

Ngai Wong

List of Publications by Year in descending order

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125
papers

882
citations

516215

16
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642321

23
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126
all docs

126
docs citations

126
times ranked

562
citing authors

#	ARTICLE	IF	CITATIONS
1	A generalized direct-form delta operator-based IIR filter with minimum noise gain and sensitivity. IEEE Transactions on Circuits and Systems Part 2: Express Briefs, 2001, 48, 425-431.	2.3	57
2	Tensor Network alternating linear scheme for MIMO Volterra system identification. Automatica, 2017, 84, 26-35.	3.0	45
3	IIR Approximation of FIR Filters Via Discrete-Time Vector Fitting. IEEE Transactions on Signal Processing, 2008, 56, 1296-1302.	3.2	34
4	Dynamic Multiscale Quantum Mechanics/Electromagnetics Simulation Method. Journal of Chemical Theory and Computation, 2012, 8, 1190-1199.	2.3	33
5	Fast and Accurate Tensor Completion With Total Variation Regularized Tensor Trains. IEEE Transactions on Image Processing, 2020, 29, 6918-6931.	6.0	32
6	An Efficient Projector-Based Passivity Test for Descriptor Systems. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2010, 29, 1203-1214.	1.9	27
7	Roundoff noise minimization in a modified direct-form delta operator IIR structure. IEEE Transactions on Circuits and Systems Part 2: Express Briefs, 2000, 47, 1533-1536.	2.3	25
8	Model Reduction and Simulation of Nonlinear Circuits via Tensor Decomposition. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2015, 34, 1059-1069.	1.9	25
9	An efficient algorithm for downconverting multiple bandpass signals using bandpass sampling. , 0, , .		19
10	A Sub-1 V, 26 μ W, Low-Output-Impedance CMOS Bandgap Reference With a Low Dropout or Source Follower Mode. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2011, 19, 1305-1309.	2.1	19
11	Passivity Enforcement for Descriptor Systems Via Matrix Pencil Perturbation. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2012, 31, 532-545.	1.9	19
12	Design space exploration for sparse matrix-matrix multiplication on FPGAs. International Journal of Circuit Theory and Applications, 2013, 41, 205-219.	1.3	19
13	Frequency-domain multiscale quantum mechanics/electromagnetics simulation method. Journal of Chemical Physics, 2013, 139, 244111.	1.2	19
14	A constructive arbitrary-degree Kronecker product decomposition of tensors. Numerical Linear Algebra With Applications, 2017, 24, e2097.	0.9	19
15	Passivity Test of Immittance Descriptor Systems Based on Generalized Hamiltonian Methods. IEEE Transactions on Circuits and Systems II: Express Briefs, 2010, 57, 61-65.	2.2	18
16	Fast Positive-Real Balanced Truncation Via Quadratic Alternating Direction Implicit Iteration. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2007, 26, 1725-1731.	1.9	17
17	A Fast Passivity Test for Stable Descriptor Systems via Skew-Hamiltonian/Hamiltonian Matrix Pencil Transformations. IEEE Transactions on Circuits and Systems I: Regular Papers, 2008, 55, 635-643.	3.5	17
18	Model Order Reduction for Neutral Systems by Moment Matching. Circuits, Systems, and Signal Processing, 2013, 32, 1039-1063.	1.2	16

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19	Bit-Stream Adders and Multipliers for Tri-Level Sigma-Delta Modulators. IEEE Transactions on Circuits and Systems II: Express Briefs, 2007, 54, 1082-1086.	2.2	15
20	DC stability analysis of high-order, lowpass $\Sigma\Delta$ modulators with distinct unit circle NTF zeros. IEEE Transactions on Circuits and Systems Part 2: Express Briefs, 2003, 50, 12-30.	2.3	14
21	Efficient Linear Macromodeling via Discrete-Time Time-Domain Vector Fitting. , 2008, , .		14
22	Robust Simulation Methodology for Surface-Roughness Loss in Interconnect and Package Modelings. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2009, 28, 1654-1665.	1.9	14
23	Analog circuit design by nonconvex polynomial optimization: Two design examples. International Journal of Circuit Theory and Applications, 2010, 38, 25-43.	1.3	14
24	Design space exploration for sparse matrix-matrix multiplication on FPGAs. , 2010, , .		14
25	A Realistic Early-Stage Power Grid Verification Algorithm Based on Hierarchical Constraints. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2012, 31, 109-120.	1.9	14
26	Balanced truncation for time-delay systems via approximate Gramians. , 2011, , .		13
27	A multi-scale modeling of junctionless field-effect transistors. Applied Physics Letters, 2013, 103, 062109.	1.5	13
28	Optimized RF CMOS Low Noise Amplifier Design Via Geometric Programming. , 2006, , .		12
29	IIR Approximation of FIR Filters Via Discrete-Time Hybrid-Domain Vector Fitting. IEEE Signal Processing Letters, 2009, 16, 533-537.	2.1	11
30	Designing globally optimal delta-sigma modulator topologies via signomial programming. International Journal of Circuit Theory and Applications, 2009, 37, 453-472.	1.3	10
31	Gain bandwidth optimization in two-pump fiber optical parametric amplifiers under bounded zero-dispersion wavelength fluctuations. Optics Communications, 2007, 272, 514-520.	1.0	9
32	PEDS: Passivity enforcement for descriptor systems via Hamiltonian-symplectic matrix pencil perturbation. , 2010, , .		9
33	Autonomous Volterra Algorithm for Steady-State Analysis of Nonlinear Circuits. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2013, 32, 858-868.	1.9	9
34	A Stochastic Integral Equation Method for Resistance Extraction of Conductors with Random Rough Surfaces. , 2006, , .		8
35	Efficient Positive-Real Balanced Truncation of Symmetric Systems Via Cross-Riccati Equations. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2008, 27, 470-480.	1.9	8
36	A Signomial Programming Approach for Binary Image Restoration by Penalized Least Squares. IEEE Transactions on Circuits and Systems II: Express Briefs, 2008, 55, 41-45.	2.2	8

#	ARTICLE	IF	CITATIONS
37	Design of hybrid continuous-time discrete-time delta-sigma modulators. , 2008, , .		8
38	Compact model order reduction of weakly nonlinear systems by associated transform. International Journal of Circuit Theory and Applications, 2016, 44, 1367-1384.	1.3	8
39	Fast Detection of Instability in Sigma-â€ˆDelta Modulators Based on Unstable Embedded Limit Cycles. IEEE Transactions on Circuits and Systems Part 2: Express Briefs, 2004, 51, 442-449.	2.3	7
40	Overfitting Avoidance in Tensor Train Factorization and Completion: Prior Analysis and Inference. , 2021, , .		7
41	Designing Globally Optimal Delta-Sigma Modulator Topologies via Signomial Programming. , 2007, , .		6
42	An Efficient Transfer-Function-Based Approach for the Fast Tuning and Design of DC-DC Converters. , 2007, , .		6
43	Efficient linear macromodeling via least-squares response approximation. , 2008, , .		6
44	A novel linear algebra method for the determination of periodic steady states of nonlinear oscillators. , 2014, , .		6
45	A Space-â€ˆTime Neural Network for Analysis of Stress Evolution Under DC Current Stressing. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2022, 41, 5501-5514.	1.9	6
46	Fast balanced stochastic truncation via a quadratic extension of the alternating direction implicit iteration. , 0, , .		5
47	FIR Filter Approximation by IIR Filters Based on Discrete-Time Vector Fitting. , 2007, , .		5
48	Global optimization of common subexpressions for multiplierless synthesis of multiple constant multiplications. , 2008, , .		5
49	A hybrid MPPT method for Photovoltaic systems via estimation and revision method. , 2013, , .		5
50	An efficient homotopy-based Poincaré-Lindstedt method for the periodic steady-state analysis of nonlinear autonomous oscillators. , 2017, , .		5
51	Fast Classification and Action Recognition With Event-Based Imaging. IEEE Access, 2022, 10, 55638-55649.	2.6	5
52	Processor frequency assignment in three-dimensional MPSoCs under thermal constraints by polynomial programming. , 2008, , .		4
53	Efficient numerical modeling of random rough surface effects in interconnect resistance extraction. International Journal of Circuit Theory and Applications, 2009, 37, 751-763.	1.3	4
54	WISE: Warped Impulse Structure Estimation for Time-Domain Linear Macromodeling. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2012, 2, 131-139.	1.4	4

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55	Low-cost global MPPT scheme for Photovoltaic systems under partially shaded conditions. , 2013, , .		4
56	A Numerically Efficient Formulation for Time-Domain Electromagnetic-Semiconductor Cosimulation for Fast-Transient Systems. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2013, 32, 802-806.	1.9	4
57	A Data-Mining-Assisted Design of Structural Colors on Diamond Metasurfaces. Advanced Photonics Research, 0, , 2100292.	1.7	4
58	Multilayer Perceptron-Based Stress Evolution Analysis Under DC Current Stressing for Multisegment Wires. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2023, 42, 544-557.	1.9	4
59	A geometrical approach to robust minimum variance beamforming. , 0, , .		3
60	Systematic Power Minimization in Multibit Delta-Sigma Analog-to-Digital Converters. , 2006, , .		3
61	Fast Positive-Real Balanced Truncation of Symmetric Systems Using Cross Riccati Equations. , 2007, , .		3
62	Operation scheduling for FPGA-based reconfigurable computers. , 2009, , .		3
63	Digital IIR filter design for communication systems by discrete-time vector fitting. , 2009, , .		3
64	Discussion of "A Half-Size Singularity Test Matrix for Fast and Reliable Passivity Assessment of Rational Models". IEEE Transactions on Power Delivery, 2010, 25, 1212-1213.	2.9	3
65	Piecewise-polynomial associated transform macromodeling algorithm for fast nonlinear circuit simulation. , 2013, , .		3
66	Gramian-based model order reduction of parameterized time-delay systems. International Journal of Circuit Theory and Applications, 2014, 42, 687-706.	1.3	3
67	Efficient matrix exponential method based on extended Krylov subspace for transient simulation of large-scale linear circuits. , 2014, , .		3
68	MERACLE: Constructive Layer-Wise Conversion of a Tensor Train into a MERA. Communications on Applied Mathematics and Computation, 2021, 3, 257-279.	0.7	3
69	A Second-Order Cone Bounding Algorithm for Robust Minimum Variance Beamforming. Lecture Notes in Computer Science, 2005, , 223-247.	1.0	3
70	Improved roundoff noise performance in a direct-form IIR filter using a modified delta operator. , 0, , .		2
71	A fast Newton/Smith algorithm for solving algebraic Riccati equations and its application in model order reduction. , 0, , .		2
72	Quadratic alternating direction implicit iteration for the fast solution of algebraic Riccati equations. , 2005, , .		2

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73	Restoration of Binary Images Using Positive Semidefinite Programming. , 2006, , .		2
74	Design of Nested Transconductance-Capacitance Compensation Amplifier Via Nonconvex Polynomial Optimization. , 2006, , .		2
75	Multiplierless Polynomial-Operator-Based IR Filters for Efficient VLSI Implementation. , 2006, , .		2
76	Design of 2D Linear-Phase IIR Filters Via Schur Decomposition and Discrete-Time Vector Fitting. , 2007, , .		2
77	An efficient stochastic integral equation method for modeling the influence of conductor surface roughness on interconnect ohmic loss. Midwest Symposium on Circuits and Systems, 2007, , .	1.0	2
78	Direct sigma-delta modulated signal processing in FPGA. , 2008, , .		2
79	Quad-level bit-stream signal processing on FPGAs. , 2008, , .		2
80	Automatic system architecture synthesis for FPGA-based reconfigurable computers. , 2009, , .		2
81	An extension of the generalized Hamiltonian method to S-parameter descriptor systems. , 2010, , .		2
82	VISA: Versatile Impulse Structure Approximation for time-domain linear macromodeling. , 2010, , .		2
83	On IIR-based bitstream multipliers. International Journal of Circuit Theory and Applications, 2011, 39, 149-158.	1.3	2
84	Finite difference schemes for heat conduction analysis in integrated circuit design and manufacturing. International Journal of Circuit Theory and Applications, 2011, 39, 905-921.	1.3	2
85	Frequency-domain transient analysis of multitime partial differential equation systems. , 2011, , .		2
86	Fast transistor-level circuit simulation and variational analysis via the ultra-compact virtual source model. , 2013, , .		2
87	STORM: A nonlinear model order reduction method via symmetric tensor decomposition. , 2016, , .		2
88	Tensor-network-based predistorter design for multiple-input multiple-output nonlinear systems. , 2017, , .		2
89	Extended Kalman Filtering with Low-Rank Tensor Networks for MIMO Volterra System Identification. , 2019, , .		2
90	Matrix Product Operator Restricted Boltzmann Machines. , 2019, , .		2

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91	Binary Image Restoration by Signomial Programming. , 2007, , .		2
92	Robust gain bandwidth optimization in two-pump fiber optical parametric amplifiers with dispersion fluctuations. , 2005, , .		1
93	Time domain equalization for OFDM systems. , 0, , .		1
94	A low-power high-output-driving CMOS voltage reference with $\hat{\pm}0.5\%$ trimming accuracy. , 2007, , .		1
95	A 0.9V 2.7µW small-area 100µs+ analog CMOS tunable-delay circuit utilizing Miller effect. , 2008, , .		1
96	Interconnect thermal simulation with higher order spatial accuracy. , 2008, , .		1
97	Synthesis of optimal OTA-C filter structures with arbitrary transmission zeros via MINLP. , 2008, , .		1
98	New simulation methodology of 3D surface roughness loss for interconnects modeling. , 2009, , .		1
99	The impact of dispersion fluctuation on the optimization of Parametric wavelength exchange. , 2009, , .		1
100	EM-TCAD solving from 0–100 THz: A new implementation of an electromagnetic solver. , 2011, , .		1
101	Hilbert-Schmidt-Hankel norm model reduction for matrix second-order linear systems. Journal of Control Theory and Applications, 2011, 9, 571-578.	0.8	1
102	Process-variation-aware electromagnetic-semiconductor coupled simulation. , 2011, , .		1
103	Weakly nonlinear circuit analysis based on fast multidimensional inverse Laplace transform. , 2012, , .		1
104	Globally stable, highly parallelizable fast transient circuit simulation via faber series. , 2012, , .		1
105	Automatic adaptive multi-point moment matching for descriptor system model order reduction. , 2013, , .		1
106	Integration of a wireless sensor network project for introductory circuits and systems teaching. , 2013, , .		1
107	STAVES: Speedy tensor-aided Volterra-based electronic simulator. , 2015, , .		1
108	EZCrop: Energy-Zoned Channels for Robust Output Pruning. , 2022, , .		1

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109	A Data-Mining-Assisted Design of Structural Colors on Diamond Metasurfaces. <i>Advanced Photonics Research</i> , 2022, 3, .	1.7	1
110	Investigation of Random Rough Surface Effects in Interconnect Resistance Extraction Utilizing Effective Conductivity. , 2006, , .		0
111	Efficient Positive Real Balanced Truncation of SISO Systems Via Cross-Riccati Equations. , 2006, , .		0
112	Model Order Reduction of Frequency-Dependent Interconnect Models Via Linear Fractional Transformation Techniques. , 2006, , .		0
113	SPC08-2: Signal Detection for MIMO-OFDM Systems with Time Offsets. <i>IEEE Global Telecommunications Conference (GLOBECOM)</i> , 2006, , .	0.0	0
114	Passivity-preserving model order reduction of linear time-varying macromodels. , 2007, , .		0
115	Design and optimization of highly linear CMOS low noise amplifiers via geometric programming. , 2007, , .		0
116	Efficient numerical modeling of random rough surface effects for interconnect internal impedance extraction. , 2008, , .		0
117	37.2: Fiber-Coupled Emissive Micro-Light-Emitting Diode Arrays. <i>Digest of Technical Papers SID International Symposium</i> , 2009, 40, 526-529.	0.1	0
118	An operational matrix-based algorithm for simulating linear and fractional differential circuits. , 2012, , .		0
119	Efficient variation-aware EM-semiconductor coupled solver for the TSV structures in 3D IC. , 2012, , .		0
120	Study of visual stimulus waveforms via forced van der Pol oscillator model for SSVEP-based brain-computer interfaces. , 2013, , .		0
121	A multi-scale framework for nano-electronic devices modeling with application to the junctionless transistor. , 2013, , .		0
122	Volterra series approximation for rational nonlinear system. <i>Journal of Applied Mathematics and Computing</i> , 2014, 45, 411-432.	1.2	0
123	An adaptive dynamical low-rank tensor approximation scheme for fast circuit simulation. , 2015, , .		0
124	A novel tensor-based model compression method via tucker and tensor train decompositions. , 2017, , .		0
125	Sparse Tensor Network System Identification for Nonlinear Circuit Macromodeling. , 2018, , .		0