

# Daniel Kressner

## List of Publications by Year in descending order

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123  
papers

2,817  
citations

293460

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242451

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g-index

125  
all docs

125  
docs citations

125  
times ranked

1888  
citing authors

#	ARTICLE	IF	CITATIONS
1	Fast global spectral methods for three-dimensional partial differential equations. IMA Journal of Numerical Analysis, 2023, 43, 1519-1542.	1.5	3
2	On Randomized Trace Estimates for Indefinite Matrices with an Application to Determinants. Foundations of Computational Mathematics, 2022, 22, 875-903.	1.5	13
3	Divide-and-Conquer Methods for Functions of Matrices with Banded or Hierarchical Low-Rank Structure. SIAM Journal on Matrix Analysis and Applications, 2022, 43, 151-177.	0.7	2
4	Continuation Methods for Riemannian Optimization. SIAM Journal on Optimization, 2022, 32, 1069-1093.	1.2	1
5	Hierarchical adaptive low-rank format with applications to discretized partial differential equations. Numerical Linear Algebra With Applications, 2022, 29, .	0.9	3
6	Improved Variants of the Hutch++ Algorithm for Trace Estimation. SIAM Journal on Matrix Analysis and Applications, 2022, 43, 1162-1185.	0.7	8
7	Compress-and-restart block Krylov subspace methods for Sylvester matrix equations. Numerical Linear Algebra With Applications, 2021, 28, e2339.	0.9	2
8	Low-Rank Updates of Matrix Functions II: Rational Krylov Methods. SIAM Journal on Numerical Analysis, 2021, 59, 1325-1347.	1.1	5
9	A fast spectral divide-and-conquer method for banded matrices. Numerical Linear Algebra With Applications, 2021, 28, e2365.	0.9	2
10	Computing low-rank rightmost eigenpairs of a class of matrix-valued linear operators. Advances in Computational Mathematics, 2021, 47, 1.	0.8	2
11	Norm and Trace Estimation with Random Rank-one Vectors. SIAM Journal on Matrix Analysis and Applications, 2021, 42, 202-223.	0.7	6
12	Functional Tucker Approximation Using Chebyshev Interpolation. SIAM Journal of Scientific Computing, 2021, 43, A2190-A2210.	1.3	8
13	Low-rank updates and divide-and-conquer methods for quadratic matrix equations. Numerical Algorithms, 2020, 84, 717-741.	1.1	2
14	Recursive blocked algorithms for linear systems with Kronecker product structure. Numerical Algorithms, 2020, 84, 1199-1216.	1.1	8
15	Numerical Mathematics and Control. Vietnam Journal of Mathematics, 2020, 48, 615-620.	0.4	0
16	Low-Rank Approximation in the Frobenius Norm by Column and Row Subset Selection. SIAM Journal on Matrix Analysis and Applications, 2020, 41, 1651-1673.	0.7	9
17	Low-Rank Tensor Approximation for Chebyshev Interpolation in Parametric Option Pricing. SIAM Journal on Financial Mathematics, 2020, 11, 897-927.	0.7	12
18	On maximum volume submatrices and cross approximation for symmetric semidefinite and diagonally dominant matrices. Linear Algebra and Its Applications, 2020, 593, 251-268.	0.4	8

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19	hm-toolbox: MATLAB Software for HODLR and HSS Matrices. SIAM Journal of Scientific Computing, 2020, 42, C43-C68.	1.3	22
20	Low-Rank Updates and a Divide-And-Conquer Method for Linear Matrix Equations. SIAM Journal of Scientific Computing, 2019, 41, A848-A876.	1.3	17
21	A Krylov Subspace Method for the Approximation of Bivariate Matrix Functions. Springer INdAM Series, 2019, , 197-214.	0.4	9
22	Fast Computation of the Matrix Exponential for a Toeplitz Matrix. SIAM Journal on Matrix Analysis and Applications, 2018, 39, 23-47.	0.7	20
23	Distributed Signal Processing via Chebyshev Polynomial Approximation. IEEE Transactions on Signal and Information Processing Over Networks, 2018, 4, 736-751.	1.6	80
24	Low-Rank Updates of Matrix Functions. SIAM Journal on Matrix Analysis and Applications, 2018, 39, 539-565.	0.7	17
25	7th Workshop on Matrix Equations and Tensor Techniques. Numerical Linear Algebra With Applications, 2018, 25, e2223.	0.9	0
26	Subspace Acceleration for the Crawford Number and Related Eigenvalue Optimization Problems. SIAM Journal on Matrix Analysis and Applications, 2018, 39, 961-982.	0.7	6
27	A Householder-Based Algorithm for Hessenberg-Triangular Reduction. SIAM Journal on Matrix Analysis and Applications, 2018, 39, 1270-1294.	0.7	3
28	A Novel Iterative Method To Approximate Structured Singular Values. SIAM Journal on Matrix Analysis and Applications, 2017, 38, 361-386.	0.7	13
29	Structure-Preserving Low Multilinear Rank Approximation of Antisymmetric Tensors. SIAM Journal on Matrix Analysis and Applications, 2017, 38, 967-983.	0.7	3
30	Recompression of Hadamard Products of Tensors in Tucker Format. SIAM Journal of Scientific Computing, 2017, 39, A1879-A1902.	1.3	16
31	Fast Computation of Spectral Projectors of Banded Matrices. SIAM Journal on Matrix Analysis and Applications, 2017, 38, 984-1009.	0.7	8
32	Perturbation of Higher-Order Singular Values. SIAM Journal on Applied Algebra and Geometry, 2017, 1, 374-387.	0.9	4
33	Multilevel tensor approximation of PDEs with random data. Stochastics and Partial Differential Equations: Analysis and Computations, 2017, 5, 400-427.	0.5	3
34	Learning Heat Diffusion Graphs. IEEE Transactions on Signal and Information Processing Over Networks, 2017, 3, 484-499.	1.6	93
35	Reduced Basis Methods: From Low-Rank Matrices to Low-Rank Tensors. SIAM Journal of Scientific Computing, 2016, 38, A2045-A2067.	1.3	5
36	Subspace Acceleration for Large-Scale Parameter-Dependent Hermitian Eigenproblems. SIAM Journal on Matrix Analysis and Applications, 2016, 37, 695-718.	0.7	16

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37	Preconditioned Low-rank Riemannian Optimization for Linear Systems with Tensor Product Structure. SIAM Journal of Scientific Computing, 2016, 38, A2018-A2044.	1.3	27
38	On low-rank approximability of solutions to high-dimensional operator equations and eigenvalue problems. Linear Algebra and Its Applications, 2016, 493, 556-572.	0.4	21
39	Projection methods for large-scale T-Sylvester equations. Mathematics of Computation, 2016, 85, 2427-2455.	1.1	6
40	Parallel algorithms for tensor completion in the CP format. Parallel Computing, 2016, 57, 222-234.	1.3	57
41	A block algorithm for computing antitriangular factorizations of symmetric matrices. Numerical Algorithms, 2016, 71, 41-57.	1.1	3
42	Matrices with Hierarchical Low-Rank Structures. Lecture Notes in Mathematics, 2016, , 161-209.	0.1	7
43	Truncated low-rank methods for solving general linear matrix equations. Numerical Linear Algebra With Applications, 2015, 22, 564-583.	0.9	19
44	Distance Problems for Linear Dynamical Systems. , 2015, , 559-583.		4
45	Low-Rank Tensor Approximation for High-Order Correlation Functions of Gaussian Random Fields. SIAM-ASA Journal on Uncertainty Quantification, 2015, 3, 393-416.	1.1	10
46	Low rank differential equations for Hamiltonian matrix nearness problems. Numerische Mathematik, 2015, 129, 279-319.	0.9	22
47	Algorithm 953. ACM Transactions on Mathematical Software, 2015, 41, 1-23.	1.6	40
48	Algorithm 941. ACM Transactions on Mathematical Software, 2014, 40, 1-22.	1.6	48
49	Nonlinear Eigenvalue Problems with Specified Eigenvalues. SIAM Journal on Matrix Analysis and Applications, 2014, 35, 819-834.	0.7	2
50	Optimally packed chains of bulges in multishift QR algorithms. ACM Transactions on Mathematical Software, 2014, 40, 1-15.	1.6	6
51	Computing Extremal Points of Symplectic Pseudospectra and Solving Symplectic Matrix Nearness Problems. SIAM Journal on Matrix Analysis and Applications, 2014, 35, 1407-1428.	0.7	6
52	Subspace Methods for Computing the Pseudospectral Abscissa and the Stability Radius. SIAM Journal on Matrix Analysis and Applications, 2014, 35, 292-313.	0.7	29
53	Memory-efficient Arnoldi algorithms for linearizations of matrix polynomials in Chebyshev basis. Numerical Linear Algebra With Applications, 2014, 21, 569-588.	0.9	19
54	A preconditioned low-rank CG method for parameter-dependent Lyapunov matrix equations. Numerical Linear Algebra With Applications, 2014, 21, 666-684.	0.9	19

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55	An indefinite variant of LOBPCG for definite matrix pencils. Numerical Algorithms, 2014, 66, 681-703.	1.1	18
56	Low-rank tensor completion by Riemannian optimization. BIT Numerical Mathematics, 2014, 54, 447-468.	1.0	185
57	On a Perturbation Bound for Invariant Subspaces of Matrices. SIAM Journal on Matrix Analysis and Applications, 2014, 35, 599-618.	0.7	13
58	A Parallel QZ Algorithm for Distributed Memory HPC Systems. SIAM Journal of Scientific Computing, 2014, 36, C480-C503.	1.3	12
59	Low-Rank Tensor Methods with Subspace Correction for Symmetric Eigenvalue Problems. SIAM Journal of Scientific Computing, 2014, 36, A2346-A2368.	1.3	44
60	Generalized eigenvalue problems with specified eigenvalues. IMA Journal of Numerical Analysis, 2014, 34, 480-501.	1.5	18
61	On the eigenvalue decay of solutions to operator Lyapunov equations. Systems and Control Letters, 2014, 73, 42-47.	1.3	16
62	Low-Rank Tensor Methods for Communicating Markov Processes. Lecture Notes in Computer Science, 2014, , 25-40.	1.0	14
63	Bivariate matrix functions. Operators and Matrices, 2014, , 449-466.	0.1	6
64	An Error Analysis of Galerkin Projection Methods for Linear Systems with Tensor Product Structure. SIAM Journal on Numerical Analysis, 2013, 51, 3307-3326.	1.1	9
65	A literature survey of low-rank tensor approximation techniques. GAMM Mitteilungen, 2013, 36, 53-78.	2.7	403
66	Interpolation-based solution of a nonlinear eigenvalue problem in fluid-structure interaction. Proceedings in Applied Mathematics and Mechanics, 2012, 12, 633-634.	0.2	8
67	Chebyshev interpolation for nonlinear eigenvalue problems. BIT Numerical Mathematics, 2012, 52, 933-951.	1.0	55
68	New SLICOT routines based on structured eigensolvers. , 2012, , .		2
69	Linearization techniques for band structure calculations in absorbing photonic crystals. International Journal for Numerical Methods in Engineering, 2012, 89, 180-191.	1.5	14
70	Accelerating Model Reduction of Large Linear Systems with Graphics Processors. Lecture Notes in Computer Science, 2012, , 88-97.	1.0	5
71	On Aggressive Early Deflation in Parallel Variants of the QR Algorithm. Lecture Notes in Computer Science, 2012, , 1-10.	1.0	3
72	Optimal similarity registration of volumetric images. , 2011, , .		3

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73	Low-Rank Tensor Krylov Subspace Methods for Parametrized Linear Systems. SIAM Journal on Matrix Analysis and Applications, 2011, 32, 1288-1316.	0.7	129
74	Optimal Image Alignment With Random Projections of Manifolds: Algorithm and Geometric Analysis. IEEE Transactions on Image Processing, 2011, 20, 1543-1557.	6.0	9
75	Continuation of eigenvalues and invariant pairs for parameterized nonlinear eigenvalue problems. Numerische Mathematik, 2011, 119, 489-516.	0.9	24
76	Condensed forms for the symmetric eigenvalue problem on multi-threaded architectures. Concurrency Computation Practice and Experience, 2011, 23, 694-707.	1.4	16
77	Perturbation, extraction and refinement of invariant pairs for matrix polynomials. Linear Algebra and Its Applications, 2011, 435, 514-536.	0.4	23
78	Structured eigenvalue condition numbers and linearizations for matrix polynomials. Linear Algebra and Its Applications, 2011, 435, 2193-2221.	0.4	14
79	A mixed-precision algorithm for the solution of Lyapunov equations on hybrid CPU-GPU platforms. Parallel Computing, 2011, 37, 439-450.	1.3	37
80	Preconditioned Low-Rank Methods for High-Dimensional Elliptic PDE Eigenvalue Problems. Computational Methods in Applied Mathematics, 2011, 11, 363-381.	0.4	54
81	Fusion of Digital Elevation Models Using Sparse Representations. Lecture Notes in Computer Science, 2011, , 171-184.	1.0	27
82	On the computation of structured singular values and pseudospectra. Systems and Control Letters, 2010, 59, 122-129.	1.3	30
83	Die SLICOT-Toolboxen für Matlab The SLICOT Toolboxes for Matlab. Automatisierungstechnik, 2010, 58, 15-25.	0.4	22
84	A Novel Parallel QR Algorithm for Hybrid Distributed Memory HPC Systems. SIAM Journal of Scientific Computing, 2010, 32, 2345-2378.	1.3	22
85	Krylov Subspace Methods for Linear Systems with Tensor Product Structure. SIAM Journal on Matrix Analysis and Applications, 2010, 31, 1688-1714.	0.7	122
86	Parallel eigenvalue reordering in real Schur forms. Concurrency Computation Practice and Experience, 2009, 21, 1225-1250.	1.4	9
87	Implicit QR algorithms for palindromic and even eigenvalue problems. Numerical Algorithms, 2009, 51, 209-238.	1.1	67
88	A block Newton method for nonlinear eigenvalue problems. Numerische Mathematik, 2009, 114, 355-372.	0.9	91
89	On the structured distance to uncontrollability. Systems and Control Letters, 2009, 58, 128-132.	1.3	27
90	Structured Hölder Condition Numbers for Multiple Eigenvalues. SIAM Journal on Matrix Analysis and Applications, 2009, 31, 175-201.	0.7	19

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91	Blocked algorithms for the reduction to Hessenberg-triangular form revisited. BIT Numerical Mathematics, 2008, 48, 563-584.	1.0	28
92	The Effect of Aggressive Early Deflation on the Convergence of the QR Algorithm. SIAM Journal on Matrix Analysis and Applications, 2008, 30, 805-821.	0.7	8
93	Memory-efficient Krylov subspace techniques for solving large-scale Lyapunov equations. , 2008, , .		6
94	Block variants of Hammarling's method for solving Lyapunov equations. ACM Transactions on Mathematical Software, 2008, 34, 1-15.	1.6	25
95	A parallel Schur method for solving continuous-time algebraic Riccati equations. , 2008, , .		5
96	MATLAB TOOLS FOR SOLVING PERIODIC EIGENVALUE PROBLEMS1 1Supported by the Swedish Foundation for Strategic Research under the Frame Programme Grant A3 02:128.. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2007, 40, 169-174.	0.4	8
97	Multishift Variants of the QZ Algorithm with Aggressive Early Deflation. SIAM Journal on Matrix Analysis and Applications, 2007, 29, 199-227.	0.7	24
98	Computing periodic deflating subspaces associated with a specified set of eigenvalues. BIT Numerical Mathematics, 2007, 47, 763-791.	1.0	30
99	Deflation in Krylov subspace methods and distance to uncontrollability. Annali Dell'Universita Di Ferrara, 2007, 53, 309-318.	0.7	2
100	Recent Advances in Dense Linear Algebra: Minisymposium Abstract. Lecture Notes in Computer Science, 2007, , 116-116.	1.0	0
101	Parallel Variants of the Multishift QZ Algorithm with Advanced Deflation Techniques. , 2007, , 117-126.		5
102	Reordering the eigenvalues of a periodic matrix pair with applications in control. , 2006, , .		2
103	Finding the distance to instability of a large sparse matrix. , 2006, , .		2
104	Structured Condition Numbers for Invariant Subspaces. SIAM Journal on Matrix Analysis and Applications, 2006, 28, 326-347.	0.7	39
105	Structured Eigenvalue Condition Numbers. SIAM Journal on Matrix Analysis and Applications, 2006, 28, 1052-1068.	0.7	52
106	Block algorithms for reordering standard and generalized Schur forms. ACM Transactions on Mathematical Software, 2006, 32, 521-532.	1.6	13
107	Structured Eigenvalue Problems. GAMM Mitteilungen, 2006, 29, 297-318.	2.7	22
108	The periodic QR algorithm is a disguised QR algorithm. Linear Algebra and Its Applications, 2006, 417, 423-433.	0.4	12

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109	Balancing sparse Hamiltonian eigenproblems. <i>Linear Algebra and Its Applications</i> , 2006, 415, 3-19.	0.4	2
110	A periodic Krylov-Schur algorithm for large matrix products. <i>Numerische Mathematik</i> , 2006, 103, 461-483.	0.9	14
111	Structure-preserving eigenvalue solvers for robust stability and controllability estimates. , 2006, , .		3
112	Algorithm 854. <i>ACM Transactions on Mathematical Software</i> , 2006, 32, 352-373.	1.6	16
113	Reordering the Eigenvalues of a Periodic Matrix Pair with Applications in Control. , 2006, , .		6
114	Finding the Distance to Instability of a Large Sparse Matrix. , 2006, , .		1
115	Perturbation Bounds for Isotropic Invariant Subspaces of Skew-Hamiltonian Matrices. <i>SIAM Journal on Matrix Analysis and Applications</i> , 2005, 26, 947-961.	0.7	6
116	Skew-Hamiltonian and Hamiltonian Eigenvalue Problems: Theory, Algorithms and Applications. , 2005, , 3-39.		33
117	On the Condition of a Complex Eigenvalue under Real Perturbations. <i>BIT Numerical Mathematics</i> , 2004, 44, 209-214.	1.0	22
118	Block Algorithms for Orthogonal Symplectic Factorizations. <i>BIT Numerical Mathematics</i> , 2003, 43, 775-790.	1.0	8
119	Structure preservation: a challenge in computational control. <i>Future Generation Computer Systems</i> , 2003, 19, 1243-1252.	4.9	11
120	An Efficient and Reliable Implementation of the Periodic QZ Algorithm. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2001, 34, 183-188.	0.4	9
121	A fast algorithm for subspace state-space system identification via exploitation of the displacement structure. <i>Journal of Computational and Applied Mathematics</i> , 2001, 132, 71-81.	1.1	36
122	New Hamiltonian Eigensolvers with Applications in Control. , 0, , .		6
123	Computing codimensions and generic canonical forms for generalized matrix products. <i>Electronic Journal of Linear Algebra</i> , 0, 22, .	0.6	2