

# Zhen Peng

## List of Publications by Year in descending order

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55  
papers

1,320  
citations

430874

18  
h-index

454955

30  
g-index

55  
all docs

55  
docs citations

55  
times ranked

567  
citing authors

#	ARTICLE	IF	CITATIONS
1	Integral Equation Based Domain Decomposition Method for Solving Electromagnetic Wave Scattering From Non-Penetrable Objects. IEEE Transactions on Antennas and Propagation, 2011, 59, 3328-3338.	5.1	187
2	A Discontinuous Galerkin Surface Integral Equation Method for Electromagnetic Wave Scattering From Nonpenetrable Targets. IEEE Transactions on Antennas and Propagation, 2013, 61, 3617-3628.	5.1	145
3	Computations of Electromagnetic Wave Scattering From Penetrable Composite Targets Using a Surface Integral Equation Method With Multiple Traces. IEEE Transactions on Antennas and Propagation, 2013, 61, 256-270.	5.1	98
4	Non-conformal domain decomposition method with second-order transmission conditions for time-harmonic electromagnetics. Journal of Computational Physics, 2010, 229, 5615-5629.	3.8	90
5	Domain Decomposition Preconditioning for Surface Integral Equations in Solving Challenging Electromagnetic Scattering Problems. IEEE Transactions on Antennas and Propagation, 2016, 64, 210-223.	5.1	89
6	Full-Wave Real-Life 3-D Package Signal Integrity Analysis Using Nonconformal Domain Decomposition Method. IEEE Transactions on Microwave Theory and Techniques, 2011, 59, 230-241.	4.6	81
7	One way domain decomposition method with second order transmission conditions for solving electromagnetic wave problems. Journal of Computational Physics, 2010, 229, 1181-1197.	3.8	76
8	Nonconformal Domain Decomposition Methods for Solving Large Multiscale Electromagnetic Scattering Problems. Proceedings of the IEEE, 2013, 101, 298-319.	21.3	73
9	Effective transmission conditions for domain decomposition methods applied to the time-harmonic curl-curl Maxwell's equations. Journal of Computational Physics, 2015, 280, 232-247.	3.8	50
10	A Scalable Nonoverlapping and Nonconformal Domain Decomposition Method for Solving Time-Harmonic Maxwell Equations in $\mathbb{R}^3$ . SIAM Journal of Scientific Computing, 2012, 34, A1266-A1295.	2.8	42
11	Multisolver Domain Decomposition Method for Modeling EMC Effects of Multiple Antennas on a Large Air Platform. IEEE Transactions on Electromagnetic Compatibility, 2012, 54, 375-388.	2.2	42
12	A fast direct matrix solver for surface integral equation methods for electromagnetic wave scattering from nonpenetrable targets. Radio Science, 2012, 47, .	1.6	41
13	Multiscale electromagnetic computations using a hierarchical multilevel fast multipole algorithm. Radio Science, 2014, 49, 1022-1040.	1.6	27
14	A boundary integral equation domain decomposition method for electromagnetic scattering from large and deep cavities. Journal of Computational Physics, 2015, 280, 626-642.	3.8	27
15	Physics-Informed Deep Neural Networks for Transient Electromagnetic Analysis. IEEE Open Journal of Antennas and Propagation, 2020, 1, 404-412.	3.7	27
16	ADAPTIVE AND PARALLEL SURFACE INTEGRAL EQUATION SOLVERS FOR VERY LARGE-SCALE ELECTROMAGNETIC MODELING AND SIMULATION (Invited Paper). Progress in Electromagnetics Research, 2015, 154, 143-162.	4.4	26
17	A Geometry-Aware Domain Decomposition Preconditioning for Hybrid Finite Element-Boundary Integral Method. IEEE Transactions on Antennas and Propagation, 2017, 65, 1875-1885.	5.1	26
18	Thermal Analysis of High-Power Integrated Circuits and Packages Using Nonconformal Domain Decomposition Method. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2013, 3, 1321-1331.	2.5	19

#	ARTICLE	IF	CITATIONS
19	A Novel Multitrace Boundary Integral Equation Formulation for Electromagnetic Cavity Scattering Problems. IEEE Transactions on Antennas and Propagation, 2015, 63, 4446-4457.	5.1	17
20	Automatic Localized Nonconformal Mesh Refinement for Surface Integral Equations. IEEE Transactions on Antennas and Propagation, 2020, 68, 967-975.	5.1	16
21	High-Fidelity, High-Performance Computational Algorithms for Intrasystem Electromagnetic Interference Analysis of IC and Electronics. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2017, 7, 653-668.	2.5	15
22	Thermal-aware DC IR-drop co-analysis using non-conformal domain decomposition methods. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2012, 468, 1652-1675.	2.1	14
23	Supercomputing-Enabled First-Principles Analysis of Radio Wave Propagation in Urban Environments. IEEE Transactions on Antennas and Propagation, 2018, 66, 6606-6617.	5.1	14
24	Microstructure and mechanical properties of lightweight AlCrTiV <sub>0.5</sub> Cu <sub>x</sub> high-entropy alloys. Rare Metals, 2022, 41, 2016-2020.	7.1	13
25	A new integral equation based domain decomposition method for electromagnetic analysis of large multi-scale problems. , 2012, , .		11
26	Engineering Reflective Metasurfaces With Ising Hamiltonian and Quantum Annealing. IEEE Transactions on Antennas and Propagation, 2022, 70, 2841-2854.	5.1	11
27	A Coarse-Grained Integral Equation Method for Multiscale Electromagnetic Analysis. IEEE Transactions on Antennas and Propagation, 2018, 66, 1607-1612.	5.1	9
28	A Stochastic Green's Function for Solution of Wave Propagation in Wave-Chaotic Environments. IEEE Transactions on Antennas and Propagation, 2020, 68, 3919-3933.	5.1	9
29	Analysis of IR-drop in 3-D IC packaging using a non-conformal domain decomposition method. , 2012, , .		5
30	A Parallel-in-Space-and-Time Method for Transient Electromagnetic Problems. IEEE Transactions on Antennas and Propagation, 2019, 67, 3961-3973.	5.1	5
31	Improved Anti-Vulcanization and Bonding Performance of a Silver Alloy Bonding Wire by a Cathodic Passivation Treatment with Palladium. Materials, 2022, 15, 2355.	2.9	3
32	A Novel Statistical Model for the Electromagnetic Coupling to Electronics inside Enclosures. , 2019, , .		2
33	SI and PI analyses of complex IC packagings using non-conformal domain decomposition methods. , 2012, , .		1
34	Optimized integral equation domain decomposition methods for scattering by large and deep cavities. , 2014, , .		1
35	Surface integral equation methods for multi-scale electromagnetic problems. , 2014, , .		1
36	Advanced integral equation solvers for high-fidelity electromagnetic modeling and simulation. , 2014, , .		1

#	ARTICLE	IF	CITATIONS
37	A multi-scale surface integral equation domain decomposition method for high-fidelity electromagnetic simulation. , 2016, , .		1
38	Data-driven model order reduction via Loewner approach for fast frequency sweep in hybrid BI-FEM solution in large finite frequency selective surfaces. , 2017, , .		1
39	Geometry-aware domain decomposition methods in high-fidelity electromagnetic design. , 2017, , .		1
40	Loewner approach model order reduction in hybrid BI-FEM solution for the design of frequency selective surfaces. , 2017, , .		1
41	A Novel Space-Time Building Block Methodology for Transient Electromagnetic Analysis. , 2019, , .		1
42	Rapid Numerical Analysis of Electrically Large PEC Platforms With Local Variations via a Platform Green's Function Method. IEEE Transactions on Antennas and Propagation, 2022, 70, 9544-9556.	5.1	1
43	Comparisons of heterogeneous multiscale finite element method and localized homogenization process for modeling aperiodic metamaterials. , 2012, , .		0
44	High-performance surface integral equation solvers towards extreme-scale electromagnetic modeling and simulation. , 2016, , .		0
45	Space-time parallel computation for time-domain Maxwell's equations. , 2017, , .		0
46	Towards real-time in-situ antenna analysis and design on platforms of 1000 wavelengths. , 2017, , .		0
47	Parallel-in-Space-Time Analysis of Electromagnetic Interference in Electronic Enclosures. , 2018, , .		0
48	Breaking the Scaling Limit: A Parallel-in-Space-and-Time Method for Transient Electromagnetic Problems. , 2018, , .		0
49	A Stochastic Green's Function - Integral Equation Method for Communication in Diffuse Multipath Environments. , 2018, , .		0
50	A novel stochastic integral equation method for wireless communication in diffuse multipath environments. , 2018, , .		0
51	A novel stochastic integral equation method for wireless communication in diffuse multipath environments. , 2018, , .		0
52	A novel stochastic integral equation method for MIMO communication in diffuse multipath environments. , 2018, , .		0
53	A space-time domain decomposition method for high-fidelity electromagnetic simulation. , 2018, , .		0
54	On the Information Entropy of Ray-Chaotic Indoor Environments. , 2021, , .		0

#	ARTICLE	IF	CITATIONS
55	On the Statistical Analysis of Space-Time Wave Physics in Complex Enclosures. , 2021, , .		0