

# Marco Storace

## 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.

126  
papers

1,253  
citations

17  
h-index

28  
g-index

150  
ext. papers

1,478  
ext. citations

2.9  
avg, IF

4.69  
L-index

#	Paper	IF	Citations
126	Nonlinear models of power inductors: A survey. <i>International Journal of Circuit Theory and Applications</i> , <b>2022</b> , 50, 2	2	1
125	Towards more biologically plausible central-pattern-generator models.. <i>Physical Review E</i> , <b>2021</b> , 104, 064405	2.4	0
124	One-way dependent clusters and stability of cluster synchronization in directed networks. <i>Nature Communications</i> , <b>2021</b> , 12, 4073	17.4	3
123	Effects of Parameter Variation on the Accuracy of a Nonlinear Inductor Model for Switch-Mode Power Supplies Applications <b>2020</b> ,		1
122	A Nonlinear Behavioral Ferrite-Core Inductance Model Able to Reproduce Thermal Transients in Switch-Mode Power Supplies. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , <b>2020</b> , 67, 1255-1263	3.9	4
121	Advanced Concepts: Analysis of Nonlinear Oscillators. <i>Lecture Notes in Electrical Engineering</i> , <b>2020</b> , 401-473		
120	Delays induced cluster synchronization in chaotic networks. <i>Chaos</i> , <b>2020</b> , 30, 121105	3.3	
119	Design Principles for Central Pattern Generators With Preset Rhythms. <i>IEEE Transactions on Neural Networks and Learning Systems</i> , <b>2020</b> , 31, 3658-3669	10.3	12
118	Analyzing synchronized clusters in neuron networks. <i>Scientific Reports</i> , <b>2020</b> , 10, 16336	4.9	5
117	An Algorithm for Finding Equitable Clusters in Multi-Layer Networks <b>2020</b> ,		2
116	Generalized half-center oscillators with short-term synaptic plasticity. <i>Physical Review E</i> , <b>2020</b> , 102, 032404	4.1	2
115	A Piecewise-Affine Inductance Model for Inductors Working in Nonlinear Region <b>2019</b> ,		6
114	A Nonlinear Inductance Model Able to Reproduce Thermal Transient in SMPS Simulations <b>2019</b> ,		8
113	Dimensional reduction in networks of non-Markovian spiking neurons: Equivalence of synaptic filtering and heterogeneous propagation delays. <i>PLoS Computational Biology</i> , <b>2019</b> , 15, e1007404	5	5
112	Pareto-optimal selection of saturating inductors in the design of Switch-Mode Power Supplies <b>2019</b> ,		1
111	A low-cost online estimator for switch-mode power supplies with saturating ferrite-core inductors <b>2019</b> ,		3
110	Behavioral Models for Ferrite-Core Inductors in Switch-Mode DC-DC Power Supplies: A Survey <b>2019</b> ,		8

109	Model-Based Compensation of Rate-Dependent Hysteresis in a Piezoresistive Strain Sensor. <i>IEEE Transactions on Industrial Electronics</i> , <b>2019</b> , 66, 8205-8213	8.9	23
108	A Power-Loss-Dependent Inductance Model for Ferrite-Core Power Inductors in Switch-Mode Power Supplies. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , <b>2019</b> , 66, 2394-2402	3.9	21
107	An MPC-Based Approach for Emergency Control Ensuring Transient Stability in Power Grids With Steam Plants. <i>IEEE Transactions on Industrial Electronics</i> , <b>2019</b> , 66, 5412-5422	8.9	14
106	Design of Synthetic Central Pattern Generators Producing Desired Quadruped Gaits. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , <b>2018</b> , 65, 1028-1039	3.9	8
105	Model Reduction for Optimized Online Compensation of Hysteresis and Creep in Piezoelectric Actuators. <i>IEEE Transactions on Circuits and Systems II: Express Briefs</i> , <b>2018</b> , 65, 1748-1752	3.5	5
104	Application of a low-cost piezoelectric displacement estimation technique based on laser interferometry for hysteresis open-loop compensation in an AFM scanner. <i>Physica B: Condensed Matter</i> , <b>2018</b> , 549, 43-46	2.8	2
103	Design of Minimal Synthetic Circuits with Sensory Feedback for Quadruped Locomotion <b>2018</b> ,		1
102	Accurate Modeling of Inductors Working in Nonlinear Region in Switch-Mode Power Supplies with Different Load Currents <b>2018</b> ,		11
101	Modeling and compensation of hysteresis and creep: The HysTool toolbox <b>2018</b> ,		2
100	Two FPGA-Oriented High-Speed Irradiance Virtual Sensors for Photovoltaic Plants. <i>IEEE Transactions on Industrial Informatics</i> , <b>2017</b> , 13, 157-165	11.9	14
99	Phase analysis method for burst onset prediction. <i>Physical Review E</i> , <b>2017</b> , 95, 022412	2.4	
98	CEPAGE: A toolbox for Central Pattern Generator analysis <b>2017</b> ,		6
97	Ferrite inductor models for switch-mode power supplies analysis and design <b>2017</b> ,		8
96	A Switched Predictive Controller for an Electrical Powertrain System With Backlash. <i>IEEE Transactions on Power Electronics</i> , <b>2017</b> , 32, 4036-4047	7.2	15
95	High-speed explicit nonlinear model predictive control <b>2017</b> ,		1
94	A mathematical model for the vessel recruitment in coronary microcirculation in the absence of active autoregulation. <i>Microvascular Research</i> , <b>2016</b> , 104, 38-45	3.7	1
93	bal: A library for the brute-force analysis of dynamical systems. <i>Computer Physics Communications</i> , <b>2016</b> , 201, 126-134	4.2	2
92	. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , <b>2016</b> , 63, 413-422	3.9	16

91	Hysteresis and creep: Comparison between a power-law model and Kuhnert model. <i>Physica B: Condensed Matter</i> , <b>2016</b> , 486, 2-6	2.8	5
90	Efficient transient noise analysis of non-periodic mixed analogue/digital circuits. <i>IET Circuits, Devices and Systems</i> , <b>2015</b> , 9, 73-80	1.1	4
89	Low-complexity digital architecture for solving the point location problem in explicit Model Predictive Control. <i>Journal of the Franklin Institute</i> , <b>2015</b> , 352, 2249-2258	4	5
88	<b>2015</b> ,		1
87	Automatic Domain Partitioning of Piecewise-Affine Simplicial Functions Implementing Model Predictive Controllers. <i>IEEE Transactions on Circuits and Systems II: Express Briefs</i> , <b>2015</b> , 62, 886-890	3.5	7
86	A Circuit Model of Hysteresis and Creep. <i>IEEE Transactions on Circuits and Systems II: Express Briefs</i> , <b>2015</b> , 62, 501-505	3.5	10
85	Memory characteristics of hysteresis and creep in multi-layer piezoelectric actuators: An experimental analysis. <i>Physica B: Condensed Matter</i> , <b>2014</b> , 435, 40-43	2.8	11
84	Low-complexity piecewise-affine virtual sensors: theory and design. <i>International Journal of Control</i> , <b>2014</b> , 87, 622-632	1.5	3
83	Transient dynamics of an adiabatic NEMS. <i>Annalen Der Physik</i> , <b>2014</b> , 526, 541-554	2.6	5
82	<b>2014</b> ,		10
81	Accurate and Efficient PSD Computation in Mixed-Signal Circuits: A Time-Domain Approach. <i>IEEE Transactions on Circuits and Systems II: Express Briefs</i> , <b>2014</b> , 61, 905-909	3.5	8
80	Nonlinear behavioural model of charge pump PLLs. <i>International Journal of Circuit Theory and Applications</i> , <b>2013</b> , 41, 1027-1046	2	14
79	An algorithm for automatic domain partitioning of piecewise-affine model predictive control laws <b>2013</b> ,		1
78	Reliable and efficient phase noise simulation of mixed-mode integer-N Phase-Locked Loops <b>2013</b> ,		5
77	Effects of numerical noise floor on the accuracy of time domain noise analysis in circuit simulators <b>2013</b> ,		3
76	Design and circuit implementation of approximate switched MPC <b>2013</b> ,		1
75	Synchronization: a tool for validating a PWL circuit that approximates the Hindmarsh-Rose neuron model. <i>Nonlinear Theory and Its Applications IEICE</i> , <b>2012</b> , 3, 165-179	0.6	1
74	High-Speed Piecewise Affine Virtual Sensors. <i>IEEE Transactions on Industrial Electronics</i> , <b>2012</b> , 59, 1228-1237	3.7	12

73	Codimension-Two Homoclinic Bifurcations Underlying Spike Adding in the Hindmarsh--Rose Burster. <i>SIAM Journal on Applied Dynamical Systems</i> , <b>2012</b> , 11, 939-962	2.8	40
72	FPGA Implementations of Piecewise Affine Functions Based on Multi-Resolution Hyperrectangular Partitions. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , <b>2012</b> , 59, 2920-2933	3.9	16
71	Hardware-in-the-loop simulations of circuit architectures for the computation of exact and approximate explicit MPC control functions <b>2012</b> ,		10
70	FPGA implementation of optimal and approximate model predictive control for a buck-boost DC-DC converter <b>2012</b> ,		11
69	MOBY-DIC: A MATLAB Toolbox for Circuit-Oriented Design of Explicit MPC. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , <b>2012</b> , 45, 218-225		5
68	Inferring network dynamics and neuron properties from population recordings. <i>Frontiers in Computational Neuroscience</i> , <b>2011</b> , 5, 43	3.5	10
67	Explicit hybrid model predictive control: discontinuous piecewise-affine approximation and FPGA implementation. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , <b>2011</b> , 44, 1350-1355		
66	Digital architectures realizing piecewise-linear multivariate functions: Two FPGA implementations. <i>International Journal of Circuit Theory and Applications</i> , <b>2011</b> , 39, 1-15	2	30
65	Barriers to transport induced by periodic oscillations in a physical model of the human vitreous chamber. <i>Physical Review E</i> , <b>2011</b> , 83, 036311	2.4	3
64	Ultra-Fast Stabilizing Model Predictive Control via Canonical Piecewise Affine Approximations. <i>IEEE Transactions on Automatic Control</i> , <b>2011</b> , 56, 2883-2897	5.9	63
63	<b>2011</b> ,		5
62	Accurate and fast simulation of channel noise in conductance-based model neurons by diffusion approximation. <i>PLoS Computational Biology</i> , <b>2011</b> , 7, e1001102	5	61
61	CONTINUATION ANALYSIS OF A PHASE/QUADRATURE ELECTRONIC OSCILLATOR. <i>Journal of Circuits, Systems and Computers</i> , <b>2010</b> , 19, 773-785	0.9	2
60	Digital Circuit Realization of Piecewise-Affine Functions With Nonuniform Resolution: Theory and FPGA Implementation. <i>IEEE Transactions on Circuits and Systems II: Express Briefs</i> , <b>2010</b> , 57, 131-135	3.5	20
59	Synthesis of stabilizing model predictive controllers via canonical piecewise affine approximations <b>2010</b> ,		6
58	HARMONIC ANALYSIS OF OSCILLATORS THROUGH STANDARD NUMERICAL CONTINUATION TOOLS. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , <b>2010</b> , 20, 4029-4037		3
57	Piecewise linear approximations of multivariate functions: A multiresolution-based compression algorithm suitable for circuit implementation. <i>Applied Numerical Mathematics</i> , <b>2010</b> , 60, 924-933	2.5	4
56	Experimental bifurcation diagram of a circuit-implemented neuron model. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , <b>2010</b> , 374, 4589-4593	2.3	18

55	Integrated circuit implementation of multi-dimensional piecewise-linear functions <b>2010</b> , 20, 1723-1732		12
54	Circuit implementation of piecewise-affine functions based on a binary search tree <b>2009</b> ,		18
53	Synchronization properties in networks of Hindmarsh-Rose neurons and their PWL approximations with linear symmetric coupling <b>2009</b> ,		1
52	Piecewise linear implementation of nonlinear dynamical systems: from theory to practice. <i>Electronics Letters</i> , <b>2009</b> , 45, 966	1.1	14
51	The Hindmarsh-Rose neuron model: bifurcation analysis and piecewise-linear approximations. <i>Chaos</i> , <b>2008</b> , 18, 033128	3.3	154
50	A method based on a genetic algorithm to find PWL approximations of multivariate nonlinear functions <b>2008</b> ,		2
49	Piecewise-linear approximation of the Hindmarsh-Rose neuron model. <i>Journal of Physics: Conference Series</i> , <b>2008</b> , 138, 012011	0.3	2
48	BIFURCATION ANALYSIS OF AN IMPACT MODEL FOR FOREST FIRE PREDICTION. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , <b>2008</b> , 18, 2275-2288	2	5
47	A modular supervised algorithm for vessel segmentation in red-free retinal images. <i>Computers in Biology and Medicine</i> , <b>2008</b> , 38, 913-22	7	37
46	. <i>IEEE Transactions on Circuits and Systems Part 1: Regular Papers</i> , <b>2007</b> , 54, 1542-1554		8
45	Towards Accurate PWL Approximations of Parameter-Dependent Nonlinear Dynamical Systems With Equilibria and Limit Cycles. <i>IEEE Transactions on Circuits and Systems Part 1: Regular Papers</i> , <b>2007</b> , 54, 620-631		9
44	FPGA implementation of a new scheme for the circuit realization of PWL functions <b>2007</b> ,		6
43	PWL approximation of the Hindmarsh-Rose neuron model in view of its circuit implementation <b>2007</b> ,		3
42	On the complexity of periodic and nonperiodic behaviors of a hysteresis-based electronic oscillator. <i>Chaos</i> , <b>2007</b> , 17, 043108	3.3	3
41	A Simplicial PWL Integrated Circuit Realization <b>2007</b> ,		3
40	A cellular non-linear network for image fusion based on data regularization. <i>International Journal of Circuit Theory and Applications</i> , <b>2006</b> , 34, 533-546	2	3
39	A procedure for the computation of accurate PWL approximations of non-linear dynamical systems. <i>International Journal of Circuit Theory and Applications</i> , <b>2006</b> , 34, 237-248	2	4
38	Bifurcation analysis and its experimental validation for a hysteresis circuit oscillator. <i>IEEE Transactions on Circuits and Systems Part 2: Express Briefs</i> , <b>2006</b> , 53, 517-521		5

37	BIFURCATION ANALYSIS OF A CIRCUIT-RELATED GENERALIZATION OF THE SHIPMAP. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , <b>2006</b> , 16, 2435-2452	2	1
36	Complex links between codimension-2 bifurcations in an electronic oscillator based on hysteresis. <i>Journal of Physics: Conference Series</i> , <b>2006</b> , 55, 12-27	0.3	
35	Structurally Stable PWL Approximation of Nonlinear Dynamical Systems Admitting Limit Cycles: An Example. <i>IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences</i> , <b>2006</b> , E89-A, 2759-2766	0.4	2
34	PWL approximation of nonlinear dynamical systems, part II: identification issues. <i>Journal of Physics: Conference Series</i> , <b>2005</b> , 22, 30-42	0.3	2
33	PWL approximation of nonlinear dynamical systems, part I: structural stability. <i>Journal of Physics: Conference Series</i> , <b>2005</b> , 22, 208-221	0.3	6
32	Towards analog implementations of PWL two-dimensional non-linear functions. <i>International Journal of Circuit Theory and Applications</i> , <b>2005</b> , 33, 147-160	2	19
31	Synthesis of multiport resistors with piecewise-linear characteristics: a mixed-signal architecture. <i>International Journal of Circuit Theory and Applications</i> , <b>2005</b> , 33, 307-319	2	26
30	CLASSIFICATION OF CHAOTIC SEQUENCES WITH OPEN-LOOP ESTIMATOR OPTIMAL DESIGN FOR NOISY ENVIRONMENTS. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , <b>2004</b> , 14, 3023-3043	2	
29	Two-port ideal power transferitors: a unified introduction to ideal transformer and gyrator. <i>IEEE Transactions on Circuits and Systems Part 2: Express Briefs</i> , <b>2004</b> , 51, 426-429		1
28	Piecewise-linear approximation of nonlinear dynamical systems. <i>IEEE Transactions on Circuits and Systems Part 1: Regular Papers</i> , <b>2004</b> , 51, 830-842		60
27	A method for the approximate synthesis of cellular non-linear networksPart 1: Circuit definition. <i>International Journal of Circuit Theory and Applications</i> , <b>2003</b> , 31, 277-297	2	27
26	A method for the approximate synthesis of cellular non-linear networksPart 2: Circuit reduction. <i>International Journal of Circuit Theory and Applications</i> , <b>2003</b> , 31, 299-313	2	16
25	TWO-DIMENSIONAL BIFURCATION DIAGRAMS OF A CHAOTIC CIRCUIT BASED ON HYSTERESIS. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , <b>2002</b> , 12, 43-69	2	7
24	Synthesis of nonlinear multiport resistors: a PWL approach. <i>IEEE Transactions on Circuits and Systems Part 1: Regular Papers</i> , <b>2002</b> , 49, 1138-1149		27
23	Discontinuities in a one-dimensional map describing a hysteretic chaotic circuit. <i>Nonlinear Analysis: Theory, Methods &amp; Applications</i> , <b>2001</b> , 47, 5253-5264	1.3	8
22	Cellular non-linear networks for minimization of functionals. Part 1: Theoretical aspects. <i>International Journal of Circuit Theory and Applications</i> , <b>2001</b> , 29, 151-167	2	6
21	Cellular non-linear networks for minimization of functionals. Part 2: Examples. <i>International Journal of Circuit Theory and Applications</i> , <b>2001</b> , 29, 169-184	2	5
20	Basic bifurcation analysis of a hysteresis oscillator. <i>International Journal of Circuit Theory and Applications</i> , <b>2001</b> , 29, 343-366	2	8

19	BIFURCATION ANALYSIS OF A PWL CHAOTIC CIRCUIT BASED ON HYSTERESIS THROUGH A ONE-DIMENSIONAL MAP. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , <b>2001</b> , 11, 1911-1927	2	4
18	RC op-amp implementation of hysteresis chaotic oscillator. <i>Electronics Letters</i> , <b>2001</b> , 37, 209	1.1	6
17	Dynamic behaviour of hysteresis chaotic circuit. <i>Electronics Letters</i> , <b>1999</b> , 35, 1896	1.1	3
16	A method for defining analog circuits for the minimization of discrete functionals: An image processing application. <i>Circuits, Systems, and Signal Processing</i> , <b>1999</b> , 18, 457-477	2.2	2
15	A hysteresis-based chaotic circuit: dynamics and applications. <i>International Journal of Circuit Theory and Applications</i> , <b>1999</b> , 27, 527-542	2	14
14	Electric Control of Molecular Dipoles: A Paradigm for Information Processing <b>1999</b> , 93-96		
13	On the representation of static hysteresis curves by a PWL ladder circuit. <i>International Journal of Circuit Theory and Applications</i> , <b>1998</b> , 26, 167-177	2	5
12	Circuit realization of Markov random fields for analog image processing. <i>International Journal of Circuit Theory and Applications</i> , <b>1998</b> , 26, 477-498	2	4
11	Simple realisation of hysteresis chaos generator. <i>Electronics Letters</i> , <b>1998</b> , 34, 10	1.1	11
10	Secure communication by hysteresis-based chaotic circuit. <i>Electronics Letters</i> , <b>1998</b> , 34, 1077	1.1	6
9	Simulations of the behavior of synaptically driven neurons via time-invariant circuit models. <i>IEEE Transactions on Biomedical Engineering</i> , <b>1997</b> , 44, 1282-7	5	9
8	On a circuit representation of the Hodgkin and Huxley nerve axon membrane equations. <i>International Journal of Circuit Theory and Applications</i> , <b>1997</b> , 25, 115-124	2	6
7	Static and dynamic hysteretic features in a PWL circuit. <i>International Journal of Circuit Theory and Applications</i> , <b>1996</b> , 24, 183-199	2	10
6	Dipole monolayer behaviour in the presence of electrodes. <i>Journal of Electrostatics</i> , <b>1996</b> , 37, 95-120	1.7	0
5	A PWL ladder circuit which exhibits hysteresis. <i>International Journal of Circuit Theory and Applications</i> , <b>1994</b> , 22, 513-526	2	25
4	Multiresolution PWL approximations		3
3	A CNN for biomedical image processing		2
2	PWL identification of dynamical systems: some examples		1



1 Coexistence of attractors in an oscillator based on hysteresis

2