

# Eric Michielssen

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/6174934/publications.pdf>

Version: 2024-02-01

92  
papers

1,881  
citations

331259

21  
h-index

264894

42  
g-index

92  
all docs

92  
docs citations

92  
times ranked

845  
citing authors

#	ARTICLE	IF	CITATIONS
1	A Multiplicative Calderon Preconditioner for the Electric Field Integral Equation. IEEE Transactions on Antennas and Propagation, 2008, 56, 2398-2412.	3.1	379
2	Stable Electric Field TDIE Solvers via Quasi-Exact Evaluation of MOT Matrix Elements. IEEE Transactions on Antennas and Propagation, 2011, 59, 574-585.	3.1	133
3	Time Domain Integral Equation Analysis of Scattering From Composite Bodies via Exact Evaluation of Radiation Fields. IEEE Transactions on Antennas and Propagation, 2009, 57, 1506-1520.	3.1	101
4	Time Domain Calderon Identities and Their Application to the Integral Equation Analysis of Scattering by PEC Objects Part II: Stability. IEEE Transactions on Antennas and Propagation, 2009, 57, 2365-2375.	3.1	78
5	Analysis of transient wave scattering from rigid bodies using a Burton-Miller approach. Journal of the Acoustical Society of America, 1999, 106, 2396-2404.	0.5	74
6	A Butterfly-Based Direct Integral-Equation Solver Using Hierarchical LU Factorization for Analyzing Scattering From Electrically Large Conducting Objects. IEEE Transactions on Antennas and Propagation, 2017, 65, 4742-4750.	3.1	74
7	A Fast Stroud-Based Collocation Method for Statistically Characterizing EMI/EMC Phenomena on Complex Platforms. IEEE Transactions on Electromagnetic Compatibility, 2009, 51, 301-311.	1.4	69
8	Temporal acceleration of time-domain integral-equation solvers for electromagnetic scattering from objects residing in lossy media. Microwave and Optical Technology Letters, 2005, 44, 223-230.	0.9	61
9	Nullspaces of MFIE and Calderon Preconditioned EFIE Operators Applied to Toroidal Surfaces. IEEE Transactions on Antennas and Propagation, 2009, 57, 3205-3215.	3.1	61
10	Time Domain Calderon Identities and Their Application to the Integral Equation Analysis of Scattering by PEC Objects Part I: Preconditioning. IEEE Transactions on Antennas and Propagation, 2009, 57, 2352-2364.	3.1	59
11	A Calderon Multiplicative Preconditioner for the Combined Field Integral Equation. IEEE Transactions on Antennas and Propagation, 2009, 57, 3387-3392.	3.1	57
12	An ME-PC Enhanced HDMR Method for Efficient Statistical Analysis of Multiconductor Transmission Line Networks. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2015, 5, 685-696.	1.4	56
13	On MLMDA/Butterfly Compressibility of Inverse Integral Operators. IEEE Antennas and Wireless Propagation Letters, 2013, 12, 31-34.	2.4	34
14	Nonuniform grid time domain (NGTD) algorithm for fast evaluation of transient wave fields. IEEE Transactions on Antennas and Propagation, 2006, 54, 1943-1951.	3.1	29
15	Analysis and Regularization of the TD-EFIE Low-Frequency Breakdown. IEEE Transactions on Antennas and Propagation, 2009, 57, 2034-2046.	3.1	28
16	Controlling Light Transmission Through Highly Scattering Media Using Semi-Definite Programming as a Phase Retrieval Computation Method. Scientific Reports, 2017, 7, 2518.	1.6	28
17	Fast transient analysis of acoustic wave scattering from rigid bodies using a two-level plane wave time domain algorithm. Journal of the Acoustical Society of America, 1999, 106, 2405-2416.	0.5	27
18	An HSS Matrix-Inspired Butterfly-Based Direct Solver for Analyzing Scattering From Two-Dimensional Objects. IEEE Antennas and Wireless Propagation Letters, 2017, 16, 1179-1183.	2.4	26

#	ARTICLE	IF	CITATIONS
19	Analysis of Low-Frequency Electromagnetic Transients by an Extended Time-Domain Adaptive Integral Method. IEEE Transactions on Advanced Packaging, 2007, 30, 301-312.	1.7	23
20	A Marching-on-in-Time Hierarchical Scheme for the Solution of the Time Domain Electric Field Integral Equation. IEEE Transactions on Antennas and Propagation, 2007, 55, 3734-3738.	3.1	22
21	Fast-Multipole Analysis of Electromagnetic Scattering by Photonic Crystal Slabs. Journal of Lightwave Technology, 2007, 25, 2847-2863.	2.7	21
22	A Calderón-Preconditioned Single Source Combined Field Integral Equation for Analyzing Scattering From Homogeneous Penetrable Objects. IEEE Transactions on Antennas and Propagation, 2011, 59, 2315-2328.	3.1	21
23	Comparison of Experimental and Modeled EMI Shielding Properties of Periodic Porous xGNP/PLA Composites. Polymers, 2019, 11, 1233.	2.0	21
24	Floquet wave-based analysis of transient scattering from doubly periodic, discretely planar, perfectly conducting structures. Radio Science, 2005, 40, n/a-n/a.	0.8	19
25	A rank-revealing preconditioner for the fast integral-equation-based characterization of electromagnetic crystal devices. Microwave and Optical Technology Letters, 2006, 48, 783-789.	0.9	19
26	High-order Div- and Quasi Curl-Conforming Basis Functions for Calderón Multiplicative Preconditioning of the EFIE. IEEE Transactions on Antennas and Propagation, 2011, 59, 1321-1337.	3.1	18
27	A High-Performance Upgrade of the Perfectly Matched Layer Multilevel Fast Multipole Algorithm for Large Planar Microwave Structures. IEEE Transactions on Antennas and Propagation, 2009, 57, 1728-1739.	3.1	17
28	A butterfly-based direct solver using hierarchical LU factorization for Poggio-Miller-Chang-Harrington-Wu-Tsai equations. Microwave and Optical Technology Letters, 2018, 60, 1381-1387.	0.9	17
29	The Design of Dual Band Stacked Metasurfaces Using Integral Equations. IEEE Transactions on Antennas and Propagation, 2022, 70, 4576-4588.	3.1	15
30	Compression of Translation Operator Tensors in FMM-FFT-Accelerated SIE Solvers via Tucker Decomposition. IEEE Antennas and Wireless Propagation Letters, 2017, 16, 2667-2670.	2.4	14
31	A Wavelet-Enhanced PWT-D-Accelerated Time-Domain Integral Equation Solver for Analysis of Transient Scattering From Electrically Large Conducting Objects. IEEE Transactions on Antennas and Propagation, 2018, 66, 2458-2470.	3.1	14
32	An FMM-FFT Accelerated SIE Simulator for Analyzing EM Wave Propagation in Mine Environments Loaded With Conductors. IEEE Journal on Multiscale and Multiphysics Computational Techniques, 2018, 3, 3-15.	1.4	13
33	Internally Combined Volume-Surface Integral Equation for EM Analysis of Inhomogeneous Negative Permittivity Plasma Scatterers. IEEE Transactions on Antennas and Propagation, 2018, 66, 1903-1913.	3.1	13
34	Integral-equation-based analysis of transient scattering from surfaces with an impedance boundary condition. Microwave and Optical Technology Letters, 2004, 42, 213-220.	0.9	12
35	A Calderón Multiplicative Preconditioner for Coupled Surface-Volume Electric Field Integral Equations. IEEE Transactions on Antennas and Propagation, 2010, 58, 2680-2690.	3.1	12
36	Computation of Electromagnetic Fields Scattered From Objects With Uncertain Shapes Using Multilevel Monte Carlo Method. IEEE Journal on Multiscale and Multiphysics Computational Techniques, 2019, 4, 37-50.	1.4	11

#	ARTICLE	IF	CITATIONS
37	A memory-efficient, adaptive algorithm for multipole-accelerated capacitance computation in a stratified dielectric medium. <i>The International Executive</i> , 1996, 6, 381-390.	0.2	10
38	Multilevel plane wave time domain-based global boundary kernels for two-dimensional finite difference time domain simulations. <i>Radio Science</i> , 2004, 39, n/a-n/a.	0.8	10
39	An Electromagnetic Crystal Green Function Multiple Scattering Technique for Arbitrary Polarizations, Lattices, and Defects. <i>Journal of Lightwave Technology</i> , 2007, 25, 571-583.	2.7	10
40	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> , 2007, 49, 1554-1558.	0.9	9
41	Time-Domain Single-Source Integral Equations for Analyzing Scattering From Homogeneous Penetrable Objects. <i>IEEE Transactions on Antennas and Propagation</i> , 2013, 61, 1239-1254.	3.1	9
42	Statistical Characterization of Electromagnetic Wave Propagation in Mine Environments. <i>IEEE Antennas and Wireless Propagation Letters</i> , 2013, 12, 1602-1605.	2.4	9
43	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> , 2021, 69, 2218-2229.	3.1	9
44	Wigner-Smith Time-Delay Matrix for Electromagnetics: Theory and Phenomenology. <i>IEEE Transactions on Antennas and Propagation</i> , 2021, 69, 902-917.	3.1	8
45	A fast algorithm for the analysis of radiation and scattering from microstrip arrays on finite substrates. <i>Microwave and Optical Technology Letters</i> , 1999, 23, 306-310.	0.9	7
46	Fast Time Domain Integral Equation Solvers for Analyzing Two-Dimensional Scattering Phenomena; Part I: Temporal Acceleration. <i>Electromagnetics</i> , 2004, 24, 425-449.	0.3	7
47	Volume-Surface Combined Field Integral Equation for Plasma Scatterers. <i>IEEE Antennas and Wireless Propagation Letters</i> , 2015, 14, 1064-1067.	2.4	7
48	Low-Frequency Stable Internally Combined Volume-Surface Integral Equation for High-Contrast Scatterers. <i>IEEE Antennas and Wireless Propagation Letters</i> , 2015, 14, 1423-1426.	2.4	7
49	Efficient electromagnetic analysis of two-dimensional finite quasi-random gratings for quantum well infrared photodetectors. <i>Journal of Applied Physics</i> , 1998, 83, 3360-3363.	1.1	6
50	A Calderón Multiplicative Preconditioner for the PMCHWT integral equation. , 2009, , .		6
51	Recovering the global loops by randomized projections. , 2011, , .		6
52	Computational design of composite EMI shields through the control of pore morphology. <i>MRS Communications</i> , 2018, 8, 1153-1157.	0.8	6
53	Design of Multilayer, Dualband Metasurface Reflectarrays. , 2020, , .		6
54	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> , 2000, 26, 419-423.	0.9	5

#	ARTICLE	IF	CITATIONS
55	Fast Time Domain Integral Equation Solvers for Analyzing Two-Dimensional Scattering Phenomena; Part II: Full PWTD Acceleration. <i>Electromagnetics</i> , 2004, 24, 451-470.	0.3	5
56	The &#x201C;dottrick TDEFIE&#x201D;; a DC stable integral equation for analyzing transient scattering from PEC bodies. , 2008, , .		5
57	An h-adaptive stochastic collocation method for stochastic EMC/EMI analysis. , 2010, , .		5
58	Efficient stochastic EMC/EMI analysis using HDMR-generated surrogate models. , 2011, , .		5
59	Statistical characterization of wave propagation in mine environments. , 2012, , .		5
60	Wigner&#x2013;Smith Time Delay Matrix for Electromagnetics: Computational Aspects for Radiation and Scattering Analysis. <i>IEEE Transactions on Antennas and Propagation</i> , 2021, 69, 3995-4010.	3.1	5
61	Calder&#x2013;n preconditioned time-domain integral equation solvers. , 2007, , .		4
62	A Leapfrogging-in-Time Integral Equation Solver. <i>IEEE Antennas and Wireless Propagation Letters</i> , 2007, 6, 203-206.	2.4	4
63	A fast and parallel stroud-based stochastic collocation method for statistical EMI/EMC analysis. , 2008, , .		4
64	A simulation of focal brain stimulation using metamaterial lenses. , 2010, , .		3
65	Calderon multiplicative preconditioner for the PMCHWT equation applied to chiral media. , 2011, , .		3
66	A parallel MLMDA-based direct integral equation solver. , 2013, , .		3
67	Time-domain integral-equation based analysis of scattering from conducting surfaces including the singular edge behavior. <i>Microwave and Optical Technology Letters</i> , 2002, 34, 327-332.	0.9	2
68	Calder&#x2013;n stabilized time domain integral equation solvers. , 2007, , .		2
69	Efficient GA-based electromagnetic optimization using HDMR-generated surrogate models. , 2012, , .		2
70	Sensitivity of TMS-induced electric fields to the uncertainty in coil placement and brain anatomy. , 2014, , .		2
71	Accurate and conforming mixed discretization of the chiral m&#x00FC;ller equation. , 2012, , .		1
72	Coupling electromagnetics with micromagnetics. , 2012, , .		1

#	ARTICLE	IF	CITATIONS
73	Explicit solution of Calderon preconditioned time domain integral equations. , 2013, , .		1
74	A well-conditioned volume-surface combined field integral equation (VSCFIE) for inhomogeneous scatterers with negative permittivities. , 2014, , .		1
75	Graphics Processing Unit Implementation of Multilevel Plane-Wave Time-Domain Algorithm. IEEE Antennas and Wireless Propagation Letters, 2014, 13, 1671-1675.	2.4	1
76	An internally combined volume-surface integral equation for 3D plasma scatterers. , 2015, , .		1
77	Low-frequency stable internally combined volume-surface integral equation for 3D high-contrast scatterers. , 2015, , .		1
78	A domain decomposition based surface integral equation solver for characterizing electromagnetic wave propagation in mine environments. , 2016, , .		1
79	Time-domain Green's functions of layered media using modified complex-time method. , 2016, , .		1
80	Community genetic algorithm design of symmetric E-plane microwave filters. Microwave and Optical Technology Letters, 1999, 21, 28-35.	0.9	0
81	A well-posed combined field integral equation for scattering from perfect electrically conducting objects. , 2007, , .		0
82	Recent advances in fast multipole methods to simulate ever larger and more complex structures. , 2008, , .		0
83	Nullspace of the static MFIE operator and its effect on the numerical solution of BIE&#x2019;s. , 2008, , .		0
84	Efficient computation of the scattering cross sections of large planar microwave structures using SVD-PML-MLFMA. , 2009, , .		0
85	A high-order fast Gaussian gridding AIM solver for composite structures. Digest / IEEE Antennas and Propagation Society International Symposium, 2009, , .	0.0	0
86	TDIE solver based on novel closed-form time-domain Green's functions for half-space problem. , 2012, , .		0
87	TD-AIM-MOD method for simulating large-scale electromagnetic transients. , 2013, , .		0
88	Coupled electromagnetic-micromagnetic simulations of complex magnetic structures. , 2013, , .		0
89	Progress in parallel implementation of the multilevel plane wave time domain algorithm. , 2013, , .		0
90	A wavelet-based PWTD algorithm-accelerated time domain surface integral equation solver. , 2015, , .		0

#	ARTICLE	IF	CITATIONS
91	Adaptively matched dual band GPS antenna for plasma environments. , 2015, , .		0
92	MLMDA-based direct integral equation solver for dielectric scatterers. , 2015, , .		0