

# Francoise Tisseur

## 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.

62  
papers

2,572  
citations

23  
h-index

50  
g-index

62  
ext. papers

2,858  
ext. citations

1.9  
avg, IF

5.33  
L-index

#	Paper	IF	Citations
62	Performance impact of precision reduction in sparse linear systems solvers.. <i>PeerJ Computer Science</i> , <b>2022</b> , 8, e778	2.7	1
61	Min-max elementwise backward error for roots of polynomials and a corresponding backward stable root finder. <i>Linear Algebra and Its Applications</i> , <b>2021</b> , 623, 454-477	0.9	1
60	The role of topology and mechanics in uniaxially growing cell networks. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , <b>2020</b> , 476, 20190523	2.4	2
59	Max-Balanced Hungarian Scalings. <i>SIAM Journal on Matrix Analysis and Applications</i> , <b>2019</b> , 40, 320-346	1.5	2
58	The Structured Condition Number of a Differentiable Map between Matrix Manifolds, with Applications. <i>SIAM Journal on Matrix Analysis and Applications</i> , <b>2019</b> , 40, 774-799	1.5	2
57	Filtering Frequencies in a Shift-and-Invert Lanczos Algorithm for the Dynamic Analysis of Structures. <i>SIAM Journal of Scientific Computing</i> , <b>2019</b> , 41, B601-B624	2.6	2
56	Reduction of Matrix Polynomials to Simpler Forms. <i>SIAM Journal on Matrix Analysis and Applications</i> , <b>2018</b> , 39, 148-177	1.5	
55	Polynomial eigenvalue solver based on tropically scaled Lagrange linearization. <i>Linear Algebra and Its Applications</i> , <b>2018</b> , 542, 186-208	0.9	7
54	Compact Two-Sided Krylov Methods for Nonlinear Eigenvalue Problems. <i>SIAM Journal of Scientific Computing</i> , <b>2018</b> , 40, A2801-A2829	2.6	4
53	A Max-Plus Approach to Incomplete Cholesky Factorization Preconditioners. <i>SIAM Journal of Scientific Computing</i> , <b>2018</b> , 40, A1987-A2004	2.6	3
52	The nonlinear eigenvalue problem *. <i>Acta Numerica</i> , <b>2017</b> , 26, 1-94	15.1	86
51	Incomplete LU Preconditioner Based on Max-Plus Approximation of LU Factorization. <i>SIAM Journal on Matrix Analysis and Applications</i> , <b>2017</b> , 38, 1160-1189	1.5	9
50	Improving the numerical stability of the Sakurai-Sugiura method for quadratic eigenvalue problems. <i>JSIAM Letters</i> , <b>2017</b> , 9, 17-20	0.2	6
49	Efficient Block Preconditioning for a $\mathbb{C}^1$ Finite Element Discretization of the Dirichlet Biharmonic Problem. <i>SIAM Journal of Scientific Computing</i> , <b>2016</b> , 38, A325-A345	2.6	5
48	On the sign characteristics of Hermitian matrix polynomials. <i>Linear Algebra and Its Applications</i> , <b>2016</b> , 511, 328-364	0.9	10
47	Algorithms for Hessenberg-Triangular Reduction of Fiedler Linearization of Matrix Polynomials. <i>SIAM Journal of Scientific Computing</i> , <b>2015</b> , 37, C384-C414	2.6	6
46	Tropical Roots as Approximations to Eigenvalues of Matrix Polynomials. <i>SIAM Journal on Matrix Analysis and Applications</i> , <b>2015</b> , 36, 138-157	1.5	14

45	Polynomial Eigenvalue Problems: Theory, Computation, and Structure <b>2015</b> , 319-348		4
44	Detecting the causes of ill-conditioning in structural finite element models. <i>Computers and Structures</i> , <b>2014</b> , 133, 79-89	4.5	19
43	Triangularizing matrix polynomials. <i>Linear Algebra and Its Applications</i> , <b>2013</b> , 439, 1679-1699	0.9	12
42	NLEVP. <i>ACM Transactions on Mathematical Software</i> , <b>2013</b> , 39, 1-28	2.3	138
41	Triangularizing Quadratic Matrix Polynomials. <i>SIAM Journal on Matrix Analysis and Applications</i> , <b>2013</b> , 34, 312-337	1.5	11
40	An algorithm for the complete solution of quadratic eigenvalue problems. <i>ACM Transactions on Mathematical Software</i> , <b>2013</b> , 39, 1-19	2.3	58
39	Hermitian quadratic matrix polynomials: Solvents and inverse problems. <i>Linear Algebra and Its Applications</i> , <b>2012</b> , 436, 4017-4026	0.9	7
38	Hermitian matrix polynomials with real eigenvalues of definite type. Part I: Classification. <i>Linear Algebra and Its Applications</i> , <b>2012</b> , 436, 3954-3973	0.9	23
37	Standard triples of structured matrix polynomials. <i>Linear Algebra and Its Applications</i> , <b>2012</b> , 437, 817-834	0.9	9
36	A framework for analyzing nonlinear eigenproblems and parametrized linear systems. <i>Linear Algebra and Its Applications</i> , <b>2011</b> , 435, 623-640	0.9	22
35	Deflating quadratic matrix polynomials with structure preserving transformations. <i>Linear Algebra and Its Applications</i> , <b>2011</b> , 435, 464-479	0.9	6
34	The Canonical Generalized Polar Decomposition. <i>SIAM Journal on Matrix Analysis and Applications</i> , <b>2010</b> , 31, 2163-2180	1.5	17
33	An Improved Arc Algorithm for Detecting Definite Hermitian Pairs. <i>SIAM Journal on Matrix Analysis and Applications</i> , <b>2010</b> , 31, 1131-1151	1.5	20
32	Definite Matrix Polynomials and their Linearization by Definite Pencils. <i>SIAM Journal on Matrix Analysis and Applications</i> , <b>2009</b> , 31, 478-502	1.5	22
31	Detecting and Solving Hyperbolic Quadratic Eigenvalue Problems. <i>SIAM Journal on Matrix Analysis and Applications</i> , <b>2009</b> , 30, 1593-1613	1.5	20
30	Backward Error of Polynomial Eigenproblems Solved by Linearization. <i>SIAM Journal on Matrix Analysis and Applications</i> , <b>2008</b> , 29, 1218-1241	1.5	60
29	Structured Mapping Problems for Matrices Associated with Scalar Products. Part I: Lie and Jordan Algebras. <i>SIAM Journal on Matrix Analysis and Applications</i> , <b>2008</b> , 29, 1389-1410	1.5	20
28	Scaling, sensitivity and stability in the numerical solution of quadratic eigenvalue problems. <i>International Journal for Numerical Methods in Engineering</i> , <b>2008</b> , 73, 344-360	2.4	36

27	Symmetric Linearizations for Matrix Polynomials. <i>SIAM Journal on Matrix Analysis and Applications</i> , <b>2007</b> , 29, 143-159	1.5	67
26	The Conditioning of Linearizations of Matrix Polynomials. <i>SIAM Journal on Matrix Analysis and Applications</i> , <b>2006</b> , 28, 1005-1028	1.5	69
25	Structured Eigenvalue Condition Numbers. <i>SIAM Journal on Matrix Analysis and Applications</i> , <b>2006</b> , 28, 1052-1068	1.5	43
24	The Ehrlich--Aberth Method for the Nonsymmetric Tridiagonal Eigenvalue Problem. <i>SIAM Journal on Matrix Analysis and Applications</i> , <b>2005</b> , 27, 153-175	1.5	21
23	Structured Factorizations in Scalar Product Spaces. <i>SIAM Journal on Matrix Analysis and Applications</i> , <b>2005</b> , 27, 821-850	1.5	44
22	Functions Preserving Matrix Groups and Iterations for the Matrix Square Root. <i>SIAM Journal on Matrix Analysis and Applications</i> , <b>2005</b> , 26, 849-877	1.5	36
21	Tridiagonal-Diagonal Reduction of Symmetric Indefinite Pairs. <i>SIAM Journal on Matrix Analysis and Applications</i> , <b>2004</b> , 26, 215-232	1.5	10
20	Computing the Polar Decomposition and the Matrix Sign Decomposition in Matrix Groups. <i>SIAM Journal on Matrix Analysis and Applications</i> , <b>2004</b> , 25, 1178-1192	1.5	26
19	G-reflectors: analogues of Householder transformations in scalar product spaces. <i>Linear Algebra and Its Applications</i> , <b>2004</b> , 385, 187-213	0.9	16
18	Implicit Gamma Theorems (I): Pseudoroots and Pseudospectra. <i>Foundations of Computational Mathematics</i> , <b>2003</b> , 3, 1-31	2.7	4
17	Simultaneous tridiagonalization of two symmetric matrices. <i>International Journal for Numerical Methods in Engineering</i> , <b>2003</b> , 57, 1643-1660	2.4	9
16	Bounds for eigenvalues of matrix polynomials. <i>Linear Algebra and Its Applications</i> , <b>2003</b> , 358, 5-22	0.9	54
15	Perturbation theory for homogeneous polynomial eigenvalue problems. <i>Linear Algebra and Its Applications</i> , <b>2003</b> , 358, 71-94	0.9	44
14	A Chart of Backward Errors for Singly and Doubly Structured Eigenvalue Problems. <i>SIAM Journal on Matrix Analysis and Applications</i> , <b>2003</b> , 24, 877-897	1.5	34
13	More on pseudospectra for polynomial eigenvalue problems and applications in control theory. <i>Linear Algebra and Its Applications</i> , <b>2002</b> , 351-352, 435-453	0.9	33
12	Detecting a definite Hermitian pair and a hyperbolic or elliptic quadratic eigenvalue problem, and associated nearness problems. <i>Linear Algebra and Its Applications</i> , <b>2002</b> , 351-352, 455-474	0.9	42
11	The Quadratic Eigenvalue Problem. <i>SIAM Review</i> , <b>2001</b> , 43, 235-286	7.4	841
10	Stability of Structured Hamiltonian Eigensolvers. <i>SIAM Journal on Matrix Analysis and Applications</i> , <b>2001</b> , 23, 103-125	1.5	18

9	Structured Pseudospectra for Polynomial Eigenvalue Problems, with Applications. <i>SIAM Journal on Matrix Analysis and Applications</i> , <b>2001</b> , 23, 187-208	1.5	87
8	Newton's Method in Floating Point Arithmetic and Iterative Refinement of Generalized Eigenvalue Problems. <i>SIAM Journal on Matrix Analysis and Applications</i> , <b>2001</b> , 22, 1038-1057	1.5	29
7	Analysis of the Cholesky Method with Iterative Refinement for Solving the Symmetric Definite Generalized Eigenproblem. <i>SIAM Journal on Matrix Analysis and Applications</i> , <b>2001</b> , 23, 472-493	1.5	20
6	Backward error and condition of polynomial eigenvalue problems. <i>Linear Algebra and Its Applications</i> , <b>2000</b> , 309, 339-361	0.9	165
5	A Block Algorithm for Matrix 1-Norm Estimation, with an Application to 1-Norm Pseudospectra. <i>SIAM Journal on Matrix Analysis and Applications</i> , <b>2000</b> , 21, 1185-1201	1.5	107
4	A Parallel Divide and Conquer Algorithm for the Symmetric Eigenvalue Problem on Distributed Memory Architectures. <i>SIAM Journal of Scientific Computing</i> , <b>1999</b> , 20, 2223-2236	2.6	53
3	Parallel Implementation of the Yau and Lu Method for Eigenvalue Computation. <i>International Journal of High Performance Computing Applications</i> , <b>1997</b> , 11, 197-204		
2	Structured tools for structured matrices. <i>Electronic Journal of Linear Algebra</i> , 10,	1.6	30
1	Structured condition numbers and backward errors in scalar product spaces. <i>Electronic Journal of Linear Algebra</i> , 15,	1.6	6