

Vladimir I Okhmatovski

List of Publications by Year in descending order

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101
papers

791
citations

623734

14
h-index

580821

25
g-index

101
all docs

101
docs citations

101
times ranked

413
citing authors

#	ARTICLE	IF	CITATIONS
1	Systematic development of transmission-line models for interconnects with frequency-dependent losses. IEEE Transactions on Microwave Theory and Techniques, 2001, 49, 1677-1685.	4.6	79
2	Evaluation of layered media Green's functions via rational function fitting. IEEE Microwave and Wireless Components Letters, 2004, 14, 22-24.	3.2	60
3	A Three-Dimensional Precorrected FFT Algorithm for Fast Method of Moments Solutions of the Mixed-Potential Integral Equation in Layered Media. IEEE Transactions on Microwave Theory and Techniques, 2009, 57, 3505-3517.	4.6	56
4	Large-scale broad-band parasitic extraction for fast layout verification of 3-D RF and mixed-signal on-chip structures. IEEE Transactions on Microwave Theory and Techniques, 2005, 53, 264-273.	4.6	47
5	On deembedding of port discontinuities in full-wave CAD models of multiport circuits. IEEE Transactions on Microwave Theory and Techniques, 2003, 51, 2355-2365.	4.6	41
6	New Single-Source Surface Integral Equations for Scattering on Penetrable Cylinders and Current Flow Modeling in 2-D Conductors. IEEE Transactions on Microwave Theory and Techniques, 2013, 61, 341-350.	4.6	30
7	Novel closed-form Green's function in shielded planar layered media. IEEE Transactions on Microwave Theory and Techniques, 2000, 48, 2225-2232.	4.6	27
8	Novel Single-Source Surface Integral Equation for Scattering Problems by 3-D Dielectric Objects. IEEE Transactions on Antennas and Propagation, 2018, 66, 797-807.	5.1	27
9	Unification of double-delay and SOC electromagnetic deembedding. IEEE Transactions on Microwave Theory and Techniques, 2005, 53, 2892-2898.	4.6	25
10	Efficiently computing the electrical parameters of cables with arbitrary cross-sections using the method-of-moments. Electric Power Systems Research, 2018, 162, 37-49.	3.6	22
11	Low-Frequency MLFMA on Graphics Processors. IEEE Antennas and Wireless Propagation Letters, 2010, 9, 8-11.	4.0	21
12	Surface-Volume-Surface Electric Field Integral Equation for Solution of Scattering Problems on 3-D Dielectric Objects in Multilayered Media. IEEE Transactions on Microwave Theory and Techniques, 2018, 66, 5399-5414.	4.6	21
13	Enhancement of the Numerical Stability of the Adaptive Integral Method at Low Frequencies Through a Loop-Charge Formulation of the Method-of-Moments Approximation. IEEE Transactions on Microwave Theory and Techniques, 2004, 52, 962-970.	4.6	16
14	A Well-Conditioned Non-Iterative Approach to Solution of the Inverse Problem. IEEE Transactions on Antennas and Propagation, 2012, 60, 2418-2430.	5.1	16
15	On the Equivalence of RWG Method of Moments and the Locally Corrected Nyström Method for Solving the Electric Field Integral Equation. IEEE Transactions on Antennas and Propagation, 2014, 62, 772-782.	5.1	14
16	Comprehensive frequency-dependent substrate noise analysis using boundary element methods. IEEE/ACM International Conference on Computer-Aided Design, Digest of Technical Papers, 2002, , .	0.0	13
17	Formulation of Surface-Volume-Surface-EFIE for Solution of Three-Dimensional Scattering Problems on Composite Dielectric Objects. IEEE Antennas and Wireless Propagation Letters, 2018, 17, 1043-1047.	4.0	13
18	Systematic Extraction of Static Images From Layered Media Green's Function for Accurate DCIM Implementation. IEEE Antennas and Wireless Propagation Letters, 2007, 6, 215-218.	4.0	12

#	ARTICLE	IF	CITATIONS
19	A Novel Skin-Effect Based Surface Impedance Formulation for Broadband Modeling of 3-D Interconnects With Electric Field Integral Equation. IEEE Transactions on Microwave Theory and Techniques, 2010, , .	4.6	12
20	New Single-Source Surface Integral Equation for Magneto-Quasi-Static Characterization of Transmission Lines Situated in Multilayered Media. IEEE Transactions on Microwave Theory and Techniques, 2016, 64, 4341-4351.	4.6	12
21	H-MATRIX ARITHMETIC FOR FAST DIRECT AND ITERATIVE METHOD OF MOMENT SOLUTION OF SURFACE-VOLUME-SURFACE EFIE FOR 3-D RADIATION PROBLEMS. Progress in Electromagnetics Research B, 2018, 82, 189-210.	1.0	11
22	New Vector Single-Source Surface Integral Equation for Scattering Problems on Dielectric Objects in 2-D. IEEE Transactions on Antennas and Propagation, 2017, 65, 3794-3799.	5.1	10
23	\mathcal{H} -Matrix Accelerated Solution of Surface-Volume-Surface EFIE for Fast Electromagnetic Analysis on 3-D Composite Dielectric Objects. IEEE Journal on Multiscale and Multiphysics Computational Techniques, 2019, 4, 152-162.	2.2	10
24	Superlens Enhanced 2-D Microwave Tomography With Contrast Source Inversion Method. IEEE Open Journal of Antennas and Propagation, 2021, 2, 453-463.	3.7	10
25	SuperVoxHenry: Tucker-Enhanced and FFT-Accelerated Inductance Extraction for Voxelized Superconducting Structures. IEEE Transactions on Applied Superconductivity, 2021, 31, 1-11.	1.7	10
26	The Unified-FFT Algorithm for Fast Electromagnetic Analysis of Planar Integrated Circuits Printed on Layered Media Inside a Rectangular Enclosure. IEEE Transactions on Microwave Theory and Techniques, 2014, 62, 1112-1121.	4.6	9
27	Surface-Volume-Surface Electric Field Integral Equation for Magneto-Quasi-Static Analysis of Complex 3-D Interconnects. IEEE Transactions on Microwave Theory and Techniques, 2014, 62, 2563-2573.	4.6	9
28	Sparsity-Aware Precorrected Tensor Train Algorithm for Fast Solution of 2-D Scattering Problems and Current Flow Modeling on Unstructured Meshes. IEEE Transactions on Microwave Theory and Techniques, 2019, 67, 4833-4847.	4.6	8
29	Surface-Volume-Surface EFIE Formulation for Fast Direct Solution of Scattering Problems on General 3-D Composite Metal-Dielectric Objects. IEEE Transactions on Antennas and Propagation, 2020, 68, 5742-5747.	5.1	8
30	Barnes-Hut Accelerated Capacitance Extraction Via Locally Corrected Nyström Discretization. , 2006, , .		7
31	The Barnes-Hut Hierarchical Center-of-Charge Approximation for Fast Capacitance Extraction in Multilayered Media. IEEE Transactions on Microwave Theory and Techniques, 2010, 58, 1175-1188.	4.6	7
32	Tensor Train Accelerated Solution of Volume Integral Equation for 2-D Scattering Problems and Magneto-Quasi-Static Characterization of Multiconductor Transmission Lines. IEEE Transactions on Microwave Theory and Techniques, 2019, 67, 2181-2196.	4.6	7
33	Novel single-source integral equation in electromagnetics. , 2016, , .		7
34	Surface Integral Equation Formulation for Inductance Extraction in 3-D Interconnects. IEEE Microwave and Wireless Components Letters, 2010, 20, 250-252.	3.2	6
35	Exact Relationship Between the Locally Corrected Nyström Scheme and RWG Moment Method for the Mixed-Potential Integral Equation. IEEE Transactions on Antennas and Propagation, 2015, 63, 4932-4943.	5.1	6
36	Surface-Volume-Surface EFIE for Analysis of 3-D Microwave Circuits in Multilayered Substrates With Finite Dielectric Inclusions. , 2020, , .		6

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37	Parallel Discrete Complex Image Method for Barnes-Hut Accelerated Capacitance Extraction in Multilayered Substrates. , 2007, , .		5
38	Vectorial Low-Frequency MLFMA for the Combined Field Integral Equation. IEEE Antennas and Wireless Propagation Letters, 2011, 10, 532-535.	4.0	5
39	Novel surface integral equation formulation for accurate broadband RL extraction in transmission lines of arbitrary cross-section. , 2012, , .		5
40	Method of moment solution of Surface-Volume-Surface Electric Field Integral Equation for two-dimensional transmission lines of complex cross-sections. , 2012, , .		5
41	On New Triangle Quadrature Rules for the Locally Corrected Nyström Method Formulated on NURBS-Generated Bézier Surfaces in 3-D. IEEE Transactions on Antennas and Propagation, 2016, 64, 3027-3038.	5.1	5
42	Generalization of the Barnes-Hut algorithm for the Helmholtz equation in three dimensions. IEEE Antennas and Wireless Propagation Letters, 2009, 8, 425-428.	4.0	4
43	Novel single-source surface integral equation for broadband RL extraction in 3-D interconnects. , 2013, , .		4
44	Surface-Volume-Surface EFIE for Electromagnetic Analysis of 3-D Composite Dielectric Objects in Multilayered Media. IEEE Journal on Multiscale and Multiphysics Computational Techniques, 2019, 4, 383-394.	2.2	4
45	Accurate capacitance extraction in the entire package model using a parallel kernel independent hierarchical extractor. , 2007, , .		3
46	Effect of Multilayered Substrate on the Barnes-Hut Center-Of-Charge Clustering Approximation: Half-Space Case Study. , 2008, , .		3
47	Solution of large multiscale EMC problems with method of moments accelerated via low-frequency MLFMA. , 2011, , .		3
48	A modified admissibility criterion for H-matrix based integral-equation solvers. , 2017, , .		3
49	On Use of Inhomogeneous Media for Elimination of Ill-Posedness in the Inverse Problem. IEEE Antennas and Wireless Propagation Letters, 2018, 17, 857-860.	4.0	3
50	On complexity reduction in solution of scattering problems on well-conducting 3D objects with surface-volume-surface EFIE. , 2018, , .		3
51	Pre-Corrected Tensor Train Algorithm For Current Flow Modelling in 2D Multi-Conductor Transmission Lines. , 2019, , .		3
52	Analytic Solution of Surface-Volume-Surface Electric Field Integral Equation on Dielectric Sphere and Analysis of Its Spectral Properties. IEEE Transactions on Antennas and Propagation, 2021, 69, 8479-8493.	5.1	3
53	Analytic Sinusoidal Steady-State Electromagnetic Field Expressions for the Ideal Veselago Lens. IEEE Open Journal of Antennas and Propagation, 2021, 2, 1057-1070.	3.7	3
54	Comparison of numerical approaches to the evaluation of Veselago Lens' Green's function. , 2011, , .		2

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55	Novel single-source integral equation for inductance extraction in transmission lines embedded in lossy layered substrates. , 2016, , .		2
56	On error controlled computing of the near electromagnetic fields in the shade regions of electrically large 3D objects. , 2016, , .		2
57	Accurate transmission lines characterization via higher order moment method solution of novel single-source integral equation. , 2017, , .		2
58	New Single Source Surface Integral Equation for Solution of Scattering Problems on 3D Dielectric Objects Situated in Multilayered Media. , 2018, , .		2
59	On the Reciprocity Relation in General Multiport Microwave Circuits and Errata to Vector-Short-Open-Calibration Deembedding. IEEE Transactions on Microwave Theory and Techniques, 2021, 69, 1250-1254.	4.6	2
60	Error-Controlled Static Layered-Medium Green's Function Computation via Adaptive Spectral Differential Equation Approximation Method. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2021, 11, 1329-1342.	2.5	2
61	New trends in analysis of electromagnetic fields in multilayered media. , 2019, , 401-474.		2
62	Closed-Form Evaluation of Mixed Potential Shielded Layered Media Green's Functions With Spectral Differential Equation Approximation Method. IEEE Transactions on Microwave Theory and Techniques, 2022, 70, 2553-2565.	4.6	2
63	Novel single-source integral equation for accurate quasi-magneto-static modeling of current flow in 3D conductors. , 2013, , .		1
64	Fast 3D planar electromagnetic analysis via Unified-FFT method. , 2013, , .		1
65	A new approach for accurate electrostatic Green's function computation in planar layered media based on higher-order finite element method. , 2013, , .		1
66	Microwave imaging with contrast source inversion method in focusing media. , 2015, , .		1
67	Novel error-control methodology for finite difference and finite element based electrostatic green's function computation in inhomogeneous substrates. , 2015, , .		1
68	THE UNIFIED-FFT GRID TOTALIZING ALGORITHM FOR FAST $O(N \log N)$ METHOD OF MOMENTS ELECTROMAGNETIC ANALYSIS WITH ACCURACY TO MACHINE PRECISION (Invited Paper). Progress in Electromagnetics Research, 2015, 154, 101-114.	4.4	1
69	An \hat{A} -matrix accelerated direct solver for fast analysis of scattering from structures in layered media. , 2015, , .		1
70	Higher order method of moments solution of the new vector single-source surface integral equation for 2D TE scattering by dielectric objects. , 2017, , .		1
71	New Higher Order Method of Moments for Accurate Inductance Extraction in Transmission Lines of Complex Cross Sections. IEEE Transactions on Microwave Theory and Techniques, 2017, 65, 5104-5112.	4.6	1
72	Fast direct full-wave electromagnetic analysis of planar circuits embedded in multilayered media. , 2018, , .		1

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73	Uniformly Accurate Electrostatic Layered Medium Green's Function Approximation via Scattered Field Formulation. , 2020, , .		1
74	Overview of Surface-Volume-Surface Electric Field Integral Equation Formulations for 3-D Composite Metal-Dielectric Objects. , 2020, , .		1
75	Quantum Method of Moments for Characterization of Interconnects. , 2021, , .		1
76	Exact Solution of New Magnetic Current Based Surface-Volume-Surface EFIE and Analysis of Its Spectral Properties. IEEE Journal on Multiscale and Multiphysics Computational Techniques, 2022, 7, 102-116.	2.2	1
77	Fast Simulation of Interconnect Structures Using Adaptive Integral Method (AIM). , 2002, , .		0
78	A well-conditioned formulation of 1D inverse scattering problem under the Born approximation. , 2005, , .		0
79	Generalization of the Barnes-Hut algorithm for rapid capacitance extraction in interconnects embedded in lossy multilayered media. , 2010, , .		0
80	A novel skin-effect based surface impedance model for accurate broadband characterization of interconnects with method of moments. , 2010, , .		0
81	A novel broadband boundary element approach for RL-extraction in lossy 3D interconnects. , 2010, , .		0
82	Capacitance extraction in lossy layered substrates via Barnes-Hut accelerated utilizing per-layer center-of-charge (CoC). , 2013, , .		0
83	Study of SWG-method-of-moment solution of D-volume-integral-equation for plasmonic nano-particles at terahertz frequencies. , 2013, , .		0
84	Multiple and non-existent Barnes-Hut center-of-charge (CoC) solution in lossy layered substrates: Half space analytic and numerical study. , 2013, , .		0
85	Rapid RWG Moment Method Solution of EFIE for Multiscale Problems via Hierarchical Center of Radiation Approximation in Barnes's Hut Algorithm. IEEE Antennas and Wireless Propagation Letters, 2013, 12, 333-336.	4.0	0
86	A structured workflow for developing interoperable numerical analysis tools. , 2013, , .		0
87	On use of inhomogeneous media for elimination of inverse problem ill-posedness. , 2013, , .		0
88	Novel high precision UFFT methodology for fast analysis of 3D Planar circuits embedded in shielded layered media. , 2014, , .		0
89	Error-controlled boundary element modeling of 3D plasmonic nano-structures via higher-order Locally Corrected Nystrom method. , 2015, , .		0
90	GPU performance estimation of various matrix solve operations for application to 3D planar MoM. , 2015, , .		0

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91	On use of focusing media for elimination of inverse problem ill-posedness in microwave tomography. , 2016, , .		0
92	Formulation of Surface-Volume-Surface-EFIE for Solution of 2D Scattering Problems on Composite Dielectric Objects under TM Polarization. , 2018, , .		0
93	Analysis of Scattering on Arctic Sea Ice in C-Band with Layered Medium Formulation of Surface Volume Surface Electric Field Integral Equation. , 2018, , .		0
94	On the Error Study of Surface-Volume-Surface EFIE for solving the 3-D Scattering Problems on Composite Dielectric Objects. , 2018, , .		0
95	Recent Advances in the Theory and Applications of the Surface-Volume-Surface Electric Field Integral Equation. , 2018, , .		0
96	Fast Direct Method of Moments Solution of Surface-Volume-Surface Integral Equation with H-Matrices. , 2018, , .		0
97	Delta-Gap Source Excitation Model in Surface-Volume-Surface Electric Field Integral Equation for 3-D Interconnect Characterization. , 2019, , .		0
98	Fast Direct Error-Controlled Solution of Scattering Problems via \hat{A}^{-1} -matrix Acceleration of Locally Corrected Nyström Method. , 2021, , .		0
99	On Method of Moments Modelling of Realistic Antennas Radiation For Remote Sensing of Sea Ice. , 2021, , .		0
100	Causality Condition in Electromagnetics and Negative Consequences of Ill-Posed Source Models. , 2020, , .		0
101	An FFT-Accelerated and Tucker-Enhanced Inductance Extraction for Voxelized Superconducting Structures. , 2020, , .		0