Ulrich Langer

List of Publications by Year
in descending order

90 papers	1,662 citations	361413 20 h-index	361022 35 g-index
102 all docs	102 docs citations	102 times ranked	831 citing authors

#	ARTICLE	IF	CITATIONS
1	Robust Discretization and Solvers for Elliptic Optimal Control Problems with Energy Regularization. Computational Methods in Applied Mathematics, 2022, 22, 97-111.	0.8	3
2	Adaptive space–time finite element methods for parabolic optimal control problems. Journal of Numerical Mathematics, 2022, 30, 247-266.	3.5	6
3	Unstructured Space-Time Finite Element Methods for Optimal Control of Parabolic Equations. SIAM Journal of Scientific Computing, 2021, 43, A744-A771.	2.8	14
4	Reliability and Efficiency of DWR-Type A Posteriori Error Estimates with Smart Sensitivity Weight Recovering. Computational Methods in Applied Mathematics, 2021, 21, 351-371.	0.8	10
5	Space-Time Finite Element Discretization of Parabolic Optimal Control Problems with Energy Regularization. SIAM Journal on Numerical Analysis, 2021, 59, 675-695.	2.3	10
6	Efficient Direct Space-Time Finite Element Solvers for Parabolic Initial-Boundary Value Problems in Anisotropic Sobolev Spaces. SIAM Journal of Scientific Computing, 2021, 43, A2714-A2736.	2.8	7
7	Matrix-free multigrid solvers for phase-field fracture problems. Computer Methods in Applied Mechanics and Engineering, 2020, 372, 113431.	6.6	21
8	Parallel Matrix-Free Higher-Order Finite Element Solvers for Phase-Field Fracture Problems. Mathematical and Computational Applications, 2020, 25, 40.	1.3	2
9	Two-Side a Posteriori Error Estimates for the Dual-Weighted Residual Method. SIAM Journal of Scientific Computing, 2020, 42, A371-A394.	2.8	20
10	Isogeometric Simulation and Shape Optimization with Applications to Electrical Machines. Mathematics in Industry, 2020, , 35-43.	0.3	3
11	Space-Time Finite Element Methods for Parabolic Initial-Boundary Value Problems with Non-smooth Solutions. Lecture Notes in Computer Science, 2020, , 593-600.	1.3	2
12	BDDC Preconditioners for a Space-time Finite Element Discretization of Parabolic Problems. Lecture Notes in Computational Science and Engineering, 2020, , 367-374.	0.3	2
13	Adaptive Space-Time Finite Element Methods for Non-autonomous Parabolic Problems with Distributional Sources. Computational Methods in Applied Mathematics, 2020, 20, 677-693.	0.8	11
14	Isogeometric analysis on non-matching segmentation: discontinuous Galerkin techniques and efficient solvers. Journal of Applied Mathematics and Computing, 2019, 61, 297-336.	2.5	6
15	Parallel and Robust Preconditioning for Space-Time Isogeometric Analysis of Parabolic Evolution Problems. SIAM Journal of Scientific Computing, 2019, 41, A1793-A1821.	2.8	13
16	Guaranteed error bounds and local indicators for adaptive solvers using stabilised space–time IgA approximations to parabolic problems. Computers and Mathematics With Applications, 2019, 78, 2641-2671.	2.7	7
17	Multigoal-oriented error estimates for non-linear problems. Journal of Numerical Mathematics, 2019, 27, 215-236.	3.5	12
18	Adaptive space–time finite element solvers for parabolic initial–boundary value problems with non–smooth solutions. Proceedings in Applied Mathematics and Mechanics, 2019, 19, e201900305.	0.2	0

#	ARTICLE	IF	CITATIONS
19	Parallel block‑preconditioned monolithic solvers for fluid‑structure interaction problems. International Journal for Numerical Methods in Engineering, 2019, 117, 623-643.	2.8	20
20	Space-Time Finite Element Methods for Parabolic Evolution Problems with Variable Coefficients. Lecture Notes in Computational Science and Engineering, 2019, , 247-275.	0.3	8
21	Dual-Primal Isogeometric Tearing and Interconnecting Methods. Computational Methods in Applied Sciences (Springer), 2019, , 273-296.	0.3	4
22	Numerical simulation of fluid–structure interaction problems with hyperelastic models: A monolithic approach. Mathematics and Computers in Simulation, 2018, 145, 186-208.	4.4	16
23	Functional Type Error Control for Stabilised Space-Time IgA Approximations to Parabolic Problems. Lecture Notes in Computer Science, 2018, , 55-65.	1.3	2
24	Inexact Dual-Primal Isogeometric Tearing and Interconnecting Methods. Lecture Notes in Computational Science and Engineering, 2018, , 393-403.	0.3	3
25	Dual-primal isogeometric tearing and interconnecting solvers for multipatch dG-IgA equations. Computer Methods in Applied Mechanics and Engineering, 2017, 316, 2-21.	6.6	33
26	A posteriori estimates for a coupled piezoelectric model. Russian Journal of Numerical Analysis and Mathematical Modelling, 2017, 32, .	0.6	0
27	Low rank tensor methods in Galerkin-based isogeometric analysis. Computer Methods in Applied Mechanics and Engineering, 2017, 316, 1062-1085.	6.6	55
28	Convection-adapted BEM-based FEM. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2016, 96, 1467-1481.	1.6	16
29	Robust and efficient monolithic fluid‑structure‑interaction solvers. International Journal for Numerical Methods in Engineering, 2016, 108, 303-325.	2.8	18
30	Space–time isogeometric analysis of parabolic evolution problems. Computer Methods in Applied Mechanics and Engineering, 2016, 306, 342-363.	6.6	63
31	Discontinuous Galerkin Isogeometric Analysis of Elliptic Diffusion Problems on Segmentations with Gaps. SIAM Journal of Scientific Computing, 2016, 38, A3430-A3460.	2.8	11
32	Dual‑primal isogeometric tearing and interconnecting solvers for multipatch continuous and discontinuous Galerkin IgA equations. Proceedings in Applied Mathematics and Mechanics, 2016, 16, 747-748.	0.2	3
33	Functional A Posteriori Error Estimates for Time-Periodic Parabolic Optimal Control Problems. Numerical Functional Analysis and Optimization, 2016, 37, 1267-1294.	1.4	11
34	Topology Optimization of Electric Motor Using Topological Derivative for Nonlinear Magnetostatics. IEEE Transactions on Magnetics, 2016, 52, 1-4.	2.1	27
35	Discontinuous Galerkin Isogeometric Analysis of Elliptic PDEs on Surfaces. Lecture Notes in Computational Science and Engineering, 2016, , 319-326.	0.3	8
36	Shape Optimization of an Electric Motor Subject to Nonlinear Magnetostatics. SIAM Journal of Scientific Computing, 2015, 37, B1002-B1025.	2.8	63

#	Article	IF	Citations
37	Analysis of multipatch discontinuous Galerkin IgA approximations to elliptic boundary value problems. Computing and Visualization in Science, 2015, 17, 217-233.	1.2	25
38	Multipatch Discontinuous Galerkin Isogeometric Analysis. Lecture Notes in Computational Science and Engineering, 2015, , 1-32.	0.3	19
39	Functional A Posteriori Error Estimates for Parabolic Time-Periodic Boundary Value Problems. Computational Methods in Applied Mathematics, 2015, 15, 353-372.	0.8	7
40	Algebraic Multigrid Based Preconditioners for Fluid-Structure Interaction and Its Related Sub-problems. Lecture Notes in Computer Science, 2015, , 91-98.	1.3	0
41	Mesh grading in isogeometric analysis. Computers and Mathematics With Applications, 2015, 70, 1685-1700.	2.7	9
42	Partitioned solution algorithms for fluid–structure interaction problems with hyperelastic models. Journal of Computational and Applied Mathematics, 2015, 276, 47-61.	2.0	16
43	Matrix Generation in Isogeometric Analysis by Low Rank Tensor Approximation. Lecture Notes in Computer Science, 2015, , 321-340.	1.3	6
44	Geometry + Simulation Modules: Implementing Isogeometric Analysis. Proceedings in Applied Mathematics and Mechanics, 2014, 14, 961-962.	0.2	70
45	A robust finite element solver for a multiharmonic parabolic optimal control problem. Computers and Mathematics With Applications, 2013, 65, 469-486.	2.7	18
46	Multiharmonic finite element analysis of a time-periodic parabolic optimal control problem. Journal of Numerical Mathematics, 2013, 21, .	3.5	12
47	Efficient Solvers for Some Classes of Time-Periodic Eddy Current Optimal Control Problems. Springer Proceedings in Mathematics and Statistics, 2013, , 203-216.	0.2	5
48	A Robust Preconditioned MinRes Solver for Time-periodic Eddy Current Problems. Computational Methods in Applied Mathematics, 2013, 13, 1-20.	0.8	3
49	Domain Decomposition Solvers for Some Fluid-Structure Interaction Problems. Proceedings in Applied Mathematics and Mechanics, 2012, 12, 375-376.	0.2	1
50	Multiharmonic Finite Element Solvers for Time-Periodic Parabolic Optimal Control Problems. Proceedings in Applied Mathematics and Mechanics, 2012, 12, 687-688.	0.2	1
51	A Robust Preconditioned MinRes Solver for Distributed Time-Periodic Eddy Current Optimal Control Problems. SIAM Journal of Scientific Computing, 2012, 34, B785-B809.	2.8	37
52	Topology optimization of electric machines based on topological sensitivity analysis. Computing and Visualization in Science, 2012, 15, 345-354.	1.2	12
53	A Frequency-Robust Solver for the Time-Harmonic Eddy Current Problem. Mathematics in Industry, 2012, , 97-105.	0.3	3
54	Fast Solvers and A Posteriori Error Estimates in Elastoplasticity. Texts and Monographs in Symbolic Computation, 2012, , 45-63.	0.4	1

#	Article	IF	Citations
55	Domain Decomposition Solvers for Frequency-Domain Finite Element Equations. Lecture Notes in Computational Science and Engineering, 2011, , 301-308.	0.3	6
56	Domain decomposition solvers for nonlinear multiharmonic finite element equations. Journal of Numerical Mathematics, 2010, 18, .	3.5	14
57	From the Boundary Element Domain Decomposition Methods to Local Trefftz Finite Element Methods on Polyhedral Meshes. Lecture Notes in Computational Science and Engineering, 2009, , 315-322.	0.3	18
58	Convergence analysis of geometrical multigrid methods for solving data-sparse boundary element equations. Computing and Visualization in Science, 2008, 11, 181-189.	1.2	4
59	All-floating coupled data-sparse boundary and interface-concentrated finite element tearing and interconnecting methods. Computing and Visualization in Science, 2008, 11, 307-317.	1.2	6
60	Primal and Dual Interface Concentrated Iterative Substructuring Methods. SIAM Journal on Numerical Analysis, 2008, 46, 2818-2842.	2.3	12
61	A Survey in Mathematics for Industry An efficient method for the numerical simulation of magneto-mechanical sensors and actuators. European Journal of Applied Mathematics, 2007, 18, 233-271.	2.9	4
62	Coupled Finite and Boundary Element Domain Decomposition Methods. , 2007, , 61-95.		8
63	Inexact Data–Sparse Boundary Element Tearing and Interconnecting Methods. SIAM Journal of Scientific Computing, 2007, 29, 290-314.	2.8	36
64	A robust PDE solver for the 3D Stokes/Navier-Stokes systems on the grid environment. , 2007, , .		0
65	GStokes: A Grid-enabled Solver for the 3D Stokes/Navier-Stokes System on Hybrid Meshes. , 2007, , .		0
66	Inexact Fast Multipole Boundary Element Tearing and Interconnecting Methods. , 2007, , 405-412.		9
67	Finite-element simulation of wave propagation in periodic piezoelectric SAW structures. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2006, 53, 1192-1201.	3.0	82
68	Coupled Finite and Boundary Element Tearing and Interconnecting solvers for nonlinear potential problems. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2006, 86, 915-931.	1.6	19
69	Efficient solvers for nonlinear time-periodic eddy current problems. Computing and Visualization in Science, 2006, 9, 197-207.	1.2	36
70	Data-sparse algebraic multigrid methods for large scale boundary element equations. Applied Numerical Mathematics, 2005, 54, 406-424.	2.1	20
71	Numerical analysis of nonlinear multiharmonic eddy current problems. Numerische Mathematik, 2005, 100, 593-616.	1.9	82
72	Coupled Boundary and Finite Element Tearing and Interconnecting Methods. , 2005, , 83-97.		22

#	Article	IF	Citations
73	Boundary Element Tearing and Interconnecting Methods. Computing (Vienna/New York), 2003, 71, 205-228.	4.8	96
74	Efficient preconditioners for boundary element matrices based on grey-box algebraic multigrid methods. International Journal for Numerical Methods in Engineering, 2003, 58, 1937-1953.	2.8	28
75	Symbolic Methods for the Element Preconditioning Technique. Lecture Notes in Computer Science, 2003, , 293-308.	1.3	6
76	On Fast Domain Decomposition Solving Procedures for hp-Discretizations of 3-D Elliptic Problems. Computational Methods in Applied Mathematics, 2003, 3, 536-559.	0.8	20
77	<title>Finite element calculation of the dispersion relations of infinitely extended SAW structures including bulk wave radiation</title>. , 2002, , .		2
78	Multigrid methods: from geometrical to algebraic versions. , 2002, , 103-153.		6
79	Algebraic multigrid methods based on element preconditioning. International Journal of Computer Mathematics, 2001, 78, 575-598.	1.8	20
80	Parallel multigrid 3D Maxwell solvers. Parallel Computing, 2001, 27, 761-775.	2.1	26
81	Scientific Computing Tools for 3D Magnetic Field Problems. , 2000, , 239-258.		10
82	Fast parallel solvers for symmetric boundary element domain decomposition equations. Numerische Mathematik, 1998, 79, 321-347.	1.9	52
83	The non-overlapping domain decomposition multiplicative schwarz method. International Journal of Computer Mathematics, 1992, 44, 223-242.	1.8	20
84	A fast solver for the first biharmonic boundary value problem. Numerische Mathematik, 1992, 63, 297-313.	1.9	3
85	The approximate Dirichlet Domain Decomposition method. Part I: An algebraic approach. Computing (Vienna/New York), 1991, 47, 137-151.	4.8	66
86	The approximate Dirichlet Domain Decomposition method. Part II: Applications to 2nd-order Elliptic B.V.P.s. Computing (Vienna/New York), 1991, 47, 153-167.	4.8	35
87	Two-level hierarchically preconditioned conjugate gradient methods for solving linear elasticity finite element equations. BIT Numerical Mathematics, 1989, 29, 748-768.	2.0	12
88	On the convergence factor of Uzawa's algorithm. Journal of Computational and Applied Mathematics, 1986, 15, 191-202.	2.0	21
89	Zur numerischen Lï¿½sung des ersten biharmonischen Randwertproblems. Numerische Mathematik, 1986, 50, 291-310.	1.9	3
90	Time-multipatch discontinuous Galerkin space-time isogeometric analysis of parabolic evolution problems. Electronic Transactions on Numerical Analysis, 0, 49, 126-150.	0.0	8