Angelo Brambilla

List of Publications by Year
in descending order

123 papers	1,317 citations	393982	525886
		19 h-index	27 g-index

123 all docs	123 docs citations	123 times ranked	676 citing authors

#	ARTICLE	IF	CITATIONS
1	Model of Photovoltaic Power Plants for Performance Analysis and Production Forecast. IEEE Transactions on Sustainable Energy, 2013, 4, 278-285.	5.9	94
2	New approach to photovoltaic arrays maximum power point tracking. , 0, , .		80
3	Steady State Computation and Noise Analysis of Analog Mixed Signal Circuits. IEEE Transactions on Circuits and Systems I: Regular Papers, 2012, 59, 541-554.	3.5	44
4	Envelope-following method to compute steady-state solutions of electrical circuits. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2003, 50, 407-417.	0.1	41
5	Simulation of Real World Circuits: Extending Conventional Analysis Methods to Circuits Described by Heterogeneous Languages. IEEE Circuits and Systems Magazine, 2014, 14, 51-70.	2.6	39
6	Envelope following method for the transient analysis of electrical circuits. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2000, 47, 999-1008.	0.1	32
7	Analytic and Numerical Study of TCSC Devices: Unveiling the Crucial Role of Phase-Locked Loops. IEEE Transactions on Circuits and Systems I: Regular Papers, 2018, 65, 1840-1849.	3.5	32
8	PAN and MPanSuite: Simulation Vehicles towards the Analysis and Design of Heterogeneous Mixed Electrical Systems. , 2017, , .		31
9	Measurements and extractions of parasitic capacitances in ulsi layouts. IEEE Transactions on Electron Devices, 2003, 50, 2236-2247.	1.6	30
10	Improved Small-Signal Analysis for Circuits Working in Periodic Steady State. IEEE Transactions on Circuits and Systems I: Regular Papers, 2010, 57, 427-437.	3.5	29
11	Lyapunov exponents computation for hybrid neurons. Journal of Computational Neuroscience, 2013, 35, 201-212.	0.6	27
12	Computation of period sensitivity functions for the simulation of phase noise in oscillators. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2005, 52, 681-694.	0.1	26
13	A statistical algorithm for 3D capacitance extraction. , 2000, 10, 304-306.		24
14	Periodic Small Signal Analysis of a Wide Class of Type-II Phase Locked Loops Through an Exhaustive Variational Model. IEEE Transactions on Circuits and Systems I: Regular Papers, 2012, 59, 2221-2231.	3.5	24
15	A simulation model for the saturable reactor. IEEE Transactions on Industrial Electronics, 1988, 35, 301-306.	5.2	23
16	Frequency warping in time-domain circuit simulation. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2003, 50, 904-913.	0.1	23
17	Extension of the variational equation to analog/digital circuits: numerical and experimental validation. International Journal of Circuit Theory and Applications, 2013, 41, 743-752.	1.3	23
18	Simplified Model to Study the Induction Generator Effect of the Subsynchronous Resonance Phenomenon. IEEE Transactions on Energy Conversion, 2018, 33, 889-892.	3.7	23

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19	Periodic noise analysis of electric circuits: Artifacts, singularities and a numerical method. International Journal of Circuit Theory and Applications, 2010, 38, 689-708.	1.3	21
20	On the Impact of the Dead-Band of Power System Stabilizers and Frequency Regulation on Power System Stability. IEEE Transactions on Power Systems, 2019, 34, 3977-3979.	4.6	21
21	Numerical Determination of Possible Multiple DC Solutions of Nonlinear Circuits. IEEE Transactions on Circuits and Systems I: Regular Papers, 2008, 55, 1074-1083.	3.5	19
22	Phase Noise Simulation in Analog Mixed Signal Circuits: An Application to Pulse Energy Oscillators. IEEE Transactions on Circuits and Systems II: Express Briefs, 2011, 58, 154-158.	2.2	19
23	Nonlinear behavioural model of charge pump PLLs. International Journal of Circuit Theory and Applications, 2013, 41, 1027-1046.	1.3	19
24	Monitoring performance and efficiency of photovoltaic parks. Renewable Energy, 2015, 78, 314-321.	4.3	18
25	Computation of all the Floquet eigenfunctions in autonomous circuits. International Journal of Circuit Theory and Applications, 2008, 36, 717-737.	1.3	17
26	Determination of Floquet Exponents for Small-Signal Analysis of Nonlinear Periodic Circuits. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2009, 28, 447-451.	1.9	16
27	Micro-inverter for solar power generation. , 2012, , .		16
28	The simulation errors introduced by the SPICE transient analysis. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 1993, 40, 57-60.	0.1	15
29	Electrothermal oscillations of a PN junction operating in avalanche breakdown region. IEEE Electron Device Letters, 1999, 20, 405-408.	2.2	15
30	Electrothermal dynamics of circuits: analysis and simulations. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2001, 48, 997-1005.	0.1	15
31	Statistical method for the analysis of interconnects delay in submicrometer layouts. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2001, 20, 957-966.	1.9	14
32	Rigorous event-driven (RED) analysis of large-scale nonlinear RC circuits. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2001, 48, 938-946.	0.1	14
33	Effects of inertia, load damping and dead-bands on frequency histograms and frequency control of power systems. International Journal of Electrical Power and Energy Systems, 2021, 129, 106842.	3.3	14
34	Magnetic core model for circuit simulations including losses and hysteresis. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2008, 21, 309-334.	1.2	13
35	FSSA: Fast Steady-State Algorithm for the Analysis of Mixed Analog/Digital Circuits. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2010, 29, 528-537.	1.9	13
36	Robust Harmonic-Probe Method for the Simulation of Oscillators. IEEE Transactions on Circuits and Systems I: Regular Papers, 2010, 57, 2531-2541.	3.5	12

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37	On the Mechanisms Governing Spurious Tone Injection in Fractional PLLs. IEEE Transactions on Circuits and Systems II: Express Briefs, 2017, 64, 1267-1271.	2.2	11
38	A Nonlinear Behavioral Ferrite-Core Inductance Model Able to Reproduce Thermal Transients in Switch-Mode Power Supplies. IEEE Transactions on Circuits and Systems I: Regular Papers, 2020, 67, 1255-1263.	3.5	11
39	A reliable and efficient black box model of SF6 medium voltage circuit breakers. International Journal of Electrical Power and Energy Systems, 2020, 119, 105863.	3.3	11
40	Accurate and Efficient PSD Computation in Mixed-Signal Circuits: A Time-Domain Approach. IEEE Transactions on Circuits and Systems II: Express Briefs, 2014, 61, 905-909.	2.2	10
41	The Probe-Insertion Technique for the Detection of Limit Cycles in Power Systems. IEEE Transactions on Circuits and Systems I: Regular Papers, 2016, 63, 312-321.	3.5	10
42	Snubber circuits and losses of voltage-source GTO inverters. IEEE Transactions on Power Electronics, 1992, 7, 231-239.	5.4	9
43	Study and implementation of a low conduction loss zero-current resonant switch. IEEE Transactions on Industrial Electronics, 1994, 41, 241-250.	5.2	9
44	Analysis and design of snubber circuits for high-power GTO DC-DC converters. IEEE Transactions on Power Electronics, 1994, 9, 7-17.	5.4	9
45	Recasting modified nodal analysis to improve reliability in numerical circuit Simulation. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2005, 52, 522-534.	0.1	9
46	Voltage Regulators Design Through Advanced Mixed-Mode Circuit Simulation. IEEE Transactions on Power Electronics, 2014, 29, 4496-4499.	5.4	9
47	Generalized Power Flow Analysis of Electrical Power Systems Modeled as Mixed Single-Phase/Three-Phase Sub-Systems. IEEE Transactions on Power Systems, 2020, 35, 1284-1293.	4.6	9
48	Analysis of substrate coupling by means of a stochastic method. IEEE Electron Device Letters, 2002, 23, 351-353.	2.2	8
49	Brushing Up on the Urbanek Black Box Arc Model. IEEE Transactions on Circuits and Systems I: Regular Papers, 2018, 65, 1675-1683.	3.5	8
50	Circuit Level Model of Miniature Circuit Breakers. IEEE Transactions on Power Delivery, 2018, 33, 2700-2709.	2.9	8
51	Numerical Approach to Compute the Power Flow Solution of Hybrid Generation, Transmission and Distribution Systems. IEEE Transactions on Circuits and Systems II: Express Briefs, 2020, 67, 936-940.	2.2	8
52	Partitioning-Based Unified Power Flow Algorithm for Mixed MTDC/AC Power Systems. IEEE Transactions on Power Systems, 2021, 36, 3406-3415.	4.6	8
53	Modelling delay and crosstalk in VLSI interconnect for electrical simulation. Electronics Letters, 2000, 36, 862.	0.5	7
54	Energy-based control of numerical errors in time-domain simulation of dynamic circuits. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2001, 48, 543-551.	0.1	7

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55	Method for simulating phase noise in oscillators. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2001, 48, 1318-1325.	0.1	7
56	Using Floquet eigenvectors in the design of electronic oscillators. , 2005, , .		7
57	Synchronization and Small-Signal Analysis of Nonlinear Periodic Circuits. IEEE Transactions on Circuits and Systems I: Regular Papers, 2008, 55, 1064-1073.	3.5	7
58	Noise in a phase-quadrature pulsed energy restore oscillator. , 2011, , .		7
59	Modeling and estimating yield and efficiency of photovoltaic solar parks. , 2013, , .		7
60	Modular Multilevel Converter Impedance Computation Based on Periodic Small-Signal Analysis and Vector Fitting. IEEE Transactions on Circuits and Systems I: Regular Papers, 2022, 69, 1832-1842.	3.5	7
61	A circuit-level simulation model of PNPN devices. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 1990, 9, 1254-1264.	1.9	6
62	Multitone signal harmonic balance method. Electronics Letters, 1999, 35, 1809.	0.5	6
63	Harmonic Balance Based on Two-Step Galerkin Method. IEEE Transactions on Circuits and Systems I: Regular Papers, 2016, 63, 1476-1486.	3.5	6
64	On the Benefit of Adopting Saturable Inductors in Switching-Mode Power-Supplies: A Case Study. , 2018, , .		6
65	Shooting by a Two-Step Galerkin Method. IEEE Transactions on Circuits and Systems I: Regular Papers, 2019, 66, 383-390.	3.5	6
66	Simulation of Stochastic Electromagnetic Transients in EMTP: A Bug Turned Into a Feature. IEEE Transactions on Power Delivery, 2021, 36, 769-776.	2.9	6
67	Three-junction device simulation model. Electronics Letters, 1989, 25, 936.	0.5	5
68	Efficient method for simulating time delays of distributed interconnections in VLSI circuits. Electronics Letters, 1999, 35, 976.	0.5	5
69	Method for steady-state simulation of strongly nonlinear circuits in the time domain. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2001, 48, 885-889.	0.1	5
70	Design and simulation of a power management unit in a solar based electric propulsion system. , 2012, , .		5
71	ADDA: Almost direct drive architecture for solar high power electrical propulsion in new generation spacecrafts. , 2012, , .		5
72	Reliable and efficient phase noise simulation of mixed-mode integer-N Phase-Locked Loops. , 2013, , .		5

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73	Probe Based Shooting Method to Find Stable and Unstable Limit Cycles of Strongly Nonlinear High-Q Oscillators. IEEE Transactions on Circuits and Systems I: Regular Papers, 2013, 60, 1870-1880.	3.5	5
74	Efficient and Reliable Small-Signal Estimate of Quantization Noise Contribution to Phase Noise in $Delta Sigma$ Fractional- N PLL. IEEE Transactions on Circuits and Systems I: Regular Papers, 2017, 64, 1494-1503.	3.5	5
75	FastSpice circuit partitioning to compute DC operating points preserving Spice -like simulators accuracy. Simulation Modelling Practice and Theory, 2018, 81, 51-63.	2.2	5
76	Efficient Isomorphism Based Simulation of Modular Multilevel Converters. , 2019, , .		5
77	Application of Envelope-Following Techniques to the Shooting Method. IEEE Open Journal of Circuits and Systems, 2020, 1, 22-33.	1.4	5
78	Stability Analysis of MMC/MTDC Systems Considering DC-Link Dynamics. , 2021, , .		5
79	A filter-based technique for the harmonic balance method. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 1996, 43, 92-98.	0.1	4
80	A 2-kW 100-kHz power converter. IEEE Transactions on Industrial Electronics, 1999, 46, 300-308.	5.2	4
81	Electrothermal stability of uniform arrays of one-port elements. International Journal of Circuit Theory and Applications, 2009, 37, 67-85.	1.3	4
82	CONTINUATION ANALYSIS OF A PHASE/QUADRATURE ELECTRONIC OSCILLATOR. Journal of Circuits, Systems and Computers, 2010, 19, 773-785.	1.0	4
83	Efficient transient noise analysis of non€periodic mixed analogue/digital circuits. IET Circuits, Devices and Systems, 2015, 9, 73-80.	0.9	4
84	The Urbanek Black Box Arc Model in Passive Resonance Circuit Breakers for HVDC Applications. , 2018, , .		4
85	A novel sufficient condition to avoid subharmonic oscillations for buck converters with constant on€time control. Electronics Letters, 2020, 56, 305-308.	0.5	4
86	Isomorphic Circuit Clustering for Fast and Accurate Electromagnetic Transient Simulations of MMCs. IEEE Transactions on Energy Conversion, 2022, 37, 800-810.	3.7	4
87	Application of Envelope-Following Techniques to the Simulation of Hybrid Power Systems. IEEE Transactions on Circuits and Systems I: Regular Papers, 2022, 69, 1800-1810.	3.5	4
88	Effects of numerical noise floor on the accuracy of time domain noise analysis in circuit simulators. , 2013, , .		3
89	Reduction of harmonic balance equations through Galerkin's method. , 2015, , .		3
90	A lumped model of lymphatic systems suitable for large scale simulations. , 2015, , .		3

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91	Periodic small-signal analysis as a tool to build transient stability models of VSC-based devices. , 2016, , .		3
92	A Stability Condition for Constant-On Time Buck Converters Suitable for Automotive Applications. , 2021, , .		3
93	Steady State Simulation of Mixed Analog/Digital Circuits. , 2013, , 243-270.		3
94	Electro-thermal simulation of dynamic circuits in the time domain. , 0, , .		2
95	Accuracy of PSP and BSIM4 models in determination of IP3 compression point. Electronics Letters, 2009, 45, 345.	0.5	2
96	A Probe-Based Harmonic Balance Method to Simulate Coupled Oscillators. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2011, 30, 960-971.	1.9	2
97	Mixed-mode simulations to check stability of an adaptive constant on-time DC-DC converter. , 2013, , .		2
98	Time domain probe insertion to find steady state of strongly nonlinear high-Q oscillators. , 2013, , .		2
99	Optimal Coefficient Quantization in Optimal-NTF <inline-formula> <tex-math notation="LaTeX">$Delta !Sigma $ </tex-math> </inline-formula> Modulators. IEEE Transactions on Circuits and Systems II: Express Briefs, 2018, 65, 542-546.	2.2	2
100	Load Transient Response Analysis of Constant On-Time DC–DC Converters Using a State-Variables Approach. IEEE Transactions on Power Electronics, 2020, 35, 4489-4499.	5.4	2
101	Towards the Co-Simulation of Charge Qubits: A Methodology Grounding on an Equivalent Circuit Representation. IEEE Open Journal of Circuits and Systems, 2021, 2, 548-563.	1.4	2
102	A new time step control method for the circuit simulator Spice. , 0, , .		1
103	A control-based approach to the solution of nonlinear algebraic equations. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 1997, 44, 366-369.	0.1	1
104	Study of statistical approaches to the solution of linear discrete and integral problems. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2003, 50, 1153-1161.	0.1	1
105	Multi-probe harmonic balance method to simulate coupled oscillators. , 2009, , .		1
106	An I-IP based approach for the monitoring of NBTI effects in SoCs. , 2009, , .		1
107	MTFS: Mixed Time–Frequency Method for the Steady-State Analysis of Almost-Periodic Nonlinear Circuits. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2012, 31, 1346-1355.	1.9	1
108	Stability analysis of voltage regulators versus different digital control strategies by analog-mixed-signal circuit simulation. , 2014, , .		1

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109	Simulations of Three-Phase Current Interruptions Through a Black-Box Model of Miniature Circuit Breakers. IEEE Transactions on Power Delivery, 2020, 35, 937-945.	2.9	1
110	Closed-Form Operational Boundaries for Buck Converters With Constant On-Time Control. IEEE Transactions on Circuits and Systems II: Express Briefs, 2021, 68, 3331-3335.	2.2	1
111	ELECTRO-THERMAL DYNAMICS OF ELECTRONIC CIRCUITS. , 2000, , .		1
112	Analysis of the Impact of Synthetic Inertia on Frequency Variations and on Turbine Governor Dead-Bands. , 2020, , .		1
113	Stability Boundaries of Wide-Input-Range COT Buck Converters With Ripple Compensation. IEEE Open Journal of Circuits and Systems, 2022, 3, 15-24.	1.4	1
114	Algorithm to simulate periodically switched power circuits in the time domain. Electronics Letters, 1994, 30, 1367-1368.	0.5	0
115	Exploiting electrothermal oscillations for identifying MOSFET thermal parameters. Microelectronics Journal, 2001, 32, 883-889.	1.1	0
116	A Statistical Approach to Derive an Electrical Port Model of Capacitively Coupled Interconnects. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2004, 51, 797-807.	0.1	0
117	Partitioning large circuits to speed up numerical simulations. , 0, , .		0
118	Numerical simulation of electrical circuits for radiofrequency applications. , 2008, , .		0
119	Numerical computation of the Floquent eigenfunctions. , 2008, , .		0
120	QR factorisation in the shooting method. , 2008, , .		0
121	Efficiency improvement of partially shaded photovoltaic panels. , 2013, , .		0
122	Reliable AMS simulation of electrostatic vibration energy harvesters: a case study. , 2014, , .		0
123	Constant-time discontinuity map for forward sensitivity analysis to initial conditions: Spurs detection in fractional-N PLL as a case study. , 2017, , .		0