Wolfgang Bangerth

List of Publications by Year
in descending order

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56	3,092	236833	206029
papers	citations	25 h-index	48 g-index

56	56	56	2196
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Estimating reaction parameters in mechanismâ€enabled population balance models of nanoparticle size distributions: A Bayesian inverse problem approach. Journal of Computational Chemistry, 2022, 43, 43-56.	1.5	6
2	On the choice of finite element for applications in geodynamics. Solid Earth, 2022, 13, 229-249.	1.2	8
3	Reflective Writing Supports Metacognition and Self-regulation in Graduate Computational Science and Engineering. Computers and Education Open, 2022, 3, 100085.	2.6	10
4	The deal.II library, Version 9.4. Journal of Numerical Mathematics, 2022, 30, 231-246.	1.8	60
5	The deal.II finite element library: Design, features, and insights. Computers and Mathematics With Applications, 2021, 81, 407-422.	1.4	125
6	The deal.II library, Version 9.3. Journal of Numerical Mathematics, 2021, 29, 171-186.	1.8	92
7	Propagating Geometry Information to Finite Element Computations. ACM Transactions on Mathematical Software, 2021, 47, 1-30.	1.6	11
8	On formulations of compressible mantle convection. Geophysical Journal International, 2020, 221, 1264-1280.	1.0	11
9	The deal.II library, Version 9.2. Journal of Numerical Mathematics, 2020, 28, 131-146.	1.8	114
10	The deal.II library, Version 9.1. Journal of Numerical Mathematics, 2019, 27, 203-213.	1.8	102
11	Evaluating the accuracy of hybrid finite element/particle-in-cell methods for modelling incompressible Stokes flow. Geophysical Journal International, 2019, 219, 1915-1938.	1.0	11
12	Efficient and practical Newton solvers for non-linear Stokes systems in geodynamic problems. Geophysical Journal International, 2019, 218, 873-894.	1.0	21
13	Residual-based a posteriori error estimation for hp-adaptive finite element methods for the Stokes equations. Journal of Numerical Mathematics, 2019, 27, 237-252.	1.8	1
14	On Orienting Edges of Unstructured Two- and Three-Dimensional Meshes. ACM Transactions on Mathematical Software, 2018, 44, 1-22.	1.6	8
15	Flexible and Scalable Particleâ€inâ€Cell Methods With Adaptive Mesh Refinement for Geodynamic Computations. Geochemistry, Geophysics, Geosystems, 2018, 19, 3596-3604.	1.0	34
16	The deal.II library, Version 9.0. Journal of Numerical Mathematics, 2018, 26, 173-183.	1.8	131
17	Fourth Workshop on Sustainable Software for Science: Practice and Experiences (WSSSPE4). Journal of Open Research Software, 2018, 6, 10.	2.7	9
18	WorkStream -- A Design Pattern for Multicore-Enabled Finite Element Computations. ACM Transactions on Mathematical Software, 2017, 43, 1-29.	1.6	45

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19	High accuracy mantle convection simulation through modern numerical methods â€“ II: realistic models and problems. Geophysical Journal International, 2017, 210, 833-851.	1.0	187
20	The deal.II library, version 8.5. Journal of Numerical Mathematics, 2017, 25, .	1.8	104
21	On Hanging Node Constraints for Nonconforming Finite Elements using the Douglas--Santos--Sheen--Ye Element as an Example. SIAM Journal on Numerical Analysis, 2017, 55, 1719-1739.	1.1	3
22	The deal.II Library, Version 8.4. Journal of Numerical Mathematics, 2016, 24, .	1.8	131
23	Efficient numerical methods for the largeâ€scale, parallel solution of elastoplastic contact problems. International Journal for Numerical Methods in Engineering, 2016, 105, 416-439.	1.5	11
24	Statistics of Parameter Estimates: A Concrete Example. SIAM Review, 2015, 57, 131-149.	4.2	19
25	Teaching High Performance Computing: Lessons from a Flipped Classroom, Project-Based Course on Finite Element Methods. , 2014, , .		6
26	Estimating Parameters in Physical Models through Bayesian Inversion: A Complete Example. SIAM Review, 2013, 55, 149-167.	4.2	34
27	An h-Adaptive Operator Splitting Method for Two-Phase Flow in 3D Heterogeneous Porous Media. SIAM Journal of Scientific Computing, 2013, 35, B149-B175.	1.3	10
28	What makes computational open source software libraries successful?. Computational Science & Discovery, 2013, 6, 015010.	1.5	21
29	High accuracy mantle convection simulation through modern numerical methods. Geophysical Journal International, 2012, 191, 12-29.	1.0	263
30	Algorithms and data structures for massively parallel generic adaptive finite element codes. ACM Transactions on Mathematical Software, 2011, 38, 1-28.	1.6	135
31	Reconstructions in ultrasound modulated optical tomography. Journal of Inverse and Ill-Posed Problems, 2011, 19, 801-823.	0.5	13
32	Goal-Orientedh-Adaptivity for the MultigroupSPNEquations. Nuclear Science and Engineering, 2010, 165, 305-319.	0.5	22
33	Multi-level adaptive simulation of transient two-phase flow in heterogeneous porous media. Computers and Fluids, 2010, 39, 1585-1596.	1.3	32
34	Massively Parallel Finite Element Programming. Lecture Notes in Computer Science, 2010, , 122-131.	1.0	2
35	Adaptive finite element methods for nonlinear inverse problems. , 2009, , .		2
36	Three-dimensional h-adaptivity for the multigroup neutron diffusion equations. Progress in Nuclear Energy, 2009, 51, 543-555.	1.3	45

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37	A Framework for the Adaptive Finite Element Solution of Large-Scale Inverse Problems. SIAM Journal of Scientific Computing, 2008, 30, 2965-2989.	1.3	32
38	Adaptive finite element methods for the solution of inverse problems in optical tomography. Inverse Problems, 2008, 24, 034011.	1.0	77
39	MOLECULAR TOMOGRAPHIC IMAGING OF LYMPH NODES WITH NIR FLUORESCENCE. , 2007, , .		3
40	INVERSE BIOMEDICAL IMAGING USING SEPARATELY ADAPTED MESHES FOR PARAMETERS AND FORWARD MODEL VARIABLES. , 2007, , .		1
41	Plane-wave fluorescence tomography with adaptive finite elements. Optics Letters, 2006, 31, 193.	1.7	30
42	Non-contact fluorescence optical tomography with scanning patterned illumination. Optics Express, 2006, 14, 6516.	1.7	95
43	On optimization algorithms for the reservoir oil well placement problem. Computational Geosciences, 2006, 10, 303-319.	1.2	229
44	Fully adaptive FEM based fluorescence optical tomography from time-dependent measurements with area illumination and detection. Medical Physics, 2006, 33, 1299-1310.	1.6	44
45	Multiple-experiment and multiple-physics approaches for fluorescence guided molecular tomographic imaging. , 2006, , .		0
46	Adaptive finite element methods for increased resolution in fluorescence optical tomography. , 2005, 5693, 318.		2
47	Experimental fluorescence optical tomography using adaptive finite elements and planar illumination with modulated excitation light. , 2005, , .		0
48	Application of Grid-enabled technologies for solving optimization problems in data-driven reservoir studies. Future Generation Computer Systems, 2005, 21, 19-26.	4.9	25
49	Analysis of parameter sensitivity and experimental design for a class of nonlinear partial differential equations. International Journal for Numerical Methods in Fluids, 2005, 48, 583-605.	0.9	15
50	An Autonomic Reservoir Framework for the Stochastic Optimization of Well Placement. Cluster Computing, 2005, 8, 255-269.	3.5	38
51	Towards Dynamic Data-Driven Optimization of Oil Well Placement. Lecture Notes in Computer Science, 2005, , 656-663.	1.0	10
52	Finite element method for time dependent scattering: nonreflecting boundary condition, adaptivity, and energy decay. Computer Methods in Applied Mechanics and Engineering, 2004, 193, 2453-2482.	3.4	3
53	Adaptive finite element based tomography for fluorescence optical imaging in tissue. Optics Express, 2004, 12, 5402.	1.7	178
54	Modelling error and constitutive relations in simulation of flow and transport. International Journal for Numerical Methods in Fluids, 2004, 46, 1211-1236.	0.9	17

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55	Adaptive Finite Element Methods for Differential Equations. , 2003, , .		416
56	ADAPTIVE FINITE ELEMENT TECHNIQUES FOR THE ACOUSTIC WAVE EQUATION. Journal of Computational Acoustics, 2001, 09, 575-591.	1.0	38