John Luginsland

List of Publications by Year
in descending order

51 papers	1,584 citations	361413 20 h-index	289244 40 g-index
51 all docs	51 docs citations	51 times ranked	765 citing authors

#	Article	IF	Citations
1	Two-Dimensional Child-Langmuir Law. Physical Review Letters, 1996, 77, 4668-4670.	7.8	173
2	100 years of the physics of diodes. Applied Physics Reviews, 2017, 4, 011304.	11.3	168
3	Beyond the Childâ€“Langmuir law: A review of recent results on multidimensional space-charge-limited flow. Physics of Plasmas, 2002, 9, 2371-2376.	1.9	113
4	Two-Dimensional Space-Charge-Limited Emission: Beam-Edge Characteristics and Applications. Physical Review Letters, 2001, 87, 145002.	7.8	111
5	Spaceâ€“charge limited current in nanodiodes: Ballistic, collisional, and dynamical effects. Journal of Applied Physics, 2021, 129, .	2.5	104
6	On the elimination of numerical Cerenkov radiation in PIC simulations. Journal of Computational Physics, 2004, 201, 665-684.	3.8	93
7	Review of Cold Cathode Research at the Air Force Research Laboratory. IEEE Transactions on Plasma Science, 2008, 36, 718-728.	1.3	85
8	A Cerenkov-like Maser Based on a Metamaterial Structure. IEEE Transactions on Plasma Science, 2010, 38, 1462-1465.	1.3	59
9	Recirculating Planar Magnetrons for High-Power High-Frequency Radiation Generation. IEEE Transactions on Plasma Science, 2011, 39, 980-987.	1.3	47
10	Current and current density of a finite-width, space-charge-limited electron beam in two-dimensional, parallel-plate geometry. Physics of Plasmas, 2001, 8, 4202-4210.	1.9	46
11	A simple physical derivation of Childâ€“Langmuir space-charge-limited emission using vacuum capacitance. American Journal of Physics, 2005, 73, 160-163.	0.7	44
12	Discrete space charge affected field emission: Flat and hemisphere emitters. Journal of Applied Physics, 2015, 117, .	2.5	43
13	Effects of a series resistor on electron emission from a field emitter. Applied Physics Letters, 1996, 69, 2770-2772.	3.3	33
14	Comprehensive diagnostic suite for a magnetically insulated transmission line oscillator. Review of Scientific Instruments, 2000, 71, 1539-1547.	1.3	32
15	A re-examination of the Bunemanâ€“Hartree condition in a cylindrical smooth-bore relativistic magnetron. Physics of Plasmas, 2010, 17, 033102.	1.9	32
16	Experiments on peer-to-peer locking of magnetrons. Applied Physics Letters, 2009, 95, .	3.3	31
17	Absolute Instability near the Band Edge of Traveling-Wave Amplifiers. Physical Review Letters, 2015, 115, 124801.	7.8	31
18	Recirculating-Planar-Magnetron Simulations and Experiment. IEEE Transactions on Plasma Science, 2013, 41, 639-645.	1.3	28

#	Article	IF	Citations
19	Three-dimensional particle-in-cell simulations of rapid start-up in strapped oven magnetrons due to variation in the insulating magnetic field. Applied Physics Letters, 2004, 84, 5425-5427.	3.3	27
20	Effect of Random Circuit Fabrication Errors on Small-Signal Gain and Phase in Traveling-Wave Tubes. IEEE Transactions on Electron Devices, 2008, 55, 916-924.	3.0	26
21	High-power transit-time oscillator: Onset of oscillation and saturation. Physics of Plasmas, 1997, 4, 4404-4408.	1.9	24
22	A new simple algorithm for space charge limited emission. Physics of Plasmas, 2020, 27, .	1.9	18
23	Explicit Brillouin Flow Solutions in Magnetrons, Magnetically Insulated Line Oscillators, and Radial Magnetically Insulated Transmission Lines. IEEE Transactions on Plasma Science, 2021, 49, 3418-3437.	1.3	18
24	A Two Dimensional Tunneling Resistance Transmission Line Model for Nanoscale Parallel Electrical Contacts. Scientific Reports, 2019, 9, 14484.	3.3	17
25	Recent theory of traveling-wave tubes: a tutorial-review. Plasma Research Express, 2020, 2, 023001.	0.9	17
26	Limiting current in a relativistic diode under the condition of magnetic insulation. Physics of Plasmas, 2003, 10, 4489-4493.	1.9	16
27	Analysis of peer-to-peer locking of magnetrons. Physics of Plasmas, 2008, 15, .	1.9	16
28	Effects of frequency chirp on magnetron injection locking. Physics of Plasmas, 2008, 15, 073110.	1.9	15
29	Microwave Power and Phase Measurements on a Recirculating Planar Magnetron. IEEE Transactions on Plasma Science, 2015, 43, 1675-1682.	1.3	14
30	A Set of Benchmark Tests for Validation of 3-D Particle in Cell Methods. IEEE Transactions on Plasma Science, 2021, 49, 1724-1731.	1.3	13
31	Interface Engineering of Electrical Contacts. Physical Review Applied, 2021, 15, .	3.8	13
32	Theory, simulation, and experiments on a magnetically insulated line oscillator (MILO) at 10 kA, 240 kV near Hull cutoff condition. Physics of Plasmas, 2021, 28, .	1.9	11
33	The effect of humidity on hydroxyl and ozone production by nanosecond discharges. Combustion and Flame, 2016, 167, 164-171.	5.2	9
34	Apparatus for controlled microwave exposure of aerosolized pathogens. Review of Scientific Instruments, 2021, 92, 014707.	1.3	9
35	Excitation of a slow wave structure. Physics of Plasmas, 2012, 19, .	1.9	8
36	Interference modulation of photoemission from biased metal cathodes driven by two lasers of the same frequency. AIP Advances, 2020, 10, .	1.3	8

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37	Rubrics for Charge Conserving Current Mapping in Finite Element Electromagnetic Particle in Cell Methods. IEEE Transactions on Plasma Science, 2021, 49, 3719-3732.	1.3	8
38	Time integrator agnostic charge conserving finite element PIC. Physics of Plasmas, 2021, 28, .	1.9	6
39	Temporal and spatial locking of nonlinear systems. Applied Physics Letters, 2010, 97, .	3.3	5
40	Quasi-Helmholtz decomposition, Gauss' laws and charge conservation for finite element particle-in-cell. Computer Physics Communications, 2022, 276, 108345.	7.5	5
41	On thermal inactivation of pathogens in aerosolized droplets through electromagnetic heating. Journal of Applied Physics, 2021, 130, .	2.5	3
42	Nonlinear transmission line-driven apparatus for short-pulse microwave exposure of aerosolized pathogens. Review of Scientific Instruments, 2021, 92, 064712.	1.3	2
43	Beam breakup instability in an annular electron beam. Journal of Applied Physics, 1993, 74, 5877-5879.	2.5	1
44	The Twelfth Special Issue on High-Power Microwave Generation. IEEE Transactions on Plasma Science, 2008, 36, 566-568.	1.3	1
45	A Tribute to Dr. Robert (Bob) J. Barker 1949â€“2013. IEEE Transactions on Plasma Science, 2014, 42, 1482-1483.	1.3	1
46	A novel two-beam accelerator (twobetron). AIP Conference Proceedings, 1995, , .	0.4	0
47	Effects of Circuit Manufacturing Errors on Small Signal Gain and Phase in a Traveling Wave Tube. , 2007, , .		0
48	Engineered Electrical Contacts. , 2021, , .		0
49	A fast local embedded boundary method suitable for high power electromagnetic sources. AIP Advances, 2020, 10, .	1.3	0
50	An Envelope Tracking Approach for Finite Element Particle-in-Cell Simulations. , 2022, , .		0
51	A Discrete Cavity Analysis for Coupled-Cavity Travelling Wave Tubes. , 2022, , .		0