

# Caren Tischendorf

## 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.

58  
papers

705  
citations

13  
h-index

25  
g-index

73  
ext. papers

797  
ext. citations

1.3  
avg, IF

4.13  
L-index

#	Paper	IF	Citations
58	Piecewise Polynomial Taylor Expansions – The Generalization of Faà di Bruno's Formula <b>2021</b> , 63-82		
57	Coupled Electromagnetic Field and Electric Circuit Simulation: A Waveform Relaxation Benchmark <b>2021</b> , 165-200		1
56	On the abs-polynomial expansion of piecewise smooth functions. <i>Optimization Methods and Software</i> , <b>2021</b> , 36, 301-315	1.3	0
55	MathEnergy – Mathematical Key Technologies for Evolving Energy Grids. <i>Mathematics in Industry</i> , <b>2021</b> , 233-262	0.2	0
54	Splitting Methods for Linear Circuit DAEs of Index 1 in port-Hamiltonian Form. <i>Mathematics in Industry</i> , <b>2021</b> , 211-219	0.2	
53	Waveform Relaxation for Low Frequency Coupled Field/Circuit Differential-Algebraic Models of Index 2. <i>Mathematics in Industry</i> , <b>2021</b> , 201-209	0.2	1
52	Generalized Elements for a Structural Analysis of Circuits. <i>Differential-algebraic Equations Forum</i> , <b>2020</b> , 397-431	0.6	4
51	A Signal Adaptive Prediction Filter for Video Coding Using Directional Total Variation: Mathematical Framework and Parameter Selection. <i>IEEE Transactions on Image Processing</i> , <b>2020</b> , 29, 9678-9688	8.7	3
50	Waveform relaxation: a convergence criterion for differential-algebraic equations. <i>Numerical Algorithms</i> , <b>2019</b> , 81, 1327-1342	2.1	6
49	Coupled Circuit Device Simulation. <i>Mathematics in Industry</i> , <b>2018</b> , 69-77	0.2	0
48	Generic Construction and Efficient Evaluation of Flow Network DAEs and Their Derivatives in the Context of Gas Networks. <i>Operations Research Proceedings: Papers of the Annual Meeting = Vorträge Der Jahrestagung / DGOR</i> , <b>2018</b> , 627-632	0.1	3
47	Least-squares collocation for higher-index linear differential-algebraic equations: Estimating the instability threshold. <i>Mathematics of Computation</i> , <b>2018</b> , 88, 1647-1683	1.6	5
46	A Signal Adaptive Diffusion Filter for Video Coding Using Directional Total Variation <b>2018</b> ,		3
45	Gas Network Benchmark Models. <i>Differential-algebraic Equations Forum</i> , <b>2018</b> , 171-197	0.6	3
44	Stability Analysis of Electromagnetic Transient Simulations. <i>Mathematics in Industry</i> , <b>2018</b> , 25-33	0.2	
43	Least-squares collocation for linear higher-index differential-algebraic equations. <i>Journal of Computational and Applied Mathematics</i> , <b>2017</b> , 317, 403-431	2.4	10
42	Transient Modeling and Simulation of Gas Pipe Networks with Characteristic Diagram Models for Compressors. <i>Proceedings in Applied Mathematics and Mechanics</i> , <b>2017</b> , 17, 707-708	0.2	1

41	Nanoelectronic COupled problems solutions - nanoCOPS: modelling, multirate, model order reduction, uncertainty quantification, fast fault simulation. <i>Journal of Mathematics in Industry</i> , <b>2016</b> , 7,	2.9	2
40	Holistic coupled field and circuit simulation <b>2016</b> ,		2
39	Interface Model Integrating Full-Wave Maxwell Simulation Models into Modified Nodal Equations for Circuit Simulation?. <i>IFAC-PapersOnLine</i> , <b>2015</b> , 48, 940-941	0.7	2
38	Analysis of semi-discretized differential algebraic equation from coupled circuit device simulation. <i>Computational and Applied Mathematics</i> , <b>2015</b> , 34, 933-955		3
37	Regularization of Electrical Circuits?. <i>IFAC-PapersOnLine</i> , <b>2015</b> , 48, 312-313	0.7	1
36	Global unique solvability for memristive circuit DAEs of Index 1. <i>International Journal of Circuit Theory and Applications</i> , <b>2015</b> , 43, 73-93	2	4
35	Index-aware model order reduction for differential-algebraic equations. <i>Mathematical and Computer Modelling of Dynamical Systems</i> , <b>2014</b> , 20, 345-373	1	10
34	A Topology Based Discretization of PDAEs Describing Water Transportation Networks. <i>Proceedings in Applied Mathematics and Mechanics</i> , <b>2014</b> , 14, 923-924	0.2	3
33	Index-aware model order reduction: LTI DAEs in electric networks. <i>COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering</i> , <b>2014</b> , 33, 1123-1144	0.7	
32	A Unified (P)DAE Modeling Approach for Flow Networks. <i>Differential-algebraic Equations Forum</i> , <b>2014</b> , 127-151	0.6	7
31	Model Order Reduction of Differential Algebraic Equations Arising from the Simulation of Gas Transport Networks. <i>Differential-algebraic Equations Forum</i> , <b>2014</b> , 183-205	0.6	23
30	Structural characterization of classical and memristive circuits with purely imaginary eigenvalues. <i>International Journal of Circuit Theory and Applications</i> , <b>2013</b> , 41, 273-294	2	6
29	Differential-Algebraic Equations: A Projector Based Analysis <b>2013</b> ,		109
28	Index-Aware Model Order Reduction for Linear Index-2 DAEs with Constant Coefficients. <i>SIAM Journal of Scientific Computing</i> , <b>2013</b> , 35, A1487-A1510	2.6	9
27	Steady-State Behavior of Large Water Distribution Systems: Algebraic Multigrid Method for the Fast Solution of the Linear Step. <i>Journal of Water Resources Planning and Management - ASCE</i> , <b>2012</b> , 138, 639-650	2.8	16
26	Large signal simulation of integrated inductors on semi-conducting substrates <b>2012</b> ,		5
25	Effective Numerical Computation of Parameter Dependent Problems. <i>Mathematics in Industry</i> , <b>2012</b> , 49-57	0.2	1
24	Structural Characterization of Circuit Configurations with Undamped Oscillations. <i>Mathematics in Industry</i> , <b>2012</b> , 13-19	0.2	

23	Tractability index of hybrid equations for circuit simulation. <i>Mathematics of Computation</i> , <b>2011</b> , 81, 923-939		11
22	Semistate models of electrical circuits including memristors. <i>International Journal of Circuit Theory and Applications</i> , <b>2011</b> , 39, 607-627	2	26
21	Convergence analysis of a partial differential algebraic system from coupling a semiconductor model to a circuit model. <i>Applied Numerical Mathematics</i> , <b>2011</b> , 61, 382-394	2.5	4
20	Hybrid Analysis of Nonlinear Time-Varying Circuits Providing DAEs with Index at Most One. <i>Mathematics in Industry</i> , <b>2010</b> , 151-158	0.2	1
19	The hyperbolicity problem in electrical circuit theory. <i>Mathematical Methods in the Applied Sciences</i> , <b>2010</b> , 33, 2037-2049	2.3	11
18	Consistent Initialization for Coupled Circuit-Device Simulation. <i>Mathematics in Industry</i> , <b>2010</b> , 297-304	0.2	5
17	Numerical Simulation of High-Frequency Circuits in Telecommunication <b>2008</b> , 9-18		
16	Qualitative features of matrix pencils and DAEs arising in circuit dynamics. <i>Dynamical Systems</i> , <b>2007</b> , 22, 107-131	0.6	29
15	PDAE models of integrated circuits and index analysis. <i>Mathematical and Computer Modelling of Dynamical Systems</i> , <b>2007</b> , 13, 1-17	1	24
14	Numerical analysis of DAEs from coupled circuit and semiconductor simulation. <i>Applied Numerical Mathematics</i> , <b>2005</b> , 53, 471-488	2.5	42
13	Frequency Domain Methods and Decoupling of Linear Infinite Dimensional Differential Algebraic Systems. <i>Journal of Evolution Equations</i> , <b>2005</b> , 5, 357-385	1.2	9
12	Elliptic Partial Differential-Algebraic Multiphysics Models in Electrical Network Design. <i>Mathematical Models and Methods in Applied Sciences</i> , <b>2003</b> , 13, 1261-1278	3.5	27
11	Stability preserving integration of index-2 DAEs. <i>Applied Numerical Mathematics</i> , <b>2003</b> , 45, 201-229	2.5	20
10	Stability preserving integration of index-1 DAEs. <i>Applied Numerical Mathematics</i> , <b>2003</b> , 45, 175-200	2.5	24
9	Modeling Circuit Systems Coupled with Distributed Semiconductor Equations <b>2003</b> , 229-247		6
8	Finding Beneficial DAE Structures in Circuit Simulation <b>2003</b> , 413-428		4
7	Mathematical Problems in Circuit Simulation. <i>Mathematical and Computer Modelling of Dynamical Systems</i> , <b>2001</b> , 7, 215-223	1	4
6	Model Design Criteria for Integrated Circuits to Have a Unique Solution and Good Numerical Properties. <i>Lecture Notes in Computational Science and Engineering</i> , <b>2001</b> , 179-198	0.3	

5	Structural analysis of electric circuits and consequences for MNA. <i>International Journal of Circuit Theory and Applications</i> , <b>2000</b> , 28, 131-162	2	159
4	Topological index-calculation of DAEs in circuit simulation. <i>ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik</i> , <b>1998</b> , 78, 1103-1104	1	5
3	Recent Results in Solving Index-2 Differential-Algebraic Equations in Circuit Simulation. <i>SIAM Journal of Scientific Computing</i> , <b>1997</b> , 18, 139-159	2.6	22
2	Solving more general index-2 differential algebraic equations. <i>Computers and Mathematics With Applications</i> , <b>1994</b> , 28, 77-105	2.7	8
1	On the stability of solutions of autonomous index-1 tractable and quasilinear index-2 tractable DAEs. <i>Circuits, Systems, and Signal Processing</i> , <b>1994</b> , 13, 139-154	2.2	19