Xin-Qing Sheng

List of Publications by Citations

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	On the formulation of hybrid finite-element and boundary-integral methods for 3-D scattering. *IEEE Transactions on Antennas and Propagation*, **1998**, 46, 303-311	4.9	153
108	A Dual-Mode Quadrature-Fed Wideband Circularly Polarized Dielectric Resonator Antenna. *IEEE Antennas and Wireless Propagation Letters*, **2009**, 8, 1036-1038	3.8	55
107	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
106	Solving Problems With Over One Billion Unknowns by the MLFMA. *IEEE Transactions on Antennas and Propagation*, **2012**, 60, 2571-2574	4.9	47
105	A fast algorithm for multiscale electromagnetic problems using interpolative decomposition and multilevel fast multipole algorithm. *Radio Science*, **2012**, 47, n/a-n/a	1.4	38
104	Implementation and experiments of a hybrid algorithm of the MLFMA-enhanced FE-BI method for open-region inhomogeneous electromagnetic problems. *IEEE Transactions on Antennas and Propagation*, **2002**, 50, 163-167	4.9	33
103	Parallel Domain-Decomposition-Based Algorithm of Hybrid FE-BI-MLFMA Method for 3-D Scattering by Large Inhomogeneous Objects. *IEEE Transactions on Antennas and Propagation*, **2013**, 61, 4675-4684	4.9	27
102	A Discontinuous Galerkin Surface Integral Equation Method for Scattering From Multiscale Homogeneous Objects. *IEEE Transactions on Antennas and Propagation*, **2018**, 66, 1937-1946	4.9	24
101	. *IEEE Transactions on Antennas and Propagation*, **2015**, 63, 5661-5667	4.9	23
100	Geometry Reconstruction Based on Attributes of Scattering Centers by Using Time-Frequency Representations. *IEEE Transactions on Antennas and Propagation*, **2016**, 64, 708-720	4.9	22
99	Application of Asymptotic Waveform Evaluation to Hybrid FE-BI-MLFMA for Fast RCS Computation Over a Frequency Band. *IEEE Transactions on Antennas and Propagation*, **2013**, 61, 2597-2604	4.9	22
98	A Flexible and Efficient Higher Order FE-BI-MLFMA for Scattering by a Large Body With Deep Cavities. *IEEE Transactions on Antennas and Propagation*, **2008**, 56, 2031-2042	4.9	21
97	. *IEEE Transactions on Antennas and Propagation*, **2017**, 65, 1500-1504	4.9	20
96	SLIDING SCATTERING CENTER MODEL FOR EXTENDED STREAMLINED TARGETS. *Progress in Electromagnetics Research*, **2013**, 139, 499-516	3.8	18
95	Effective media properties of hyperuniform disordered composite materials. *PLoS ONE*, **2017**, 12, e0185921	3.7	17
94	Road Edge Recognition Using the Stripe Hough Transform From Millimeter-Wave Radar Images. *IEEE Transactions on Intelligent Transportation Systems*, **2015**, 16, 825-833	6.1	17
93	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

92	An Accurate Bistatic Scattering Center Model for Extended Cone-shaped Targets. *IEEE Transactions on Antennas and Propagation*, **2014**, 62, 5209-5218	4.9	16
91	Sparse approximate inverse preconditioner for multiscale dynamic electromagnetic problems. *Radio Science*, **2014**, 49, 1041-1051	1.4	16
90	Preconditioning Technique in the Interpolative Decomposition Multilevel Fast Multipole Algorithm. *IEEE Transactions on Antennas and Propagation*, **2013**, 61, 3373-3377	4.9	16
89	AN EFFICIENT TWOFOLD ITERATIVE ALGORITHM OF FE-BI-MLFMA USING MULTILEVEL INVERSE-BASED ILU PRECONDITIONING. *Progress in Electromagnetics Research*, **2009**, 93, 369-384	3.8	15
88	A Ternary Parallelization Approach of MLFMA for Solving Electromagnetic Scattering Problems With Over 10 Billion Unknowns. *IEEE Transactions on Antennas and Propagation*, **2019**, 67, 6965-6978	4.9	13
87	A Bandwidth Estimation Approach for the Asymptotic Waveform Evaluation Technique. *IEEE Transactions on Antennas and Propagation*, **2008**, 56, 913-917	4.9	13
86	Improved Algebraic Preconditioning for MoM Solutions of Large-Scale Electromagnetic Problems. *IEEE Antennas and Wireless Propagation Letters*, **2014**, 13, 106-109	3.8	12
85	Prediction of metallic nano-optical trapping forces by finite element-boundary integral method. *Optics Express*, **2015**, 23, 6130-44	3.3	11
84	Accurate thermoplasmonic simulation of metallic nanoparticles. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2017**, 187, 150-160	2.1	11
83	A Discontinuous Galerkin Self-Dual Integral Equation Method for Scattering From IBC Objects. *IEEE Transactions on Antennas and Propagation*, **2019**, 67, 4708-4717	4.9	10
82	An Effective Domain-Decomposition-Based Preconditioner for the FE-BI-MLFMA Method for 3D Scattering Problems. *IEEE Transactions on Antennas and Propagation*, **2014**, 62, 2263-2268	4.9	10
81	HIERARCHICAL INTERPOLATIVE DECOMPOSITION MULTILEVEL FAST MULTIPOLE ALGORITHM FOR DYNAMIC ELECTROMAGNETIC SIMULATIONS. *Progress in Electromagnetics Research*, **2013**, 134, 79-94	3.8	10
80	Scattering from a large body with cracks and cavities by the fast and accurate finite-element boundary-integral method. *IEEE Transactions on Antennas and Propagation*, **2000**, 48, 1153-1160	4.9	10
79	Fast Solution of Linear Systems With Many Right-Hand Sides Based on Skeletonization. *IEEE Antennas and Wireless Propagation Letters*, **2016**, 15, 301-304	3.8	9
78	Scattering center models of backscattering waves by dielectric spheroid objects. *Optics Express*, **2018**, 26, 5060-5074	3.3	9
77	Prediction of radiation pressure force exerted on moving particles by the two-level skeletonization. *Optics Express*, **2014**, 22, 10032-45	3.3	9
76	Efficient Wide-Band Evaluation of Electromagnetic Wave Scattering From Complex Targets. *IEEE Transactions on Antennas and Propagation*, **2014**, 62, 4304-4313	4.9	9
75	In-Band RCS Reduction and Gain Enhancement for a Patch Antenna Array by Using a 1-D Periodic Metasurface Reflector. *IEEE Transactions on Antennas and Propagation*, **2019**, 67, 4269-4274	4.9	8

74	Skeletonization Accelerated MLFMA Solution of Volume Integral Equation for Plasmonic Structures. *IEEE Transactions on Antennas and Propagation*, **2018**, 66, 1590-1594	4.9	8
73	Accurate and Efficient Evaluation of Spatial Electromagnetic Responses of Large Scale Targets. *IEEE Transactions on Antennas and Propagation*, **2014**, 62, 4746-4753	4.9	8
72	Accurate and Efficient Simulation Model for the Scattering From a Ship on a Sea-Like Surface. *IEEE Geoscience and Remote Sensing Letters*, **2017**, 14, 2375-2379	4.1	8
71	New Exact Image Methods for Impedance Boundary Half-Space Green Function and Their Fast Multipole Expansion. *IEEE Transactions on Antennas and Propagation*, **2019**, 67, 1108-1118	4.9	8
70	A Complex Image Reduction Technique Using Genetic Algorithm for the MoM Solution of Half-Space MPIE. *IEEE Transactions on Antennas and Propagation*, **2015**, 63, 3727-3731	4.9	7
69	A Coarse-Grained Integral Equation Method for Multiscale Electromagnetic Analysis. *IEEE Transactions on Antennas and Propagation*, **2018**, 66, 1607-1612	4.9	7
68	Wide Angular Sweeping of Dynamic Electromagnetic Responses From Large Targets by MPI Parallel Skeletonization. *IEEE Transactions on Antennas and Propagation*, **2018**, 66, 1619-1623	4.9	7
67	Miss Distance Estimation Based on Scattering Center Model Using Time-Frequency Analysis. *IEEE Antennas and Wireless Propagation Letters*, **2016**, 15, 1012-1015	3.8	7
66	Nonconformal FETI-DP Domain Decomposition Methods for FE-BI-MLFMA. *IEEE Transactions on Antennas and Propagation*, **2016**, 64, 3521-3532	4.9	7
65	Angular Glint Error Simulation Using Attributed Scattering Center Models. *IEEE Access*, **2018**, 6, 35194-35205	3.9	7
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	Hybrid h- and p-Type Multiplicative Schwarz (h-p-MUS) Preconditioned Algorithm of Higher-Order FE-BI-MLFMA for 3D Scattering. *IEEE Transactions on Magnetics*, **2012**, 48, 187-190	2	6
62	Resolution Performance of the Orbital-Angular-Momentum-Based Imaging Radar. *IEEE Antennas and Wireless Propagation Letters*, **2017**, 16, 2975-2978	3.8	6
61	Influence of migratory scattering phenomenon on micro-motion characteristics contained in radar signals. *IET Radar, Sonar and Navigation*, **2013**, 7, 579-589	1.4	6
60	On the Formulation of Characteristic Mode Theory With Fast Multipole Algorithms. *IEEE Transactions on Antennas and Propagation*, **2018**, 66, 6441-6445	4.9	6
59	Scattering Centers Induced by Creeping Waves on Streamlined Cone-Shaped Targets in Bistatic Mode. *IEEE Antennas and Wireless Propagation Letters*, **2015**, 14, 462-465	3.8	5
58	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
57	Accurate and Efficient Singularity Treatment in Integral Equation Discontinuous Galerkin Method. *IEEE Transactions on Antennas and Propagation*, **2018**, 66, 2957-2966	4.9	5

56	Scattering Characteristics of 2-D Imperfect Cloaks With Layered Isotropic Materials. *IEEE Antennas and Wireless Propagation Letters*, **2012**, 11, 53-56	3.8	5
55	On the Finite Element Tearing and Interconnecting Method for Scattering by Large 3D Inhomogeneous Targets. *International Journal of Antennas and Propagation*, **2012**, 2012, 1-6	1.2	5
54	On the computing algorithms of the hybrid FEM/MLFMA. *Microwave and Optical Technology Letters*, **2002**, 33, 265-268	1.2	5
53	. *IEEE Transactions on Antennas and Propagation*, **2015**, 63, 3257-3262	4.9	4
52	A Simple and Efficient Implementation of the Well-Conditioned Electric-Field Integral Equation. *IEEE Transactions on Antennas and Propagation*, **2009**, 57, 582-586	4.9	4
51	Application of rational function approximation technique to hybrid FE/BI/MLFMA for 3D scattering. *International Journal of RF and Microwave Computer-Aided Engineering*, **2007**, 17, 521-532	1.5	4
50	A New SDIE Based on CFIE for Electromagnetic Scattering From IBC Objects. *IEEE Transactions on Antennas and Propagation*, **2020**, 68, 388-399	4.9	4
49	Efficient algorithm for calculating backscattering from two-dimensional rough sea surface under low grazing angle **2016**,		4
48	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
47	Multilevel Fast Multipole Algorithm Enhanced Characteristic Mode Analysis for Half-Space Platform. *IEEE Transactions on Antennas and Propagation*, **2020**, 68, 7711-7716	4.9	3
46	Fast and Accurate Calculation of Electromagnetic Scattering/Radiation Fields. *IEEE Transactions on Antennas and Propagation*, **2019**, 67, 7168-7173	4.9	3
45	A Concave FE-BI-MLFMA for Scattering by a Large Body With Nonuniform Deep Cavities. *IEEE Transactions on Magnetics*, **2012**, 48, 687-690	2	3
44	Full-wave modeling of broadband near field scanning microwave microscopy. *Scientific Reports*, **2017**, 7, 16064	4.9	3
43	The Correlation Characteristics of Channel Matrix of Chaff-Supported MIMO System. *IEEE Antennas and Wireless Propagation Letters*, **2014**, 13, 1509-1512	3.8	3
42	Differentially fed dielectric resonator antenna loading with capacitive elements for frequency response reconfigurability **2011**,		3
41	A Discontinuous Galerkin Surface Integral Solution for Scattering From Homogeneous Objects With High Dielectric Constant. *IEEE Transactions on Antennas and Propagation*, **2020**, 68, 598-603	4.9	3
40	An efficient approach for computing scattering by inhomogeneous objects with thin dielectric structures. *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, **2016**, 29, 831-844	1	3
39	On Phase Information for Deep Neural Networks to Solve Full-Wave Nonlinear Inverse Scattering Problems. *IEEE Antennas and Wireless Propagation Letters*, **2021**, 1-1	3.8	3

38	Skeletonization Improved Calculation of Electric Fields by the Impedance Matrix of MoM. *IEEE Antennas and Wireless Propagation Letters*, **2020**, 19, 1108-1112	3.8	2
37	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
36	Application of Interpolative Decomposition to FE-BI-MLFMA for Fast Computation of Monostatic Scattering from 3-D Complex Composite Objects. *IEEE Antennas and Wireless Propagation Letters*, **2014**, 13, 1490-1493	3.8	2
35	Acceleration near field interaction in half-space MLFMA by means of genetic algorithm **2014**,		2
34	Particle Swarm Optimization of frequency selective surface **2012**,		2
33	DOMAIN DECOMPOSITION FE-BI-MLFMA METHOD FOR SCATTERING BY 3D INHOMOGENEOUS OBJECTS. *Progress in Electromagnetics Research*, **2013**, 139, 407-422	3.8	2
32	The complete set of dyadic Green's functions for the parallel-plate chirowaveguide and the application to the coaxial-probe excitation method. *IEEE Transactions on Microwave Theory and Techniques*, **2000**, 48, 1917-1926	4.1	2
31	A Flexible and Efficient Method for the Analysis of Electromagnetic Scattering by Inhomogeneous Objects with Honeycomb Structures. *IEEE Antennas and Wireless Propagation Letters*, **2021**, 1-1	3.8	2
30	Modifications on parametric models for distributed scattering centres on surfaces with arbitrary shapes. *IET Radar, Sonar and Navigation*, **2019**, 13, 2174-2182	1.4	2
29	A non-conformal FETI-like domain decomposition approach of FE-BI-MLFMA for 3-D electromagnetic scattering/radiation problems. *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, **2016**, 29, 609-622	1	2
28	Frequency sweep computation of half-space scattering using asymptotic waveform evaluation. *Microwave and Optical Technology Letters*, **2016**, 58, 495-498	1.2	2
27	An Effective $mathcal{H}$-LU-Based Preconditioner for the FE-BI-MLFMA for 3-D Scattering Problems. *IEEE Antennas and Wireless Propagation Letters*, **2019**, 18, 2766-2770	3.8	2
26	Fast direct solution of 3-D volume integral equations by skeletonization for dynamic electromagnetic wave problems. *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, **2020**, 33, e2667	1	2
25	Massively Parallel Discontinuous Galerkin Surface Integral Equation Method for Solving Large-Scale Electromagnetic Scattering Problems. *IEEE Transactions on Antennas and Propagation*, **2021**, 69, 6122-6127	4.9	2
24	Efficient and Accurate Electromagnetic Angular Sweeping of Rough Surfaces by MPI Parallel Randomized Low-Rank Decomposition. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, **2020**, 13, 1752-1760	4.7	1
23	Parallel FE-BI-MLFMA for scattering by extremely large targets with cavities **2010**,		1
22	A simple and efficient weak form of the well-conditioned electric-field integral equation **2008**,		1
21	Location reconstructions of attributed SCs by monopulse radar. *IET Radar, Sonar and Navigation*, **2018**, 12, 1005-1011	1.4	1

20	Study on the Accuracy Improvement of the Second-Kind Fredholm Integral Equations by Using the Buffa-Christiansen Functions with MLFMA. *International Journal of Antennas and Propagation*, **2016**, 2016, 1-7	1.2	1
19	Efficient parallelization of multilevel fast multipole algorithm for electromagnetic simulation on many-core SW26010 processor. *Journal of Supercomputing*, **2021**, 77, 1502-1516	2.5	1
18	Traveling Wave Scattering Center Model and Its Applications to ISAR Imaging. *IEEE Transactions on Antennas and Propagation*, **2021**, 69, 2437-2442	4.9	1
17	Radiowave Propagation prediction in the Presence of Multiple Knife Edges using 3D Parabolic Equation Method **2018**,		1
16	Parametric Scattering Center Modeling for a Conducting Deep Cavity. *IEEE Antennas and Wireless Propagation Letters*, **2021**, 20, 1419-1423	3.8	1
15	Resistive Sheet Boundary Condition Based Nonconformal Domain Decomposition FE-BI-MLFMA for Electromagnetic Scattering from Inhomogeneous Objects with Honeycomb Structures. *IEEE Transactions on Antennas and Propagation*, **2022**, 1-1	4.9	1
14	On the Asymptotics of Sommerfeld Integrals Over an Impedance Plane. *IEEE Transactions on Antennas and Propagation*, **2020**, 68, 3318-3322	4.9	0
13	Parallel hierarchical decomposition of finite element method with block diagonal symmetric Gauss-Seidel preconditioner for solving 3D problems with over ten billion unknowns. *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, **2020**, 33, e2744	1	0
12	Scattering Center Modeling of Typical Planetary Landforms for Planetary Geomorphologic Exploration. *IEEE Transactions on Antennas and Propagation*, **2021**, 1-1	4.9	0
11	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	
10	Computation of scattering by complex targets using an efficient mixed-order curved moment method. *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, **2012**, 25, 541-557	1	
9	A Simplified Discontinuous Galerkin Self-Dual Integral Equation Formulation for Electromagnetic Scattering from Extremely Large IBC Objects. *IEEE Transactions on Antennas and Propagation*, **2021**, 1-1	4.9	
8	Parametric Scattering Center Model for Canonical and Composite Dielectric Objects. *IEEE Transactions on Antennas and Propagation*, **2020**, 68, 3068-3079	4.9	
7	A Simple Combined-Field Integral Equation Strategy for Electromagnetic Scattering From PEC Objects. *IEEE Transactions on Antennas and Propagation*, **2021**, 69, 3611-3616	4.9	
6	An Efficient Discontinuous Galerkin Method for Cavity Design. *IEEE Antennas and Wireless Propagation Letters*, **2021**, 20, 199-203	3.8	
5	Hybrid Matrix-Decomposition-Based Fast Direct Solver of Integral Equations. *IEEE Transactions on Antennas and Propagation*, **2021**, 1-1	4.9	
4	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	
3	Fourier Bases-Expansion for Three-Dimensional Electromagnetic Inverse Scattering Problems. *IEEE Geoscience and Remote Sensing Letters*, **2022**, 19, 1-5	4.1	

2	Solving Electromagnetic Scattering Problems with Tens of Billions of Unknowns Using GPU Accelerated Massively Parallel MLFMA. *IEEE Transactions on Antennas and Propagation*, **2022**, 1-1	4.9
1	Surface Integral Equation Solutions for Electromagnetic Scattering from a Special Class of Anisotropic Media. *IEEE Transactions on Antennas and Propagation*, **2022**, 1-1	4.9