

# Eric Michielssen

## List of Publications by Year in Descending Order

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**Version:** 2024-04-26

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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.

73  
papers

1,285  
citations

17  
h-index

33  
g-index

92  
ext. papers

1,678  
ext. citations

3.1  
avg. IF

4.42  
L-index

#	Paper	IF	Citations
73	The Design of Dual Band Stacked Metasurfaces Using Integral Equations. <i>IEEE Transactions on Antennas and Propagation</i> , <b>2022</b> , 1-1	4.9	1
72	Wigner-Smith Time Delay Matrix for Electromagnetics: Computational Aspects for Radiation and Scattering Analysis. <i>IEEE Transactions on Antennas and Propagation</i> , <b>2021</b> , 69, 3995-4010	4.9	0
71	Stable and Accurate Marching-on-in-Time Solvers of Time Domain EFIE, MFIE, and CFIE Based on Quasi-Exact Integration Technique. <i>IEEE Transactions on Antennas and Propagation</i> , <b>2021</b> , 69, 2218-2229	4.9	3
70	Wigner-Smith Time-Delay Matrix for Electromagnetics: Theory and Phenomenology. <i>IEEE Transactions on Antennas and Propagation</i> , <b>2021</b> , 69, 902-917	4.9	2
69	Design of Multilayer, Dualband Metasurface Reflectarrays <b>2020</b> ,		5
68	Comparison of Experimental and Modeled EMI Shielding Properties of Periodic Porous xGNP/PLA Composites. <i>Polymers</i> , <b>2019</b> , 11,	4.5	10
67	Computation of Electromagnetic Fields Scattered From Objects With Uncertain Shapes Using Multilevel Monte Carlo Method. <i>IEEE Journal on Multiscale and Multiphysics Computational Techniques</i> , <b>2019</b> , 4, 37-50	1.5	7
66	An FMM-FFT Accelerated SIE Simulator for Analyzing EM Wave Propagation in Mine Environments Loaded With Conductors. <i>IEEE Journal on Multiscale and Multiphysics Computational Techniques</i> , <b>2018</b> , 3, 3-15	1.5	8
65	A Wavelet-Enhanced PSTD-Accelerated Time-Domain Integral Equation Solver for Analysis of Transient Scattering From Electrically Large Conducting Objects. <i>IEEE Transactions on Antennas and Propagation</i> , <b>2018</b> , 66, 2458-2470	4.9	10
64	Internally Combined Volume-Surface Integral Equation for EM Analysis of Inhomogeneous Negative Permittivity Plasma Scatterers. <i>IEEE Transactions on Antennas and Propagation</i> , <b>2018</b> , 66, 1903-1913	4.9	7
63	A butterfly-based direct solver using hierarchical LU factorization for Poggio-Miller-Chang-Harrington-Wu-Tsai equations. <i>Microwave and Optical Technology Letters</i> , <b>2018</b> , 60, 1381-1387	1.2	9
62	Computational design of composite EMI shields through the control of pore morphology. <i>MRS Communications</i> , <b>2018</b> , 8, 1153-1157	2.7	2
61	An HSS Matrix-Inspired Butterfly-Based Direct Solver for Analyzing Scattering From Two-Dimensional Objects. <i>IEEE Antennas and Wireless Propagation Letters</i> , <b>2017</b> , 16, 1179-1183	3.8	16
60	Controlling Light Transmission Through Highly Scattering Media Using Semi-Definite Programming as a Phase Retrieval Computation Method. <i>Scientific Reports</i> , <b>2017</b> , 7, 2518	4.9	13
59	A Butterfly-Based Direct Integral-Equation Solver Using Hierarchical LU Factorization for Analyzing Scattering From Electrically Large Conducting Objects. <i>IEEE Transactions on Antennas and Propagation</i> , <b>2017</b> , 65, 4742-4750	4.9	43
58	Compression of Translation Operator Tensors in FMM-FFT-Accelerated SIE Solvers via Tucker Decomposition. <i>IEEE Antennas and Wireless Propagation Letters</i> , <b>2017</b> , 16, 2667-2670	3.8	8
57	A domain decomposition based surface integral equation solver for characterizing electromagnetic wave propagation in mine environments <b>2016</b> ,		1

56	Low-Frequency Stable Internally Combined Volume-Surface Integral Equation for High-Contrast Scatterers. <i>IEEE Antennas and Wireless Propagation Letters</i> , <b>2015</b> , 14, 1423-1426	3.8	6
55	An ME-PC Enhanced HDMR Method for Efficient Statistical Analysis of Multiconductor Transmission Line Networks. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , <b>2015</b> , 5, 685-696	1.7	42
54	Volume-Surface Combined Field Integral Equation for Plasma Scatterers. <i>IEEE Antennas and Wireless Propagation Letters</i> , <b>2015</b> , 14, 1064-1067	3.8	6
53	Graphics Processing Unit Implementation of Multilevel Plane-Wave Time-Domain Algorithm. <i>IEEE Antennas and Wireless Propagation Letters</i> , <b>2014</b> , 13, 1671-1675	3.8	
52	Sensitivity of TMS-induced electric fields to the uncertainty in coil placement and brain anatomy <b>2014</b> ,		2
51	On MLM/DA/Butterfly Compressibility of Inverse Integral Operators. <i>IEEE Antennas and Wireless Propagation Letters</i> , <b>2013</b> , 12, 31-34	3.8	28
50	Time-Domain Single-Source Integral Equations for Analyzing Scattering From Homogeneous Penetrable Objects. <i>IEEE Transactions on Antennas and Propagation</i> , <b>2013</b> , 61, 1239-1254	4.9	6
49	Explicit solution of Calderon preconditioned time domain integral equations <b>2013</b> ,		1
48	Statistical Characterization of Electromagnetic Wave Propagation in Mine Environments. <i>IEEE Antennas and Wireless Propagation Letters</i> , <b>2013</b> , 12, 1602-1605	3.8	7
47	A parallel MLM/DA-based direct integral equation solver <b>2013</b> ,		2
46	Statistical characterization of wave propagation in mine environments <b>2012</b> ,		4
45	Stable Electric Field TDIE Solvers via Quasi-Exact Evaluation of MOT Matrix Elements. <i>IEEE Transactions on Antennas and Propagation</i> , <b>2011</b> , 59, 574-585	4.9	83
44	Efficient stochastic EMC/EMI analysis using HDMR-generated surrogate models <b>2011</b> ,		5
43	A Calderon-Preconditioned Single Source Combined Field Integral Equation for Analyzing Scattering From Homogeneous Penetrable Objects. <i>IEEE Transactions on Antennas and Propagation</i> , <b>2011</b> , 59, 2315-2328	4.9	16
42	High-order Div- and Quasi Curl-Conforming Basis Functions for Calderon Multiplicative Preconditioning of the EFIE. <i>IEEE Transactions on Antennas and Propagation</i> , <b>2011</b> , 59, 1321-1337	4.9	14
41	Recovering the global loops by randomized projections <b>2011</b> ,		5
40	Calderon multiplicative preconditioner for the PMCHWT equation applied to chiral media <b>2011</b> ,		2
39	An h-adaptive stochastic collocation method for stochastic EMC/EMI analysis <b>2010</b> ,		5

38	A Calderón Multiplicative Preconditioner for Coupled Surface-Volume Electric Field Integral Equations. <i>IEEE Transactions on Antennas and Propagation</i> , <b>2010</b> , 58, 2680-2690	4-9	9
37	A simulation of focal brain stimulation using metamaterial lenses <b>2010</b> ,		2
36	Nullspaces of MFIE and Calderón Preconditioned EFIE Operators Applied to Toroidal Surfaces. <i>IEEE Transactions on Antennas and Propagation</i> , <b>2009</b> , 57, 3205-3215	4-9	46
35	A Calderón Multiplicative Preconditioner for the PMCHWT integral equation <b>2009</b> ,		2
34	A Fast Stroud-Based Collocation Method for Statistically Characterizing EMI/EMC Phenomena on Complex Platforms. <i>IEEE Transactions on Electromagnetic Compatibility</i> , <b>2009</b> , 51, 301-311	2	52
33	Time Domain Integral Equation Analysis of Scattering From Composite Bodies via Exact Evaluation of Radiation Fields. <i>IEEE Transactions on Antennas and Propagation</i> , <b>2009</b> , 57, 1506-1520	4-9	80
32	A Calderón Multiplicative Preconditioner for the Combined Field Integral Equation. <i>IEEE Transactions on Antennas and Propagation</i> , <b>2009</b> , 57, 3387-3392	4-9	47
31	Analysis and Regularization of the TD-EFIE Low-Frequency Breakdown. <i>IEEE Transactions on Antennas and Propagation</i> , <b>2009</b> , 57, 2034-2046	4-9	21
30	A High-Performance Upgrade of the Perfectly Matched Layer Multilevel Fast Multipole Algorithm for Large Planar Microwave Structures. <i>IEEE Transactions on Antennas and Propagation</i> , <b>2009</b> , 57, 1728-1739	4-9	10
29	Time Domain Calderón Identities and Their Application to the Integral Equation Analysis of Scattering by PEC Objects Part II: Stability. <i>IEEE Transactions on Antennas and Propagation</i> , <b>2009</b> , 57, 2365-2375	4-9	59
28	Time Domain Calderón Identities and Their Application to the Integral Equation Analysis of Scattering by PEC Objects Part I: Preconditioning. <i>IEEE Transactions on Antennas and Propagation</i> , <b>2009</b> , 57, 2352-2364	4-9	41
27	A Multiplicative Calderon Preconditioner for the Electric Field Integral Equation. <i>IEEE Transactions on Antennas and Propagation</i> , <b>2008</b> , 56, 2398-2412	4-9	249
26	A fast and parallel stroud-based stochastic collocation method for statistical EMI/EMC analysis <b>2008</b> ,		4
25	The Bottrick TDEFIE—a DC stable integral equation for analyzing transient scattering from PEC bodies <b>2008</b> ,		5
24	A Marching-on-in-Time Hierarchical Scheme for the Solution of the Time Domain Electric Field Integral Equation. <i>IEEE Transactions on Antennas and Propagation</i> , <b>2007</b> , 55, 3734-3738	4-9	17
23	Transmission through and wave guidance on metal plates perforated by periodic arrays of through-holes of subwavelength coaxial cross-section. <i>Microwave and Optical Technology Letters</i> , <b>2007</b> , 49, 1554-1558	1-2	6
22	Calderón preconditioned time-domain integral equation solvers <b>2007</b> ,		3
21	Analysis of Low-Frequency Electromagnetic Transients by an Extended Time-Domain Adaptive Integral Method. <i>IEEE Transactions on Advanced Packaging</i> , <b>2007</b> , 30, 301-312		20

20	Calderbank stabilized time domain integral equation solvers <b>2007</b> ,		2
19	An Electromagnetic Crystal Green Function Multiple Scattering Technique for Arbitrary Polarizations, Lattices, and Defects. <i>Journal of Lightwave Technology</i> , <b>2007</b> , 25, 571-583	4	9
18	Fast-Multipole Analysis of Electromagnetic Scattering by Photonic Crystal Slabs. <i>Journal of Lightwave Technology</i> , <b>2007</b> , 25, 2847-2863	4	15
17	A Leapfrogging-in-Time Integral Equation Solver. <i>IEEE Antennas and Wireless Propagation Letters</i> , <b>2007</b> , 6, 203-206	3.8	4
16	A rank-revealing preconditioner for the fast integral-equation-based characterization of electromagnetic crystal devices. <i>Microwave and Optical Technology Letters</i> , <b>2006</b> , 48, 783-789	1.2	10
15	Nonuniform grid time domain (NGTD) algorithm for fast evaluation of transient wave fields. <i>IEEE Transactions on Antennas and Propagation</i> , <b>2006</b> , 54, 1943-1951	4.9	20
14	Floquet wave-based analysis of transient scattering from doubly periodic, discretely planar, perfectly conducting structures. <i>Radio Science</i> , <b>2005</b> , 40, n/a-n/a	1.4	9
13	Temporal acceleration of time-domain integral-equation solvers for electromagnetic scattering from objects residing in lossy media. <i>Microwave and Optical Technology Letters</i> , <b>2005</b> , 44, 223-230	1.2	33
12	Integral-equation-based analysis of transient scattering from surfaces with an impedance boundary condition. <i>Microwave and Optical Technology Letters</i> , <b>2004</b> , 42, 213-220	1.2	6
11	Fast Time Domain Integral Equation Solvers for Analyzing Two-Dimensional Scattering Phenomena; Part I: Temporal Acceleration. <i>Electromagnetics</i> , <b>2004</b> , 24, 425-449	0.8	4
10	Multilevel plane wave time domain-based global boundary kernels for two-dimensional finite difference time domain simulations. <i>Radio Science</i> , <b>2004</b> , 39, n/a-n/a	1.4	8
9	Fast Time Domain Integral Equation Solvers for Analyzing Two-Dimensional Scattering Phenomena; Part II: Full PWTD Acceleration. <i>Electromagnetics</i> , <b>2004</b> , 24, 451-470	0.8	2
8	Time-domain integral-equation based analysis of scattering from conducting surfaces including the singular edge behavior. <i>Microwave and Optical Technology Letters</i> , <b>2002</b> , 34, 327-332	1.2	2
7	A time-domain volume-integral equation approach for analyzing scattering from 2-D nonlinear objects under TM illumination. <i>Microwave and Optical Technology Letters</i> , <b>2000</b> , 26, 419-423	1.2	1
6	Fast transient analysis of acoustic wave scattering from rigid bodies using a two-level plane wave time domain algorithm. <i>Journal of the Acoustical Society of America</i> , <b>1999</b> , 106, 2405-2416	2.2	21
5	Analysis of transient wave scattering from rigid bodies using a Burton-Miller approach. <i>Journal of the Acoustical Society of America</i> , <b>1999</b> , 106, 2396-2404	2.2	59
4	Community genetic algorithm design of symmetric E-plane microwave filters. <i>Microwave and Optical Technology Letters</i> , <b>1999</b> , 21, 28-35	1.2	
3	A fast algorithm for the analysis of radiation and scattering from microstrip arrays on finite substrates. <i>Microwave and Optical Technology Letters</i> , <b>1999</b> , 23, 306-310	1.2	6

- 2 Efficient electromagnetic analysis of two-dimensional finite quasi-random gratings for quantum well infrared photodetectors. *Journal of Applied Physics*, **1998**, 83, 3360-3363 2.5 6
- 1 A memory-efficient, adaptive algorithm for multipole-accelerated capacitance computation in a stratified dielectric medium. *The International Executive*, **1996**, 6, 381-390 10