

George Hanson

List of Publications by Year in descending order

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126
papers

6,127
citations

147726

31
h-index

71651

76
g-index

127
all docs

127
docs citations

127
times ranked

4064
citing authors

#	ARTICLE	IF	CITATIONS
1	Dyadic Green's functions and guided surface waves for a surface conductivity model of graphene. Journal of Applied Physics, 2008, 103, .	1.1	2,310
2	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
3	Quasi-transverse electromagnetic modes supported by a graphene parallel-plate waveguide. Journal of Applied Physics, 2008, 104, .	1.1	391
4	Anisotropic 2D Materials for Tunable Hyperbolic Plasmonics. Physical Review Letters, 2016, 116, 066804.	2.9	212
5	Operator Theory for Electromagnetics. , 2002, , .		136
6	Enhanced transmission with a graphene-dielectric microstructure at low-terahertz frequencies. Physical Review B, 2012, 85, .	1.1	126
7	Semiclassical spatially dispersive intraband conductivity tensor and quantum capacitance of graphene. Physical Review B, 2013, 87, .	1.1	116
8	Dual capacitive-inductive nature of periodic graphene patches: Transmission characteristics at low-terahertz frequencies. Physical Review B, 2013, 87, .	1.1	111
9	Infrared and Optical Properties of Carbon Nanotube Dipole Antennas. IEEE Nanotechnology Magazine, 2006, 5, 766-775.	1.1	90
10	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
11	Chiral plasmon in gapped Dirac systems. Physical Review B, 2016, 93, .	1.1	71
12	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
13	Excitation of discrete and continuous spectrum for a surface conductivity model of graphene. Journal of Applied Physics, 2011, 110, .	1.1	59
14	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
15	Surface plasmon polaritons on soft-boundary graphene nanoribbons and their application in switching/demultiplexing. Applied Physics Letters, 2013, 103, .	1.5	55
16	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
17	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
18	Fluctuation-induced forces on an atom near a photonic topological material. Physical Review A, 2018, 97, .	1.0	49

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19	Excitation of terahertz surface plasmons on graphene surfaces by an elementary dipole and quantum emitter: Strong electrodynamic effect of dielectric support. <i>Physical Review B</i> , 2012, 86, .	1.1	43
20	Planar hyperlens based on a modulated graphene monolayer. <i>Physical Review B</i> , 2014, 89, .	1.1	42
21	Unidirectional and diffractionless surface plasmon polaritons on three-dimensional nonreciprocal plasmonic platforms. <i>Physical Review B</i> , 2019, 99, .	1.1	41
22	Radiofrequency field absorption by carbon nanotubes embedded in a conductive host. <i>Journal of Applied Physics</i> , 2010, 108, .	1.1	40
23	Directive Surface Plasmons on Tunable Two-Dimensional Hyperbolic Metasurfaces and Black Phosphorus: Green's Function and Complex Plane Analysis. <i>IEEE Transactions on Antennas and Propagation</i> , 2017, 65, 1174-1186.	3.1	39
24	The effects of three-dimensional defects on one-way surface plasmon propagation for photonic topological insulators comprised of continuum media. <i>Scientific Reports</i> , 2016, 6, 30055.	1.6	38
25	Optimum electromagnetic heating of nanoparticle thermal contrast agents at rf frequencies. <i>Journal of Applied Physics</i> , 2009, 106, .	1.1	37
26	An analysis of leaky-wave dispersion phenomena in the vicinity of cutoff using complex frequency plane singularities. <i>Radio Science</i> , 1998, 33, 803-819.	0.8	36
27	Mathematical Analysis of the Generalized Natural Modes of an Inhomogeneous Optical Fiber. <i>SIAM Journal on Applied Mathematics</i> , 2005, 65, 2033-2048.	0.8	34
28	A Generalized Additional Boundary Condition for Mushroom-Type and Bed-of-Nails-Type Wire Media. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2011, 59, 527-532.	2.9	34
29	Are Gold Clusters in RF Fields Hot or Not?. <i>Science</i> , 2013, 340, 441-442.	6.0	34
30	Modeling of Spatially-Dispersive Wire Media: Transport Representation, Comparison With Natural Materials, and Additional Boundary Conditions. <i>IEEE Transactions on Antennas and Propagation</i> , 2012, 60, 4219-4232.	3.1	33
31	Robust entanglement with three-dimensional nonreciprocal photonic topological insulators. <i>Physical Review A</i> , 2017, 95, .	1.0	33
32	Multiwall Carbon Nanotubes at RF-THz Frequencies: Scattering, Shielding, Effective Conductivity, and Power Dissipation. <i>IEEE Transactions on Antennas and Propagation</i> , 2011, 59, 3098-3103.	3.1	32
33	Investigation of mode interaction on planar dielectric waveguides with loss and gain. <i>Radio Science</i> , 1999, 34, 1349-1359.	0.8	31
34	Transient and steady-state entanglement mediated by three-dimensional plasmonic waveguides. <i>Optics Express</i> , 2015, 23, 22330.	1.7	31
35	Spontaneous lateral atomic recoil force close to a photonic topological material. <i>Physical Review B</i> , 2018, 97, .	1.1	29
36	Wave Propagation Mechanisms for Intra-Chip Communications. <i>IEEE Transactions on Antennas and Propagation</i> , 2009, 57, 2715-2724.	3.1	25

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37	Giant Interatomic Energy-Transport Amplification with Nonreciprocal Photonic Topological Insulators. <i>Physical Review Letters</i> , 2017, 119, 173901.	2.9	25
38	A Common Electromagnetic Framework for Carbon Nanotubes and Solid Nanowires—Spatially Dispersive Conductivity, Generalized Ohm's Law, Distributed Impedance, and Transmission Line Model. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2011, 59, 9-20.	2.9	24
39	Non-Reciprocal, Robust Surface Plasmon Polaritons on Gyrotropic Interfaces. <i>IEEE Transactions on Antennas and Propagation</i> , 2020, 68, 3718-3729.	3.1	24
40	Tunable plasmon-phonon polaritons in anisotropic 2D materials on hexagonal boron nitride. <i>Nanophotonics</i> , 2020, 9, 3909-3920.	2.9	24
41	Quantum plasmonic excitation in graphene and loss-insensitive propagation. <i>Physical Review A</i> , 2015, 92, .	1.0	23
42	An Epsilon-Near-Zero Total-Internal-Reflection Metamaterial Antenna. <i>IEEE Transactions on Antennas and Propagation</i> , 2015, 63, 1909-1916.	3.1	23
43	Topologically Protected Unidirectional Surface States in Biased Ferrites: Duality and Application to Directional Couplers. <i>IEEE Antennas and Wireless Propagation Letters</i> , 2017, 16, 449-452.	2.4	23
44	Homogenized Green's Functions for an Aperiodic Line Source Over Planar Densely Periodic Artificial Impedance Surfaces. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2010, 58, 1807-1817.	2.9	22
45	The Effect of Sample Holder Geometry on Electromagnetic Heating of Nanoparticle and NaCl Solutions at 13.56 MHz. <i>IEEE Transactions on Biomedical Engineering</i> , 2012, 59, 3468-3474.	2.5	22
46	Dyadic Green's Functions for Dipole Excitation of Homogenized Metasurfaces. <i>IEEE Transactions on Antennas and Propagation</i> , 2016, 64, 167-178.	3.1	21
47	Exceptional Points of Degeneracy and Branch Points for Coupled Transmission Lines—Linear-Algebra and Bifurcation Theory Perspectives. <i>IEEE Transactions on Antennas and Propagation</i> , 2019, 67, 1025-1034.	3.1	21
48	Epsilon-near-zero enhancement of near-field radiative heat transfer in BP/hBN and BP/±-MoO3 parallel-plate structures. <i>Applied Physics Letters</i> , 2022, 120, .	1.5	21
49	Non-local susceptibility of the wire medium in the spatial domain considering material boundaries. <i>New Journal of Physics</i> , 2013, 15, 083018.	1.2	19
50	Casimir-Lifshitz force for nonreciprocal media and applications to photonic topological insulators. <i>Physical Review A</i> , 2017, 96, .	1.0	18
51	Optical torque on a two-level system near a strongly nonreciprocal medium. <i>Physical Review B</i> , 2018, 98, .	1.1	18
52	Modal Propagation and Crosstalk Analysis in Coupled Graphene Nanoribbons. <i>IEEE Transactions on Electromagnetic Compatibility</i> , 2015, 57, 726-733.	1.4	17
53	Nonlocal Effects on Surface Plasmon Polariton Propagation in Graphene Nanoribbons. <i>IEEE Transactions on Terahertz Science and Technology</i> , 2015, 5, 941-950.	2.0	17
54	Scattering From Isotropic Connected Wire Medium Metamaterials: Three-, Two-, and One-Dimensional Cases. <i>IEEE Transactions on Antennas and Propagation</i> , 2013, 61, 3564-3574.	3.1	16

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55	Tunable unidirectional surface plasmon polaritons at the interface between gyrotropic and isotropic conductors. <i>Optica</i> , 2021, 8, 952.	4.8	16
56	Anisotropic absorber and tunable source of MIR radiation based on a black phosphorus-SiC metasurface. <i>Photonics and Nanostructures - Fundamentals and Applications</i> , 2022, 50, 101020.	1.0	16
57	Drift-Diffusion: A Model for Teaching Spatial-Dispersion Concepts and the Importance of Screening in Nanoscale Structures. <i>IEEE Antennas and Propagation Magazine</i> , 2010, 52, 198-207.	1.2	14
58	Aspects of Quantum Electrodynamics Compared to the Classical Case: Similarity and Disparity of Quantum and Classical Electromagnetics. <i>IEEE Antennas and Propagation Magazine</i> , 2020, 62, 16-26.	1.2	14
59	Optically-controlled solid-state plasma leaky-wave antenna. <i>Microwave and Optical Technology Letters</i> , 2003, 39, 450-453.	0.9	13
60	Modeling the Optical Interaction Between a Carbon Nanotube and a Plasmon Resonant Sphere. <i>IEEE Transactions on Antennas and Propagation</i> , 2007, 55, 3063-3069.	3.1	13
61	Soft-boundary graphene nanoribbon formed by a graphene sheet above a perturbed ground plane: conductivity profile and SPP modal current distribution. <i>Journal of Optics (United Kingdom)</i> , 2013, 15, 114006.	1.0	13
62	A New Formulation of Pocklington's Equation for Thin Wires Using the Exact Kernel. <i>IEEE Transactions on Antennas and Propagation</i> , 2011, 59, 4355-4360.	3.1	12
63	Hybrid surface plasmon polaritons in graphene coupled anisotropic van der Waals material waveguides. <i>Journal Physics D: Applied Physics</i> , 2021, 54, 455102.	1.3	12
64	Green's Function Expansions in Dyadic Root Functions for Shielded Layered Waveguides. <i>Progress in Electromagnetics Research</i> , 2003, 39, 61-91.	1.6	11
65	Space-domain method of moments for graphene nanoribbons. , 2014, , .		11
66	Graphene as a tunable THz reservoir for shaping the Mollow triplet of an artificial atom via plasmonic effects. <i>Physical Review B</i> , 2014, 90, .	1.1	11
67	Local thickness-dependent permittivity model for nonlocal bounded wire-medium structures. <i>Physical Review B</i> , 2016, 94, .	1.1	11
68	Inducing and controlling rotation on small objects using photonic topological materials. <i>Physical Review B</i> , 2018, 98, .	1.1	11
69	Terahertz response of gadolinium gallium garnet (GGG) and gadolinium scandium gallium garnet (SGGG). <i>Journal of Applied Physics</i> , 2020, 127, .	1.1	11
70	Guest Editorial Special Issue on Applications of Nanotechnology in Electromagnetic Compatibility (nano-EMC). <i>IEEE Transactions on Electromagnetic Compatibility</i> , 2012, 54, 2-5.	1.4	10
71	Fano resonances in nested wire media. <i>Physical Review B</i> , 2013, 88, .	1.1	10
72	Indium antimonideâ€™ Constraints on practicality as a magneto-optical platform for topological surface plasmon polaritons. <i>Journal of Applied Physics</i> , 2020, 128, 183101.	1.1	9

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73	Exchange splitting and exchange-induced nonreciprocal photonic behavior of graphene in CrI_3 van der Waals heterostructures. <i>Physical Review B</i> , 2020, 102, .	1.1	9
74	On the epsilon near zero condition for spatially dispersive materials. <i>New Journal of Physics</i> , 2013, 15, 123027.	1.2	8
75	RF and Microwave Electrical Response of Carbon Nanotube Saline Solutions for Potential Biomedical Applications. <i>Nanoscience and Nanotechnology Letters</i> , 2011, 3, 885-888.	0.4	8
76	Chern invariants of topological continua: A self-consistent nonlocal hydrodynamic model. <i>Physical Review B</i> , 2022, 105, .	1.1	8
77	Momentum-Space Topological Effects of Nonreciprocity. <i>IEEE Antennas and Wireless Propagation Letters</i> , 2018, 17, 1988-1992.	2.4	7
78	Experimental realization of topologically protected unidirectional surface magnon polaritons on ceramic YIG ferrites. <i>Physical Review B</i> , 2021, 104, .	1.1	7
79	Perturbation Formula for the Natural Frequencies of an Object in the Presence of a Layered Medium. <i>Electromagnetics</i> , 1998, 18, 333-351.	0.3	6
80	Transport model for homogenized uniaxial wire media: Three-dimensional scattering problems and homogenized model limits. <i>Physical Review B</i> , 2013, 88, .	1.1	6
81	Optimum Surface Plasmon Excitation and Propagation on Conductive Two-Dimensional Materials and Thin Films. <i>IEEE Transactions on Antennas and Propagation</i> , 2015, 63, 1765-1774.	3.1	6
82	Temperature-dependent transverse-field magneto-plasmons properties in InSb. <i>Optical Materials</i> , 2021, 112, 110831.	1.7	5
83	Langevin noise approach for lossy media and the lossless limit. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2021, 38, 758.	0.9	5
84	Resonant frequency calculation for inhomogeneous dielectric resonators using volume integral equations and face-centered node points. <i>Microwave and Optical Technology Letters</i> , 2002, 32, 356-359.	0.9	4
85	Reflectionless plasmonic right-angled waveguide bend and divider using graphene and transformation optics. <i>Optics Express</i> , 2021, 29, 9589.	1.7	4
86	Guest Editorial for the Special Issue on Optical and THz Antenna Technology. <i>IEEE Transactions on Antennas and Propagation</i> , 2007, 55, 2942-2943.	3.1	3
87	Analysis of Large Planar Arrays of Single-Wall Carbon Nanotubes. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2011, 59, 2758-2768.	2.9	3
88	Investigation of strain-sensing materials based on EM surface wave propagation for steel bridge health monitoring. <i>Construction and Building Materials</i> , 2011, 25, 3024-3029.	3.2	3
89	Conditions for photonic bandgaps in two-dimensional materials. <i>Journal of Applied Physics</i> , 2021, 129, 015302.	1.1	3
90	Design and Analysis of an Electronically Tunable Magnet-Free Non-Reciprocal Metamaterial. <i>IEEE Transactions on Antennas and Propagation</i> , 2022, 70, 7311-7315.	3.1	3

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91	Nonlocal homogenization model for the analysis of absorbing properties of mushroom structures with graphene patches at microwaves. , 2010, , .		2
92	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
93	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
94	Chiral and hyperbolic plasmons in novel 2-D materials. , 2019, , 119-138.		2
95	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
96	Machine Learning Target Count Prediction in Electromagnetics Using Neural Networks. IEEE Transactions on Antennas and Propagation, 2022, 70, 6171-6183.	3.1	2
97	In-plane optical phonon modes of current-carrying graphene. Physical Review B, 2022, 105, .	1.1	2
98	Leaky wave excitation on three-dimensional via-fed printed interconnects. Radio Science, 2005, 40, n/a-n/a.	0.8	1
99	Modeling of Nonlinear, Spatially-Dispersive Plasmas and Semiconductors Under Harmonic Excitation. IEEE Transactions on Antennas and Propagation, 2013, 61, 779-787.	3.1	1
100	Fundamental properties of plasmonic propagation in graphene nanoribbons. , 2015, , .		1
101	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
102	Local thickness-dependent permittivity of wire media in CST microwave studio. , 2017, , .		1
103	Systematic development of a robust circuit-model technique for subwavelength imaging with wire-medium type lenses. , 2017, , .		1
104	Unidirectional, Defect-Immune, and Topologically Protected Electromagnetic Surface Waves. , 2018, , 569-604.		1
105	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
106	Comparing Classical and Quantum Electromagnetics [Special Series: Guest Editorial]. IEEE Antennas and Propagation Magazine, 2020, 62, 14-14.	1.2	1
107	Electromagnetic transient analysis of radiation by canonical sources in planarly layered media using leaky modes. , 2006, , .		0
108	Wave propagation channels for intra-chip wireless communication systems. Digest / IEEE Antennas and Propagation Society International Symposium, 2009, , .	0.0	0

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109	Low-terahertz transmissivity with a graphene-dielectric micro-structure. , 2012, , .		0
110	Generalized additional boundary conditions and analytical model for multilayered mushroom-type wideband absorbers. , 2012, , .		0
111	Three dimensional scattering problems involving uniaxial and isotropic wire medium objects: Spherical and cubical examples. , 2013, , .		0
112	The interaction of electromagnetic waves and three-dimensional nonisotropic (uniaxial) wire medium metamaterials based on a transport model. , 2013, , .		0
113	Quantized surface-plasmon-polariton excitation and propagation on graphene. , 2014, , .		0
114	Control of entanglement of two-level atoms using graphene. , 2015, , .		0
115	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
116	Propagation of surface plasmon polaritons on graphene nano-interconnects. , 2016, , .		0
117	Discrete and continuous spectrum in subwavelength imaging with wire-medium type lenses. , 2016, , .		0
118	Manipulating Surface Waves and Nanoscale Forces/Torques with Nonreciprocal Platforms. , 2019, , .		0
119	Effective Local Permittivity Model for Nonlocal Wire Media. IEEE Transactions on Antennas and Propagation, 2020, 68, 2926-2936.	3.1	0
120	Comparing Classical and Quantum Electromagnetics: Part 2 [Special Series: Guest Editorial]. IEEE Antennas and Propagation Magazine, 2021, 63, 13-13.	1.2	0
121	Modeling Electromagnetic Wave Phenomena in Large Quantum Systems [Special Series: Guest Editorial]. IEEE Antennas and Propagation Magazine, 2021, 63, 28-28.	1.2	0
122	Experimental Realization of Topologically Protected Surface Magnon Polaritons on Ceramic YIG Ferrites. , 2021, , .		0
123	Comparing Classical and Quantum Electromagnetics: Part 3 [Special Series: Guest Editorial]. IEEE Antennas and Propagation Magazine, 2021, 63, 12-12.	1.2	0
124	Graphene as a tunable reservoir for shaping the incoherent spectrum of a quantum dot via plasmonic effects. , 2014, , .		0
125	Quantum Electromagnetics Technology [Special Series: Guest Editorial]. IEEE Antennas and Propagation Magazine, 2022, 64, 15-15.	1.2	0
126	Quantum Phenomena in Electromagnetics [Guest Editorial]. IEEE Antennas and Propagation Magazine, 2022, 64, 13-13.	1.2	0