John

List of Publications by Year
in descending order

118 papers	2,774 citations	257450 24 h-index	206112 48 g-index
119 all docs	119 docs citations	119 times ranked	2287 citing authors

#	Article	IF	Citations
1	Microwave Sensing for Estimating Cranberry Crop Yield: A Pilot Study Using Simulated Canopies and Field Measurement Testbeds. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-11.	6.3	4
2	Active, Ultra-Wideband, Electrically Small Antennas for High-Power Transmission in the HF Band. IEEE Transactions on Antennas and Propagation, 2022, 70, 1600-1611.	5.1	5
3	Wideband, Beam-Steerable Reflectarray Antennas Exploiting Electronically Reconfigurable Polarization-Rotating Phase Shifters. IEEE Transactions on Antennas and Propagation, 2022, 70, 4414-4425.	5.1	17
4	Experimental Verification of Multipactor Suppression in Microstripline Using High Porosity Surfaces. IEEE Transactions on Plasma Science, 2022, 50, 43-49.	1.3	8
5	A Low-Profile, Risley-Prism-Based, Beam-Steerable Antenna Employing a Single Flat Prism. IEEE Transactions on Antennas and Propagation, 2022, 70, 6646-6658.	5.1	15
6	Wideband, Electronically Reconfigurable Reflectarrays With 1- and 2-Bit Phase Quantization. , 2022, , .		3
7	A Dual-Band Transmitarray Antenna Employing Ultra-Thin, Polarization-Rotating Spatial Phase Shifters. IEEE Transactions on Antennas and Propagation, 2022, 70, 11132-11137.	5.1	2
8	Discovery and engineering of low work function perovskite materials. Journal of Materials Chemistry C, 2021, 9, 12778-12790.	5.5	15
9	Impact of Nonuniform Thermionic Emission on the Transition Behavior Between Temperature-and Space-Charge-Limited Emission. IEEE Transactions on Electron Devices, 2021, 68, 3576-3581.	3.0	20
10	Mechanically Reconfigurable, Beam-Scanning Reflectarray and Transmitarray Antennas: A Review. Applied Sciences (Switzerland), 2021, 11, 6890.	2.5	24
11	Work Function Trends and New Low-Work-Function Boride and Nitride Materials for Electron Emission Applications. Journal of Physical Chemistry C, 2021, 125, 17400-17410.	3.1	13
12	A Multibeam Tapered Cylindrical Luneburg Lens. IEEE Transactions on Antennas and Propagation, 2021, 69, 5060-5065.	5.1	11
13	Ultrawideband, high-power, microstripline test setup for experimental study and characterization of multipactor. Review of Scientific Instruments, 2021, 92, 084706.	1.3	10
14	Solid-phase epitaxial growth of the correlated-electron transparent conducting oxide <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>SrV</mml:mi><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math>. Physical Review Materials, 2021, 5, .	2.4	9
15	Effective-Medium Modeling of a Meanderline Metamaterial-Enhanced Resistive Wall Amplifier Circuit for Particle-in-Cell Simulations. IEEE Transactions on Plasma Science, 2021, 49, 2700-2708.	1.3	1
16	A Dual-Band, Polarization-Rotating Reflectarray With Independent Phase Control at Each Band. IEEE Transactions on Antennas and Propagation, 2021, 69, 5546-5558.	5.1	11
17	Including the Effects of Spatially Varying Work Functions in Electron Gun Design. , 2021, , .		0
18	The Importance of Patch Fields in Accurately Modeling Miram Curves. , 2021, , .		0

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19	Wideband Transmitarrays Based on Polarization- Rotating Miniaturized-Element Frequency Selective Surfaces. IEEE Transactions on Antennas and Propagation, 2020, 68, 2128-2137.	5.1	38
20	Calculating multipactor susceptibility chart using a semi-analytic approach with improved accuracy. Physics of Plasmas, 2020, 27, .	1.9	9
21	Understanding the interplay of surface structure and work function in oxides: A case study on SrTiO3. APL Materials, 2020, 8, .	5.1	20
22	A 2-Bit Phase-Shifting Unit Cell Design for Beam-Steerable Reflectarrays. , 2020, , .		0
23	Narrowband, infrared absorbing metasurface using polystyrene thin films. Journal of Applied Physics, 2020, 127, .	2.5	4
24	2-Bit Phase Quantization Using Mixed Polarization-Rotation/Non-Polarization- Rotation Reflection Modes for Beam-Steerable Reflectarrays. IEEE Transactions on Antennas and Propagation, 2020, 68, 7937-7946.	5.1	15
25	Effect of Nonuniform Emission on Miram Curves. IEEE Transactions on Plasma Science, 2020, 48, 146-155.	1.3	32
26	Xâ€band, mechanicallyâ€beamâ€steerable lens antenna exploiting the Risley prism concept. IET Microwaves, Antennas and Propagation, 2020, 14, 1902-1908.	1.4	9
27	First-Principles Model of Miram Curve from Polycrystalline Tungsten Cathodes. , 2020, , .		0
28	Experimental Investigation of Bulk and Thin Film Perovskite SrVO3 as a Thermionic Cathode Material. , 2020, , .		0
29	Statistical Model of Non-Uniform Emission/rom Polycrystalline Tungsten Cathodes. , 2019, , .		3
30	Wideband, Beam-Steerable Reflectarrays Based on Minimum-Switch Topology, Polarization-Rotating Unit Cells. IEEE Access, 2019, 7, 36568-36578.	4.2	20
31	Metamaterial-Inspired Vacuum Electron Devices and Accelerators. IEEE Transactions on Electron Devices, 2019, 66, 207-218.	3.0	48
32	A Wideband, Single-Layer Reflectarray Exploiting a Polarization Rotating Unit Cell. IEEE Transactions on Antennas and Propagation, 2019, 67, 872-883.	5.1	34
33	Frontiers in Thermionic Cathode Research. IEEE Transactions on Electron Devices, 2018, 65, 2061-2071.	3.0	70
34	Material Discovery and Design Principles for Stable, High Activity Perovskite Cathodes for Solid Oxide Fuel Cells. Advanced Energy Materials, 2018, 8, 1702708.	19.5	125
35	Mechanical Super-Low Frequency (SLF) Transmitter Using Electrically-Modulated Reluctance. , 2018, , .		10
36	Ionomycin-Induced Changes in Membrane Potential Alter Electroporation Outcomes in HL-60 Cells. Biophysical Journal, 2018, 114, 2875-2886.	0.5	6

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37	A mechanically based magneto-inductive transmitter with electrically modulated reluctance. PLoS ONE, 2018, 13, e0199934.	2.5	14
38	Perovskite electron emitters: Computational prediction and preliminary experimental assessment of novel low work function cathodes. , 2018, , .		2
39	Combining theory and experiment to model electron emission from polycrystalline tungsten cathode surfaces. , 2018, , .		2
40	Work function and stability of adsorbed Ba, O, and Ba-O species on an array of tungsten surfaces. , 2018, , .		0
41	Inductive Meandered Metal Line Metamaterial for Rectangular Waveguide Linings. IEEE Transactions on Plasma Science, 2017, 45, 654-664.	1.3	11
42	Work function and surface stability of tungsten-based thermionic electron emission cathodes. APL Materials, 2017, 5, .	5.1	52
43	High-throughput computational screening for low work function perovskite electron emitters. , 2017, , .		1
44	Toward a statistical model of electron emission from tungsten cathode surfaces. , 2017, , .		0
45	Inductive meandered line metamaterial for metamaterial-enhanced resistive wall amplifiers. , 2017, , .		1
46	Understanding and Controlling the Work Function of Perovskite Oxides Using Density Functional Theory. Advanced Functional Materials, 2016, 26, 5471-5482.	14.9	127
47	Doped strontium vanadate: Computational design of a stable, low work function material. , 2016, , .		1
48	Gridded vacuum tube use in transmitting wideband non-foster electrically small antennas. , 2016, , .		0
49	Metamaterial-Enhanced Resistive Wall Amplifier Design Using Periodically Spaced Inductive Meandered Lines. IEEE Transactions on Plasma Science, 2016, 44, 2476-2484.	1.3	18
50	Metamaterial design for a metamaterial-enhanced resistive wall amplifier. , 2016, , .		0
51	Exploiting Mechanical Flexure as a Means of Tuning the Responses of Large-Scale Periodic Structures. IEEE Transactions on Antennas and Propagation, 2016, 64, 933-943.	5.1	24
52	Observations of Memory Effects and Reduced Breakdown Delay via Penning Gas Mixtures in High-Power Microwave Dielectric Window Discharges. IEEE Transactions on Plasma Science, 2016, 44, 15-24.	1.3	9
53	Strontium vanadate: An ultra-low work function electron emission material. , 2015, , .		0
54	Metamaterial-enhanced resistive wall amplifiers. , 2015, , .		0

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55	Terahertz Conductivity of Copper Surfaces. IEEE Transactions on Terahertz Science and Technology, 2015, 5, 1012-1020.	3.1	104
56	Low-cost phased-array antenna technology enabled by MAcro-Electro-Mechanical Systems (MÃ†MS). , 2015, , .		3
57	Metamaterial-Enhanced Resistive Wall Amplifiers: Theory and Particle-in-Cell Simulations. IEEE Transactions on Plasma Science, 2015, 43, 2123-2131.	1.3	27
58	Cationic Peptide Exposure Enhances Pulsed-Electric-Field-Mediated Membrane Disruption. PLoS ONE, 2014, 9, e92528.	2.5	14
59	Investigating the impact metamaterials have on breakdown delay in plasma formation in high power microwave experiments. , 2014, , .		0
60	Functionalized carbon nanotube theranostic agents for microwave diagnostic imaging and thermal therapy of tumors. , 2014, , .		3
61	Investigating failure mechanisms in high-power microwave frequency selective surfaces. , 2014, , .		1
62	Investigating the Physics of Simultaneous Breakdown Events in High-Power-Microwave (HPM) Metamaterials With Multiresonant Unit Cells and Discrete Nonlinear Responses. IEEE Transactions on Plasma Science, 2014, 42, 1255-1264.	1.3	11
63	Theoretical and Empirical Evaluation of Surface Roughness Effects on Conductivity in the Terahertz Regime. IEEE Transactions on Terahertz Science and Technology, 2014, 4, 368-375.	3.1	28
64	Electron Emission Energy Barriers and Stability of Sc₂O₃ with Adsorbed Ba and Baâ€“O. Journal of Physical Chemistry C, 2014, 118, 19742-19758.	3.1	24
65	Emission energy barriers of scandate surfaces with adsorbed Ba and Ba-O using density functional theory. , 2013, , .		0
66	Surface resistance of copper from 400 to 850 GHz. , 2013, , .		1
67	Effect of synthesis and acid purification methods on the microwave dielectric properties of single-walled carbon nanotube aqueous dispersions. Applied Physics Letters, 2013, 103, 133114.	3.3	11
68	Impact of Random Fabrication Errors on Fundamental Forward-Wave Small-Signal Gain and Bandwidth in Traveling-Wave Tubes With Finite-Space-Charge Electron Beams. IEEE Transactions on Electron Devices, 2013, 60, 1221-1227.	3.0	74
69	Impact of random fabrication errors on backward-wave small-signal gain in traveling wave tubes with finite space charge electron beams. Journal of Applied Physics, 2013, 113, .	2.5	7
70	In vivo microwave dielectric spectroscopy of breast tumor xenografts with intra-tumoral injections of SWCNT dispersions. , 2013, , .		2
71	Effect of sputtered lanthanum hexaboride film thickness on field emission from metallic knife edge cathodes. Journal of Applied Physics, 2012, 111, .	2.5	12
72	Intrinsic defects and conduction characteristics of Sc<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>O<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>3</mml:mn></mml:msub></mml:math>in thermionic cathode systems. Physical Review B, 2012, 86, .	3.2	19

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73	A High-Q Terahertz Resonator for the Measurement of Electronic Properties of Conductors and Low-Loss Dielectrics. IEEE Transactions on Terahertz Science and Technology, 2012, 2, 449-459.	3.1	27
74	Electromagnetic attenuation due to water vapor measured at 400 GHz. , 2012, , .		0
75	Advances in fabrication error analysis for a mm-wave ring-bar TWT circuit. , 2012, , .		0
76	Atmospheric Attenuation of 400 GHz Radiation Due to Water Vapor. IEEE Transactions on Terahertz Science and Technology, 2012, 2, 355-360.	3.1	36
77	Experimental results of feedback attenuation in traveling wave tube regenerative oscillators. , 2011, , .		0
78	Measurement of surface roughness effects on conductivity in the terahertz regime with a high-Q quasioptical resonator. , 2011, , .		0
79	Investigation of the attenuating effects of atmospheric water content at 400 GHz. , 2011, , .		1
80	Analysis of atmospheric attenuation due to water content at 400 and 650 GHz. , 2011, , .		1
81	Frequency Step-Tuning Characteristics of Traveling-Wave Tube Regenerative Oscillators. IEEE Transactions on Electron Devices, 2010, 57, 1152-1159.	3.0	10
82	Field emission from low-work function cathode coatings. , 2010, , .		0
83	Ab initioinvestigation of barium-scandium-oxygen coatings on tungsten for electron emitting cathodes. Physical Review B, 2010, 81, .	3.2	57
84	11.4: Examination of field emission from copper knife edge cathodes with low-work function coatings. , 2010, , .		2
85	17.2: Ab initio models of dispenser B-type, scandate, and alloy cathode surfaces. , 2010, , .		1
86	Surface chemical analysis and ab initio investigations of CsI coated C fiber cathodes for high power microwave sources. Journal of Applied Physics, 2010, 107, 044903.	2.5	12
87	15.1: Transient and steady state operation of traveling wave tube regenerative oscillators. , 2010, , .		0
88	Schottkyâ€™s conjecture on multiplication of field enhancement factors. Journal of Applied Physics, 2009, 106, 104903.	2.5	47
89	Examination of cathode emission area variation with applied electric field. Journal of Applied Physics, 2009, 105, 096102.	2.5	3
90	Design of Overmoded Interaction Circuit for 1-kW 95-GHz TWT. IEEE Transactions on Electron Devices, 2009, 56, 713-720.	3.0	36

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91	Microfabrication and Characterization of a Selectively Metallized W-Band Meander-Line TWT Circuit. IEEE Transactions on Electron Devices, 2009, 56, 730-737.	3.0	100
92	Ab initio investigation of the surface properties of dispenser B-type and scandate thermionic emission cathodes. Applied Physics Letters, 2009, 94, .	3.3	33
93	Measurement and analysis of advanced field emitting cold cathodes. , 2009, , .		1
94	A selectively metallized, microfabricated W-band meander line TWT circuit. , 2008, , .		12
95	Plasma physics and related challenges of millimeter-wave-to-terahertz and high power microwave generation. Physics of Plasmas, 2008, 15, .	1.9	540
96	Field enhancement on knife-edge cathodes. , 2008, , .		0
97	Material analysis and characterization of cesium iodide (CsI) coated C fibers for field emission applications. , 2008, , .		0
98	Potential use of UNCD membranes as broadband vacuum windows at W-band frequencies. , 2008, , .		1
99	Micromachined step-tapered high frequency waveguide inserts and antennas. , 2008, , .		3
100	An ab-initio molecular model of the Scandate cathode. , 2008, , .		0
101	Fundamental electronic properties of materials for terahertz vacuum electron devices. , 2008, , .		0
102	One-dimensional combined field and thermionic emission model and comparison with experimental results. Journal of Vacuum Science & Technology B, 2008, 26, 770-777.	1.3	18
103	Experimental and Numerical Studies of Molecular Uptake Dynamics in HL-60 Cells Induced by Pulsed Electric Fields. , 2007, , .		0
104	Modeling of cold emission cathode by inclusion of combined field and thermionic emission processes. Journal of Applied Physics, 2007, 102, 056107.	2.5	10
105	The dielectric properties of normal and malignant breast tissue at microwave frequencies: analysis, conclusions, and implications from the wisconsin/calgary study. , 2007, , .		8
106	New Insights in the Modification of the Work Function of Cathode Materials due to Thin Surface Coatings using Ab-initio Modelling. , 2007, , .		0
107	Selective Metallization for a W-band Meander Line TWT. , 2007, , .		0
108	Minimizing Spectral Leakage of Nonideal LINC Transmitters by Analysis of Component Impairments. IEEE Transactions on Vehicular Technology, 2007, 56, 445-458.	6.3	10

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109	Modern Microwave and Millimeter-Wave Power Electronics. , 2005, , .		278
110	Two-plane focusing of high-space-charge sheet electron beams using periodically cusped magnetic fields. Journal of Applied Physics, 1999, 85, 6313-6322.	2.5	73
111	Collective single pass gain in a tunable rectangular grating amplifier. Physics of Plasmas, 1998, 5, 2797-2805.	1.9	8
112	Experimental and theoretical investigations of a rectangular grating structure for low-voltage traveling wave tube amplifiers. Physics of Plasmas, 1997, 4, 2707-2715.	1.9	43
113	Microwave enhanced reaction kinetics in ceramics. Materials Research Innovations, 1997, 1, 77-84.	2.3	78
114	Investigations of Microwave Absorption in Insulating Dielectric Ionic Crystals Including the Role of Point Defects and Dislocations. Materials Research Society Symposia Proceedings, 1996, 430, 397.	0.1	2
115	Novel method for measuring intense microwave radiation effects on ionic transport in ceramic materials. Review of Scientific Instruments, 1995, 66, 3606-3609.	1.3	9
116	Microwave Absorption in NaCl Crystals with Various Controlled Defect Conditions. Materials Research Society Symposia Proceedings, 1994, 347, 467.	0.1	5
117	Mechanisms for nonthermal effects on ionic mobility during microwave processing of crystalline solids. Journal of Materials Research, 1992, 7, 495-501.	2.6	87
118	Studies of Nonthermal Effects During Intense Microwave Heating of Crystalline Solids. Materials Research Society Symposia Proceedings, 1992, 269, 137.	0.1	8