

Steffen BÄrm

List of Publications by Year in descending order

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38
papers

996
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623734

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454955

30
g-index

40
all docs

40
docs citations

40
times ranked

592
citing authors

#	ARTICLE	IF	CITATIONS
1	SemiAutomatic Task Graph Construction for H -Matrix Arithmetic. SIAM Journal of Scientific Computing, 2022, 44, C77-C98.	2.8	1
2	Fast Large-Scale Boundary Element Algorithms. Lecture Notes in Computer Science, 2021, , 60-79.	1.3	1
3	Adaptive Directional Compression of High-Frequency Helmholtz Boundary Element Matrices. Computational Methods in Applied Mathematics, 2021, .	0.8	1
4	Variable order, directional \hat{a} , \hat{c} 2-matrices for Helmholtz problems with complex frequency. IMA Journal of Numerical Analysis, 2021, 41, 2896-2935.	2.9	2
5	Dielectric Breakdown Prediction with GPU-Accelerated BEM. Mathematics in Industry, 2021, , 137-147.	0.3	0
6	Hybrid Matrix Compression for High-Frequency Problems. SIAM Journal on Matrix Analysis and Applications, 2020, 41, 1704-1725.	1.4	5
7	GCA- H^2 Matrix Compression for Electrostatic Simulations. Mathematics in Industry, 2020, , 211-223.	0.3	0
8	Hierarchical matrix arithmetic with accumulated updates. Computing and Visualization in Science, 2019, 20, 71-84.	1.2	1
9	Exploiting nested task-parallelism in the H -LU factorization. Journal of Computational Science, 2019, 33, 20-33.	2.9	7
10	Large-scale magnetostatic field calculation in finite element micromagnetics with H^2 -matrices. Journal of Magnetism and Magnetic Materials, 2019, 477, 118-123.	2.3	14
11	Approximation of the high-frequency Helmholtz kernel by nested directional interpolation: error analysis. Numerische Mathematik, 2017, 137, 1-34.	1.9	16
12	Adaptive compression of large vectors. Mathematics of Computation, 2017, 87, 209-235.	2.1	1
13	Directional \hat{a} -matrix compression for high-frequency problems. Numerical Linear Algebra With Applications, 2017, 24, e2112.	1.6	19
14	Approximation of integral operators by Green quadrature and nested cross approximation. Numerische Mathematik, 2016, 133, 409-442.	1.9	19
15	Low-rank approximation of integral operators by using the Green formula and quadrature. Numerical Algorithms, 2013, 64, 567-592.	1.9	3
16	Efficient arithmetic operations for rank-structured matrices based on hierarchical low-rank updates. Computing and Visualization in Science, 2013, 16, 247-258.	1.2	13
17	Computing the eigenvalues of symmetric H^2 -matrices by slicing the spectrum. Computing and Visualization in Science, 2013, 16, 271-282.	1.2	4
18	A Galerkin Approach for Solving Matrix Equations with Hierarchical Matrices. Proceedings in Applied Mathematics and Mechanics, 2013, 13, 405-406.	0.2	0

#	ARTICLE	IF	CITATIONS
19	\hat{A} -LU factorization in preconditioners for augmented Lagrangian and gradient stabilized saddle point systems. International Journal for Numerical Methods in Fluids, 2012, 68, 83-98.	1.6	26
20	\mathcal{H}^2 -Matrix Compression. Mathematics and Visualization, 2012, , 339-362.	0.6	1
21	Approximation of solution operators of elliptic partial differential equations by \mathcal{H}^1 - and \mathcal{H}^2 -matrices. Numerische Mathematik, 2010, 115, 165-193.	1.9	40
22	Construction of Data-Sparse \mathcal{H}^2 -Matrices by Hierarchical Compression. SIAM Journal of Scientific Computing, 2009, 31, 1820-1839.	2.8	29
23	Distributed \mathcal{H}^2 -matrices for non-local operators. Computing and Visualization in Science, 2008, 11, 237-249.	1.2	11
24	Adaptive Variable-Rank Approximation of General Dense Matrices. SIAM Journal of Scientific Computing, 2008, 30, 148-168.	2.8	8
25	Approximating Gaussian Processes with \mathcal{H}^2 -Matrices. Lecture Notes in Computer Science, 2007, , 42-53.	1.3	4
26	Data-sparse approximation of non-local operators by \mathcal{H}^2 -matrices. <small>xmlns:xocs="http://www.elsevier.com/xml/xocs/dtd" xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://www.elsevier.com/xml/ja/dtd" xmlns:ja="http://www.elsevier.com/xml/ja/dtd" xmlns:mml="http://www.w3.org/1998/Math/MathML" xmlns:tb="http://www.elsevier.com/xml/common/table/dtd" xmlns:sb="http://www.elsevier.com/xml/common/struct-bib/dtd" xmlns:ce="http://www.elsevier.com/xml/common/struct-ce/dtd"</small>	0.9	25
27	\mathcal{H}^2 -Matrix Arithmetics in Linear Complexity. Computing (Vienna/New York), 2006, 77, 1-28.	4.8	43
28	Approximation of Integral Operators by Variable-Order Interpolation. Numerische Mathematik, 2005, 99, 605-643.	1.9	34
29	Hybrid cross approximation of integral operators. Numerische Mathematik, 2005, 101, 221-249.	1.9	112
30	\mathcal{H}^2 -matrices Multilevel methods for the approximation of integral operators. Computing and Visualization in Science, 2004, 7, 173-181.	1.2	22
31	Low-Rank Approximation of Integral Operators by Interpolation. Computing (Vienna/New York), 2004, 72, 325.	4.8	43
32	BEM with linear complexity for the classical boundary integral operators. Mathematics of Computation, 2004, 74, 1139-1178.	2.1	11
33	Fast Evaluation of Eddy Current Integral Operators. , 2004, , 151-158.		0
34	Introduction to hierarchical matrices with applications. Engineering Analysis With Boundary Elements, 2003, 27, 405-422.	3.7	265
35	A short overview of \mathcal{H}^2 -matrices. Proceedings in Applied Mathematics and Mechanics, 2003, 2, 33-36.	0.2	1
36	Computation of Electromagnetic Fields for a Humidity Sensor. , 2003, , 305-312.		0

#	ARTICLE	IF	CITATIONS
37	-matrix approximation of integral operators by interpolation. Applied Numerical Mathematics, 2002, 43, 129-143.	2.1	102
38	Tensor Product Multigrid for Maxwell's Equation with Aligned Anisotropy. Computing (Vienna/New) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	4.8	0