JosÃ© Manuel Taboada

List of Publications by Year
in descending order

110 papers	2,092 citations	257101 24 h-index	243296 44 g-index
110 all docs	110 docs citations	110 times ranked	2361 citing authors

#	Article	IF	Citations
1	Micelle-directed chiral seeded growth on anisotropic gold nanocrystals. Science, 2020, 368, 1472-1477.	6.0	205
2	Optimization of Nanoparticle-Based SERS Substrates through Large-Scale Realistic Simulations. ACS Photonics, 2017, 4, 329-337.	3.2	135
3	Toward Ultimate Nanoplasmonics Modeling. ACS Nano, 2014, 8, 7559-7570.	7.3	132
4	Gold Nanorodâ€“pNIPAM Hybrids with Reversible Plasmon Coupling: Synthesis, Modeling, and SERS Properties. ACS Applied Materials & Interfaces, 2015, 7, 12530-12538.	4.0	105
5	MLFMA-FFT PARALLEL ALGORITHM FOR THE SOLUTION OF LARGE-SCALE PROBLEMS IN ELECTROMAGNETICS. Progress in Electromagnetics Research, 2010, 105, 15-30.	1.6	92
6	Method-of-moments formulation for the analysis of plasmonic nano-optical antennas. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2011, 28, 1341.	0.8	86
7	Plasmonic Au@Pd Nanorods with Boosted Refractive Index Susceptibility and SERS Efficiency: A Multifunctional Platform for Hydrogen Sensing and Monitoring of Catalytic Reactions. Chemistry of Materials, 2016, 28, 9169-9180.	3.2	85
8	Collective Plasmonic Properties in Few-Layer Gold Nanorod Supercrystals. ACS Photonics, 2015, 2, 1482-1488.	3.2	75
9	Gold Nanostar-Coated Polystyrene Beads as Multifunctional Nanoprobes for SERS Bioimaging. Journal of Physical Chemistry C, 2016, 120, 20860-20868.	1.5	69
10	Plasmon Modes and Hot Spots in Gold Nanostarâ€“Satellite Clusters. Journal of Physical Chemistry C, 2015, 119, 10836-10843.	1.5	64
11	Comparison of surface integral equation formulations for electromagnetic analysis of plasmonic nanoscatterers. Optics Express, 2012, 20, 9161.	1.7	62
12	Optimization of an optical wireless nanolink using directive nanoantennas. Optics Express, 2013, 21, 2369.	1.7	59
13	Reversible Clustering of Gold Nanoparticles under Confinement. Angewandte Chemie - International Edition, 2018, 57, 3183-3186.	7.2	53
14	MLFMA-FFT Parallel Algorithm for the Solution of Extremely Large Problems in Electromagnetics. Proceedings of the IEEE, 2013, 101, 350-363.	16.4	47
15	Surface Integral Equation-Method of Moments With Multiregion Basis Functions Applied to Plasmonics. IEEE Transactions on Antennas and Propagation, 2015, 63, 2141-2152.	3.1	47
16	High Scalability FMM-FFT Electromagnetic Solver for Supercomputer Systems. IEEE Antennas and Propagation Magazine, 2009, 51, 20-28.	1.2	45
17	Surface integral equation formulation for the analysis of left-handed metamaterials. Optics Express, 2010, 18, 15876.	1.7	45
18	Solution of large-scale plasmonic problems with the multilevel fast multipole algorithm. Optics Letters, 2012, 37, 416.	1.7	41

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19	Hybrid moment-method physical-optics formulation for modeling the electromagnetic behavior of on-board antennas. Microwave and Optical Technology Letters, 2000, 27, 88-93.	0.9	35
20	SUPERCOMPUTER AWARE APPROACH FOR THE SOLUTION OF CHALLENGING ELECTROMAGNETIC PROBLEMS. Progress in Electromagnetics Research, 2010, 101, 241-256.	1.6	31
21	Pillar[5]arene-Based Supramolecular Plasmonic Thin Films for Label-Free, Quantitative and Multiplex SERS Detection. ACS Applied Materials & Interfaces, 2017, 9, 26372-26382.	4.0	31
22	Plasmonic substrates comprising gold nanostars efficiently regenerate cofactor molecules. Journal of Materials Chemistry A, 2016, 4, 7045-7052.	5.2	30
23	On the Use of the Singular Value Decomposition in the Fast Multipole Method. IEEE Transactions on Antennas and Propagation, 2008, 56, 2325-2334.	3.1	27
24	Integrating Plasmonic Supercrystals in Microfluidics for Ultrasensitive, Label-Free, and Selective Surface-Enhanced Raman Spectroscopy Detection. ACS Applied Materials & Interfaces, 2020, 12, 46557-46564.	4.0	27
25	Synthesis of onboard array antennas including interaction with the mounting platform and mutual coupling effects. IEEE Antennas and Propagation Magazine, 2001, 43, 76-82.	1.2	25
26	Including multibounce effects in the moment-method physical-optics (MMPO) method. Microwave and Optical Technology Letters, 2002, 32, 435-439.	0.9	23
27	COMPARISON OF SURFACE INTEGRAL EQUATIONS FOR LEFT-HANDED MATERIALS. Progress in Electromagnetics Research, 2011, 118, 425-440.	1.6	21
28	Incorporation of linear-phase progression in RWG basis functions. Microwave and Optical Technology Letters, 2005, 44, 106-112.	0.9	20
29	MLFMA-MoM for Solving the Scattering of Densely Packed Plasmonic Nanoparticle Assemblies. IEEE Photonics Journal, 2015, 7, 1-9.	1.0	19
30	Reversible Clustering of Gold Nanoparticles under Confinement. Angewandte Chemie, 2018, 130, 3237-3240.	1.6	19
31	Accurate EMC Engineering on Realistic Platforms Using an Integral Equation Domain Decomposition Approach. IEEE Transactions on Antennas and Propagation, 2020, 68, 3002-3015.	3.1	19
32	Directive antenna nanocoupler to plasmonic gap waveguides. Optics Letters, 2013, 38, 1630.	1.7	18
33	Bias of the Maximum Likelihood Doa Estimation from Inaccurate Knowledge of the Antenna Array Response. Journal of Electromagnetic Waves and Applications, 2007, 21, 1205-1217.	1.0	17
34	Broadband HF Antenna Matching Network Design Using a Real-Coded Genetic Algorithm. IEEE Transactions on Antennas and Propagation, 2007, 55, 611-618.	3.1	17
35	Improving condition number and convergence of the surface integral-equation method of moments for penetrable bodies. Optics Express, 2012, 20, 17237.	1.7	17
36	Design of on-board array antennas by pattern optimization. Microwave and Optical Technology Letters, 1999, 21, 446-448.	0.9	16

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37	Improvement of the hybrid moment method-physical optics method through a novel evaluation of the physical optics operator. Microwave and Optical Technology Letters, 2001, 30, 357-363.	0.9	15
38	A Discontinuous Galerkin Combined Field Integral Equation Formulation for Electromagnetic Modeling of Piecewise Homogeneous Objects of Arbitrary Shape. IEEE Transactions on Antennas and Propagation, 2022, 70, 487-498.	3.1	13
39	SQUEEZING MAXWELL'S EQUATIONS INTO THE NANOSCALE (Invited Paper). Progress in Electromagnetics Research, 2015, 154, 35-50.	1.6	12
40	Improved combined tangential formulation for electromagnetic analysis of penetrable bodies. Journal of the Optical Society of America B: Optical Physics, 2015, 32, 1780.	0.9	12
41	Design of optical wide-band log-periodic nanoantennas using surface integral equation techniques. Optics Communications, 2013, 301-302, 61-66.	1.0	11
42	Surface Integral Equation-Domain Decomposition Scheme for Solving Multiscale Nanoparticle Assemblies With Repetitions. IEEE Photonics Journal, 2016, 8, 1-14.	1.0	11
43	General purpose software package for electromagnetics engineering education. Computer Applications in Engineering Education, 2002, 10, 33-44.	2.2	10
44	HP-FASS: a hybrid parallel fast acoustic scattering solver. International Journal of Computer Mathematics, 2011, 88, 1960-1968.	1.0	10
45	Comparison of moment-method solutions for wire antennas attached to arbitrarily shaped bodies. Microwave and Optical Technology Letters, 2000, 26, 413-419.	0.9	9
46	Solution of very large integralâ€equation problems with singleâ€level FMM. Microwave and Optical Technology Letters, 2009, 51, 2451-2453.	0.9	9
47	Electromagnetic Analysis of Metamaterials and Plasmonic Nanostructures with the Method of Moments. IEEE Antennas and Propagation Magazine, 2012, 54, 81-91.	1.2	9
48	Evaluation of Galerkin Integrals Involving Triangular-Type Wire-to-Surface Junctions in the Method of Moments. IEEE Transactions on Antennas and Propagation, 2004, 52, 2785-2789.	3.1	7
49	Radial growth of plasmon coupled gold nanowires on colloidal templates. Journal of Colloid and Interface Science, 2015, 449, 87-91.	5.0	7
50	Tear-and-Interconnect Domain Decomposition Scheme for Solving Multiscale Composite Penetrable Objects. IEEE Access, 2020, 8, 107345-107352.	2.6	7
51	HEMCUVI: a software package for the electromagnetic analysis and design of radiating systems on board real platforms. IEEE Antennas and Propagation Magazine, 2002, 44, 44-61.	1.2	6
52	Synthesis of array antennas onboard complex platforms considering coupling effects by means of a hybrid MM-PO technique. Microwave and Optical Technology Letters, 2002, 33, 207-212.	0.9	6
53	Efficient asymptotic-phase modeling of the induced currents in the fast multipole method. Microwave and Optical Technology Letters, 2006, 48, 1594-1599.	0.9	6
54	Multilevel fast multipole algorithm for fields. Journal of Electromagnetic Waves and Applications, 2018, 32, 1261-1274.	1.0	6

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55	Multiresolution Preconditioners for Solving Realistic Multi-Scale Complex Problems. IEEE Access, 2022, 10, 22038-22048.	2.6	6
56	GEOMETRY BASED PRECONDITIONER FOR RADIATION PROBLEMS INVOLVING WIRE AND SURFACE BASIS FUNCTIONS. Progress in Electromagnetics Research, 2009, 93, 29-40.	1.6	5
57	Multilayer homogeneous dielectric filler for electromagnetic invisibility. Scientific Reports, 2018, 8, 13923.	1.6	5
58	Chargeâ€Induced Shifts in Chiral Surface Plasmon Modes in Gold Nanorod Assemblies. Particle and Particle Systems Characterization, 2019, 36, 1800368.	1.2	5
59	High scalability multipole method. Solving half billion of unknowns. Computer Science - Research and Development, 2009, 23, 169-175.	2.7	4
60	On the Evaluation of the 4-D Reaction Integral for the Scalar Potential in Galerkinâ€™s Method of Moments. IEEE Transactions on Antennas and Propagation, 2017, 65, 5356-5364.	3.1	4
61	Fast and accurate electromagnetic solutions of finite periodic optical structures. Optics Express, 2017, 25, 18031.	1.7	4
62	A method-of-moments-based algorithm to synthesize a conformal onboard array antenna. Microwave and Optical Technology Letters, 2001, 29, 324-328.	0.9	3
63	Including near-field constraints for the synthesis of onboard array antennas. Microwave and Optical Technology Letters, 2002, 34, 188-191.	0.9	3
64	Insensitive Environment Calibration Procedure for an Instrumental Radar. Journal of Electromagnetic Waves and Applications, 2010, 24, 2165-2177.	1.0	3
65	Extended near field preconditioner for the analysis of large problems using the nestedâ€FMMâ€FFT algorithm. Microwave and Optical Technology Letters, 2011, 53, 430-433.	0.9	3
66	A floating attachment mode for arbitrary wire-to-surface connections. Microwave and Optical Technology Letters, 2001, 30, 102-105.	0.9	2
67	The Cramer-Rao bound for the estimation of angles of arrival in on-board array antennas. Microwave and Optical Technology Letters, 2002, 33, 119-123.	0.9	2
68	Piecewise travelling-wave basis functions for wires. Microwave and Optical Technology Letters, 2006, 48, 960-966.	0.9	2
69	Analysis of 0.5 billion unknowns using a parallel FMM-FFT solver. Digest / IEEE Antennas and Propagation Society International Symposium, 2009, , .	0.0	2
70	Calculation of wave propagation parameters in generalized media. Microwave and Optical Technology Letters, 2012, 54, 2731-2736.	0.9	2
71	Experience on radar cross section reduction of a warship. Microwave and Optical Technology Letters, 2014, 56, 2270-2273.	0.9	2
72	HF broadband antenna design for shipboard communications: Simulation and measurements. Measurement: Journal of the International Measurement Confederation, 2016, 89, 13-20.	2.5	2

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73	Radiation hazards to personnel from non-ionizing fields of broadband HF systems onboard a vessel: Measurement and simulation. Measurement: Journal of the International Measurement Confederation, 2018, 115, 223-232.	2.5	2
74	Accurate evaluation of singular potential integrals in an asymptotic-phase method of moments formulation. Microwave and Optical Technology Letters, 2007, 49, 2189-2197.	0.9	1
75	Parallel FMM-FFT solver for the analysis of hundreds of millions of unknowns. , 2009, , .		1
76	Optimization of invisibility cloaks by surface integral equation method. , 2012, , .		1
77	Novel surface integral equation formulation for penetrable bodies. , 2013, , .		1
78	Successes and frustrations in the solution of large electromagnetic problems in supercomputers. , 2017, , .		1
79	Distributed macrobasis decomposition for the electromagnetic solution of large periodic structures. , 2017, , .		1
80	Automatic wire-grid generation for electromagnetic analysis of arbitrary-shaped conducting bodies by NEC. Computer Applications in Engineering Education, 1999, 7, 31-43.	2.2	0
81	Compression of the fast multipole method using the singular value decomposition. , 2007, , .		0
82	High scalability codes for the fast multipole method. , 2007, , .		0
83	Geometrically based preconditioner for the Fast Multipole Method using rooftop basis functions and Galerkin testing procedure. Digest / IEEE Antennas and Propagation Society International Symposium, 2009, , .	0.0	0
84	Power decomposition method for compression of the electric-field integral equation. , 2009, , .		0
85	MLFMA-FFT algorithm for the solution of challenging problems in electromagnetics. , 2010, , .		0
86	Integral equation formulations for the analysis of left-handed metamaterials. , 2010, , .		0
87	Computational electromagnetic solutions for large-scale conductors, left-handed metamaterials and plasmonic nanostructures. , 2011, , .		0
88	Low-Cost Procedure for Radar-Imaging Simulation. IEEE Antennas and Propagation Magazine, 2011, 53, 55-62.	1.2	0
89	Large-scale plasmonic problems solved with the multilevel fast multipole algorithm. , 2012, , .		0
90	Comparative of surface integral equation formulations when applied to plasmonic problems. , 2012, , .		0

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91	Design of optical nanoantennas with the surface integral equation method of moments. , 2012, , .		0
92	Fast surface integral equation formulations for large-scale conductors, metamaterials, and plasmonic problems. , 2012, , .		0
93	Directive nanoantennas for optical wireless links. , 2013, , .		0
94	Fast surface integral equation methods for the optimization of nanoantennas. , 2013, , .		0
95	Preconditioning the surface integral equation formulations for the fast solution of penetrable bodies composed of arbitrary materials. , 2013, , .		0
96	Coupling of plasmonic gap waveguides with directive antennas. , 2014, , .		0
97	Boundary element method for the electromagnetic analysis of metamaterials. , 2015, , .		0
98	Boundary element methods for the scattering retrieval of metamaterials. , 2015, , .		0
99	Electromagnetic analysis of large nanoplasmonic assemblies with fast multipole methods. , 2015, , .		0
100	Large-scale nanoplasmonic modeling: Improving convergence. , 2016, , .		0
101	Impact of the evaluation precision of the reaction integrals of the method of moments on the solution of plasmonic problems near the quasi-static regime. , 2016, , .		0
102	Surface integral equation-domain decomposition scheme for solving multi-scale radiation and scattering problems. , 2017, , .		0
103	Evaluation of reaction integrals in the Galerkin's method of moments. , 2017, , .		0
104	SlotFFT techniques for fast computation of large and periodic electromagnetics problems. , 2017, , .		0
105	Fast Maxwell's Simulation of New Real-World Problems at the Nanoscale. , 2019, , .		0
106	Tear and Interconnect Domain Decomposition Analysis of Piecewise Penetrable Structures. , 2019, , .		0
107	Electromagnetic Analysis and Design of Radiating Systems On Board Real Platforms Via Domain Decomposition Method. , 2019, , .		0
108	Solving Realistic Multiscale and Composite Problems using an Integral Equation Domain Decomposition Approach. , 2019, , .		0

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109	Evaluation of singular potential integrals in the method of moments using linearly phased RWG basis functions. , 2007, , .		0
110	Correction to â€œTear-and-Interconnect Domain Decomposition Scheme for Solving Multiscale Composite Penetrable Objectsâ€• IEEE Access, 2020, 8, 220921-220921.	2.6	0