

# Stefan Ulbrich

## List of Publications by Year in descending order

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67  
papers

1,260  
citations

394286

19  
h-index

395590

33  
g-index

74  
all docs

74  
docs citations

74  
times ranked

743  
citing authors

#	ARTICLE	IF	CITATIONS
1	A globally convergent primal-dual interior-point filter method for nonlinear programming. <i>Mathematical Programming</i> , 2004, 100, 379-410.	1.6	150
2	On the superlinear local convergence of a filter-SQP method. <i>Mathematical Programming</i> , 2004, 100, 217.	1.6	72
3	A Sensitivity and Adjoint Calculus for Discontinuous Solutions of Hyperbolic Conservation Laws with Source Terms. <i>SIAM Journal on Control and Optimization</i> , 2002, 41, 740-797.	1.1	65
4	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
5	Adjoint-based derivative computations for the optimal control of discontinuous solutions of hyperbolic conservation laws. <i>Systems and Control Letters</i> , 2003, 48, 313-328.	1.3	59
6	Adaptive Multilevel Inexact SQP Methods for PDE-Constrained Optimization. <i>SIAM Journal on Optimization</i> , 2011, 21, 1-40.	1.2	58
7	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
8	A framework for solving mixed-integer semidefinite programs. <i>Optimization Methods and Software</i> , 2018, 33, 594-632.	1.6	49
9	Cooling Fin Optimization on a TEFC Electrical Machine Housing Using a 2-D Conjugate Heat Transfer Model. <i>IEEE Transactions on Industrial Electronics</i> , 2018, 65, 1711-1718.	5.2	46
10	Optimal control of unsteady compressible viscous flows. <i>International Journal for Numerical Methods in Fluids</i> , 2002, 40, 1401-1429.	0.9	40
11	Convergence of Linearized and Adjoint Approximations for Discontinuous Solutions of Conservation Laws. Part 1: Linearized Approximations and Linearized Output Functionals. <i>SIAM Journal on Numerical Analysis</i> , 2010, 48, 882-904.	1.1	40
12	Convergence of Linearized and Adjoint Approximations for Discontinuous Solutions of Conservation Laws. Part 2: Adjoint Approximations and Extensions. <i>SIAM Journal on Numerical Analysis</i> , 2010, 48, 905-921.	1.1	39
13	Superlinear Convergence of Affine-Scaling Interior-Point Newton Methods for Infinite-Dimensional Nonlinear Problems with Pointwise Bounds. <i>SIAM Journal on Control and Optimization</i> , 2000, 38, 1938-1984.	1.1	37
14	Primal-dual interior-point methods for PDE-constrained optimization. <i>Mathematical Programming</i> , 2009, 117, 435-485.	1.6	34
15	A Continuous Adjoint Approach to Shape Optimization for Navier Stokes Flow. <i>International Series of Numerical Mathematics</i> , 2009, , 35-56.	1.0	32
16	Nichtlineare Optimierung. , 2012, , .		30
17	Driving cycle-based design optimization of interior permanent magnet synchronous motor drives for electric vehicle application. , 2014, , .		29
18	A Discrete Adjoint Approach for the Optimization of Unsteady Turbulent Flows. <i>Flow, Turbulence and Combustion</i> , 2013, 90, 763-783.	1.4	25

#	ARTICLE	IF	CITATIONS
19	Operator Preconditioning for a Class of Inequality Constrained Optimal Control Problems. SIAM Journal on Optimization, 2014, 24, 435-466.	1.2	23
20	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.	1.3	23
21	Integration of manufacturing-induced properties in product design. CIRP Annals - Manufacturing Technology, 2012, 61, 163-166.	1.7	22
22	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.	1.3	18
23	A certified model reduction approach for robust parameter optimization with PDE constraints. Advances in Computational Mathematics, 2019, 45, 1221-1250.	0.8	17
24	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.	1.2	16
25	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.	0.5	16
26	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.	1.6	14
27	Analysis of shape optimization problems for unsteady fluid-structure interaction. Inverse Problems, 2020, 36, 034001.	1.0	11
28	Towards adjoint-based methods for aeroacoustic control. , 2001, , .		11
29	Optimal Boundary Control of Nonlinear Hyperbolic Conservation Laws with Switched Boundary Data. SIAM Journal on Control and Optimization, 2015, 53, 1250-1277.	1.1	10
30	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.	1.2	10
31	Lipschitz solutions of initial boundary value problems for balance laws. Mathematical Models and Methods in Applied Sciences, 2018, 28, 921-951.	1.7	9
32	Robust optimisation formulations for the design of an electric machine. IET Science, Measurement and Technology, 2018, 12, 939-948.	0.9	9
33	Numerical Solution of Optimal Control Problems Governed by the Compressible Navier-Stokes Equations. , 2001, , 43-55.		9
34	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.	1.5	8
35	A Second Order Approximation Technique for Robust Shape Optimization. Applied Mechanics and Materials, 0, 104, 13-22.	0.2	7
36	Advanced Numerical Methods for PDE Constrained Optimization with Application to Optimal Design in Navier Stokes Flow. International Series of Numerical Mathematics, 2012, , 257-275.	1.0	7

#	ARTICLE	IF	CITATIONS
37	Model order reduction approaches for the optimal design of permanent magnets in electro-magnetic machines. IFAC-PapersOnLine, 2015, 48, 242-247.	0.5	7
38	Total variation diminishing schemes in optimal control of scalar conservation laws. IMA Journal of Numerical Analysis, 2019, 39, 105-140.	1.5	7
39	An inexact $\ell_1$ -penalty SQP algorithm for PDE-constrained optimization with an application to shape optimization in linear elasticity. Optimization Methods and Software, 2013, 28, 943-968.	1.6	6
40	Manufacturing Integrated Algorithm-Based Product Design – Case Study of a Snap-Fit Fastening. Procedia CIRP, 2016, 50, 123-128.	1.0	6
41	Fréchet 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.	1.1	6
42	Generalized Multilevel SQP-methods for PDAE-constrained Optimization Based on Space-Time Adaptive PDAE Solvers. International Series of Numerical Mathematics, 2012, , 51-74.	1.0	6
43	Adaptive Observation Strategy for Dispersion Process Estimation Using Cooperating Mobile Sensors. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 5302-5308.	0.4	5
44	Decentralized Dynamic Data-driven Monitoring of Atmospheric Dispersion Processes. Procedia Computer Science, 2016, 80, 919-930.	1.2	5
45	Computation of a Bouligand Generalized Derivative for the Solution Operator of the Obstacle Problem. SIAM Journal on Control and Optimization, 2019, 57, 3223-3248.	1.1	5
46	Identification of model uncertainty via optimal design of experiments applied to a mechanical press. Optimization and Engineering, 0, , 1.	1.3	5
47	Adaptive multilevel trust-region methods for time-dependent PDE-constrained optimization. Portugaliae Mathematica, 2017, 74, 37-67.	0.4	5
48	OPTPDE: A Collection of Problems in PDE-Constrained Optimization. International Series of Numerical Mathematics, 2014, , 539-543.	1.0	4
49	Optimal Boundary Control of Hyperbolic Balance Laws with State Constraints. SIAM Journal on Control and Optimization, 2021, 59, 1341-1369.	1.1	3
50	Automatic Differentiation: A Structure-Exploiting Forward Mode with Almost Optimal Complexity for Kantorovich-Trees. , 1996, , 327-357.		3
51	Multiuser downlink beamforming with interference cancellation using a SDP-based branch-and-bound algorithm. , 2014, , .		2
52	Preconditioners Based on $\epsilon$ -Parareal-Time-Domain Decomposition for Time-Dependent PDE-Constrained Optimization. Contributions in Mathematical and Computational Sciences, 2015, , 203-232.	0.3	2
53	Optimal control of scalar conservation laws by on/off-switching. Optimization Methods and Software, 2017, 32, 904-939.	1.6	2
54	Optimal Placement of Active Bars for Buckling Control in Truss Structures under Bar Failures. Applied Mechanics and Materials, 0, 885, 119-130.	0.2	2

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55	Global Optimization of Mixed-Integer ODE Constrained Network Problems Using the Example of Stationary Gas Transport. SIAM Journal on Optimization, 2019, 29, 2949-2985.	1.2	2
56	Semi-automatically optimized calibration of internal combustion engines. Optimization and Engineering, 2020, 21, 73-106.	1.3	2
57	Optimal Control of Nonlinear Hyperbolic Conservation Laws with Switching. International Series of Numerical Mathematics, 2014, , 109-131.	1.0	2
58	Robust Design of a Smart Structure under Manufacturing Uncertainty via Nonsmooth PDE-Constrained Optimization. Applied Mechanics and Materials, 2018, 885, 131-144.	0.2	1
59	Types of Uncertainty. Springer Tracts in Mechanical Engineering, 2021, , 25-42.	0.1	1
60	Strategies for Mastering Uncertainty. Springer Tracts in Mechanical Engineering, 2021, , 365-456.	0.1	1
61	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.	1.0	1
62	Shape optimization for contact problems based on isogeometric analysis. Journal of Physics: Conference Series, 2016, 734, 032008.	0.3	0
63	Decentralized Dynamic Data-Driven Monitoring of Dispersion Processes on Partitioned Domains. Procedia Computer Science, 2017, 108, 1632-1641.	1.2	0
64	Estimation of conditional distribution functions from data with additional errors applied to shape optimization. Metrika, 2022, 85, 323-343.	0.5	0
65	Problemstellung und Beispiele. , 2012, , 1-9.		0
66	Introduction to Part I Constrained Optimization, Identification and Control. International Series of Numerical Mathematics, 2014, , 7-9.	1.0	0
67	Multilevel Optimization of Fluid-Structure Interaction Based on Reduced Order Models. Lecture Notes in Computational Science and Engineering, 2018, , 15-36.	0.1	0