Eric de Sturler

List of Publications by Year
in descending order

41 papers	2,139 citations	394286 19 h-index	302012 39 g-index
44 all docs	44 docs citations	44 times ranked	1774 citing authors

#	Article	IF	Citations
1	Optimizing the Distribution of Resources between Enzymes of Carbon Metabolism Can Dramatically Increase Photosynthetic Rate: A Numerical Simulation Using an Evolutionary Algorithm. Plant Physiology, 2007, 145, 513-526.	2.3	353
2	Chlorophyll a fluorescence induction kinetics in leaves predicted from a model describing each discrete step of excitation energy and electron transfer associated with Photosystem II. Planta, 2005, 223, 114-133.	1.6	252
3	Recycling Krylov Subspaces for Sequences of Linear Systems. SIAM Journal of Scientific Computing, 2006, 28, 1651-1674.	1.3	239
4	Parameterization of Faceted Surfaces for Meshing using Angle-Based Flattening. Engineering With Computers, 2001, 17, 326-337.	3.5	234
5	Large-scale topology optimization using preconditioned Krylov subspace methods with recycling. International Journal for Numerical Methods in Engineering, 2007, 69, 2441-2468.	1.5	154
6	Reducing the effect of global communication in GMRES(m) and CG on parallel distributed memory computers. Applied Numerical Mathematics, 1995, 18, 441-459.	1.2	124
7	Truncation Strategies for Optimal Krylov Subspace Methods. SIAM Journal on Numerical Analysis, 1999, 36, 864-889.	1.1	115
8	Nested Krylov methods based on GCR. Journal of Computational and Applied Mathematics, 1996, 67, 15-41.	1.1	91
9	Block-Diagonal and Constraint Preconditioners for Nonsymmetric Indefinite Linear Systems. Part I: Theory. SIAM Journal of Scientific Computing, 2005, 26, 1598-1619.	1.3	78
10	Recycling Subspace Information for Diffuse Optical Tomography. SIAM Journal of Scientific Computing, 2006, 27, 2140-2166.	1.3	61
11	Smoothing an overlay grid to minimize linear distortion in texture mapping. ACM Transactions on Graphics, 2002, 21, 874-890.	4.9	43
12	Preconditioners for Generalized Saddle-Point Problems. SIAM Journal on Numerical Analysis, 2006, 44, 1275-1296.	1.1	37
13	Adaptive Load Balancing for MPI Programs. Lecture Notes in Computer Science, 2001, , 108-117.	1.0	34
14	Recycling BiCG with an Application to Model Reduction. SIAM Journal of Scientific Computing, 2012, 34, A1925-A1949.	1.3	31
15	A performance model for krylov subspace methods on mesh-based parallel computers. Parallel Computing, 1996, 22, 57-74.	1.3	28
16	Stochastic sampling for deterministic structural topology optimization with many load cases: Density-based and ground structure approaches. Computer Methods in Applied Mechanics and Engineering, 2017, 325, 463-487.	3.4	26
17	Recycling Krylov subspaces for CFD applications and a new hybrid recycling solver. Journal of Computational Physics, 2015, 303, 222-237.	1.9	23
18	Recycling Krylov subspaces for efficient large-scale electrical impedance tomography. Computer Methods in Applied Mechanics and Engineering, 2010, 199, 3101-3110.	3.4	21

#	ARTICLE	IF	CITATIONS
19	Recycling BiCGSTAB with an Application to Parametric Model Order Reduction. SIAM Journal of Scientific Computing, 2015, 37, S429-S446.	1.3	20
20	Incomplete block LU preconditioners on slightly overlapping subdomains for a massively parallel computer. Applied Numerical Mathematics, 1995, 19, 129-146.	1.2	19
21	A simple model of the Calvin cycle has only one physiologically feasible steady state under the same external conditions. Nonlinear Analysis: Real World Applications, 2009, 10, 1490-1499.	0.9	18
22	Efficient methods for computing observation impact in 4D-Var data assimilation. Computational Geosciences, 2013, 17, 975-990.	1.2	18
23	A survey of subspace recycling iterative methods. GAMM Mitteilungen, 2020, 43, e202000016.	2.7	18
24	Nonlinear Parametric Inversion Using Interpolatory Model Reduction. SIAM Journal of Scientific Computing, 2015, 37, B495-B517.	1.3	15
25	A Regularized Gauss–Newton Trust Region Approach to Imaging in Diffuse Optical Tomography. SIAM Journal of Scientific Computing, 2011, 33, 3057-3086.	1.3	12
26	Domain Decomposition Methods for Fluid Dynamics. , 1995, , 367-376.		11
27	Improved Scaling for Quantum Monte Carlo on Insulators. SIAM Journal of Scientific Computing, 2011, 33, 1837-1859.	1.3	10
28	Improved Functional-Based Error Estimation and Adaptation without Adjoints. , 2016, , .		9
29	Computing Reduced Order Models via Inner-Outer Krylov Recycling in Diffuse Optical Tomography. SIAM Journal of Scientific Computing, 2017, 39, B272-B297.	1.3	8
30	Parallel iterative solvers for irregular sparse matrices in High Performance Fortran. Future Generation Computer Systems, 1998, 13, 315-325.	4.9	5
31	A New Approach to Software Integration Frameworks for Multi-Physics Simulation Codes. IFIP Advances in Information and Communication Technology, 2001, , 87-104.	0.5	5
32	Multilevel sparse approximate inverse preconditioners for adaptive mesh refinement. Linear Algebra and Its Applications, 2009, 431, 409-426.	0.4	4
33	Topology Optimization With Many Right-Hand Sides Using Mirror Descent Stochastic Approximation–Reduction From Many to a Single Sample. Journal of Applied Mechanics, Transactions ASME, 2020, 87, .	1.1	4
34	Randomized Approach to Nonlinear Inversion Combining Random and Optimized Simultaneous Sources and Detectors. SIAM Journal of Scientific Computing, 2019, 41, B229-B249.	1.3	3
35	Preconditioning Parametrized Linear Systems. SIAM Journal of Scientific Computing, 2021, 43, A2242-A2267.	1.3	3
36	Hybrid Projection Methods with Recycling for Inverse Problems. SIAM Journal of Scientific Computing, 2021, 43, S146-S172.	1.3	3

#	Article	IF	Citations
37	Randomized approaches to accelerate MCMC algorithms for Bayesian inverse problems. Journal of Computational Physics, 2021, 440, 110391.	1.9	2
38	Large Scale Topology Optimization Using Preconditioned Krylov Subspace Recycling and Continuous Approximation of Material Distribution. AIP Conference Proceedings, 2008, , .	0.3	1
39	Krylov subspace recycling for evolving structures. Computer Methods in Applied Mechanics and Engineering, 2022, 391, 114222.	3.4	1
40	Scientific Programming with High Performance Fortran: A Case Study Using the xHPF Compiler. Scientific Programming, 1997, 6, 127-152.	0.5	0
41	Object Oriented Programming in High Performance Fortran. Lecture Notes in Computer Science, 1998, , 470-471.	1.0	0