

Ulrich Langer

List of Publications by Year in descending order

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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	Boundary Element Tearing and Interconnecting Methods. Computing (Vienna/New York), 2003, 71, 205-228.	4.8	96
2	Numerical analysis of nonlinear multiharmonic eddy current problems. Numerische Mathematik, 2005, 100, 593-616.	1.9	82
3	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
4	Geometry + Simulation Modules: Implementing Isogeometric Analysis. Proceedings in Applied Mathematics and Mechanics, 2014, 14, 961-962.	0.2	70
5	The approximate Dirichlet Domain Decomposition method. Part I: An algebraic approach. Computing (Vienna/New York), 1991, 47, 137-151.	4.8	66
6	Shape Optimization of an Electric Motor Subject to Nonlinear Magnetostatics. SIAM Journal of Scientific Computing, 2015, 37, B1002-B1025.	2.8	63
7	Space-time isogeometric analysis of parabolic evolution problems. Computer Methods in Applied Mechanics and Engineering, 2016, 306, 342-363.	6.6	63
8	Low rank tensor methods in Galerkin-based isogeometric analysis. Computer Methods in Applied Mechanics and Engineering, 2017, 316, 1062-1085.	6.6	55
9	Fast parallel solvers for symmetric boundary element domain decomposition equations. Numerische Mathematik, 1998, 79, 321-347.	1.9	52
10	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
11	Efficient solvers for nonlinear time-periodic eddy current problems. Computing and Visualization in Science, 2006, 9, 197-207.	1.2	36
12	Inexact Data-Sparse Boundary Element Tearing and Interconnecting Methods. SIAM Journal of Scientific Computing, 2007, 29, 290-314.	2.8	36
13	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
14	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
15	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
16	Topology Optimization of Electric Motor Using Topological Derivative for Nonlinear Magnetostatics. IEEE Transactions on Magnetics, 2016, 52, 1-4.	2.1	27
17	Parallel multigrid 3D Maxwell solvers. Parallel Computing, 2001, 27, 761-775.	2.1	26
18	Analysis of multipatch discontinuous Galerkin IgA approximations to elliptic boundary value problems. Computing and Visualization in Science, 2015, 17, 217-233.	1.2	25

#	ARTICLE	IF	CITATIONS
19	Coupled Boundary and Finite Element Tearing and Interconnecting Methods. , 2005, , 83-97.		22
20	On the convergence factor of Uzawa's algorithm. Journal of Computational and Applied Mathematics, 1986, 15, 191-202.	2.0	21
21	Matrix-free multigrid solvers for phase-field fracture problems. Computer Methods in Applied Mechanics and Engineering, 2020, 372, 113431.	6.6	21
22	The non-overlapping domain decomposition multiplicative schwarz method. International Journal of Computer Mathematics, 1992, 44, 223-242.	1.8	20
23	Algebraic multigrid methods based on element preconditioning. International Journal of Computer Mathematics, 2001, 78, 575-598.	1.8	20
24	Data-sparse algebraic multigrid methods for large scale boundary element equations. Applied Numerical Mathematics, 2005, 54, 406-424.	2.1	20
25	Parallel block-€preconditioned monolithic solvers for fluid-€structure interaction problems. International Journal for Numerical Methods in Engineering, 2019, 117, 623-643.	2.8	20
26	Two-Side a Posteriori Error Estimates for the Dual-Weighted Residual Method. SIAM Journal of Scientific Computing, 2020, 42, A371-A394.	2.8	20
27	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
28	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
29	Multipatch Discontinuous Galerkin Isogeometric Analysis. Lecture Notes in Computational Science and Engineering, 2015, , 1-32.	0.3	19
30	A robust finite element solver for a multiharmonic parabolic optimal control problem. Computers and Mathematics With Applications, 2013, 65, 469-486.	2.7	18
31	Robust and efficient monolithic fluid-€structure-€interaction solvers. International Journal for Numerical Methods in Engineering, 2016, 108, 303-325.	2.8	18
32	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
33	Partitioned solution algorithms for fluid-€structure interaction problems with hyperelastic models. Journal of Computational and Applied Mathematics, 2015, 276, 47-61.	2.0	16
34	Convection-adapted BEM-based FEM. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2016, 96, 1467-1481.	1.6	16
35	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
36	Domain decomposition solvers for nonlinear multiharmonic finite element equations. Journal of Numerical Mathematics, 2010, 18, .	3.5	14

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37	Unstructured Space-Time Finite Element Methods for Optimal Control of Parabolic Equations. SIAM Journal of Scientific Computing, 2021, 43, A744-A771.	2.8	14
38	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
39	Two-level hierarchically preconditioned conjugate gradient methods for solving linear elasticity finite element equations. BIT Numerical Mathematics, 1989, 29, 748-768.	2.0	12
40	Primal and Dual Interface Concentrated Iterative Substructuring Methods. SIAM Journal on Numerical Analysis, 2008, 46, 2818-2842.	2.3	12
41	Topology optimization of electric machines based on topological sensitivity analysis. Computing and Visualization in Science, 2012, 15, 345-354.	1.2	12
42	Multiharmonic finite element analysis of a time-periodic parabolic optimal control problem. Journal of Numerical Mathematics, 2013, 21, .	3.5	12
43	Multigoal-oriented error estimates for non-linear problems. Journal of Numerical Mathematics, 2019, 27, 215-236.	3.5	12
44	Discontinuous Galerkin Isogeometric Analysis of Elliptic Diffusion Problems on Segmentations with Gaps. SIAM Journal of Scientific Computing, 2016, 38, A3430-A3460.	2.8	11
45	Functional A Posteriori Error Estimates for Time-Periodic Parabolic Optimal Control Problems. Numerical Functional Analysis and Optimization, 2016, 37, 1267-1294.	1.4	11
46	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
47	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
48	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
49	Scientific Computing Tools for 3D Magnetic Field Problems. , 2000, , 239-258.		10
50	Mesh grading in isogeometric analysis. Computers and Mathematics With Applications, 2015, 70, 1685-1700.	2.7	9
51	Inexact Fast Multipole Boundary Element Tearing and Interconnecting Methods. , 2007, , 405-412.		9
52	Coupled Finite and Boundary Element Domain Decomposition Methods. , 2007, , 61-95.		8
53	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
54	Discontinuous Galerkin Isogeometric Analysis of Elliptic PDEs on Surfaces. Lecture Notes in Computational Science and Engineering, 2016, , 319-326.	0.3	8

#	ARTICLE	IF	CITATIONS
55	Time-multipatch discontinuous Galerkin space-time isogeometric analysis of parabolic evolution problems. <i>Electronic Transactions on Numerical Analysis</i> , 0, 49, 126-150.	0.0	8
56	Functional A Posteriori Error Estimates for Parabolic Time-Periodic Boundary Value Problems. <i>Computational Methods in Applied Mathematics</i> , 2015, 15, 353-372.	0.8	7
57	Guaranteed error bounds and local indicators for adaptive solvers using stabilised space-time IgA approximations to parabolic problems. <i>Computers and Mathematics With Applications</i> , 2019, 78, 2641-2671.	2.7	7
58	Efficient Direct Space-Time Finite Element Solvers for Parabolic Initial-Boundary Value Problems in Anisotropic Sobolev Spaces. <i>SIAM Journal of Scientific Computing</i> , 2021, 43, A2714-A2736.	2.8	7
59	All-floating coupled data-sparse boundary and interface-concentrated finite element tearing and interconnecting methods. <i>Computing and Visualization in Science</i> , 2008, 11, 307-317.	1.2	6
60	Isogeometric analysis on non-matching segmentation: discontinuous Galerkin techniques and efficient solvers. <i>Journal of Applied Mathematics and Computing</i> , 2019, 61, 297-336.	2.5	6
61	Symbolic Methods for the Element Preconditioning Technique. <i>Lecture Notes in Computer Science</i> , 2003, , 293-308.	1.3	6
62	Matrix Generation in Isogeometric Analysis by Low Rank Tensor Approximation. <i>Lecture Notes in Computer Science</i> , 2015, , 321-340.	1.3	6
63	Domain Decomposition Solvers for Frequency-Domain Finite Element Equations. <i>Lecture Notes in Computational Science and Engineering</i> , 2011, , 301-308.	0.3	6
64	Multigrid methods: from geometrical to algebraic versions. , 2002, , 103-153.		6
65	Adaptive space-time finite element methods for parabolic optimal control problems. <i>Journal of Numerical Mathematics</i> , 2022, 30, 247-266.	3.5	6
66	Efficient Solvers for Some Classes of Time-Periodic Eddy Current Optimal Control Problems. <i>Springer Proceedings in Mathematics and Statistics</i> , 2013, , 203-216.	0.2	5
67	A Survey in Mathematics for Industry An efficient method for the numerical simulation of magneto-mechanical sensors and actuators. <i>European Journal of Applied Mathematics</i> , 2007, 18, 233-271.	2.9	4
68	Convergence analysis of geometrical multigrid methods for solving data-sparse boundary element equations. <i>Computing and Visualization in Science</i> , 2008, 11, 181-189.	1.2	4
69	Dual-Primal Isogeometric Tearing and Interconnecting Methods. <i>Computational Methods in Applied Sciences (Springer)</i> , 2019, , 273-296.	0.3	4
70	Zur numerischen Lösung des ersten biharmonischen Randwertproblems. <i>Numerische Mathematik</i> , 1986, 50, 291-310.	1.9	3
71	A fast solver for the first biharmonic boundary value problem. <i>Numerische Mathematik</i> , 1992, 63, 297-313.	1.9	3
72	A Robust Preconditioned MinRes Solver for Time-periodic Eddy Current Problems. <i>Computational Methods in Applied Mathematics</i> , 2013, 13, 1-20.	0.8	3

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73	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
74	Isogeometric Simulation and Shape Optimization with Applications to Electrical Machines. Mathematics in Industry, 2020, , 35-43.	0.3	3
75	A Frequency-Robust Solver for the Time-Harmonic Eddy Current Problem. Mathematics in Industry, 2012, , 97-105.	0.3	3
76	Robust Discretization and Solvers for Elliptic Optimal Control Problems with Energy Regularization. Computational Methods in Applied Mathematics, 2022, 22, 97-111.	0.8	3
77	Inexact Dual-Primal Isogeometric Tearing and Interconnecting Methods. Lecture Notes in Computational Science and Engineering, 2018, , 393-403.	0.3	3
78	Finite element calculation of the dispersion relations of infinitely extended SAW structures including bulk wave radiation. , 2002, , .		2
79	Parallel Matrix-Free Higher-Order Finite Element Solvers for Phase-Field Fracture Problems. Mathematical and Computational Applications, 2020, 25, 40.	1.3	2
80	Functional Type Error Control for Stabilised Space-Time IgA Approximations to Parabolic Problems. Lecture Notes in Computer Science, 2018, , 55-65.	1.3	2
81	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
82	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
83	Domain Decomposition Solvers for Some Fluid-Structure Interaction Problems. Proceedings in Applied Mathematics and Mechanics, 2012, 12, 375-376.	0.2	1
84	Multiharmonic Finite Element Solvers for Time-Periodic Parabolic Optimal Control Problems. Proceedings in Applied Mathematics and Mechanics, 2012, 12, 687-688.	0.2	1
85	Fast Solvers and A Posteriori Error Estimates in Elastoplasticity. Texts and Monographs in Symbolic Computation, 2012, , 45-63.	0.4	1
86	A robust PDE solver for the 3D Stokes/Navier-Stokes systems on the grid environment. , 2007, , .		0
87	GStokes: A Grid-enabled Solver for the 3D Stokes/Navier-Stokes System on Hybrid Meshes. , 2007, , .		0
88	Algebraic Multigrid Based Preconditioners for Fluid-Structure Interaction and Its Related Sub-problems. Lecture Notes in Computer Science, 2015, , 91-98.	1.3	0
89	A posteriori estimates for a coupled piezoelectric model. Russian Journal of Numerical Analysis and Mathematical Modelling, 2017, 32, .	0.6	0
90	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