Michael Griebel

List of Publications by Year
in descending order

63 papers	3,646 citations	257357 24 h-index	143943 57 g-index
69 all docs	69 docs citations	69 times ranked	2310 citing authors

#	ARTICLE	IF	CITATIONS
1	Analysis of Tensor Approximation Schemes for Continuous Functions. Foundations of Computational Mathematics, 2023, 23, 219-240.	1.5	7
2	Generalized Sparse Grid Interpolation Based on the Fast Discrete Fourier Transform. Lecture Notes in Computational Science and Engineering, 2021, , 53-68.	0.1	1
3	Multilevel Quadrature for Elliptic Parametric Partial Differential Equations in Case of Polygonal Approximations of Curved Domains. SIAM Journal on Numerical Analysis, 2020, 58, 684-705.	1.1	6
4	EXAHD: A Massively Parallel Fault Tolerant Sparse Grid Approach for High-Dimensional Turbulent Plasma Simulations. Lecture Notes in Computational Science and Engineering, 2020, , 301-329.	0.1	2
5	Singular value decomposition versus sparse grids: refined complexity estimates. IMA Journal of Numerical Analysis, 2019, 39, 1652-1671.	1.5	7
6	Stochastic Subspace Correction in Hilbert Space. Constructive Approximation, 2018, 48, 501-521.	1.8	2
7	An Adaptive Multiscale Approach for Electronic Structure Methods. Multiscale Modeling and Simulation, 2018, 16, 752-776.	0.6	3
8	Stable splittings of Hilbert spaces of functions of infinitely many variables. Journal of Complexity, 2017, 41, 126-151.	0.7	4
9	Error Estimates for Multivariate Regression on Discretized Function Spaces. SIAM Journal on Numerical Analysis, 2017, 55, 1843-1866.	1.1	5
10	On tensor product approximation of analytic functions. Journal of Approximation Theory, 2016, 207, 348-379.	0.5	24
11	Schwarz Iterative Methods: Infinite Space Splittings. Constructive Approximation, 2016, 44, 121-139.	1.8	2
12	Hyperbolic cross approximation in infinite dimensions. Journal of Complexity, 2016, 33, 55-88.	0.7	19
13	A sparse grid based method for generative dimensionality reduction of high-dimensional data. Journal of Computational Physics, 2016, 309, 1-17.	1.9	15
14	Optimal scaling parameters for sparse grid discretizations. Numerical Linear Algebra With Applications, 2015, 22, 76-100.	0.9	4
15	Approximation of bi-variate functions: singular value decomposition versus sparse grids. IMA Journal of Numerical Analysis, 2014, 34, 28-54.	1.5	25
16	On the Convergence of the Combination Technique. Lecture Notes in Computational Science and Engineering, 2014, , 55-74.	0.1	9
17	Dimension-Adaptive Sparse Grid Quadrature for Integrals with Boundary Singularities. Lecture Notes in Computational Science and Engineering, 2014, , 109-136.	0.1	5
18	An Adaptive Sparse Grid Semi-Lagrangian Scheme for First Order Hamilton-Jacobi Bellman Equations. Journal of Scientific Computing, 2013, 55, 575-605.	1.1	76

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19	Fast Approximation of the Discrete Gauss Transform in Higher Dimensions. Journal of Scientific Computing, 2013, 55, 149-172.	1.1	12
20	A Note on the Construction of L-Fold Sparse Tensor Product Spaces. Constructive Approximation, 2013, 38, 235-251.	1.8	17
21	An Adaptive Sparse Grid Approach for Time Series Prediction. Lecture Notes in Computational Science and Engineering, 2012, , 1-30.	0.1	5
22	Intraday Foreign Exchange Rate Forecasting Using Sparse Grids. Lecture Notes in Computational Science and Engineering, 2012, , 81-105.	0.1	5
23	Massively Parallel Fluid Simulations on Amazon's HPC Cloud. , 2011, , .		22
24	The nano-branched structure of cementitious calcium–silicate–hydrate gel. Journal of Materials Chemistry, 2011, 21, 4445.	6.7	69
25	Photorealistic visualization and fluid animation: coupling of Maya with a two-phase Navier-Stokes fluid solver. Computing and Visualization in Science, 2011, 14, 371-383.	1.2	1
26	Numerical simulation of bubble and droplet deformation by a level set approach with surface tension in three dimensions. International Journal for Numerical Methods in Fluids, 2010, 62, 963-993.	0.9	22
27	A multi-GPU accelerated solver for the three-dimensional two-phase incompressible Navier-Stokes equations. Computer Science - Research and Development, 2010, 25, 65-73.	2.7	55
28	The smoothing effect of the ANOVA decomposition. Journal of Complexity, 2010, 26, 523-551.	0.7	37
29	Dimension-wise integration of high-dimensional functions with applications to finance. Journal of Complexity, 2010, 26, 455-489.	0.7	86
30	Tensor Product Multiscale Many-Particle Spaces with Finite-Order Weights for the Electronic Schrdinger Equation. , 2010, , 237-253.		0
31	Data Mining for the Category Management in the Retail Market. , 2010, , 81-92.		1
32	Toward the Use of Integral Radar Volume Descriptors for Quantitative Areal Precipitation Estimation: Results from Pseudoradar Observations. Journal of Atmospheric and Oceanic Technology, 2009, 26, 1798-1813.	0.5	5
33	Principal manifold learning by sparse grids. Computing (Vienna/New York), 2009, 85, 267-299.	3.2	13
34	On a Constructive Proof of Kolmogorov's Superposition Theorem. Constructive Approximation, 2009, 30, 653-675.	1.8	40
35	Efficient deterministic numerical simulation of stochastic asset-liability management models in life insurance. Insurance: Mathematics and Economics, 2009, 44, 434-446.	0.7	11
36	Data-Mining für die Angebotsoptimierung im Handel. , 2009, , 111-123.		1

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37	A general asset–liability management model for the efficient simulation of portfolios of life insurance policies. Insurance: Mathematics and Economics, 2008, 42, 704-716.	0.7	47
38	The BGY3dM model for the approximation of solvent densities. Journal of Chemical Physics, 2008, 129, 174511.	1.2	5
39	Molecular dynamics simulations of boron-nitride nanotubes embedded in amorphous Si-B-N. Computational Materials Science, 2007, 39, 502-517.	1.4	25
40	Sparse grids for the Schrödinger equation. ESAIM: Mathematical Modelling and Numerical Analysis, 2007, 41, 215-247.	0.8	63
41	A Molecular Dynamic Study of Cementitious Calcium Silicate Hydrate (C?S?H) Gels. Journal of the American Ceramic Society, 2007, 90, 070915225431002-???.	1.9	63
42	Space-Time Approximation with Sparse Grids. SIAM Journal of Scientific Computing, 2006, 28, 701-727.	1.3	16
43	Sparse Grids for Higher Dimensional Problems. , 2006, , 106-161.		27
44	Coarse grid classification: a parallel coarsening scheme for algebraic multigrid methods. Numerical Linear Algebra With Applications, 2006, 13, 193-214.	0.9	15
45	Flow simulation on moving boundary-fitted grids and application to fluid-structure interaction problems. International Journal for Numerical Methods in Fluids, 2006, 50, 437-468.	0.9	30
46	A Particle-Partition of Unity Method Part VI: A p-robust Multilevel Solver. , 2005, , 71-92.		7
47	Sparse grids. , 2004, , 147-270.		53
48	Sparse grids. Acta Numerica, 2004, 13, 147-269.	6.3	980
49	Molecular dynamics simulations of the elastic moduli of polymer–carbon nanotube composites. Computer Methods in Applied Mechanics and Engineering, 2004, 193, 1773-1788.	3.4	314
50	A Particle-Partition of Unity Method-Part IV: Parallelization. Lecture Notes in Computational Science and Engineering, 2003, , 161-192.	0.1	26
51	Multiscale Methods for the Simulation of Turbulent Flows. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2003, , 203-214.	0.2	3
52	A Particle-Partition of Unity Method--Part III: A Multilevel Solver. SIAM Journal of Scientific Computing, 2002, 24, 377-409.	1.3	51
53	A Particle-Partition of Unity Method--Part II: Efficient Cover Construction and Reliable Integration. SIAM Journal of Scientific Computing, 2002, 23, 1655-1682.	1.3	89
54	Classification with sparse grids using simplicial basis functions. Intelligent Data Analysis, 2002, 6, 483-502.	0.4	36

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55	On the Computation of the Eigenproblems of Hydrogen and Helium in Strong Magnetic and Electric Fields with the Sparse Grid Combination Technique. Journal of Computational Physics, 2000, 165, 694-716.	1.9	54
56	A Particle-Partition of Unity Method for the Solution of Elliptic, Parabolic, and Hyperbolic PDEs. SIAM Journal of Scientific Computing, 2000, 22, 853-890.	1.3	138
57	Adaptive Wavelet Solvers for the Unsteady Incompressible Navier-Stokes Equations. , 2000, , 67-118.		16
58	Adaptive Sparse Grids for Hyperbolic Conservation Laws. , 1999, , 411-422.		8
59	Numerical integration using sparse grids. Numerical Algorithms, 1998, 18, 209-232.	1.1	720
60	Algebraic multigrid methods for the solution of the Navier-Stokes equations in complicated geometries. International Journal for Numerical Methods in Fluids, 1998, 26, 281-301.	0.9	25
61	Adaptive sparse grid multilevel methods for elliptic PDEs based on finite differences. Computing (Vienna/New York), 1998, 61, 151-179.	3.2	127
62	Parallel Multigrid in an Adaptive PDE Solver Based on Hashing. Advances in Parallel Computing, 1998, 12, 589-599.	0.3	6
63	THE COMBINATION TECHNIQUE FOR THE SPARSE GRID SOLUTION OF PDE'S ON MULTIPROCESSOR MACHINES. Parallel Processing Letters, 1992, 02, 61-70.	0.4	37