George Hanson

List of Publications by Year
in descending order

126 papers	6,127 citations	147566 31 h-index	71532 76 g-index
127 all docs	127 docs citations	127 times ranked	4064 citing authors

#	Article	IF	Citations
1	Machine Learning Target Count Prediction in Electromagnetics Using Neural Networks. IEEE Transactions on Antennas and Propagation, 2022, 70, 6171-6183.	3.1	2
2	Chern invariants of topological continua: A self-consistent nonlocal hydrodynamic model. Physical Review B, 2022, 105, .	1.1	8
3	Quantum Electromagnetics Technology [Special Series: Guest Editorial]. IEEE Antennas and Propagation Magazine, 2022, 64, 15-15.	1.2	0
4	Design and Analysis of an Electronically Tunable Magnet-Free Non-Reciprocal Metamaterial. IEEE Transactions on Antennas and Propagation, 2022, 70, 7311-7315.	3.1	3
5	Anisotropic absorber and tunable source of MIR radiation based on a black phosphorus-SiC metasurface. Photonics and Nanostructures - Fundamentals and Applications, 2022, 50, 101020.	1.0	16
6	Epsilon-near-zero enhancement of near-field radiative heat transfer in BP/hBN and BP/Î±-MoO3 parallel-plate structures. Applied Physics Letters, 2022, 120, .	1.5	21
7	Quantum Phenomena in Electromagnetics [Guest Editorial]. IEEE Antennas and Propagation Magazine, 2022, 64, 13-13.	1.2	0
8	In-plane optical phonon modes of current-carrying graphene. Physical Review B, 2022, 105, .	1.1	2
9	Conditions for photonic bandgaps in two-dimensional materials. Journal of Applied Physics, 2021, 129, 015302.	1.1	3
10	Temperature-dependent transverse-field magneto-plasmons properties in InSb. Optical Materials, 2021, 112, 110831.	1.7	5
11	Comparing Classical and Quantum Electromagnetics: Part 2 [Special Series: Guest Editorial]. IEEE Antennas and Propagation Magazine, 2021, 63, 13-13.	1.2	0
12	Langevin noise approach for lossy media and the lossless limit. Journal of the Optical Society of America B: Optical Physics, 2021, 38, 758.	0.9	5
13	Reflectionless plasmonic right-angled waveguide bend and divider using graphene and transformation optics. Optics Express, 2021, 29, 9589.	1.7	4
14	Modeling Electromagnetic Wave Phenomena in Large Quantum Systems [Special Series: Guest Editorial]. IEEE Antennas and Propagation Magazine, 2021, 63, 28-28.	1.2	0
15	Tunable unidirectional surface plasmon polaritons at the interface between gyrotropic and isotropic conductors. Optica, 2021, 8, 952.	4.8	16
16	Experimental Realization of Topologically Protected Surface Magnon Polaritons on Ceramic YIG Ferrites. , 2021, , .		0
17	Hybrid surface plasmon polaritons in graphene coupled anisotropic van der Waals material waveguides. Journal Physics D: Applied Physics, 2021, 54, 455102.	1.3	12
18	Comparing Classical and Quantum Electromagnetics: Part 3 [Special Series: Guest Editorial]. IEEE Antennas and Propagation Magazine, 2021, 63, 12-12.	1.2	0

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19	Experimental realization of topologically protected unidirectional surface magnon polaritons on ceramic YIG ferrites. Physical Review B, 2021, 104, .	1.1	7
20	An Equivalent ABCD-Matrix Formalism for Non-Local Wire Media With Arbitrary Terminations. IEEE Transactions on Antennas and Propagation, 2020, 68, 1786-1798.	3.1	1
21	Effective Local Permittivity Model for Nonlocal Wire Media. IEEE Transactions on Antennas and Propagation, 2020, 68, 2926-2936.	3.1	0
22	Indium antimonideâ€"Constraints on practicality as a magneto-optical platform for topological surface plasmon polaritons. Journal of Applied Physics, 2020, 128, 183101.	1.1	9
23	Comparing Classical and Quantum Electromagnetics [Special Series: Guest Editorial]. IEEE Antennas and Propagation Magazine, 2020, 62, 14-14.	1.2	1
24	Exchange splitting and exchange-induced nonreciprocal photonic behavior of graphene in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Cr</mml:mi><mml:msub><mml:mi mathvariant="normal">I</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math> -graphene van der Waals heterostructures. Physical Review B, 2020, 102, .	1.1	9
25	Aspects of Quantum Electrodynamics Compared to the Classical Case: Similarity and Disparity of Quantum and Classical Electromagnetics. IEEE Antennas and Propagation Magazine, 2020, 62, 16-26.	1.2	14
26	Non-Reciprocal, Robust Surface Plasmon Polaritons on Gyrotropic Interfaces. IEEE Transactions on Antennas and Propagation, 2020, 68, 3718-3729.	3.1	24
27	Terahertz response of gadolinium gallium garnet (GGG) and gadolinium scandium gallium garnet (SGGG). Journal of Applied Physics, 2020, 127, .	1.1	11
28	Tunable plasmon-phonon polaritons in anisotropic 2D materials on hexagonal boron nitride. Nanophotonics, 2020, 9, 3909-3920.	2.9	24
29	Chiral and hyperbolic plasmons in novel 2-D materials. , 2019, , 119-138.		2
30	Unidirectional and diffractionless surface plasmon polaritons on three-dimensional nonreciprocal plasmonic platforms. Physical Review B, 2019, 99, .	1.1	41
31	Non-Markovian transient Casimir-Polder force and population dynamics on excited- and ground-state atoms: Weak- and strong-coupling regimes in generally nonreciprocal environments. Physical Review A, 2019, 99, .	1.0	2
32	Manipulating Surface Waves and Nanoscale Forces/Torques with Nonreciprocal Platforms. , 2019, , .		0
33	Exceptional Points of Degeneracy and Branch Points for Coupled Transmission Linesâ€"Linear-Algebra and Bifurcation Theory Perspectives. IEEE Transactions on Antennas and Propagation, 2019, 67, 1025-1034.	3.1	21
34	Fluctuation-induced forces on an atom near a photonic topological material. Physical Review A, 2018, 97, .	1.0	49
35	Unidirectional, Defect-Immune, and Topologically Protected Electromagnetic Surface Waves. , 2018, , 569-604.		1
36	Optical torque on a two-level system near a strongly nonreciprocal medium. Physical Review B, 2018, 98, .	1.1	18

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37	Inducing and controlling rotation on small objects using photonic topological materials. Physical Review B, 2018, 98, .	1.1	11
38	Spontaneous lateral atomic recoil force close to a photonic topological material. Physical Review B, 2018, 97, .	1.1	29
39	Momentum-Space Topological Effects of Nonreciprocity. IEEE Antennas and Wireless Propagation Letters, 2018, 17, 1988-1992.	2.4	7
40	Berry Phase, Berry Connection, and Chern Number for a Continuum Bianisotropic Material From a Classical Electromagnetics Perspective. IEEE Journal on Multiscale and Multiphysics Computational Techniques, 2017, 2, 3-17.	1.4	75
41	Directive Surface Plasmons on Tunable Two-Dimensional Hyperbolic Metasurfaces and Black Phosphorus: Greenâ€™s Function and Complex Plane Analysis. IEEE Transactions on Antennas and Propagation, 2017, 65, 1174-1186.	3.1	39
42	Giant Interatomic Energy-Transport Amplification with Nonreciprocal Photonic Topological Insulators. Physical Review Letters, 2017, 119, 173901.	2.9	25
43	Robust entanglement with three-dimensional nonreciprocal photonic topological insulators. Physical Review A, 2017, 95, .	1.0	33
44	Topologically Protected Unidirectional Surface States in Biased Ferrites: Duality and Application to Directional Couplers. IEEE Antennas and Wireless Propagation Letters, 2017, 16, 449-452.	2.4	23
45	Local thickness-dependent permittivity of wire media in CST microwave studio. , 2017, , .		1
46	Casimir-Lifshitz force for nonreciprocal media and applications to photonic topological insulators. Physical Review A, 2017, 96, .	1.0	18
47	The Role of Commercial Simulators and Multidisciplinary Training in Graduate-Level Electromagnetics Education [Education Corner]. IEEE Antennas and Propagation Magazine, 2017, 59, 127-130.	1.2	2
48	Systematic development of a robust circuit-model technique for subwavelength imaging with wire-medium type lenses. , 2017, , .		1
49	Guest Editorial: Special Cluster on Graphene and Two-Dimensional Materials for Antenna Applications. IEEE Antennas and Wireless Propagation Letters, 2016, 15, 1526-1528.	2.4	0
50	Propagation of surface plasmon polaritons on graphene nano-interconnects. , 2016, , .		0
51	Local thickness-dependent permittivity model for nonlocal bounded wire-medium structures. Physical Review B, 2016, 94, .	1.1	11
52	Chiral plasmon in gapped Dirac systems. Physical Review B, 2016, 93, .	1.1	71
53	Anisotropic 2D Materials for Tunable Hyperbolic Plasmonics. Physical Review Letters, 2016, 116, 066804.	2.9	212
54	Discrete and continuous spectrum in subwavelength imaging with wire-medium type lenses. , 2016, , .		0

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55	The effects of three-dimensional defects on one-way surface plasmon propagation for photonic topological insulators comprised of continuum media. Scientific Reports, 2016, 6, 30055.	1.6	38
56	Excitation of Discrete and Continuous Spectrum in Subdiffraction Wire-Medium Type Lenses. IEEE Transactions on Antennas and Propagation, 2016, 64, 5208-5219.	3.1	1
57	Dyadic Greenâ€™s Functions for Dipole Excitation of Homogenized Metasurfaces. IEEE Transactions on Antennas and Propagation, 2016, 64, 167-178.	3.1	21
58	Quantum plasmonic excitation in graphene and loss-insensitive propagation. Physical Review A, 2015, 92, .	1.0	23
59	Control of entanglement of two-level atoms using graphene. , 2015, , .		0
60	Fundamental properties of plasmonic propagation in graphene nanoribbons. , 2015, , .		1
61	An Epsilon-Near-Zero Total-Internal-Reflection Metamaterial Antenna. IEEE Transactions on Antennas and Propagation, 2015, 63, 1909-1916.	3.1	23
62	Optimum Surface Plasmon Excitation and Propagation on Conductive Two-Dimensional Materials and Thin Films. IEEE Transactions on Antennas and Propagation, 2015, 63, 1765-1774.	3.1	6
63	Modal Propagation and Crosstalk Analysis in Coupled Graphene Nanoribbons. IEEE Transactions on Electromagnetic Compatibility, 2015, 57, 726-733.	1.4	17
64	Transient and steady-state entanglement mediated by three-dimensional plasmonic waveguides. Optics Express, 2015, 23, 22330.	1.7	31
65	Nonlocal Effects on Surface Plasmon Polariton Propagation in Graphene Nanoribbons. IEEE Transactions on Terahertz Science and Technology, 2015, 5, 941-950.	2.0	17
66	Quantized surface-plasmon-polariton excitation and propagation on graphene. , 2014, , .		0
67	Planar hyperlens based on a modulated graphene monolayer. Physical Review B, 2014, 89, .	1.1	42
68	Space-domain method of moments for graphene nanoribbons. , 2014, , .		11
69	Graphene as a tunable THz reservoir for shaping the Mollow triplet of an artificial atom via plasmonic effects. Physical Review B, 2014, 90, .	1.1	11
70	Graphene as a tunable reservoir for shaping the incoherent spectrum of a quantum dot via plasmonic effects. , 2014, , .		0
71	Scattering From Isotropic Connected Wire Medium Metamaterials: Three-, Two-, and One-Dimensional Cases. IEEE Transactions on Antennas and Propagation, 2013, 61, 3564-3574.	3.1	16
72	Surface plasmon polaritons on soft-boundary graphene nanoribbons and their application in switching/demultiplexing. Applied Physics Letters, 2013, 103, .	1.5	55

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73	Semiclassical spatially dispersive intraband conductivity tensor and quantum capacitance of graphene. Physical Review B, 2013, 87, .	1.1	116
74	Dual capacitive-inductive nature of periodic graphene patches: Transmission characteristics at low-terahertz frequencies. Physical Review B, 2013, 87, .	1.1	111
75	Modeling of Nonlinear, Spatially-Dispersive Plasmas and Semiconductors Under Harmonic Excitation. IEEE Transactions on Antennas and Propagation, 2013, 61, 779-787.	3.1	1
76	Transport model for homogenized uniaxial wire media: Three-dimensional scattering problems and homogenized model limits. Physical Review B, 2013, 88, .	1.1	6
77	On the epsilon near zero condition for spatially dispersive materials. New Journal of Physics, 2013, 15, 123027.	1.2	8
78	Non-local susceptibility of the wire medium in the spatial domain considering material boundaries. New Journal of Physics, 2013, 15, 083018.	1.2	19
79	Three dimensional scattering problems involving uniaxial and isotropic wire medium objects: Spherical and cubical examples. , 2013, , .		0
80	Fano resonances in nested wire media. Physical Review B, 2013, 88, .	1.1	10
81	The interaction of electromagnetic waves and three-dimensional nonisotropic (uniaxial) wire medium metamaterials based on a transport model. , 2013, , .		0
82	Soft-boundary graphene nanoribbon formed by a graphene sheet above a perturbed ground plane: conductivity profile and SPP modal current distribution. Journal of Optics (United Kingdom), 2013, 15, 114006.	1.0	13
83	Are Gold Clusters in RF Fields Hot or Not?. Science, 2013, 340, 441-442.	6.0	34
84	Modal propagation and interaction in the smooth transition from a metal mushroom structure to a bed-of-nails-type wire medium. Journal of Applied Physics, 2012, 111, 074308.	1.1	2
85	Low-terahertz transmissivity with a graphene-dielectric micro-structure. , 2012, , .		0
86	Generalized additional boundary conditions and analytical model for multilayered mushroom-type wideband absorbers. , 2012, , .		0
87	Modeling of Spatially-Dispersive Wire Media: Transport Representation, Comparison With Natural Materials, and Additional Boundary Conditions. IEEE Transactions on Antennas and Propagation, 2012, 60, 4219-4232.	3.1	33
88	New Absorbing Boundary Conditions and Analytical Model for Multilayered Mushroom-Type Metamaterials: Applications to Wideband Absorbers. IEEE Transactions on Antennas and Propagation, 2012, 60, 5727-5742.	3.1	52
89	Excitation of terahertz surface plasmons on graphene surfaces by an elementary dipole and quantum emitter: Strong electrodynamic effect of dielectric support. Physical Review B, 2012, 86, .	1.1	43
90	The Effect of Sample Holder Geometry on Electromagnetic Heating of Nanoparticle and NaCl Solutions at 13.56 MHz. IEEE Transactions on Biomedical Engineering, 2012, 59, 3468-3474.	2.5	22

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91	Enhanced transmission with a graphene-dielectric microstructure at low-terahertz frequencies. Physical Review B, 2012, 85, .	1.1	126
92	Guest Editorial Special Issue on Applications of Nanotechnology in Electromagnetic Compatibility (nano-EMC). IEEE Transactions on Electromagnetic Compatibility, 2012, 54, 2-5.	1.4	10
93	Analysis of Large Planar Arrays of Single-Wall Carbon Nanotubes. IEEE Transactions on Microwave Theory and Techniques, 2011, 59, 2758-2768.	2.9	3
94	Multiwall Carbon Nanotubes at RF-THz Frequencies: Scattering, Shielding, Effective Conductivity, and Power Dissipation. IEEE Transactions on Antennas and Propagation, 2011, 59, 3098-3103.	3.1	32
95	Excitation of discrete and continuous spectrum for a surface conductivity model of graphene. Journal of Applied Physics, 2011, 110, .	1.1	59
96	Electromagnetic absorption mechanisms in metal nanospheres: Bulk and surface effects in radiofrequency-terahertz heating of nanoparticles. Journal of Applied Physics, 2011, 109, .	1.1	59
97	A New Formulation of Pocklington's Equation for Thin Wires Using the Exact Kernel. IEEE Transactions on Antennas and Propagation, 2011, 59, 4355-4360.	3.1	12
98	A Generalized Additional Boundary Condition for Mushroom-Type and Bed-of-Nails-Type Wire Media. IEEE Transactions on Microwave Theory and Techniques, 2011, 59, 527-532.	2.9	34
99	A Common Electromagnetic Framework for Carbon Nanotubes and Solid Nanowiresâ€”Spatially Dispersive Conductivity, Generalized Ohm's Law, Distributed Impedance, and Transmission Line Model. IEEE Transactions on Microwave Theory and Techniques, 2011, 59, 9-20.	2.9	24
100	Investigation of strain-sensing materials based on EM surface wave propagation for steel bridge health monitoring. Construction and Building Materials, 2011, 25, 3024-3029.	3.2	3
101	RF and Microwave Electrical Response of Carbon Nanotube Saline Solutions for Potential Biomedical Applications. Nanoscience and Nanotechnology Letters, 2011, 3, 885-888.	0.4	8
102	Radiofrequency field absorption by carbon nanotubes embedded in a conductive host. Journal of Applied Physics, 2010, 108, .	1.1	40
103	Nonlocal homogenization model for the analysis of absorbing properties of mushroom structures with graphene patches at microwaves. , 2010, , .		2
104	Homogenized Green's Functions for an Aperiodic Line Source Over Planar Densely Periodic Artificial Impedance Surfaces. IEEE Transactions on Microwave Theory and Techniques, 2010, 58, 1807-1817.	2.9	22
105	Drift-Diffusion: A Model for Teaching Spatial-Dispersion Concepts and the Importance of Screening in Nanoscale Structures. IEEE Antennas and Propagation Magazine, 2010, 52, 198-207.	1.2	14
106	Optimum electromagnetic heating of nanoparticle thermal contrast agents at rf frequencies. Journal of Applied Physics, 2009, 106, .	1.1	37
107	Wave propagation channels for intra-chip wireless communication systems. Digest / IEEE Antennas and Propagation Society International Symposium, 2009, , .	0.0	0
108	Wave Propagation Mechanisms for Intra-Chip Communications. IEEE Transactions on Antennas and Propagation, 2009, 57, 2715-2724.	3.1	25

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109	Quasi-transverse electromagnetic modes supported by a graphene parallel-plate waveguide. Journal of Applied Physics, 2008, 104, .	1.1	391
110	Dyadic Greenâ€™s functions and guided surface waves for a surface conductivity model of graphene. Journal of Applied Physics, 2008, 103, .	1.1	2,310
111	Dyadic Green's Functions for an Anisotropic, Non-Local Model of Biased Graphene. IEEE Transactions on Antennas and Propagation, 2008, 56, 747-757.	3.1	720
112	Radiation Efficiency of Nano-Radius Dipole Antennas in the Microwave and Far-infrared Regimes. IEEE Antennas and Propagation Magazine, 2008, 50, 66-77.	1.2	59
113	Modeling the Optical Interaction Between a Carbon Nanotube and a Plasmon Resonant Sphere. IEEE Transactions on Antennas and Propagation, 2007, 55, 3063-3069.	3.1	13
114	Guest Editorial for the Special Issue on Optical and THz Antenna Technology. IEEE Transactions on Antennas and Propagation, 2007, 55, 2942-2943.	3.1	3
115	On the Applicability of the Surface Impedance Integral Equation for Optical and Near Infrared Copper Dipole Antennas. IEEE Transactions on Antennas and Propagation, 2006, 54, 3677-3685.	3.1	50
116	Infrared and Optical Properties of Carbon Nanotube Dipole Antennas. IEEE Nanotechnology Magazine, 2006, 5, 766-775.	1.1	90
117	Electromagnetic transient analysis of radiation by canonical sources in planarly layered media using leaky modes. , 2006, , .		0
118	Leaky wave excitation on three-dimensional via-fed printed interconnects. Radio Science, 2005, 40, n/a-n/a.	0.8	1
119	Mathematical Analysis of the Generalized Natural Modes of an Inhomogeneous Optical Fiber. SIAM Journal on Applied Mathematics, 2005, 65, 2033-2048.	0.8	34
120	Optically-controlled solid-state plasma leaky-wave antenna. Microwave and Optical Technology Letters, 2003, 39, 450-453.	0.9	13
121	Green's Function Expansions in Dyadic Root Functions for Shielded Layered Waveguides. Progress in Electromagnetics Research, 2003, 39, 61-91.	1.6	11
122	Resonant frequency calculation for inhomogeneous dielectric resonators using volume integral equations and face-centered node points. Microwave and Optical Technology Letters, 2002, 32, 356-359.	0.9	4
123	Operator Theory for Electromagnetics. , 2002, , .		136
124	Investigation of mode interaction on planar dielectric waveguides with loss and gain. Radio Science, 1999, 34, 1349-1359.	0.8	31
125	An analysis of leaky-wave dispersion phenomena in the vicinity of cutoff using complex frequency plane singularities. Radio Science, 1998, 33, 803-819.	0.8	36
126	Perturbation Formula for the Natural Frequencies of an Object in the Presence of a Layered Medium. Electromagnetics, 1998, 18, 333-351.	0.3	6