

Joos Vandewalle

List of Publications by Citations

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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.

131 papers	7,852 citations	33 h-index	88 g-index
145 ext. papers	9,243 ext. citations	2.9 avg, IF	5.66 L-index

#	Paper	IF	Citations
131	A Multilinear Singular Value Decomposition. <i>SIAM Journal on Matrix Analysis and Applications</i> , 2000 , 21, 1253-1278	1.5	2420
130	On the Best Rank-1 and Rank-(R_1, R_2, \dots, R_N) Approximation of Higher-Order Tensors. <i>SIAM Journal on Matrix Analysis and Applications</i> , 2000 , 21, 1324-1342	1.5	960
129	Prognostic importance of degree of differentiation and cyst rupture in stage I invasive epithelial ovarian carcinoma. <i>Lancet, The</i> , 2001 , 357, 176-82	4.0	502
128	Benchmarking Least Squares Support Vector Machine Classifiers. <i>Machine Learning</i> , 2004 , 54, 5-32	4	481
127	On- and off-line identification of linear state-space models. <i>International Journal of Control</i> , 1989 , 49, 219-232	1.5	279
126	Coupled simulated annealing. <i>IEEE Transactions on Systems, Man, and Cybernetics</i> , 2010 , 40, 320-35		227
125	FAMILIES OF SCROLL GRID ATTRACTORS. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2002 , 12, 23-41	2	218
124	MASTER-SLAVE SYNCHRONIZATION OF LUR'E SYSTEMS WITH TIME-DELAY. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2001 , 11, 1707-1722	2	198
123	Computation of the Canonical Decomposition by Means of a Simultaneous Generalized Schur Decomposition. <i>SIAM Journal on Matrix Analysis and Applications</i> , 2004 , 26, 295-327	1.5	148
122	Analysis and Properties of the Generalized Total Least Squares Problem $\$AX \approx B\$$ When Some or All Columns in A are Subject to Error. <i>SIAM Journal on Matrix Analysis and Applications</i> , 1989 , 10, 294-315	1.5	145
121	Machine learning in side-channel analysis: a first study. <i>Journal of Cryptographic Engineering</i> , 2011 , 1, 293-302	1.9	139
120	An introduction to independent component analysis. <i>Journal of Chemometrics</i> , 2000 , 14, 123-149	1.6	136
119	A Singular Value Decomposition Updating Algorithm for Subspace Tracking. <i>SIAM Journal on Matrix Analysis and Applications</i> , 1992 , 13, 1015-1038	1.5	111
118	Dimensionality reduction in higher-order signal processing and rank-(R_1, R_2, \dots, R_N) reduction in multilinear algebra. <i>Linear Algebra and Its Applications</i> , 2004 , 391, 31-55	0.9	105
117	Cluster synchronization in oscillatory networks. <i>Chaos</i> , 2008 , 18, 037106	3.3	81
116	. <i>IEEE Transactions on Signal Processing</i> , 2001 , 49, 2262-2271	4.8	67
115	Reducing the number of support vectors of SVM classifiers using the smoothed separable case approximation. <i>IEEE Transactions on Neural Networks and Learning Systems</i> , 2012 , 23, 682-8	10.3	57

114	Adaptive method for cancellation of respiratory artefact in electrogastric measurements. <i>Medical and Biological Engineering and Computing</i> , 1989 , 27, 57-63	3.1	56
113	Nonlinear system identification using neural state space models, applicable to robust control design. <i>International Journal of Control</i> , 1995 , 62, 129-152	1.5	53
112	Two methods for optimal MECC elimination and FECG detection from skin electrode signals. <i>IEEE Transactions on Biomedical Engineering</i> , 1987 , 34, 233-43	5	53
111	Analysis and Solution of the Nongeneric Total Least Squares Problem. <i>SIAM Journal on Matrix Analysis and Applications</i> , 1988 , 9, 360-372	1.5	51
110	Super-Resolution From Unregistered and Totally Aliased Signals Using Subspace Methods. <i>IEEE Transactions on Signal Processing</i> , 2007 , 55, 3687-3703	4.8	48
109	Hardware architectures for public key cryptography. <i>The Integration VLSI Journal</i> , 2003 , 34, 1-64	1.4	47
108	INTELLIGENCE AND COOPERATIVE SEARCH BY COUPLED LOCAL MINIMIZERS. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2001 , 11, 2133-2144	2	46
107	Adaptive spectral analysis of cutaneous electrogastric signals using autoregressive moving average modelling. <i>Medical and Biological Engineering and Computing</i> , 1990 , 28, 531-6	3.1	46
106	Weak Keys for IDEA 1993 , 224-231		45
105	On the Security of Today's Online Electronic Banking Systems. <i>Computers and Security</i> , 2002 , 21, 253-265	4.9	42
104	. <i>IEEE Transactions on Signal Processing</i> , 1997 , 45, 2682-2691	4.8	41
103	QSVD approach to on- and off-line state-space identification. <i>International Journal of Control</i> , 1990 , 51, 1133-1146	1.5	41
102	Observation of the propagation direction of human electrogastric activity from cutaneous recordings. <i>Medical and Biological Engineering and Computing</i> , 1989 , 27, 538-42	3.1	37
101	Literature Review of Data Mining Applications in Academic Libraries. <i>Journal of Academic Librarianship</i> , 2015 , 41, 499-510	1.5	36
100	Comparison of total least squares and instrumental variable methods for parameter estimation of transfer function models. <i>International Journal of Control</i> , 1989 , 50, 1039-1056	1.5	36
99	Computer-supported analysis of continuous ambulatory manometric recordings in the human small bowel. <i>Medical and Biological Engineering and Computing</i> , 1996 , 34, 336-43	3.1	33
98	Reliable and efficient deconvolution technique based on total linear least squares for calculating the renal retention function. <i>Medical and Biological Engineering and Computing</i> , 1987 , 25, 26-33	3.1	33
97	New Weak-Key Classes of IDEA. <i>Lecture Notes in Computer Science</i> , 2002 , 315-326	0.9	30

96	The generalized linear complementarity problem and an algorithm to find all its solutions. <i>Mathematical Programming</i> , 1992 , 57, 415-426	2.1	29
95	NL(q) Theory: A Neural Control Framework with Global Asymptotic Stability Criteria. <i>Neural Networks</i> , 1997 , 10, 615-637	9.1	28
94	Modelling and forecasting of hydrological variables using artificial neural networks: the Kafue River sub-basin. <i>Hydrological Sciences Journal</i> , 2003 , 48, 363-379	3.5	27
93	Algebraic connections between the least squares and total least squares problems. <i>Numerische Mathematik</i> , 1989 , 55, 431-449	2.2	26
92	A modified unstructured mathematical model for the penicillin G fed-batch fermentation. <i>Biotechnology Letters</i> , 1991 , 13, 489-494	3	25
91	Variable dimension algorithms for solving resistive circuits. <i>International Journal of Circuit Theory and Applications</i> , 1990 , 18, 443-474	2	25
90	An efficient and reliable algorithm for computing the singular subspace of a matrix, associated with its smallest singular values. <i>Journal of Computational and Applied Mathematics</i> , 1987 , 19, 313-330	2.4	25
89	Simulated-annealing-based optimization of coefficient and data word-lengths in digital filters. <i>International Journal of Circuit Theory and Applications</i> , 1988 , 16, 371-390	2	25
88	A Systolic Array for SVD Updating. <i>SIAM Journal on Matrix Analysis and Applications</i> , 1993 , 14, 353-371	1.5	24
87	Multichannel adaptive enhancement of the electrogastrogram. <i>IEEE Transactions on Biomedical Engineering</i> , 1990 , 37, 285-94	5	23
86	The partial total least squares algorithm. <i>Journal of Computational and Applied Mathematics</i> , 1988 , 21, 333-341	2.4	23
85	The autonomous impact resonator: a new operating principle for a silicon resonant strain gauge. <i>Sensors and Actuators A: Physical</i> , 1998 , 66, 40-49	3.9	22
84	Analytical representation of the state-dependent coefficients in the SDRE/SDDRE scheme for multivariable systems. <i>Automatica</i> , 2015 , 59, 106-111	5.7	21
83	A possible role of the cytochrome P450c17alpha gene (CYP17) polymorphism in the pathobiology of uterine leiomyomas from black South African women: a pilot study. <i>Acta Obstetricia Et Gynecologica Scandinavica</i> , 2004 , 83, 234-9	3.8	21
82	Improved methods for exponential parameter estimation in the presence of known poles and noise. <i>IEEE Transactions on Signal Processing</i> , 1997 , 45, 1390-1393	4.8	19
81	OPTIMAL CONTROL OF THE PENICILLIN G FED-BATCH FERMENTATION: AN ANALYSIS OF A MODIFIED UNSTRUCTURED MODEL. <i>Chemical Engineering Communications</i> , 1992 , 117, 337-353	2.2	19
80	QoS prediction for web service compositions using kernel-based quantile estimation with online adaptation of the constant offset. <i>Information Sciences</i> , 2014 , 268, 397-424	7.7	18
79	Efficient identification of RBF neural net models for nonlinear discrete-time multivariable dynamical systems. <i>Neurocomputing</i> , 1995 , 9, 11-26	5.4	16

78	On the accuracy of total least squares and least squares techniques in the presence of errors on all data. <i>Automatica</i> , 1989 , 25, 765-769	5.7	15
77	. <i>IEEE Transactions on Signal Processing</i> , 1991 , 39, 1911-1914	4.8	15
76	Subset selection using the total least squares approach in collinearity problems with errors in the variables. <i>Linear Algebra and Its Applications</i> , 1987 , 88-89, 695-714	0.9	15
75	The K.U.Leuven Time Series Prediction Competition 1998 , 241-253		15
74	Learning of spatiotemporal behaviour in cellular neural networks. <i>International Journal of Circuit Theory and Applications</i> , 2006 , 34, 127-140	2	14
73	Optimal control of the penicillin G fed-batch fermentation: An analysis of the model of heijnen et al.. <i>Optimal Control Applications and Methods</i> , 1994 , 15, 13-34	1.7	14
72	Using Time-Driven Activity-Based Costing to Support Library Management Decisions: A Case Study for Lending and Returning Processes. <i>Library Quarterly</i> , 2014 , 84, 76-98	1.2	13
71	Bandpass prefiltering for exponential data fitting with known frequency region of interest. <i>Signal Processing</i> , 1996 , 48, 135-154	4.4	12
70	Algebraic relationships between classical regression and total least-squares estimation. <i>Linear Algebra and Its Applications</i> , 1987 , 93, 149-160	0.9	12
69	A systolic algorithm for QSVD updating. <i>Signal Processing</i> , 1991 , 25, 203-213	4.4	11
68	SVD-based subspace methods for multivariable continuous-time systems identification 1991 , 473-488		11
67	Watermarking on CNN-UM for image and video authentication. <i>International Journal of Circuit Theory and Applications</i> , 2004 , 32, 591-607	2	10
66	The Biryukov-Demirci Attack on Reduced-Round Versions of IDEA and MESH Ciphers. <i>Lecture Notes in Computer Science</i> , 2004 , 98-109	0.9	10
65	The MESH Block Ciphers. <i>Lecture Notes in Computer Science</i> , 2004 , 458-473	0.9	10
64	On Unconditionally Secure Distributed Oblivious Transfer. <i>Lecture Notes in Computer Science</i> , 2002 , 395-408	0.9	10
63	Algorithm for data reduction and automatic analysis of intestinal motility tracings and other smooth biological signals. <i>Medical and Biological Engineering and Computing</i> , 1989 , 27, 47-56	3.1	9
62	Realization algorithm for determining generalized state-space representations. <i>International Journal of Control</i> , 1987 , 45, 1137-1146	1.5	9
61	Hardware implementation of an elliptic curve processor over GF(p) with Montgomery modular multiplier. <i>International Journal of Embedded Systems</i> , 2008 , 3, 229	0.5	8

60	Recursive least squares with stabilized inverse factorization. <i>Signal Processing</i> , 1990 , 21, 1-15	4.4	8
59	Numerical observability analysis of distribution systems 2010 ,		7
58	Cellular neural network realizations of neuron models with diverse spiking patterns. <i>International Journal of Circuit Theory and Applications</i> , 1996 , 24, 301-314	2	7
57	Complete decoupling of linear multivariable systems by means of linear static and differential state feedback. <i>International Journal of Control</i> , 1987 , 46, 1261-1266	1.5	7
56	Cryptanalysis of Sober-t32. <i>Lecture Notes in Computer Science</i> , 2003 , 111-128	0.9	7
55	Iterative speed improvement for solving slowly varying total least squares problems. <i>Mechanical Systems and Signal Processing</i> , 1988 , 2, 327-348	7.8	6
54	Introduction and outline of the special issue on circuits and systems education: experiences, challenges, and views. <i>IEEE Circuits and Systems Magazine</i> , 2009 , 9, 27-33	3.2	5
53	A path-following method for finding multiple equilibrium points in cellular neural networks. <i>International Journal of Circuit Theory and Applications</i> , 1992 , 20, 519-531	2	5
52	Cryptanalysis of a fast cryptographic checksum algorithm. <i>Computers and Security</i> , 1990 , 9, 257-262	4.9	5
51	Efficient computer analysis of ideal switched-capacitor circuits using matrix compaction techniques. <i>International Journal of Circuit Theory and Applications</i> , 1983 , 11, 241-264	2	5
50	An improved stochastic gradient algorithm for principal component analysis and subspace tracking. <i>IEEE Transactions on Signal Processing</i> , 1997 , 45, 2582-2586	4.8	4
49	A possible role of the cytochrome P450c17 β gene (CYP17) polymorphism in the pathobiology of uterine leiomyomas from black South African women: a pilot study. <i>Acta Obstetrica Et Gynecologica Scandinavica</i> , 2004 , 83, 234-239	3.8	4
48	A rule-based neural controller for inverted pendulum system. <i>International Journal of Neural Systems</i> , 1993 , 4, 55-64	6.2	4
47	Trade-offs in linear control system design: A practical example. <i>Optimal Control Applications and Methods</i> , 1992 , 13, 121-144	1.7	4
46	Novel theory for polynomial and rational matrices at infinity. Part1. Polynomial matrices. <i>International Journal of Control</i> , 1988 , 48, 545-559	1.5	4
45	A unified theory of symmetry for nonlinear multiport and multiterminal resistors. <i>International Journal of Circuit Theory and Applications</i> , 1979 , 7, 337-371	2	4
44	On the Use of the Singular Value Decomposition in Identification and Signal Processing 1991 , 321-360		4
43	Visualizing high dimensional datasets using parallel coordinates: Application to gene prioritization 2012 ,		3

42	Shortcuts in circuits and systems education with a case study of the Thévenin/Helmholtz and Norton/Mayer equivalents 2012 ,		3
41	Application of NLq Neural Control Theory to a Ball and Beam System. <i>European Journal of Control</i> , 1998 , 4, 148-157	2.5	3
40	Dimensionality Reduction in ICA and Rank-(R1,R2,...,RN) Reduction in Multilinear Algebra. <i>Lecture Notes in Computer Science</i> , 2004 , 295-302	0.9	3
39	A Grassmann-Rayleigh Quotient Iteration for Dimensionality Reduction in ICA. <i>Lecture Notes in Computer Science</i> , 2004 , 335-342	0.9	3
38	Invertible shift-invariant transformations on binary arrays. <i>Applied Mathematics and Computation</i> , 1994 , 62, 259-277	2.7	3
37	A geometrical approach to the maximal corank problem in the analysis of linear relations 1986 ,		3
36	Observer design for singular systems using canonical forms 1986 ,		3
35	A Holistic Approach to Supporting Academic Libraries in Resource Allocation Processes. <i>Library Quarterly</i> , 2015 , 85, 295-318	1.2	2
34	Nullators and norators in circuits education: A benefit or an obstacle? 2011 ,		2
33	Invertible operations on a Cellular Neural Network Universal Machine. <i>International Journal of Circuit Theory and Applications</i> , 1998 , 26, 611-634	2	2
32	State-of-the-Art and Evolution in Public Data Sets and Competitions for System Identification, Time Series Prediction and Pattern Recognition 2007 ,		2
31	CNNOPT: Learning dynamics and CNN chip-specific robustness 2006 ,		2
30	Spectral characterization of cryptographic Boolean functions satisfying the (extended) propagation criterion of degree l and order k. <i>Information Processing Letters</i> , 2005 , 93, 25-28	0.8	2
29	CHAOS SYNCHRONIZATION: A LAGRANGE PROGRAMMING NETWORK APPROACH. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2000 , 10, 797-810	2	2
28	DISCRETE TIME INTERCONNECTED CELLULAR NEURAL NETWORKS WITHIN NLq THEORY. <i>International Journal of Circuit Theory and Applications</i> , 1996 , 24, 25-36	2	2
27	On the design of feedforward neural networks for binary mappings. <i>Neurocomputing</i> , 1994 , 6, 565-582	5.4	2
26	An alternative proof for the minimal factorization theorem for rational matrices. <i>Systems and Control Letters</i> , 1990 , 14, 37-40	2.4	2
25	Bit-serial vlsi implementation for an optimized transmultiplexer design. <i>International Journal of Circuit Theory and Applications</i> , 1987 , 15, 281-303	2	2

24	Non-conventional matrix calculus in the analysis of rank deficient Hankel matrices of finite dimensions. <i>Systems and Control Letters</i> , 1987 , 9, 401-410	2.4	2
23	Novel theory for polynomial and rational matrices at infinity. Part 2. Rational matrices. <i>International Journal of Control</i> , 1988 , 48, 561-576	1.5	2
22	A unified theory of symmetry for nonlinear resistive networks. <i>Journal of the Franklin Institute</i> , 1979 , 308, 533-577	4	2
21	Discovering Cluster Dynamics Using Kernel Spectral Methods. <i>Understanding Complex Systems</i> , 2016 , 1-24	0.4	1
20	Robustness of kernel based regression: Influence and weight functions 2012 ,		1
19	Control of the synthesis section of a urea plant by means of an MPC controller. <i>Computer Aided Chemical Engineering</i> , 2006 , 21, 1305-1310	0.6	1
18	PARTIAL SYNCHRONIZATION IN OSCILLATOR ARRAYS WITH ASYMMETRIC COUPLING. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2007 , 17, 4177-4185	2	1
17	A Note on Weak Keys of PES, IDEA, and Some Extended Variants. <i>Lecture Notes in Computer Science</i> , 2003 , 267-279	0.9	1
16	CNN Algorithms for Video Authentication and Copyright Protection. <i>Journal of Signal Processing Systems</i> , 1999 , 23, 449-463		1
15	LOCALLY IMPLEMENTABLE MATRIX FLOWS AND THEIR APPLICATION TO NEURAL NETWORK LEARNING. <i>Journal of Circuits, Systems and Computers</i> , 1994 , 04, 23-51	0.9	1
14	Predictive control of nonlinear systems based on identification by backpropagation networks. <i>International Journal of Neural Systems</i> , 1994 , 5, 335-44	6.2	1
13	Jacobi-type algorithms for LDU and cholesky factorization. <i>Journal of Parallel and Distributed Computing</i> , 1991 , 13, 111-117	4.4	1
12	A CONTINUOUS DEFORMATION ALGORITHM FOR DC-ANALYSIS OF ACTIVE NONLINEAR CIRCUITS. <i>Journal of Circuits, Systems and Computers</i> , 1991 , 01, 327-351	0.9	1
11	PATTERN STORAGE AND HOPFIELD NEURAL ASSOCIATIVE MEMORY WITH HIDDEN STRUCTURE. <i>International Journal of Neural Systems</i> , 1992 , 03, 315-322	6.2	1
10	The use of the homogeneous form in the study of singular systems. <i>Circuits, Systems, and Signal Processing</i> , 1990 , 9, 301-317	2.2	1
9	A canonical form for regular pencils of matrices. <i>Systems and Control Letters</i> , 1986 , 7, 373-376	2.4	1
8	The Role of CAS Concepts and Methods in EE Education and Professional Activities: Societal Challenges and Lessons Learned from Alfred Fettweis. <i>IEEE Circuits and Systems Magazine</i> , 2018 , 18, 32-39	3.2	1
7	Yannis Tsividis As a Role Model for Reversing the Negative Spiral of Basic Circuits and Systems Education. <i>IEEE Solid-State Circuits Magazine</i> , 2014 , 6, 53-53	1.5	

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| 6 | How can different interpretations and use of bond graph parameters be avoided?. <i>Journal of the Franklin Institute</i> , 1997 , 334, 389-406 | 4 |
| 5 | Theory, design and applications of Cellular Neural Networks. <i>International Journal of Circuit Theory and Applications</i> , 1998 , 26, 549-549 | 2 |
| 4 | Evaluation of two unstructured mathematical models for the penicillin G fed-batch fermentation. <i>Antonie Van Leeuwenhoek</i> , 1992 , 62, 273-83 | 2.1 |
| 3 | Arma Spectral Estimation by an Adaptive IIR Filter. <i>Linear Algebra and Its Applications</i> , 1989 , 121, 560-567. | 2.9 |
| 2 | Generalized invariant polynomials and the generalized companion form. <i>International Journal of Control</i> , 1987 , 45, 811-816 | 1.5 |
| 1 | Nonlinear system modeling. <i>Neural Network Systems Techniques and Applications</i> , 1998 , 383-433 | |