

Dan Jiao

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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

940
citations

18
h-index

24
g-index

218
ext. papers

1,274
ext. citations

3.4
avg, IF

4.96
L-index

#	Paper	IF	Citations
126	An \mathcal{H}^2 -Matrix-Based Integral-Equation Solver of Reduced Complexity and Controlled Accuracy for Solving Electrodynamical Problems. <i>IEEE Transactions on Antennas and Propagation</i> , 2009 , 57, 3147-3159	4.9	51
125	Explicit Time-Domain Finite-Element Method Stabilized for an Arbitrarily Large Time Step. <i>IEEE Transactions on Antennas and Propagation</i> , 2012 , 60, 5240-5250	4.9	44
124	An Explicit and Unconditionally Stable FDTD Method for Electromagnetic Analysis. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2014 , 62, 2538-2550	4.1	40
123	A direct integral-equation solver of linear complexity for large-scale 3D capacitance and impedance extraction 2009 ,		29
122	A Layered Finite Element Method for Electromagnetic Analysis of Large-Scale High-Frequency Integrated Circuits. <i>IEEE Transactions on Antennas and Propagation</i> , 2007 , 55, 422-432	4.9	29
121	Three-dimensional orthogonal vector basis functions for time-domain finite element solution of vector wave equations. <i>IEEE Transactions on Antennas and Propagation</i> , 2003 , 51, 59-66	4.9	28
120	Fast \mathcal{H}^2 -Matrix-Based Direct Integral Equation Solver With Reduced Computational Cost for Large-Scale Interconnect Extraction. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , 2013 , 3, 289-298	1.7	27
119	Direct Matrix Solution of Linear Complexity for Surface Integral-Equation-Based Impedance Extraction of Complicated 3-D Structures. <i>Proceedings of the IEEE</i> , 2013 , 101, 372-388	14.3	26
118	A Time-Domain Layered Finite Element Reduction Recovery (LAFE-RR) Method for High-Frequency VLSI Design. <i>IEEE Transactions on Antennas and Propagation</i> , 2007 , 55, 3620-3629	4.9	26
117	Theoretical Study on the Rank of Integral Operators for Broadband Electromagnetic Modeling From Static to Electrodynamical Frequencies. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , 2013 , 3, 2113-2126	1.7	25
116	A Theoretically Rigorous Full-Wave Finite-Element-Based Solution of Maxwell's Equations From dc to High Frequencies. <i>IEEE Transactions on Advanced Packaging</i> , 2010 , 33, 1043-1050		25
115	Dense Matrix Inversion of Linear Complexity for Integral-Equation-Based Large-Scale 3-D Capacitance Extraction. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2011 , 59, 2404-2421	4.1	25
114	A Rigorous Solution to the Low-Frequency Breakdown in Full-Wave Finite-Element-Based Analysis of General Problems Involving Inhomogeneous Lossless/Lossy Dielectrics and Nonideal Conductors. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2011 , 59, 3294-3306	4.1	23
113	Fast Explicit and Unconditionally Stable FDTD Method for Electromagnetic Analysis. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2017 , 65, 2698-2710	4.1	22
112	A New Volume Integral Formulation for Broadband 3-D Circuit Extraction in Inhomogeneous Materials With and Without External Electromagnetic Fields. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2013 , 61, 4302-4312	4.1	20
111	Solution of the Electric Field Integral Equation When It Breaks Down. <i>IEEE Transactions on Antennas and Propagation</i> , 2014 , 62, 4122-4134	4.9	18
110	Alternative Method for Making Explicit FDTD Unconditionally Stable. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2015 , 63, 4215-4224	4.1	18

109	An LU Decomposition Based Direct Integral Equation Solver of Linear Complexity and Higher-Order Accuracy for Large-Scale Interconnect Extraction. <i>IEEE Transactions on Advanced Packaging</i> , 2010 , 33, 794-803			18
108	A Linear Complexity Direct Volume Integral Equation Solver for Full-Wave 3-D Circuit Extraction in Inhomogeneous Materials. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2015 , 63, 897-912	4.1		16
107	. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2015 , 63, 3066-3080	4.1		14
106	. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2015 , 63, 4201-4214	4.1		14
105	Linear-Complexity Direct and Iterative Integral Equation Solvers Accelerated by a New Rank-Minimized \mathcal{H}^2 -Representation for Large-Scale 3-D Interconnect Extraction. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2013 , 61, 2792-2805	4.1		14
104	A Unified Finite-Element Solution From Zero Frequency to Microwave Frequencies for Full-Wave Modeling of Large-Scale Three-Dimensional On-Chip Interconnect Structures. <i>IEEE Transactions on Advanced Packaging</i> , 2008 , 31, 873-881			14
103	Accuracy Directly Controlled Fast Direct Solution of General \mathcal{H}^2 -Matrices and Its Application to Solving Electrodynamic Volume Integral Equations. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2018 , 66, 35-48	4.1		12
102	Explicit and Unconditionally Stable Time-Domain Finite-Element Method with a More Than \mathbb{O} ptimal Speedup. <i>Electromagnetics</i> , 2014 , 34, 199-209	0.8		12
101	Fast Full-Wave Solution That Eliminates the Low-Frequency Breakdown Problem in a Reduced System of Order One. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , 2012 , 2, 1871-1881	1.7		12
100	An Unsymmetric FDTD Subgridding Algorithm With Unconditional Stability. <i>IEEE Transactions on Antennas and Propagation</i> , 2018 , 66, 4137-4150	4.9		12
99	An Explicit and Unconditionally Stable FDTD Method for the Analysis of General 3-D Lossy Problems. <i>IEEE Transactions on Antennas and Propagation</i> , 2015 , 63, 4003-4015	4.9		11
98	From Layout Directly to Simulation: A First-Principle-Guided Circuit Simulator of Linear Complexity and Its Efficient Parallelization. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , 2012 , 2, 687-699	1.7		11
97	Time-Domain Orthogonal Finite-Element Reduction-Recovery Method for Electromagnetics-Based Analysis of Large-Scale Integrated Circuit and Package Problems. <i>IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems</i> , 2009 , 28, 1138-1149	2.5		11
96	A Quadratic Eigenvalue Solver of Linear Complexity for 3-D Electromagnetics-Based Analysis of Large-Scale Integrated Circuits. <i>IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems</i> , 2012 , 31, 380-390	2.5		10
95	Layered \mathcal{H} -Matrix Based Inverse and LU Algorithms for Fast Direct Finite-Element-Based Computation of Electromagnetic Problems. <i>IEEE Transactions on Antennas and Propagation</i> , 2013 , 61, 1273-1284	4.9		10
94	Symmetric Positive Semidefinite FDTD Subgridding Algorithms for Arbitrary Grid Ratios Without Compromising Accuracy. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2017 , 65, 5084-5095	4.1		10
93	Low-Complexity Direct and Iterative Volume Integral Equation Solvers With a Minimal-Rank \mathcal{H}^2 -Representation for Large-Scale Three-Dimensional Electrodynamic Analysis. <i>IEEE Journal on Multiscale and Multiphysics Computational Techniques</i> , 2017 , 2, 210-223	1.5		8
92	An explicit and unconditionally stable FDTD method for 3-D electromagnetic analysis 2013 ,			8

91	Hierarchical Finite-Element Reduction-Recovery Method for Large-Scale Transient Analysis of High-Speed Integrated Circuits. <i>IEEE Transactions on Advanced Packaging</i> , 2010 , 33, 276-284		8
90	A Fast Frequency-Domain Eigenvalue-Based Approach to Full-Wave Modeling of Large-Scale Three-Dimensional On-Chip Interconnect Structures. <i>IEEE Transactions on Advanced Packaging</i> , 2008 , 31, 890-899		8
89	O(N) iterative and O(NlogN) direct volume integral equation solvers for large-scale electrodynamic analysis 2014 ,		7
88	A Fast-Marching Time-Domain Layered Finite-Element Reduction-Recovery Method for High-Frequency VLSI Design. <i>IEEE Transactions on Antennas and Propagation</i> , 2009 , 57, 577-581	4.9	7
87	Rapid Modeling and Simulation of Integrated Circuit Layout in Both Frequency and Time Domains From the Perspective of Inverse. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2020 , 68, 1270-1283	4.1	6
86	An Alternative Explicit and Unconditionally Stable Time-Domain Finite-Element Method for Electromagnetic Analysis. <i>IEEE Journal on Multiscale and Multiphysics Computational Techniques</i> , 2018 , 3, 16-28	1.5	6
85	Eliminating the Low-Frequency Breakdown Problem in 3-D Full-Wave Finite-Element-Based Analysis of Integrated Circuits. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2010 , 58, 2633-2645	4.1	6
84	Method for Analytically Finding the Nullspace of Stiffness Matrix for Both Zeroth-Order and Higher Order Curl-Conforming Vector Bases in Unstructured Meshes. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2020 , 68, 456-468	4.1	6
83	Time-Domain Method Having a Naturally Diagonal Mass Matrix Independent of Element Shape for General Electromagnetic Analysis 2-D Formulations. <i>IEEE Transactions on Antennas and Propagation</i> , 2017 , 65, 1202-1214	4.9	5
82	Fast method for an accurate and efficient nonlinear signaling analysis. <i>IEEE Transactions on Electromagnetic Compatibility</i> , 2017 , 59, 1312-1319	2	5
81	Fast Nested Cross Approximation Algorithm for Solving Large-Scale Electromagnetic Problems. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2019 , 67, 3271-3283	4.1	5
80	Linear-complexity direct finite element solver accelerated for many right hand sides 2014 ,		5
79	H2-matrix-based fast volume integral equation solver for electrodynamic analysis. <i>IET Microwaves, Antennas and Propagation</i> , 2013 , 7, 1145-1153	1.6	5
78	Existence of \mathcal{H} -Matrix Representations of the Inverse Finite-Element Matrix of Electrodynamic Problems and \mathcal{H} -Based Fast Direct Finite-Element Solvers. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2010 ,	4.1	5
77	Performance analysis of the H-matrix-based Fast Direct Solver for finite-element-based analysis of electromagnetic problems. <i>Digest / IEEE Antennas and Propagation Society International Symposium</i> , 2009 ,		5
76	A theoretical study on the rank's dependence with electric size of the inverse finite element matrix for large-scale electrodynamic analysis 2012 ,		5
75	A Recovery Algorithm of Linear Complexity in the Time-Domain Layered Finite Element Reduction Recovery (LAFE-RR) Method for Large-Scale Electromagnetic Analysis of High-Speed ICs. <i>IEEE Transactions on Advanced Packaging</i> , 2008 , 31, 612-618		5
74	Hybrid cross approximation for electric field integral equation based scattering analysis 2017 ,		4

73	An explicit and unconditionally stable FDTD method for the analysis of general 3-D lossy problems 2014,		4
72	Minimal-order circuit model based fast electromagnetic simulation 2013,		4
71	A simple implicit and unconditionally stable FDTD method by changing only one time instant 2014,		4
70	A Linear-Time Complex-Valued Eigenvalue Solver for Full-Wave Analysis of Large-Scale On-Chip Interconnect Structures. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2009 , 57, 2021-2029	4.1	4
69	An unconditionally stable time-domain finite element method of significantly reduced computational complexity for large-scale simulation of IC and package problems 2009,		4
68	Matrix-Free Time-Domain Method for General Electromagnetic Analysis in 3-D Unstructured Meshes Modified-Basis Formulation. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2016 , 64, 2371-2382	4.1	4
67	Accurate matrix-free time-domain method in unstructured meshes 2015,		3
66	Symmetric Positive Semi-Definite FDTD Subgridding Algorithms in Both Space and Time for Accurate Analysis of Inhomogeneous Problems. <i>IEEE Transactions on Antennas and Propagation</i> , 2020 , 68, 3047-3059	4.9	3
65	Efficient Full-Wave Characterization of Discrete High-Density Multiterminal Decoupling Capacitors for High-Speed Digital Systems. <i>IEEE Transactions on Advanced Packaging</i> , 2008 , 31, 154-162		3
64	An Efficient 3D-to-2D Reduction Technique for Frequency-Domain Layered Finite Element Analysis of Large-Scale High-Frequency Integrated Circuits 2007,		3
63	A Layered Finite Element Method for High-Frequency Modeling of Large-Scale Three-Dimensional On-Chip Interconnect Structures 2006,		3
62	New HSS-factorization and inversion algorithms with exact arithmetic for efficient direct solution of large-scale volume integral equations 2016,		3
61	First-Principles-Based Multiphysics Modeling and Simulation of On-Chip Cu-Graphene Hybrid Nanointerconnects in Comparison With Simplified Model-Based Analysis. <i>IEEE Journal on Multiscale and Multiphysics Computational Techniques</i> , 2019 , 4, 374-382	1.5	3
60	Nested Reduction Algorithms for Generating a Rank-Minimized H2-Matrix From FMM for Electrically Large Analysis. <i>IEEE Transactions on Antennas and Propagation</i> , 2021 , 69, 3945-3956	4.9	3
59	Rapid Inverse Modeling of Integrated Circuit Layout in Both Frequency and Time Domain 2019,		2
58	Direct Solution of General \mathcal{H}^2 -Matrices With Controlled Accuracy and Concurrent Change of Cluster Bases for Electromagnetic Analysis. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2019 , 67, 2114-2127	4.1	2
57	An alternative method for making an explicit FDTD unconditionally stable 2015,		2
56	Accurate matrix-free time-domain method in three-dimensional unstructured meshes 2015,		2

55	Multiphysics Modeling and Simulation of 3-D Cu-Graphene Hybrid Nanointerconnects. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2020 , 68, 490-500	4.1	2
54	Explicit and unconditionally stable FDTD method without eigenvalue solutions 2016 ,		2
53	Fast and rigorous method for solving low-frequency breakdown in full-wave finite-element-based solution of general lossy problems 2018 ,		2
52	A Deterministic-Solution Based Fast Eigenvalue Solver With Guaranteed Convergence for Finite-Element Based 3-D Electromagnetic Analysis. <i>IEEE Transactions on Antennas and Propagation</i> , 2013 , 61, 3701-3711	4.9	2
51	An analytical approach to the low-frequency breakdown of the right hand side and scattered field computation in EFIE 2013 ,		2
50	Fast Structure-Aware Direct Time-Domain Finite-Element Solver for the Analysis of Large-Scale On-Chip Circuits. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , 2015 , 5, 1477-1487	1.7	2
49	Accurate matrix-free time-domain method with traditional vector bases in unstructured meshes 2015 ,		2
48	Minimal-rank H2-matrix-based iterative and direct volume integral equation solvers for large-scale scattering analysis 2015 ,		2
47	A new volume integral equation formulation for analyzing 3-D circuits in inhomogeneous dielectrics exposed to external fields 2013 ,		2
46	A linear complexity direct finite element solver for large-scale 3-D electromagnetic analysis 2013 ,		2
45	A complexity-reduced H-matrix based direct integral equation solver with prescribed accuracy for large-scale electrodynamic analysis 2010 ,		2
44	. <i>IEEE Transactions on Advanced Packaging</i> , 2010 , 33, 524-533		2
43	Co-simulation of linear electromagnetic structures and non-linear devices in the time-domain finite-element reduction-recovery method 2009 ,		2
42	Time-domain orthogonal finite-element reduction-recovery (OrFE-RR) method for fast and accurate broadband simulation of die-package interaction 2008 ,		2
41	An H-matrix-based method for reducing the complexity of integral-equation-based solutions of electromagnetic problems 2008 ,		2
40	An H2-matrix-based integral-equation solver of linear-complexity for large-scale full-wave modeling of 3D circuits 2008 ,		2
39	Hierarchical and adaptive finite-element reduction-recovery method for large-scale power and signal integrity analysis of high-speed IC and packaging structures 2008 ,		2
38	Multiphysics Modeling and Simulation of 3-D Cu-Graphene Hybrid Nano-Interconnects 2019 ,		2

37	Fast Algorithms for Converting an FMM-Based Representation of Electrically Large Integral Operators to a Minimal-Rank H ² -Matrix 2019 ,		2
36	Method for Accurate and Efficient Eye Diagram Prediction of Nonlinear High-Speed Links. <i>IEEE Transactions on Electromagnetic Compatibility</i> , 2021 , 1-10	2	2
35	Multiphysics Simulation of High-Speed Graphene-Based Interconnects in Time Domain 2018 ,		2
34	Matrix-Free Method for Transient Maxwell-Thermal Cosimulation in Arbitrary Unstructured Meshes. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2018 , 66, 5439-5448	4.1	2
33	On the low-frequency breakdown of FDTD 2015 ,		1
32	Accuracy Controlled Structure-Preserving \mathcal{H}^2 -Matrix-Matrix Product in Linear Complexity With Change of Cluster Bases. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2020 , 68, 441-455	4.1	1
31	Fast algorithm for nonlinear signaling analysis 2016 ,		1
30	Diagonal-preserving explicit and unconditionally stable FDTD method for analyzing general lossy electromagnetic problems 2014 ,		1
29	Accuracy directly controlled fast direct solutions of general H ² -matrices and its application to electrically large electromagnetic analysis 2017 ,		1
28	Formulations of an accurate and stable matrix-free time-domain method in 2-D unstructured meshes 2015 ,		1
27	A new explicit and unconditionally stable FDTD method for analyzing general lossy problems 2015 ,		1
26	Accurate and stable matrix-free time-domain method independent of element shape for general electromagnetic analysis 2015 ,		1
25	A Linear-Complexity Finite-Element-Based Eigenvalue Solver for Efficient Analysis of 3-D On-Chip Integrated Circuits. <i>IEEE Microwave and Wireless Components Letters</i> , 2014 , 24, 833-835	2.6	1
24	Fast algorithm for generating a minimal-order model of a general lossy electromagnetic problem 2014 ,		1
23	Structure-aware time-domain finite-element method for efficient simulation of VLSI circuits 2014 ,		1
22	Explicit and unconditionally stable time-domain finite-element method with a more than $\bar{\alpha}$ optimal speedup 2013 ,		1
21	A new volume integral formulation for fullwave extraction of 3-D circuits in inhomogeneous dielectrics exposed to external fields 2013 ,		1
20	Parallel Time-Domain Finite-Element Simulator of Linear Speedup and Electromagnetic Accuracy for the Simulation of DiePackage Interaction. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , 2011 , 1, 752-760	1.7	1

19	An H2-matrix-based direct integral-equation solver of linear complexity for solving electrodynamic problems 2009 ,		1
18	An explicit and unconditionally stable time-domain finite-element method of linear complexity for electromagnetics-based simulation of 3-D global interconnect network 2011 ,		1
17	A theoretical proof on the error-bounded low-rank representation of integral operators for large-scale 3-D electrodynamic analysis 2012 ,		1
16	From $O(N)$ to $O(M)$: Time-domain layered finite-element reduction-recovery methods for large scale electromagnetics-based analysis and design of on-chip circuits 2008 ,		1
15	Fast Method for Accelerating Convergence in Iterative Solution of Frequency-Domain Partial Differential Equation Methods 2020 ,		1
14	Solution to the low-frequency breakdown in full-wave finite-element based analysis of general lossy problems 2016 ,		1
13	Truncating Matrix-free Time-Domain Method with PML for Solving 3-D Open Region Problems 2019 ,		1
12	Symmetric Positive Semi-Definite FDTD Subgridding Algorithm in Both Space and Time 2018 ,		1
11	Matrix-Free Method for Maxwell-Thermal Co-Simulation in Unstructured Meshes 2018 ,		1
10	A Father Has Two Sons or a Parent Has Two Children? [Women in Engineering]. <i>IEEE Antennas and Propagation Magazine</i> , 2019 , 61, 52-56	1.7	0
9	. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2019 , 67, 4821-4832	4.1	0
8	Blossoming Into a Professor [Women in Microwaves]. <i>IEEE Microwave Magazine</i> , 2019 , 20, 73-75	1.2	
7	Foreword Special Section on Recent Progress in Electrical Modeling and Simulation of High-Speed ICs and Packages. <i>IEEE Transactions on Advanced Packaging</i> , 2010 , 33, 758-759		
6	A Recovery Algorithm for Frequency-Domain Layered Finite Element Analysis of Large-Scale High-Frequency Integrated Circuits. <i>IEEE Microwave and Wireless Components Letters</i> , 2007 , 17, 553-555 ^{2.6}		
5	An alternative analytical reduction scheme in the time-domain layered finite element reduction recovery method for high-frequency IC design. <i>Microwave and Optical Technology Letters</i> , 2008 , 50, 2337-2341 ^{1.3}		
4	Method for Analyzing Bit Error Rates (BERs) of Nonlinear Circuits and Systems for High-Performance Signaling. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2022 , 70, 732-743 ^{4.1}		
3	Fast Method for Accelerating Convergence of Iterative Partial Differential Equation Solvers by Changing System Matrix to Laplacian Counterpart. <i>IEEE Transactions on Antennas and Propagation</i> , 2021 , 1-1	4.9	
2	Fast Method for Accelerating Time-Domain Solutions of Ill-Conditioned Electromagnetic Problems by Changing Curl-Curl Operator to Laplacian. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2021 , 1-1	4.1	

- 1 Fast $O(N \log N)$ Algorithm for Generating Rank-Minimized H_2 -Representation of Electrically Large Volume Integral Equations. *IEEE Transactions on Antennas and Propagation*, **2022**, 1-1 4.9