

Olaf Steinbach

List of Publications by Year in descending order

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98
papers

1,894
citations

304743

22
h-index

361022

35
g-index

106
all docs

106
docs citations

106
times ranked

770
citing authors

#	ARTICLE	IF	CITATIONS
1	A note on a modified Hilbert transform. <i>Applicable Analysis</i> , 2023, 102, 2583-2590.	1.3	5
2	A generalized inf-sup stable variational formulation for the wave equation. <i>Journal of Mathematical Analysis and Applications</i> , 2022, 505, 125457.	1.0	7
3	Robust Discretization and Solvers for Elliptic Optimal Control Problems with Energy Regularization. <i>Computational Methods in Applied Mathematics</i> , 2022, 22, 97-111.	0.8	3
4	On the initial higher-order pressure convergence in equal-order finite element discretizations of the Stokes system. <i>Computers and Mathematics With Applications</i> , 2022, 109, 140-145.	2.7	3
5	A New Approach to Space-Time Boundary Integral Equations for the Wave Equation. <i>SIAM Journal on Mathematical Analysis</i> , 2022, 54, 1370-1392.	1.9	4
6	8 Unstructured space-time finite element methods for optimal sparse control of parabolic equations. , 2022, , 167-188.		1
7	A continuous finite element framework for the pressure Poisson equation allowing non-Newtonian and compressible flow behavior. <i>International Journal for Numerical Methods in Fluids</i> , 2021, 93, 1435-1445.	1.6	9
8	Regularization error estimates for distributed control problems in energy spaces. <i>Mathematical Methods in the Applied Sciences</i> , 2021, 44, 4176-4191.	2.3	4
9	Unstructured Space-Time Finite Element Methods for Optimal Control of Parabolic Equations. <i>SIAM Journal of Scientific Computing</i> , 2021, 43, A744-A771.	2.8	14
10	A global residual-based stabilization for equal-order finite element approximations of incompressible flows. <i>International Journal for Numerical Methods in Engineering</i> , 2021, 122, 2075-2094.	2.8	6
11	Space-Time Finite Element Discretization of Parabolic Optimal Control Problems with Energy Regularization. <i>SIAM Journal on Numerical Analysis</i> , 2021, 59, 675-695.	2.3	10
12	Energy Space Approaches to the Cauchy Problem for Poisson's Equation. <i>Acta Mathematica Vietnamica</i> , 2020, 45, 693-707.	0.4	1
13	A note on the efficient evaluation of a modified Hilbert transformation. <i>Journal of Numerical Mathematics</i> , 2020, .	3.5	3
14	A Parallel Solver for a Preconditioned Space-Time Boundary Element Method for the Heat Equation. <i>Lecture Notes in Computational Science and Engineering</i> , 2020, , 108-116.	0.3	0
15	On the pressure Poisson equation for the Stokes system. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2019, 19, e201900425.	0.2	1
16	1. Space-time boundary element methods for the heat equation. , 2019, , 1-60.		6
17	Space-time variational methods for Maxwell's equations. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2019, 19, e201900221.	0.2	1
18	7. Space-time finite element methods for parabolic evolution equations: discretization, a posteriori error estimation, adaptivity and solution. , 2019, , 207-248.		7

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19	A Stabilized Space-Time Finite Element Method for the Wave Equation. Lecture Notes in Computational Science and Engineering, 2019, , 341-370.	0.3	3
20	A Space-Time Finite Element Method for the Linear Bidomain Equations. Lecture Notes in Computational Science and Engineering, 2019, , 323-339.	0.3	0
21	Comparison of algebraic multigrid methods for an adaptive space-time finite element discretization of the heat equation in 3D and 4D. Numerical Linear Algebra With Applications, 2018, 25, e2143.	1.6	34
22	An Algebraic Multigrid Method for an Adaptive Space-Time Finite Element Discretization. Lecture Notes in Computer Science, 2018, , 66-73.	1.3	1
23	Preconditioned Space-Time Boundary Element Methods for the One-Dimensional Heat Equation. Lecture Notes in Computational Science and Engineering, 2018, , 243-251.	0.3	0
24	On the influence of the wall shear stress vector form on hemodynamic indicators. Computing and Visualization in Science, 2017, 18, 113-122.	1.2	9
25	Combined boundary integral equations for acoustic scattering resonance problems. Mathematical Methods in the Applied Sciences, 2017, 40, 1516-1530.	2.3	14
26	Error estimates for Neumann boundary control problems with energy regularization. Journal of Numerical Mathematics, 2016, 24, .	3.5	2
27	Trace and flux a priori error estimates in finite-element approximations of Signorni-type problems. IMA Journal of Numerical Analysis, 2016, 36, 1072-1095.	2.9	6
28	Adaptive space-time boundary element methods for the wave equation. Proceedings in Applied Mathematics and Mechanics, 2016, 16, 777-778.	0.2	3
29	Boundary element based multiresolution shape optimisation in electrostatics. Journal of Computational Physics, 2015, 297, 584-598.	3.8	33
30	An energy space finite element approach for elliptic Dirichlet boundary control problems. Numerische Mathematik, 2015, 129, 723-748.	1.9	30
31	Space-Time Finite Element Methods for Parabolic Problems. Computational Methods in Applied Mathematics, 2015, 15, 551-566.	0.8	65
32	Coupled Finite and Boundary Element Methods for Vibro-Acoustic Interface Problems. Lecture Notes in Computational Science and Engineering, 2014, , 507-515.	0.3	2
33	Space-time DG methods for the coupled electro-mechanical activation of the human heart. Proceedings in Applied Mathematics and Mechanics, 2014, 14, 839-840.	0.2	1
34	Coupled Finite And Boundary Element Methods for Fluid-Solid Interaction Eigenvalue Problems. SIAM Journal on Numerical Analysis, 2014, 52, 2400-2414.	2.3	22
35	Classical and all-floating FETI methods for the simulation of arterial tissues. International Journal for Numerical Methods in Engineering, 2014, 99, 290-312.	2.8	17
36	Analysis of a kinematic dynamo model with FEM-BEM coupling. Mathematical Methods in the Applied Sciences, 2014, 37, 2484-2501.	2.3	0

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37	Boundary element methods for variational inequalities. Numerische Mathematik, 2014, 126, 173-197.	1.9	14
38	Fast Fourier transform for efficient evaluation of Newton potential in BEM. Applied Numerical Mathematics, 2014, 81, 1-14.	2.1	12
39	Boundary element methods for parabolic boundary control problems. Journal of Integral Equations and Applications, 2014, 26, .	0.6	1
40	On the ellipticity of coupled finite element and one-equation boundary element methods for boundary value problems. Numerische Mathematik, 2014, 127, 567-593.	1.9	6
41	Simulation of floating potentials in industrial applications by boundary element methods. Journal of Mathematics in Industry, 2014, 4, .	1.2	10
42	On the stability of the non-symmetric BEM/FEM coupling in linear elasticity. Computational Mechanics, 2013, 51, 421-430.	4.0	10
43	Editorial: ZAMM 6-7 / 2013. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2013, 93, 372-372.	1.6	0
44	Is the oneâ€equation coupling of finite and boundary element methods always stable?. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2013, 93, 476-484.	1.6	13
45	Boundary integral equations for Helmholtz boundary value and transmission problems. , 2013, , 253-292.		4
46	Stable BETI Methods in Electromagnetics. Lecture Notes in Computational Science and Engineering, 2013, , 223-230.	0.3	5
47	FETI Methods for the Simulation of Biological Tissues. Lecture Notes in Computational Science and Engineering, 2013, 91, 503-510.	0.3	3
48	A DG Spaceâ€Time Domain Decomposition Method. Lecture Notes in Computational Science and Engineering, 2013, , 623-630.	0.3	1
49	Convergence Analysis of a Galerkin Boundary Element Method for the Dirichlet Laplacian Eigenvalue Problem. SIAM Journal on Numerical Analysis, 2012, 50, 710-728.	2.3	25
50	Interpolationâ€based solution of a nonlinear eigenvalue problem in fluidâ€structure interaction. Proceedings in Applied Mathematics and Mechanics, 2012, 12, 633-634.	0.2	8
51	Finite and Boundary Element Energy Approximations of Dirichlet Control Problems. , 2012, , 219-231.		0
52	Fast Boundary Element Methods for Industrial Applications in Magnetostatics. Lecture Notes in Applied and Computational Mechanics, 2012, , 111-143.	2.2	3
53	Coupling of Discontinuous Galerkin Finite Element and Boundary Element Methods. SIAM Journal of Scientific Computing, 2012, 34, A1659-A1677.	2.8	7
54	A Note on the Stable One-Equation Coupling of Finite and Boundary Elements. SIAM Journal on Numerical Analysis, 2011, 49, 1521-1531.	2.3	37

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55	Refinement of flexible space-time finite element meshes and discontinuous Galerkin methods. <i>Computing and Visualization in Science</i> , 2011, 14, 189-205.	1.2	24
56	Boundary element methods for magnetostatic field problems: a critical view. <i>Computing and Visualization in Science</i> , 2011, 14, 117-130.	1.2	15
57	Stable boundary element domain decomposition methods for the Helmholtz equation. <i>Numerische Mathematik</i> , 2011, 118, 171-195.	1.9	29
58	Boundary integral formulations for the forward problem in magnetic induction tomography. <i>Mathematical Methods in the Applied Sciences</i> , 2011, 34, 1144-1156.	2.3	7
59	Robust Boundary Element Domain Decomposition Solvers in Acoustics. <i>Lecture Notes in Computational Science and Engineering</i> , 2011, , 277-284.	0.3	10
60	A fast BE-FE coupling scheme for partly immersed bodies. <i>International Journal for Numerical Methods in Engineering</i> , 2010, 81, 28-47.	2.8	25
61	Boundary element methods for Dirichlet boundary control problems. <i>Mathematical Methods in the Applied Sciences</i> , 2010, 33, 2187-2205.	2.3	12
62	Fast Evaluation of Volume Potentials in Boundary Element Methods. <i>SIAM Journal of Scientific Computing</i> , 2010, 32, 585-602.	2.8	18
63	A boundary element method for the Dirichlet eigenvalue problem of the Laplace operator. <i>Numerische Mathematik</i> , 2009, 113, 281-298.	1.9	22
64	A Boundary Integral Formulation for Poroelastic Materials. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2009, 9, 595-596.	0.2	4
65	Modified Combined Field Integral Equations for Electromagnetic Scattering. <i>SIAM Journal on Numerical Analysis</i> , 2009, 47, 1149-1167.	2.3	12
66	Stabilized boundary element methods for exterior Helmholtz problems. <i>Numerische Mathematik</i> , 2008, 110, 145-160.	1.9	22
67	Special issue dedicated to IABEM 2006 and Prof. L. Gaul's 60th anniversary. <i>Computational Mechanics</i> , 2008, 41, 747-747.	4.0	0
68	Editorial to this special issue dedicated to Wolfgang L. Wendland on the occasion of his 70th birthday. <i>Mathematical Methods in the Applied Sciences</i> , 2008, 31, 2013-2014.	2.3	0
69	Numerical Approximation Methods for Elliptic Boundary Value Problems. , 2008, , .		278
70	Challenges and Applications of Boundary Element Domain Decomposition Methods. <i>Lecture Notes in Computational Science and Engineering</i> , 2008, , 131-142.	0.3	0
71	Coupled Finite and Boundary Element Domain Decomposition Methods. , 2007, , 61-95.		8
72	Inexact Data-Sparse Boundary Element Tearing and Interconnecting Methods. <i>SIAM Journal of Scientific Computing</i> , 2007, 29, 290-314.	2.8	36

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73	Collision detection for complicated polyhedra using the fast multipole method or ray crossing. Archive of Applied Mechanics, 2007, 77, 503-521.	2.2	13
74	Modified boundary integral formulations for the Helmholtz equation. Journal of Mathematical Analysis and Applications, 2007, 331, 396-407.	1.0	16
75	The fast multipole method for the symmetric boundary integral formulation. IMA Journal of Numerical Analysis, 2006, 26, 272-296.	2.9	47
76	Boundary Element Tearing and Interconnecting Domain Decomposition Methods. , 2006, , 461-490.		7
77	A natural domain decomposition method with non-matching grids. Applied Numerical Mathematics, 2005, 54, 362-377.	2.1	3
78	Applications of a fast multipole Galerkin in boundary element method in linear elastostatics. Computing and Visualization in Science, 2005, 8, 201-209.	1.2	36
79	Coupled Boundary and Finite Element Tearing and Interconnecting Methods. , 2005, , 83-97.		22
80	A note on the ellipticity of the single layer potential in two-dimensional linear elastostatics. Journal of Mathematical Analysis and Applications, 2004, 294, 1-6.	1.0	9
81	Boundary Element Tearing and Interconnecting Methods. Computing (Vienna/New York), 2003, 71, 205-228.	4.8	96
82	A symmetric boundary element method for the Stokes problem in multiple connected domains. Mathematical Methods in the Applied Sciences, 2003, 26, 77-93.	2.3	18
83	Artificial Multilevel Boundary Element Preconditioners. Proceedings in Applied Mathematics and Mechanics, 2003, 3, 539-542.	0.2	25
84	Boundary Element Preconditioners for Problems Defined on Slender Domains. SIAM Journal of Scientific Computing, 2003, 24, 1450-1464.	2.8	11
85	A fast multipole boundary element method for a modified hypersingular boundary integral equation. Lecture Notes in Applied and Computational Mechanics, 2003, , 163-169.	2.2	13
86	Stability Estimates for Hybrid Coupled Domain Decomposition Methods. Lecture Notes in Mathematics, 2003, , .	0.2	57
87	Symmetric coupling of finite and boundary elements for exterior magnetic field problems. Mathematical Methods in the Applied Sciences, 2002, 25, 357-371.	2.3	45
88	On a generalized L_2 projection and some related stability estimates in Sobolev spaces. Numerische Mathematik, 2002, 90, 775-786.	1.9	30
89	On the stability of the L^2 projection in $H^1(\Omega)$. Mathematics of Computation, 2001, 71, 147-157.	2.1	125
90	On the stability of the L_2 projection in fractional Sobolev spaces. Numerische Mathematik, 2001, 88, 367-379.	1.9	24

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91	The numerical solution of a nonlinear hypersingular boundary integral equation. Journal of Computational and Applied Mathematics, 2001, 131, 267-280.	2.0	7
92	On C. Neumann's Method for Second-Order Elliptic Systems in Domains with Non-smooth Boundaries. Journal of Mathematical Analysis and Applications, 2001, 262, 733-748.	1.0	87
93	A note on initial higher-order convergence results for boundary element methods with approximated boundary conditions. Numerical Methods for Partial Differential Equations, 2000, 16, 581-588.	3.6	6
94	Domain decomposition methods via boundary integral equations. Journal of Computational and Applied Mathematics, 2000, 125, 521-537.	2.0	71
95	On a hybrid boundary element method. Numerische Mathematik, 2000, 84, 679-695.	1.9	13
96	Mixed Approximations for Boundary Elements. SIAM Journal on Numerical Analysis, 2000, 38, 401-413.	2.3	13
97	Adaptive Boundary Element Methods Based on Computational Schemes for Sobolev Norms. SIAM Journal of Scientific Computing, 2000, 22, 604-616.	2.8	11
98	Coercive space-time finite element methods for initial boundary value problems. Electronic Transactions on Numerical Analysis, 0, 52, 154-194.	0.0	25