Olaf Schenk

List of Publications by Year in descending order

79 papers	3,317 citations	318942 23 h-index	190340 53 g-index
87 all docs	87 docs citations	87 times ranked	2966 citing authors

#	Article	IF	Citations
1	Multiway p-spectral graph cuts on Grassmann manifolds. Machine Learning, 2022, 111, 791-829.	3.4	4
2	Massively parallel data analytics for smart grid applications. Sustainable Energy, Grids and Networks, 2022, 31, 100789.	2.3	0
3	Guest editorial: Virtual special issue on parallel matrix algorithms and applications (PMAA€™18). Parallel Computing, 2021, 102, 102720.	1.3	0
4	A high performance level-block approximate LU factorization preconditioner algorithm. Applied Numerical Mathematics, 2021, 162, 265-282.	1.2	4
5	Block-enhanced precision matrix estimation for large-scale datasets. Journal of Computational Science, 2021, 53, 101389.	1.5	3
6	High-Performance Data Analytics Techniques for Power Markets Simulation. , 2021, , .		0
7	Two-Level Parallel Augmented Schur Complement Interior-Point Algorithms for the Solution of Security Constrained Optimal Power Flow Problems. IEEE Transactions on Power Systems, 2020, 35, 1340-1350.	4.6	22
8	State-of-the-Art Sparse Direct Solvers. Modeling and Simulation in Science, Engineering and Technology, 2020, , 3-33.	0.4	37
9	EXASTEEL: Towards a Virtual Laboratory for the Multiscale Simulation of Dual-Phase Steel Using High-Performance Computing. Lecture Notes in Computational Science and Engineering, 2020, , 351-404.	0.1	3
10	A Recursive Algebraic Coloring Technique for Hardware-efficient Symmetric Sparse Matrix-vector Multiplication. ACM Transactions on Parallel Computing, 2020, 7, 1-37.	1.2	65
11	Structure-Exploiting Interior Point Methods. Modeling and Simulation in Science, Engineering and Technology, 2020, , 63-93.	0.4	3
12	Pragmatic solvers for 3D Stokes and elasticity problems with heterogeneous coefficients: evaluating modern incomplete LDL&lt;sup&gt;&lt;i&gt;T&lt;/i&gt;&lt;/sup&gt; preconditioners. Solid Earth, 2020, 11, 2031-2045.	1.2	1
13	Large-scale Sparse Inverse Covariance Matrix Estimation. SIAM Journal of Scientific Computing, 2019, 41, A380-A401.	1.3	63
14	Special issue on parallel matrix algorithms and applications (PMAA€™16). Parallel Computing, 2018, 74, 1-2.	1.3	0
15	Toward the Next Generation of Multiperiod Optimal Power Flow Solvers. IEEE Transactions on Power Systems, 2018, 33, 4005-4014.	4.6	85
16	Multicore Performance Engineering of Sparse Triangular Solves Using a Modified Roofline Model. , 2018, , .		6
17	Distributed Memory Sparse Inverse Covariance Matrix Estimation on High-Performance Computing Architectures. , 2018, , .		4
18	Selected inversion as key to a stable Langevin evolution across the QCD phase boundary. EPJ Web of Conferences, 2018, 175, 07003.	0.1	6

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19	Highly Scalable Stencil-Based Matrix-Free Stochastic Estimator for the Diagonal of the Inverse. , 2018, , .		0
20	Advanced Algorithms for Ab-initio Device Simulations. , 2018, , .		0
21	Security Assessment in Gas-Electric Networks. , 2018, , .		3
22	Rethinking large-scale Economic Modeling for Efficiency: Optimizations for GPU and Xeon Phi Clusters. , 2018, , .		10
23	Balanced Graph Partition Refinement using the Graph p-Laplacian. , 2018, , .		2
24	Finite volume methods for transient modeling of gas pipelines. , 2018, , .		2
25	Viscoelastic Crustal Deformation Computation Method with Reduced Random Memory Accesses for GPU-Based Computers. Lecture Notes in Computer Science, 2018, , 31-43.	1.0	3
26	A High Arithmetic Intensity Krylov Subspace Method Based on Stencil Compiler Programs. Lecture Notes in Computer Science, 2018, , 1-18.	1.0	0
27	Newmark local time stepping on high-performance computing architectures. Journal of Computational Physics, 2017, 334, 308-326.	1.9	16
28	Parallelized Dimensional Decomposition for Large-Scale Dynamic Stochastic Economic Models. , 2017, , .		7
29	Enhancing the scalability of selected inversion factorization algorithms in genomic prediction. Journal of Computational Science, 2017, 22, 99-108.	1.5	76
30	Special issue on Parallel Matrix Algorithms and Applications (PMAAâ€™14). Parallel Computing, 2016, 57, 135-136.	1.3	0
31	Needles: Toward Large-Scale Genomic Prediction with Marker-by-Environment Interaction. Genetics, 2016, 203, 543-555.	1.2	45
32	Constraint handling for gradient-based optimization of compositional reservoir flow. Computational Geosciences, 2015, 19, 1109-1122.	1.2	1
33	Load-Balanced Local Time Stepping for Large-Scale Wave Propagation. , 2015, , .		9
34	Scalable high-dimensional dynamic stochastic economic modeling. Journal of Computational Science, 2015, 11, 12-25.	1.5	13
35	Special issue on Parallel Matrix Algorithms and Applications (PMAAâ€™14). Parallel Computing, 2015, 49, 99-100.	1.3	0
36	Towards Parallel Large-Scale Genomic Prediction by Coupling Sparse and Dense Matrix Algebra. , 2015, , .		2

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37	Real-Time Stochastic Optimization of Complex Energy Systems on High-Performance Computers. Computing in Science and Engineering, 2014, 16, 32-42.	1.2	91
38	An Augmented Incomplete Factorization Approach for Computing the Schur Complement in Stochastic Optimization. SIAM Journal of Scientific Computing, 2014, 36, C139-C162.	1.3	115
39	Optimization for process plans in sheet metal forming. International Journal of Advanced Manufacturing Technology, 2014, 71, 973-982.	1.5	5
40	Fast parallel algorithms for graph similarity and matching. Journal of Parallel and Distributed Computing, 2014, 74, 2400-2410.	2.7	20
41	Inexact Interior-Point Method for PDE-Constrained Nonlinear Optimization. SIAM Journal of Scientific Computing, 2014, 36, A1251-A1276.	1.3	10
42	Gate-Stack Engineering in n-Type Ultrascaled Si Nanowire Field-Effect Transistors. IEEE Transactions on Electron Devices, 2013, 60, 3325-3329.	1.6	0
43	The influence of nonuniform ambient noise on crustal tomography in Europe. Geochemistry, Geophysics, Geosystems, 2013, 14, 1471-1492.	1.0	23
44	Fast Methods for Computing Selected Elements of the Green's Function in Massively Parallel Nanoelectronic Device Simulations. Lecture Notes in Computer Science, 2013, , 533-544.	1.0	57
45	Patus for convenient high-performance stencils: Evaluation in earthquake simulations. , 2012, , .		10
46	A note on the implementation of an interior-point algorithm for nonlinear optimization with inexact step computations. Mathematical Programming, 2012, 136, 209-227.	1.6	19
47	A Performance Study of an Anelastic Wave Propagation Code Using Auto-tuned Stencil Computations. Procedia Computer Science, 2012, 9, 956-965.	1.2	0
48	Forward and adjoint simulations of seismic wave propagation on emerging large-scale GPU architectures. , 2012, , .		26
49	An auction-based weighted matching implementation on massively parallel architectures. Parallel Computing, 2012, 38, 595-614.	1.3	24
50	A Scalable Hybrid Linear Solver Based on Combinatorial Algorithms. Chapman & Hall/CRC Computational Science, 2012, , 95-127.	0.5	3
51	Algorithmic Differentiation and Nonlinear Optimization for an Inverse Medium Problem. Chapman & Hall/CRC Computational Science, 2012, , 203-231.	0.5	0
52	PATUS: A Code Generation and Autotuning Framework for Parallel Iterative Stencil Computations on Modern Microarchitectures. , 2011, , .		225
53	Special issue on Parallel Matrix Algorithms and Applications (PMAA'10). Parallel Computing, 2011, 37, 731-732.	1.3	0
54	Automatic code generation and tuning for stencil kernels on modern shared memory architectures. Computer Science - Research and Development, 2011, 26, 205-210.	2.7	10

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55	Interior Point Methods for the Inverse Medium Problem on Massively Parallel Architectures. Procedia Computer Science, 2011, 4, 1466-1474.	1.2	1
56	Run, Stencil, Run!. PARS Parallel-Algorithmen -Rechnerstrukturen Und -Systemsoftware, 2011, 28, 18-27.	0.2	1
57	An Interior-Point Algorithm for Large-Scale Nonlinear Optimization with Inexact Step Computations. SIAM Journal of Scientific Computing, 2010, 32, 3447-3475.	1.3	39
58	Manycore Stencil Computations in Hyperthermia Applications. Chapman & Hall/CRC Computational Science, 2010, , 255-277.	0.5	3
59	Parallel data-locality aware stencil computations on modern micro-architectures. , 2009, , .		17
60	Parallel scalable PDE-constrained optimization: antenna identification in hyperthermia cancer treatment planning. Computer Science - Research and Development, 2009, 23, 177-183.	2.7	19
61	Inertia-Revealing Preconditioning For Large-Scale Nonconvex Constrained Optimization. SIAM Journal of Scientific Computing, 2009, 31, 939-960.	1.3	36
62	Algebraic Multilevel Preconditioner for the Helmholtz Equation in Heterogeneous Media. SIAM Journal of Scientific Computing, 2009, 31, 3781-3805.	1.3	71
63	PSPIKE: A Parallel Hybrid Sparse Linear System Solver. Lecture Notes in Computer Science, 2009, , 797-808.	1.0	25
64	Algorithmic performance studies on graphics processing units. Journal of Parallel and Distributed Computing, 2008, 68, 1360-1369.	2.7	51
65	On Large-Scale Diagonalization Techniques for the Anderson Model of Localization. SIAM Review, 2008, 50, 91-112.	4.2	136
66	On large-scale diagonalization techniques for the Anderson model of localization. Proceedings in Applied Mathematics and Mechanics, 2007, 7, 1021003-1021004.	0.2	0
67	Matching-based preprocessing algorithms to the solution of saddle-point problems in large-scale nonconvex interior-point optimization. Computational Optimization and Applications, 2007, 36, 321-341.	0.9	136
68	Weighted Matchings for Preconditioning Symmetric Indefinite Linear Systems. SIAM Journal of Scientific Computing, 2006, 28, 403-420.	1.3	36
69	On Large-Scale Diagonalization Techniques for the Anderson Model of Localization. SIAM Journal of Scientific Computing, 2006, 28, 963-983.	1.3	27
70	Combinatorial Aspects in Sparse Elimination Methods. GAMM Mitteilungen, 2006, 29, 342-367.	2.7	2
71	Solving unsymmetric sparse systems of linear equations with PARDISO. Future Generation Computer Systems, 2004, 20, 475-487.	4.9	1,101
72	Optimal design of metal forming die surfaces with evolution strategies. Computers and Structures, 2004, 82, 1695-1705.	2.4	56

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73	Optimal design of metal forming die surfaces with evolution strategies*1. Computers and Structures, 2004, 82, 1695-1695.	2.4	2
74	Task-Queue Based Hybrid Parallelism: A Case Study. Lecture Notes in Computer Science, 2004, , 624-631.	1.0	0
75	Advancing crash forming analysis capabilities through solver technology. , 2003, , 628-631.		0
76	Two-level dynamic scheduling in PARDISO: Improved scalability on shared memory multiprocessing systems. Parallel Computing, 2002, 28, 187-197.	1.3	89
77	Solving Unsymmetric Sparse Systems of Linear Equations with PARDISO. Lecture Notes in Computer Science, 2002, , 355-363.	1.0	21
78	PARDISO: a high-performance serial and parallel sparse linear solver in semiconductor device simulation. Future Generation Computer Systems, 2001, 18, 69-78.	4.9	145
79	Efficient Sparse LU Factorization with Left-Right Looking Strategy on Shared Memory Multiprocessors. BIT Numerical Mathematics, 2000, 40, 158-176.	1.0	138