

Xin-Qing Sheng

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.

109 papers	1,034 citations	16 h-index	27 g-index
183 ext. papers	1,400 ext. citations	3.5 avg, IF	4.84 L-index

#	Paper	IF	Citations
109	Fourier Bases-Expansion for Three-Dimensional Electromagnetic Inverse Scattering Problems. <i>IEEE Geoscience and Remote Sensing Letters</i> , 2022 , 19, 1-5	4.1	
108	Solving Electromagnetic Scattering Problems with Tens of Billions of Unknowns Using GPU Accelerated Massively Parallel MLFMA. <i>IEEE Transactions on Antennas and Propagation</i> , 2022 , 1-1	4.9	
107	Surface Integral Equation Solutions for Electromagnetic Scattering from a Special Class of Anisotropic Media. <i>IEEE Transactions on Antennas and Propagation</i> , 2022 , 1-1	4.9	
106	Resistive Sheet Boundary Condition Based Nonconformal Domain Decomposition FE-BI-MLFMA for Electromagnetic Scattering from Inhomogeneous Objects with Honeycomb Structures. <i>IEEE Transactions on Antennas and Propagation</i> , 2022 , 1-1	4.9	1
105	A Flexible and Efficient Method for the Analysis of Electromagnetic Scattering by Inhomogeneous Objects with Honeycomb Structures. <i>IEEE Antennas and Wireless Propagation Letters</i> , 2021 , 1-1	3.8	2
104	A Simplified Discontinuous Galerkin Self-Dual Integral Equation Formulation for Electromagnetic Scattering from Extremely Large IBC Objects. <i>IEEE Transactions on Antennas and Propagation</i> , 2021 , 1-1	4.9	
103	A Simple Combined-Field Integral Equation Strategy for Electromagnetic Scattering From PEC Objects. <i>IEEE Transactions on Antennas and Propagation</i> , 2021 , 69, 3611-3616	4.9	
102	Efficient parallelization of multilevel fast multipole algorithm for electromagnetic simulation on many-core SW26010 processor. <i>Journal of Supercomputing</i> , 2021 , 77, 1502-1516	2.5	1
101	Traveling Wave Scattering Center Model and Its Applications to ISAR Imaging. <i>IEEE Transactions on Antennas and Propagation</i> , 2021 , 69, 2437-2442	4.9	1
100	An Efficient Discontinuous Galerkin Method for Cavity Design. <i>IEEE Antennas and Wireless Propagation Letters</i> , 2021 , 20, 199-203	3.8	
99	Scattering Center Modeling of Typical Planetary Landforms for Planetary Geomorphologic Exploration. <i>IEEE Transactions on Antennas and Propagation</i> , 2021 , 1-1	4.9	0
98	On Phase Information for Deep Neural Networks to Solve Full-Wave Nonlinear Inverse Scattering Problems. <i>IEEE Antennas and Wireless Propagation Letters</i> , 2021 , 1-1	3.8	3
97	Hybrid Matrix-Decomposition-Based Fast Direct Solver of Integral Equations. <i>IEEE Transactions on Antennas and Propagation</i> , 2021 , 1-1	4.9	
96	Parametric Scattering Center Modeling for a Conducting Deep Cavity. <i>IEEE Antennas and Wireless Propagation Letters</i> , 2021 , 20, 1419-1423	3.8	1
95	Massively Parallel Discontinuous Galerkin Surface Integral Equation Method for Solving Large-Scale Electromagnetic Scattering Problems. <i>IEEE Transactions on Antennas and Propagation</i> , 2021 , 69, 6122-6129	4.9	2
94	Multilevel Fast Multipole Algorithm Enhanced Characteristic Mode Analysis for Half-Space Platform. <i>IEEE Transactions on Antennas and Propagation</i> , 2020 , 68, 7711-7716	4.9	3
93	Skeletonization Improved Calculation of Electric Fields by the Impedance Matrix of MoM. <i>IEEE Antennas and Wireless Propagation Letters</i> , 2020 , 19, 1108-1112	3.8	2

92	Efficient and Accurate Electromagnetic Angular Sweeping of Rough Surfaces by MPI Parallel Randomized Low-Rank Decomposition. <i>IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing</i> , 2020 , 13, 1752-1760	4.7	1
91	Parametric Scattering Center Model for Canonical and Composite Dielectric Objects. <i>IEEE Transactions on Antennas and Propagation</i> , 2020 , 68, 3068-3079	4.9	
90	A Discontinuous Galerkin Surface Integral Solution for Scattering From Homogeneous Objects With High Dielectric Constant. <i>IEEE Transactions on Antennas and Propagation</i> , 2020 , 68, 598-603	4.9	3
89	On the Asymptotics of Sommerfeld Integrals Over an Impedance Plane. <i>IEEE Transactions on Antennas and Propagation</i> , 2020 , 68, 3318-3322	4.9	0
88	A New SDIE Based on CFIE for Electromagnetic Scattering From IBC Objects. <i>IEEE Transactions on Antennas and Propagation</i> , 2020 , 68, 388-399	4.9	4
87	Fast direct solution of 3-D volume integral equations by skeletonization for dynamic electromagnetic wave problems. <i>International Journal of Numerical Modelling: Electronic Networks, Devices and Fields</i> , 2020 , 33, e2667	1	2
86	Parallel hierarchical decomposition of finite element method with block diagonal symmetric Gauss-Seidel preconditioner for solving 3D problems with over ten billion unknowns. <i>International Journal of Numerical Modelling: Electronic Networks, Devices and Fields</i> , 2020 , 33, e2744	1	0
85	A Discontinuous Galerkin Self-Dual Integral Equation Method for Scattering From IBC Objects. <i>IEEE Transactions on Antennas and Propagation</i> , 2019 , 67, 4708-4717	4.9	10
84	In-Band RCS Reduction and Gain Enhancement for a Patch Antenna Array by Using a 1-D Periodic Metasurface Reflector. <i>IEEE Transactions on Antennas and Propagation</i> , 2019 , 67, 4269-4274	4.9	8
83	Fast and Accurate Calculation of Electromagnetic Scattering/Radiation Fields. <i>IEEE Transactions on Antennas and Propagation</i> , 2019 , 67, 7168-7173	4.9	3
82	A Ternary Parallelization Approach of MLFMA for Solving Electromagnetic Scattering Problems With Over 10 Billion Unknowns. <i>IEEE Transactions on Antennas and Propagation</i> , 2019 , 67, 6965-6978	4.9	13
81	Modifications on parametric models for distributed scattering centres on surfaces with arbitrary shapes. <i>IET Radar, Sonar and Navigation</i> , 2019 , 13, 2174-2182	1.4	2
80	An Effective \mathcal{H} -LU-Based Preconditioner for the FE-BI-MLFMA for 3-D Scattering Problems. <i>IEEE Antennas and Wireless Propagation Letters</i> , 2019 , 18, 2766-2770	3.8	2
79	New Exact Image Methods for Impedance Boundary Half-Space Green's Function and Their Fast Multipole Expansion. <i>IEEE Transactions on Antennas and Propagation</i> , 2019 , 67, 1108-1118	4.9	8
78	A Coarse-Grained Integral Equation Method for Multiscale Electromagnetic Analysis. <i>IEEE Transactions on Antennas and Propagation</i> , 2018 , 66, 1607-1612	4.9	7
77	Skeletonization Accelerated MLFMA Solution of Volume Integral Equation for Plasmonic Structures. <i>IEEE Transactions on Antennas and Propagation</i> , 2018 , 66, 1590-1594	4.9	8
76	Wide Angular Sweeping of Dynamic Electromagnetic Responses From Large Targets by MPI Parallel Skeletonization. <i>IEEE Transactions on Antennas and Propagation</i> , 2018 , 66, 1619-1623	4.9	7
75	A Discontinuous Galerkin Surface Integral Equation Method for Scattering From Multiscale Homogeneous Objects. <i>IEEE Transactions on Antennas and Propagation</i> , 2018 , 66, 1937-1946	4.9	24

- 74 On the \mathcal{H} -LU-Based Fast Finite Element Direct Solver for 3-D Scattering Problems. *IEEE Transactions on Antennas and Propagation*, **2018**, 66, 3792-3797 4.9 5
- 73 Accurate and Efficient Singularity Treatment in Integral Equation Discontinuous Galerkin Method. *IEEE Transactions on Antennas and Propagation*, **2018**, 66, 2957-2966 4.9 5
- 72 Scattering center models of backscattering waves by dielectric spheroid objects. *Optics Express*, **2018**, 26, 5060-5074 3.3 9
- 71 A Cost-Effective Preconditioner for Complete Domain Decomposition Method of Hybrid Finite Element-Boundary Integral. *IEEE Transactions on Antennas and Propagation*, **2018**, 66, 4964-4969 4.9 2
- 70 Location reconstructions of attributed SCs by monopulse radar. *IET Radar, Sonar and Navigation*, **2018**, 12, 1005-1011 1.4 1
- 69 Radiowave Propagation prediction in the Presence of Multiple Knife Edges using 3D Parabolic Equation Method **2018**, 1
- 68 Angular Glint Error Simulation Using Attributed Scattering Center Models. *IEEE Access*, **2018**, 6, 35194-35205 3.9 7
- 67 A Finite Element Model Order Reduction Technique for Multiscale Electromagnetic Problems. *IEEE Journal on Multiscale and Multiphysics Computational Techniques*, **2018**, 3, 140-148 1.5
- 66 On the Formulation of Characteristic Mode Theory With Fast Multipole Algorithms. *IEEE Transactions on Antennas and Propagation*, **2018**, 66, 6441-6445 4.9 6
- 65 . *IEEE Transactions on Antennas and Propagation*, **2017**, 65, 1500-1504 4.9 20
- 64 Fast and accurate algorithm for repeated optical trapping simulations on arbitrarily shaped particles based on boundary element method. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2017**, 195, 76-84 2.1 6
- 63 Gain Enhancement and RCS Reduction for Patch Antenna by Using Polarization-Dependent EBG Surface. *IEEE Antennas and Wireless Propagation Letters*, **2017**, 16, 1631-1634 3.8 48
- 62 An Efficient Preconditioning Approach for Surface MLFMA Solution of Scattering from Multilayer Dielectric Bodies. *IEEE Antennas and Wireless Propagation Letters*, **2017**, 16, 1192-1195 3.8 3
- 61 A Geometry-Aware Domain Decomposition Preconditioning for Hybrid Finite Element-Boundary Integral Method. *IEEE Transactions on Antennas and Propagation*, **2017**, 65, 1875-1885 4.9 16
- 60 High Precise Scattering Centers Models for Cone-Shaped Targets Based on Induced Currents. *International Journal of Antennas and Propagation*, **2017**, 2017, 1-12 1.2
- 59 Effective media properties of hyperuniform disordered composite materials. *PLoS ONE*, **2017**, 12, e0185921 3.7 17
- 58 Full-wave modeling of broadband near field scanning microwave microscopy. *Scientific Reports*, **2017**, 7, 16064 4.9 3
- 57 Accurate thermoplasmonic simulation of metallic nanoparticles. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2017**, 187, 150-160 2.1 11

56	Accurate and Efficient Simulation Model for the Scattering From a Ship on a Sea-Like Surface. <i>IEEE Geoscience and Remote Sensing Letters</i> , 2017 , 14, 2375-2379	4.1	8
55	Resolution Performance of the Orbital-Angular-Momentum-Based Imaging Radar. <i>IEEE Antennas and Wireless Propagation Letters</i> , 2017 , 16, 2975-2978	3.8	6
54	Miss Distance Estimation Based on Scattering Center Model Using Time-Frequency Analysis. <i>IEEE Antennas and Wireless Propagation Letters</i> , 2016 , 15, 1012-1015	3.8	7
53	Fast Solution of Linear Systems With Many Right-Hand Sides Based on Skeletonization. <i>IEEE Antennas and Wireless Propagation Letters</i> , 2016 , 15, 301-304	3.8	9
52	Geometry Reconstruction Based on Attributes of Scattering Centers by Using Time-Frequency Representations. <i>IEEE Transactions on Antennas and Propagation</i> , 2016 , 64, 708-720	4.9	22
51	Study on the Accuracy Improvement of the Second-Kind Fredholm Integral Equations by Using the Buffa-Christiansen Functions with MLFMA. <i>International Journal of Antennas and Propagation</i> , 2016 , 2016, 1-7	1.2	1
50	A non-conformal FETI-like domain decomposition approach of FE-BI-MLFMA for 3-D electromagnetic scattering/radiation problems. <i>International Journal of Numerical Modelling: Electronic Networks, Devices and Fields</i> , 2016 , 29, 609-622	1	2
49	Nonconformal FETI-DP Domain Decomposition Methods for FE-BI-MLFMA. <i>IEEE Transactions on Antennas and Propagation</i> , 2016 , 64, 3521-3532	4.9	7
48	An efficient approach for computing scattering by inhomogeneous objects with thin dielectric structures. <i>International Journal of Numerical Modelling: Electronic Networks, Devices and Fields</i> , 2016 , 29, 831-844	1	3
47	Frequency sweep computation of half-space scattering using asymptotic waveform evaluation. <i>Microwave and Optical Technology Letters</i> , 2016 , 58, 495-498	1.2	2
46	Efficient algorithm for calculating backscattering from two-dimensional rough sea surface under low grazing angle 2016 ,		4
45	. <i>IEEE Transactions on Antennas and Propagation</i> , 2015 , 63, 3257-3262	4.9	4
44	A Complex Image Reduction Technique Using Genetic Algorithm for the MoM Solution of Half-Space MPIE. <i>IEEE Transactions on Antennas and Propagation</i> , 2015 , 63, 3727-3731	4.9	7
43	Scattering Centers Induced by Creeping Waves on Streamlined Cone-Shaped Targets in Bistatic Mode. <i>IEEE Antennas and Wireless Propagation Letters</i> , 2015 , 14, 462-465	3.8	5
42	Prediction of metallic nano-optical trapping forces by finite element-boundary integral method. <i>Optics Express</i> , 2015 , 23, 6130-44	3.3	11
41	Road Edge Recognition Using the Stripe Hough Transform From Millimeter-Wave Radar Images. <i>IEEE Transactions on Intelligent Transportation Systems</i> , 2015 , 16, 825-833	6.1	17
40	. <i>IEEE Transactions on Antennas and Propagation</i> , 2015 , 63, 5661-5667	4.9	23
39	Accurate and Efficient Evaluation of Spatial Electromagnetic Responses of Large Scale Targets. <i>IEEE Transactions on Antennas and Propagation</i> , 2014 , 62, 4746-4753	4.9	8

38	Application of Interpolative Decomposition to FE-BI-MLFMA for Fast Computation of Monostatic Scattering from 3-D Complex Composite Objects. <i>IEEE Antennas and Wireless Propagation Letters</i> , 2014 , 13, 1490-1493	3.8	2
37	An Accurate Bistatic Scattering Center Model for Extended Cone-shaped Targets. <i>IEEE Transactions on Antennas and Propagation</i> , 2014 , 62, 5209-5218	4.9	16
36	Improved Algebraic Preconditioning for MoM Solutions of Large-Scale Electromagnetic Problems. <i>IEEE Antennas and Wireless Propagation Letters</i> , 2014 , 13, 106-109	3.8	12
35	Sparse approximate inverse preconditioner for multiscale dynamic electromagnetic problems. <i>Radio Science</i> , 2014 , 49, 1041-1051	1.4	16
34	Acceleration near field interaction in half-space MLFMA by means of genetic algorithm 2014 ,		2
33	The Correlation Characteristics of Channel Matrix of Chaff-Supported MIMO System. <i>IEEE Antennas and Wireless Propagation Letters</i> , 2014 , 13, 1509-1512	3.8	3
32	Prediction of radiation pressure force exerted on moving particles by the two-level skeletonization. <i>Optics Express</i> , 2014 , 22, 10032-45	3.3	9
31	An Effective Domain-Decomposition-Based Preconditioner for the FE-BI-MLFMA Method for 3D Scattering Problems. <i>IEEE Transactions on Antennas and Propagation</i> , 2014 , 62, 2263-2268	4.9	10
30	Efficient Wide-Band Evaluation of Electromagnetic Wave Scattering From Complex Targets. <i>IEEE Transactions on Antennas and Propagation</i> , 2014 , 62, 4304-4313	4.9	9
29	Preconditioning Technique in the Interpolative Decomposition Multilevel Fast Multipole Algorithm. <i>IEEE Transactions on Antennas and Propagation</i> , 2013 , 61, 3373-3377	4.9	16
28	Application of Asymptotic Waveform Evaluation to Hybrid FE-BI-MLFMA for Fast RCS Computation Over a Frequency Band. <i>IEEE Transactions on Antennas and Propagation</i> , 2013 , 61, 2597-2604	4.9	22
27	Influence of migratory scattering phenomenon on micro-motion characteristics contained in radar signals. <i>IET Radar, Sonar and Navigation</i> , 2013 , 7, 579-589	1.4	6
26	Parallel Domain-Decomposition-Based Algorithm of Hybrid FE-BI-MLFMA Method for 3-D Scattering by Large Inhomogeneous Objects. <i>IEEE Transactions on Antennas and Propagation</i> , 2013 , 61, 4675-4684	4.9	27
25	HIERARCHICAL INTERPOLATIVE DECOMPOSITION MULTILEVEL FAST MULTIPOLE ALGORITHM FOR DYNAMIC ELECTROMAGNETIC SIMULATIONS. <i>Progress in Electromagnetics Research</i> , 2013 , 134, 79-94	3.8	10
24	DOMAIN DECOMPOSITION FE-BI-MLFMA METHOD FOR SCATTERING BY 3D INHOMOGENEOUS OBJECTS. <i>Progress in Electromagnetics Research</i> , 2013 , 139, 407-422	3.8	2
23	SLIDING SCATTERING CENTER MODEL FOR EXTENDED STREAMLINED TARGETS. <i>Progress in Electromagnetics Research</i> , 2013 , 139, 499-516	3.8	18
22	Hybrid h- and p-Type Multiplicative Schwarz (h-p-MUS) Preconditioned Algorithm of Higher-Order FE-BI-MLFMA for 3D Scattering. <i>IEEE Transactions on Magnetics</i> , 2012 , 48, 187-190	2	6
21	A Concave FE-BI-MLFMA for Scattering by a Large Body With Nonuniform Deep Cavities. <i>IEEE Transactions on Magnetics</i> , 2012 , 48, 687-690	2	3

20	Particle Swarm Optimization of frequency selective surface 2012 ,		2
19	Scattering Characteristics of 2-D Imperfect Cloaks With Layered Isotropic Materials. <i>IEEE Antennas and Wireless Propagation Letters</i> , 2012 , 11, 53-56	3.8	5
18	A fast algorithm for multiscale electromagnetic problems using interpolative decomposition and multilevel fast multipole algorithm. <i>Radio Science</i> , 2012 , 47, n/a-n/a	1.4	38
17	Solving Problems With Over One Billion Unknowns by the MLFMA. <i>IEEE Transactions on Antennas and Propagation</i> , 2012 , 60, 2571-2574	4.9	47
16	On the Finite Element Tearing and Interconnecting Method for Scattering by Large 3D Inhomogeneous Targets. <i>International Journal of Antennas and Propagation</i> , 2012 , 2012, 1-6	1.2	5
15	Computation of scattering by complex targets using an efficient mixed-order curved moment method. <i>International Journal of Numerical Modelling: Electronic Networks, Devices and Fields</i> , 2012 , 25, 541-557	1	
14	Differentially fed dielectric resonator antenna loading with capacitive elements for frequency response reconfigurability 2011 ,		3
13	Parallel FE-BI-MLFMA for scattering by extremely large targets with cavities 2010 ,		1
12	A Dual-Mode Quadrature-Fed Wideband Circularly Polarized Dielectric Resonator Antenna. <i>IEEE Antennas and Wireless Propagation Letters</i> , 2009 , 8, 1036-1038	3.8	55
11	A Simple and Efficient Implementation of the Well-Conditioned Electric-Field Integral Equation. <i>IEEE Transactions on Antennas and Propagation</i> , 2009 , 57, 582-586	4.9	4
10	AN EFFICIENT TWOFOLD ITERATIVE ALGORITHM OF FE-BI-MLFMA USING MULTILEVEL INVERSE-BASED ILU PRECONDITIONING. <i>Progress in Electromagnetics Research</i> , 2009 , 93, 369-384	3.8	15
9	A simple and efficient weak form of the well-conditioned electric-field integral equation 2008 ,		1
8	A Bandwidth Estimation Approach for the Asymptotic Waveform Evaluation Technique. <i>IEEE Transactions on Antennas and Propagation</i> , 2008 , 56, 913-917	4.9	13
7	A Flexible and Efficient Higher Order FE-BI-MLFMA for Scattering by a Large Body With Deep Cavities. <i>IEEE Transactions on Antennas and Propagation</i> , 2008 , 56, 2031-2042	4.9	21
6	Application of rational function approximation technique to hybrid FE/Bi/MLFMA for 3D scattering. <i>International Journal of RF and Microwave Computer-Aided Engineering</i> , 2007 , 17, 521-532	1.5	4
5	On the computing algorithms of the hybrid FEM/MLFMA. <i>Microwave and Optical Technology Letters</i> , 2002 , 33, 265-268	1.2	5
4	Implementation and experiments of a hybrid algorithm of the MLFMA-enhanced FE-BI method for open-region inhomogeneous electromagnetic problems. <i>IEEE Transactions on Antennas and Propagation</i> , 2002 , 50, 163-167	4.9	33
3	Scattering from a large body with cracks and cavities by the fast and accurate finite-element boundary-integral method. <i>IEEE Transactions on Antennas and Propagation</i> , 2000 , 48, 1153-1160	4.9	10

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| 2 | The complete set of dyadic Green's functions for the parallel-plate chirowaveguide and the application to the coaxial-probe excitation method. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2000 , 48, 1917-1926 | 4.1 | 2 |
| 1 | On the formulation of hybrid finite-element and boundary-integral methods for 3-D scattering. <i>IEEE Transactions on Antennas and Propagation</i> , 1998 , 46, 303-311 | 4.9 | 153 |