mathematics*, **2012**, 257-275	0.4	5
27	Computation of a Bouligand Generalized Derivative for the Solution Operator of the Obstacle Problem. *SIAM Journal on Control and Optimization*, **2019**, 57, 3223-3248	1.9	4
26	Adaptive multilevel trust-region methods for time-dependent PDE-constrained optimization. *Portugaliae Mathematica*, **2017**, 74, 37-67	0.4	4
25	Decentralized Dynamic Data-driven Monitoring of Atmospheric Dispersion Processes. *Procedia Computer Science*, **2016**, 80, 919-930	1.6	4
24	Robust shape optimization of electric devices based on deterministic optimization methods and finite-element analysis with affine parametrization and design elements. *Electrical Engineering*, **2018**, 100, 2635-2647	1.5	4
23	Generalized Multilevel SQP-methods for PDAE-constrained Optimization Based on Space-Time Adaptive PDAE Solvers. *International Series of Numerical Mathematics*, **2012**, 51-74	0.4	3
22	Centralized Ensemble-Based Trajectory Planning of Cooperating Sensors for Estimating Atmospheric Dispersion Processes. *Lecture Notes in Computer Science*, **2015**, 322-333	0.9	3
21	Automatic Differentiation: A Structure-Exploiting Forward Mode with Almost Optimal Complexity for Kantorovi Trees **1996**, 327-357		3
20	Identification of model uncertainty via optimal design of experiments applied to a mechanical press. *Optimization and Engineering*,1	2.1	3
19	Preconditioners Based on Parareal Time-Domain Decomposition for Time-Dependent PDE-Constrained Optimization. *Contributions in Mathematical and Computational Sciences*, **2015**, 203-232		2
18	Lipschitz solutions of initial boundary value problems for balance laws. *Mathematical Models and Methods in Applied Sciences*, **2018**, 28, 921-951	3.5	2
17	Optimal Control of Nonlinear Hyperbolic Conservation Laws with Switching. *International Series of Numerical Mathematics*, **2014**, 109-131	0.4	2
16	Optimal Placement of Active Bars for Buckling Control in Truss Structures under Bar Failures. *Applied Mechanics and Materials*, **2018**, 885, 119-130	0.3	2

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15	Optimal control of scalar conservation laws by on/off-switching. *Optimization Methods and Software*, **2017**, 32, 904-939	1.3	1
14	Multiuser downlink beamforming with interference cancellation using a SDP-based branch-and-bound algorithm **2014**,		1
13	OPTPDE: A Collection of Problems in PDE-Constrained Optimization. *International Series of Numerical Mathematics*, **2014**, 539-543	0.4	1
12	Robust Optimization of Shunted Piezoelectric Transducers for Vibration Attenuation Considering Different Values of Electromechanical Coupling. *Conference Proceedings of the Society for Experimental Mechanics*, **2017**, 51-59	0.3	1
11	Optimal Boundary Control of Hyperbolic Balance Laws with State Constraints. *SIAM Journal on Control and Optimization*, **2021**, 59, 1341-1369	1.9	1
10	Robust Design of a Smart Structure under Manufacturing Uncertainty via Nonsmooth PDE-Constrained Optimization. *Applied Mechanics and Materials*, **2018**, 885, 131-144	0.3	1
9	Types of Uncertainty. *Springer Tracts in Mechanical Engineering*, **2021**, 25-42	0.3	0
8	Global Optimization of Mixed-Integer ODE Constrained Network Problems Using the Example of Stationary Gas Transport. *SIAM Journal on Optimization*, **2019**, 29, 2949-2985	2	0
7	Decentralized Dynamic Data-Driven Monitoring of Dispersion Processes on Partitioned Domains. *Procedia Computer Science*, **2017**, 108, 1632-1641	1.6	
6	Strategies for Mastering Uncertainty. *Springer Tracts in Mechanical Engineering*, **2021**, 365-456	0.3	
5	Multilevel Optimization of Fluid-Structure Interaction Based on Reduced Order Models. *Lecture Notes in Computational Science and Engineering*, **2018**, 15-36	0.3	
4	On a Fully Adaptive SQP Method for PDAE-Constrained Optimal Control Problems with Control and State Constraints. *International Series of Numerical Mathematics*, **2014**, 85-108	0.4	
3	Estimation of conditional distribution functions from data with additional errors applied to shape optimization. *Metrika*,1	0.8	
2	Shape optimization for contact problems based on isogeometric analysis. *Journal of Physics: Conference Series*, **2016**, 734, 032008	0.3	
1	Semi-automatically optimized calibration of internal combustion engines. *Optimization and Engineering*, **2020**, 21, 73-106	2.1	