

Timo Betske

List of Publications by Year in descending order

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39
papers

1,301
citations

361413

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36
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40
all docs

40
docs citations

40
times ranked

844
citing authors

#	ARTICLE	IF	CITATIONS
1	Boundary integral formulations for acoustic modelling of high-contrast media. Computers and Mathematics With Applications, 2022, 105, 136-149.	2.7	3
2	ExCALIBUR™ U.K.™s Preparation for the Arrival of the Next Generation of HPC. Computing in Science and Engineering, 2022, 24, 5-7.	1.2	0
3	Hybrid coupling of finite element and boundary element methods using Nitsche™s method and the Calderon projection. Numerical Algorithms, 2022, 91, 997-1019.	1.9	1
4	Accelerated Calderon preconditioning for Maxwell transmission problems. Journal of Computational Physics, 2022, 458, 111099.	3.8	5
5	Frequency-robust preconditioning of boundary integral equations for acoustic transmission. Journal of Computational Physics, 2022, 462, 111229.	3.8	3
6	A fast full-wave solver for calculating ultrasound propagation in the body. Ultrasonics, 2021, 110, 106240.	3.9	11
7	Bempp-cl: A fast Python based just-in-time compiling boundary element library.. Journal of Open Source Software, 2021, 6, 2879.	4.6	25
8	Designing a High-Performance Boundary Element Library With OpenCL and Numba. Computing in Science and Engineering, 2021, 23, 18-28.	1.2	3
9	Benchmarking preconditioned boundary integral formulations for acoustics. International Journal for Numerical Methods in Engineering, 2021, 122, 5873-5897.	2.8	8
10	Accelerating frequency-domain numerical methods for weakly nonlinear focused ultrasound using nested meshes. Journal of the Acoustical Society of America, 2021, 150, 441-453.	1.1	1
11	Product Algebras for Galerkin Discretisations of Boundary Integral Operators and their Applications. ACM Transactions on Mathematical Software, 2020, 46, 1-22.	2.9	14
12	Solving inverse electromagnetic scattering problems via domain derivatives ^{<sup>^</sup>. Inverse Problems, 2019, 35, 084005.}	2.0	12
13	Adaptive boundary element methods for the computation of the electrostatic capacity on complex polyhedra. Journal of Computational Physics, 2019, 397, 108837.	3.8	3
14	Boundary Element Methods with Weakly Imposed Boundary Conditions. SIAM Journal of Scientific Computing, 2019, 41, A1357-A1384.	2.8	4
15	Adaptive BEM with optimal convergence rates for the Helmholtz equation. Computer Methods in Applied Mechanics and Engineering, 2019, 346, 260-287.	6.6	11
16	Calderon preconditioning of PMCHWT boundary integral equations for scattering by multiple absorbing dielectric particles. Journal of Quantitative Spectroscopy and Radiative Transfer, 2019, 224, 383-395.	2.3	11
17	Overresolving in the Laplace Domain for Convolution Quadrature Methods. SIAM Journal of Scientific Computing, 2017, 39, A188-A213.	2.8	8
18	Computationally Efficient Boundary Element Methods for High-Frequency Helmholtz Problems in Unbounded Domains. Geosystems Mathematics, 2017, , 215-243.	0.0	8

#	ARTICLE	IF	CITATIONS
19	Software frameworks for integral equations in electromagnetic scattering based on Calderón identities. <i>Computers and Mathematics With Applications</i> , 2017, 74, 2897-2914.	2.7	25
20	Building integral equation methods with the open-source library BEM++. , 2016, , .		0
21	A fast boundary element method for the scattering analysis of high-intensity focused ultrasound. <i>Journal of the Acoustical Society of America</i> , 2015, 138, 2726-2737.	1.1	26
22	Correcting electrode modelling errors in EIT on realistic 3D head models. <i>Physiological Measurement</i> , 2015, 36, 2423-2442.	2.1	24
23	A Fast Parallel Solver for the Forward Problem in Electrical Impedance Tomography. <i>IEEE Transactions on Biomedical Engineering</i> , 2015, 62, 126-137.	4.2	52
24	Solving Boundary Integral Problems with BEM++. <i>ACM Transactions on Mathematical Software</i> , 2015, 41, 1-40.	2.9	134
25	The boundary element method for light scattering by ice crystals and its implementation in BEM++. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2015, 167, 40-52.	2.3	29
26	Spectral decompositions and nonnormality of boundary integral operators in acoustic scattering. <i>IMA Journal of Numerical Analysis</i> , 2014, 34, 700-731.	2.9	9
27	Stroke type differentiation using spectrally constrained multifrequency EIT: evaluation of feasibility in a realistic head model. <i>Physiological Measurement</i> , 2014, 35, 1051-1066.	2.1	61
28	NLEVP. <i>ACM Transactions on Mathematical Software</i> , 2013, 39, 1-28.	2.9	177
29	Numerical Estimation of Coercivity Constants for Boundary Integral Operators in Acoustic Scattering. <i>SIAM Journal on Numerical Analysis</i> , 2011, 49, 1572-1601.	2.3	22
30	Condition number estimates for combined potential integral operators in acoustics and their boundary element discretisation. <i>Numerical Methods for Partial Differential Equations</i> , 2011, 27, 31-69.	3.6	69
31	Perturbation, extraction and refinement of invariant pairs for matrix polynomials. <i>Linear Algebra and Its Applications</i> , 2011, 435, 514-536.	0.9	23
32	An Exponentially Convergent Nonpolynomial Finite Element Method for Time-Harmonic Scattering from Polygons. <i>SIAM Journal of Scientific Computing</i> , 2010, 32, 1417-1441.	2.8	45
33	Optimal Scaling of Generalized and Polynomial Eigenvalue Problems. <i>SIAM Journal on Matrix Analysis and Applications</i> , 2009, 30, 1320-1338.	1.4	21
34	Stability and convergence of the method of fundamental solutions for Helmholtz problems on analytic domains. <i>Journal of Computational Physics</i> , 2008, 227, 7003-7026.	3.8	146
35	The Generalized Singular Value Decomposition and the Method of Particular Solutions. <i>SIAM Journal of Scientific Computing</i> , 2008, 30, 1278-1295.	2.8	29
36	Quantum mushroom billiards. <i>Chaos</i> , 2007, 17, 043125.	2.5	37

#	ARTICLE	IF	CITATIONS
37	Reviving the Method of Particular Solutions. SIAM Review, 2005, 47, 469-491.	9.5	121
38	A Jacobi-Davidson-type projection method for nonlinear eigenvalue problems. Future Generation Computer Systems, 2004, 20, 363-372.	7.5	75
39	A Jacobi-Davidson-type projection method for nonlinear eigenvalue problems. Future Generation Computer Systems, 2003, 20, 363-363.	7.5	0