

Owe Axelsson

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

105
papers

2,602
citations

23
h-index

50
g-index

115
ext. papers

2,825
ext. citations

1.8
avg, IF

5.49
L-index

#	Paper	IF	Citations
105	An Exact Schur Complement Method for Time-Harmonic Optimal Control Problems. <i>Lecture Notes in Computer Science</i> , 2022 , 91-100	0.9	1
104	Efficient iteration methods for complex systems with an indefinite matrix term. <i>Calcolo</i> , 2022 , 59, 1	1.5	
103	Applications of the PRESB Preconditioning Method for OPT-PDE Problems. <i>Lecture Notes in Computational Science and Engineering</i> , 2021 , 73-81	0.3	
102	A Survey of Optimal Control Problems for PDEs. <i>Studies in Computational Intelligence</i> , 2021 , 376-390	0.8	
101	Inner product free iterative solution and elimination methods for linear systems of a three-by-three block matrix form. <i>Journal of Computational and Applied Mathematics</i> , 2021 , 383, 113117	2.4	1
100	An Inner Product Free Solution Method for an Equation of Motion with Indefinite Matrices. <i>Studies in Computational Intelligence</i> , 2021 , 37-47	0.8	
99	Krylov improvements of the Uzawa method for Stokes type operator matrices. <i>Numerische Mathematik</i> , 2021 , 148, 611-631	2.2	
98	Computational methods for boundary optimal control and identification problems. <i>Mathematics and Computers in Simulation</i> , 2021 , 189, 276-290	3.3	3
97	An Introduction and Summary of Use of Optimal Control Methods for PDEs. <i>Lecture Notes in Computer Science</i> , 2020 , 275-283	0.9	
96	Efficient iterative solvers for a complex valued two-by-two block linear system with application to parabolic optimal control problems. <i>Applied Numerical Mathematics</i> , 2020 , 152, 422-445	2.5	3
95	Superior properties of the PRESB preconditioner for operators on two-by-two block form with square blocks. <i>Numerische Mathematik</i> , 2020 , 146, 335-368	2.2	1
94	Optimality properties of a square block matrix preconditioner with applications. <i>Computers and Mathematics With Applications</i> , 2020 , 80, 286-294	2.7	3
93	Extensions of a coarse-fine mesh stabilized Schwarz alternating iteration domain decomposition method. <i>Journal of Computational and Applied Mathematics</i> , 2020 , 364, 112341	2.4	
92	A coarse-fine-mesh stabilization for an alternating Schwarz domain decomposition method. <i>Numerical Linear Algebra With Applications</i> , 2019 , 26, e2236	1.6	2
91	Parameter modified versions of preconditioning and iterative inner product free refinement methods for two-by-two block matrices. <i>Linear Algebra and Its Applications</i> , 2019 , 582, 403-429	0.9	3
90	A new version of a preconditioning method for certain two-by-two block matrices with square blocks. <i>BIT Numerical Mathematics</i> , 2019 , 59, 321-342	1.7	21
89	A note on preconditioning methods for time-periodic eddy current optimal control problems. <i>Journal of Computational and Applied Mathematics</i> , 2019 , 352, 262-277	2.4	10

88	Preconditioning methods for eddy-current optimally controlled time-harmonic electromagnetic problems. <i>Journal of Numerical Mathematics</i> , 2019 , 27, 1-21	3.4	21
87	Superlinear convergence using block preconditioners for the real system formulation of complex Helmholtz equations. <i>Journal of Computational and Applied Mathematics</i> , 2018 , 340, 424-431	2.4	6
86	Low-rank improvements of two-level grid preconditioned matrices. <i>Journal of Computational and Applied Mathematics</i> , 2018 , 340, 432-442	2.4	3
85	PARALLEL SOLUTION METHODS AND PRECONDITIONERS FOR EVOLUTION EQUATIONS. <i>Mathematical Modelling and Analysis</i> , 2018 , 23, 287-308	1.3	7
84	Preconditioners for Time-Harmonic Optimal Control Eddy-Current Problems. <i>Lecture Notes in Computer Science</i> , 2018 , 47-54	0.9	2
83	A robust structured preconditioner for time-harmonic parabolic optimal control problems. <i>Numerical Algorithms</i> , 2018 , 79, 575-596	2.1	23
82	An efficient preconditioning method for state box-constrained optimal control problems. <i>Journal of Numerical Mathematics</i> , 2018 , 26, 185-207	3.4	7
81	Comparison of preconditioned Krylov subspace iteration methods for PDE-constrained optimization problems. <i>Numerical Algorithms</i> , 2017 , 74, 19-37	2.1	19
80	Discretization error estimates in maximum norm for convergent splittings of matrices with a monotone preconditioning part. <i>Journal of Computational and Applied Mathematics</i> , 2017 , 310, 155-164	2.4	1
79	A preconditioner for optimal control problems, constrained by Stokes equation with a time-harmonic control. <i>Journal of Computational and Applied Mathematics</i> , 2017 , 310, 5-18	2.4	19
78	High order time discretization for DAEs with efficient block preconditioners 2017 ,		1
77	Preconditioning of two-by-two block matrix systems with square matrix blocks, with applications 2017 , 62, 537-559		2
76	Finite Difference Methods 2017 , 1-52		
75	Corrigendum to Breconditioners for regularized saddle point problems with an application for heterogeneous Darcy flow problems[J. Comput. Appl. Math. 280 (2015) 141-157]. <i>Journal of Computational and Applied Mathematics</i> , 2016 , 298, 252-255	2.4	
74	Comparison of preconditioned Krylov subspace iteration methods for PDE-constrained optimization problems. <i>Numerical Algorithms</i> , 2016 , 73, 631-663	2.1	46
73	A Comparison of Preconditioning Methods for Saddle Point Problems with an Application to Porous Media Flow Problems. <i>Lecture Notes in Computer Science</i> , 2016 , 68-84	0.9	1
72	NUMERICAL SOLUTION OF THE TIME-DEPENDENT NAVIER-STOKES EQUATION FOR VARIABLE DENSITY-VARIABLE VISCOSITY. PART I. <i>Mathematical Modelling and Analysis</i> , 2015 , 20, 232-260	1.3	9
71	Continuation Newton methods. <i>Computers and Mathematics With Applications</i> , 2015 , 70, 2621-2637	2.7	3

70	Preconditioners for regularized saddle point problems with an application for heterogeneous Darcy flow problems. <i>Journal of Computational and Applied Mathematics</i> , 2015 , 280, 141-157	2.4	9
69	Unified analysis of preconditioning methods for saddle point matrices. <i>Numerical Linear Algebra With Applications</i> , 2015 , 22, 233-253	1.6	22
68	Preconditioning methods for high-order strongly stable time integration methods with an application for a DAE problem. <i>Numerical Linear Algebra With Applications</i> , 2015 , 22, 930-949	1.6	6
67	Preconditioners for Mixed FEM Solution of Stationary and Nonstationary Porous Media Flow Problems. <i>Lecture Notes in Computer Science</i> , 2015 , 3-14	0.9	1
66	A comparison of iterative methods to solve complex valued linear algebraic systems. <i>Numerical Algorithms</i> , 2014 , 66, 811-841	2.1	92
65	Robust Preconditioning Estimates for Convection-Dominated Elliptic Problems via a Streamline Poincaré-Friedrichs Inequality. <i>SIAM Journal on Numerical Analysis</i> , 2014 , 52, 2957-2976	2.4	1
64	Response to Comment on Preconditioning of matrices partitioned in 2×2 block form: Eigenvalue estimates and Schwarz DD for mixed FEM. <i>Numerical Linear Algebra With Applications</i> , 2013 , 20, 536-539	1.6	
63	A general approach to analyse preconditioners for two-by-two block matrices. <i>Numerical Linear Algebra With Applications</i> , 2013 , 20, 723-742	1.6	13
62	Numerical and computational efficiency of solvers for two-phase problems. <i>Computers and Mathematics With Applications</i> , 2013 , 65, 301-314	2.7	23
61	On the solution of high order stable time integration methods. <i>Boundary Value Problems</i> , 2013 , 2013, 108	2.1	4
60	Macro-elementwise preconditioning methods. <i>Mathematics and Computers in Simulation</i> , 2012 , 82, 1952-1963	1.6	3
59	Stable discretization of poroelasticity problems and efficient preconditioners for arising saddle point type matrices. <i>Computing and Visualization in Science</i> , 2012 , 15, 191-207	1	21
58	Material Parameter Identification with Parallel Processing and Geo-applications. <i>Lecture Notes in Computer Science</i> , 2012 , 366-375	0.9	3
57	Iterative Signal Processing in Communications. <i>Journal of Electrical and Computer Engineering</i> , 2010 , 2010, 1-2	1.9	1
56	Milestones in the Development of Iterative Solution Methods. <i>Journal of Electrical and Computer Engineering</i> , 2010 , 2010, 1-33	1.9	4
55	An Additive Matrix Preconditioning Method with Application for Domain Decomposition and Two-Level Matrix Partitionings. <i>Lecture Notes in Computer Science</i> , 2010 , 76-83	0.9	
54	The past 16 years of NLA. <i>Numerical Linear Algebra With Applications</i> , 2010 , 17, 1-1	1.6	
53	Preconditioning of matrices partitioned in 2×2 block form: eigenvalue estimates and Schwarz DD for mixed FEM. <i>Numerical Linear Algebra With Applications</i> , 2010 , 17, 787-810	1.6	17

52	Preconditioning of Boundary Value Problems Using Elementwise Schur Complements. <i>SIAM Journal on Matrix Analysis and Applications</i> , 2009 , 31, 767-789	1.5	38
51	The local Green's function method in singularly perturbed convection-diffusion problems. <i>Mathematics of Computation</i> , 2009 , 78, 153-153	1.6	7
50	Mesh Independent Convergence Rates Via Differential Operator Pairs. <i>Lecture Notes in Computer Science</i> , 2008 , 3-15	0.9	
49	Mesh Independent Superlinear PCG Rates Via Compact-Equivalent Operators. <i>SIAM Journal on Numerical Analysis</i> , 2007 , 45, 1495-1516	2.4	23
48	Eigenvalue estimates for preconditioned saddle point matrices. <i>Numerical Linear Algebra With Applications</i> , 2006 , 13, 339-360	1.6	47
47	Two Simple Derivations of Universal Bounds for the C.B.S. Inequality Constant. <i>Applications of Mathematics</i> , 2004 , 49, 57-72		24
46	A Class of Nested Iteration Schemes for Linear Systems with a Coefficient Matrix with a Dominant Positive Definite Symmetric Part. <i>Numerical Algorithms</i> , 2004 , 35, 351-372	2.1	60
45	Finite Difference Methods 2004 ,		1
44	A Survey of Algebraic Multilevel Iteration (AMLI) Methods. <i>BIT Numerical Mathematics</i> , 2003 , 43, 863-879	1.7	6
43	Preconditioning methods for linear systems arising in constrained optimization problems. <i>Numerical Linear Algebra With Applications</i> , 2003 , 10, 3-31	1.6	48
42	Iteration number for the conjugate gradient method. <i>Mathematics and Computers in Simulation</i> , 2003 , 61, 421-435	3.3	23
41	Robust Preconditioners for Saddle Point Problems. <i>Lecture Notes in Computer Science</i> , 2003 , 158-166	0.9	1
40	Preconditioning Methods for Linear Systems with Saddle Point Matrices. <i>Lecture Notes in Computer Science</i> , 2002 , 784-793	0.9	1
39	Error norm estimation and stopping criteria in preconditioned conjugate gradient iterations. <i>Numerical Linear Algebra With Applications</i> , 2001 , 8, 265-286	1.6	32
38	Optimizing Two-Level Preconditionings for the Conjugate Gradient Method. <i>Lecture Notes in Computer Science</i> , 2001 , 3-21	0.9	1
37	OPTIMAL PRECONDITIONERS BASED ON RATE OF CONVERGENCE ESTIMATES FOR THE CONJUGATE GRADIENT METHOD. <i>Numerical Functional Analysis and Optimization</i> , 2001 , 22, 277-302	1	2
36	Generalized Augmented Matrix Preconditioning Approach and its Application to Iterative Solution of Ill-Conditioned Algebraic Systems. <i>SIAM Journal on Matrix Analysis and Applications</i> , 2001 , 22, 793-818	1.5	27
35	On a Schur Complement Approach for Solving Two-Level Finite Element Systems. <i>Lecture Notes in Computer Science</i> , 2001 , 113-121	0.9	

34	On a two-level Newton-type procedure applied for solving non-linear elasticity problems. <i>International Journal for Numerical Methods in Engineering</i> , 2000 , 49, 1479-1493	2.4	10
33	Real valued iterative methods for solving complex symmetric linear systems. <i>Numerical Linear Algebra With Applications</i> , 2000 , 7, 197-218	1.6	147
32	On the sublinear and superlinear rate of convergence of conjugate gradient methods. <i>Numerical Algorithms</i> , 2000 , 25, 1-22	2.1	20
31	On iterative solvers in structural mechanics; separate displacement orderings and mixed variable methods. <i>Mathematics and Computers in Simulation</i> , 1999 , 50, 11-30	3.3	32
30	Stabilization of algebraic multilevel iteration methods; additive methods. <i>Numerical Algorithms</i> , 1999 , 21, 23-47	2.1	25
29	A unified framework for the construction of various algebraic multilevel preconditioning methods. <i>Acta Mathematicae Applicatae Sinica</i> , 1999 , 15, 132-143	0.3	4
28	On a robust and scalable linear elasticity solver based on a saddle point formulation. <i>International Journal for Numerical Methods in Engineering</i> , 1999 , 44, 801-818	2.4	11
27	On the Additive Version of the Algebraic Multilevel Iteration Method for Anisotropic Elliptic Problems. <i>SIAM Journal of Scientific Computing</i> , 1999 , 20, 1807-1830	2.6	34
26	AN ITERATIVE SOLUTION METHOD FOR SCHUR COMPLEMENT SYSTEMS WITH INEXACT INNER SOLVER 1999 ,		3
25	Avoiding slave points in an adaptive refinement procedure for convection-diffusion problems in 2D. <i>Computing (Vienna/New York)</i> , 1998 , 61, 331-357	2.2	9
24	Conditioning analysis of block incomplete factorizations and its application to elliptic equations. <i>Numerische Mathematik</i> , 1997 , 78, 189-209	2.2	4
23	A survey of some estimates of eigenvalues and condition numbers for certain preconditioned matrices. <i>Journal of Computational and Applied Mathematics</i> , 1997 , 80, 241-264	2.4	2
22	Inexact Newton solvers in plasticity: theory and experiments. <i>Numerical Linear Algebra With Applications</i> , 1997 , 4, 133-152	1.6	8
21	Scalable algorithms for the solution of Navier's equations of elasticity. <i>Journal of Computational and Applied Mathematics</i> , 1995 , 63, 149-178	2.4	10
20	On a Class of Nonlinear Equation Solvers Based on the Residual Norm Reduction over a Sequence of Affine Subspaces. <i>SIAM Journal of Scientific Computing</i> , 1995 , 16, 228-249	2.6	24
19	On a generalized conjugate gradient orthogonal residual method. <i>Numerical Linear Algebra With Applications</i> , 1995 , 2, 467-479	1.6	7
18	The Rate of Convergence of the Conjugate Gradient Method 1994 , 558-594		
17	Incomplete Factorization Preconditioning Methods 1994 , 252-313		3

16	Estimates of Eigenvalues and Condition Numbers for Preconditioned Matrices 1994 , 402-448		
15	Iterative Solution Methods 1994 ,		670
14	AN EFFICIENT FINITE ELEMENT METHOD FOR NONLINEAR DIFFUSION PROBLEMS 1993 , 150-166		
13	Preconditioning methods for block H-matrices 1991 , 169-184		1
12	On approximate factorization methods for block matrices suitable for vector and parallel processors. <i>Linear Algebra and Its Applications</i> , 1986 , 77, 3-26	0.9	63
11	On the eigenvalue distribution of a class of preconditioning methods. <i>Numerische Mathematik</i> , 1986 , 48, 479-498	2.2	145
10	On the rate of convergence of the preconditioned conjugate gradient method. <i>Numerische Mathematik</i> , 1986 , 48, 499-523	2.2	214
9	Conjugate gradient type methods for unsymmetric and inconsistent systems of linear equations. <i>Linear Algebra and Its Applications</i> , 1980 , 29, 1-16	0.9	163
8	A class of preconditioned conjugate gradient methods for the solution of a mixed finite element discretization of the biharmonic operator. <i>International Journal for Numerical Methods in Engineering</i> , 1979 , 14, 1001-1019	2.4	21
7	Some computational aspects in the numerical solution of parabolic equations. <i>Journal of Computational and Applied Mathematics</i> , 1978 , 4, 129-142	2.4	7
6	Iterative methods for the solution of the navier equations of elasticity. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1978 , 15, 241-258	5.7	55
5	Error estimates for Galerkin methods for quasilinear parabolic and elliptic differential equations in divergence form. <i>Numerische Mathematik</i> , 1977 , 28, 1-14	2.2	11
4	A note on a class of strongly A-stable methods. <i>BIT Numerical Mathematics</i> , 1972 , 12, 1-4	1.7	16
3	A class of A-stable methods. <i>BIT Numerical Mathematics</i> , 1969 , 9, 185-199	1.7	86
2	Global integration of differential equations through Lobatto quadrature. <i>BIT Numerical Mathematics</i> , 1964 , 4, 69-86	1.7	17
1	Exact inverse solution techniques for a class of complex valued block two-by-two linear systems. <i>Numerical Algorithms</i> , 1	2.1	1