

Allen L Garner

List of Publications by Year in descending order

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107
papers

1,919
citations

279487

23
h-index

288905

40
g-index

107
all docs

107
docs citations

107
times ranked

1315
citing authors

#	ARTICLE	IF	CITATIONS
1	Nonthermal Atmospheric Plasma Rapidly Disinfects Multidrug-Resistant Microbes by Inducing Cell Surface Damage. <i>Antimicrobial Agents and Chemotherapy</i> , 2012, 56, 2028-2036.	1.4	152
2	Microbial Inactivation and Quality Changes in Orange Juice Treated by High Voltage Atmospheric Cold Plasma. <i>Food and Bioprocess Technology</i> , 2017, 10, 1778-1791.	2.6	145
3	Leukemic cell intracellular responses to nanosecond electric fields. <i>Biochemical and Biophysical Research Communications</i> , 2004, 317, 421-427.	1.0	112
4	Space-charge limited current in nanodiodes: Ballistic, collisional, and dynamical effects. <i>Journal of Applied Physics</i> , 2021, 129, .	1.1	104
5	Ultrashort electric pulse induced changes in cellular dielectric properties. <i>Biochemical and Biophysical Research Communications</i> , 2007, 362, 139-144.	1.0	81
6	A universal theory for gas breakdown from microscale to the classical Paschen law. <i>Physics of Plasmas</i> , 2017, 24, .	0.7	70
7	Nanosecond electric pulses penetrate the nucleus and enhance speckle formation. <i>Biochemical and Biophysical Research Communications</i> , 2007, 364, 220-225.	1.0	56
8	Scaling laws for gas breakdown for nanoscale to microscale gaps at atmospheric pressure. <i>Applied Physics Letters</i> , 2016, 108, .	1.5	51
9	A Review of Nonlinear Transmission Line System Design. <i>IEEE Access</i> , 2020, 8, 148606-148621.	2.6	50
10	Transitions between electron emission and gas breakdown mechanisms across length and pressure scales. <i>Journal of Applied Physics</i> , 2020, 128, .	1.1	48
11	Pulsed electric field inactivation of microorganisms: from fundamental biophysics to synergistic treatments. <i>Applied Microbiology and Biotechnology</i> , 2019, 103, 7917-7929.	1.7	47
12	Unification of field emission and space charge limited emission with collisions. <i>Applied Physics Letters</i> , 2019, 114, .	1.5	45
13	Demonstration of field emission driven microscale gas breakdown for pulsed voltages using <i>in-situ</i> optical imaging. <i>Physics of Plasmas</i> , 2018, 25, .	0.7	44
14	A Tutorial on Theoretical and Computational Techniques for Gas Breakdown in Microscale Gaps. <i>IEEE Transactions on Plasma Science</i> , 2020, 48, 808-824.	0.6	41
15	Resistive destabilization of cycloidal electron flow and universality of (near-) Brillouin flow in a crossed-field gap. <i>Physics of Plasmas</i> , 1996, 3, 4455-4462.	0.7	38
16	A coordinate system invariant formulation for space-charge limited current in vacuum. <i>Applied Physics Letters</i> , 2019, 115, .	1.5	38
17	Theoretical assessment of transitions across thermionic, field, and space-charge-limited emission. <i>Physical Review Research</i> , 2020, 2, .	1.3	36
18	Cell membrane thermal gradients induced by electromagnetic fields. <i>Journal of Applied Physics</i> , 2013, 113, 214701.	1.1	35

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19	Generalization of Microdischarge Scaling Laws for All Gases at Atmospheric Pressure. IEEE Transactions on Plasma Science, 2017, 45, 574-583.	0.6	35
20	The Transition to Paschen's Law for Microscale Gas Breakdown at Subatmospheric Pressure. Scientific Reports, 2019, 9, 5669.	1.6	29
21	Applying Conformal Mapping to Derive Analytical Solutions of Space-Charge-Limited Current Density for Various Geometries. IEEE Transactions on Electron Devices, 2021, 68, 264-270.	1.6	27
22	Design, characterization and experimental validation of a compact, flexible pulsed power architecture for ex vivo platelet activation. PLoS ONE, 2017, 12, e0181214.	1.1	26
23	Mechanism characterization of bacterial inactivation of atmospheric air plasma gas and activated water using bioluminescence technology. Innovative Food Science and Emerging Technologies, 2019, 53, 18-25.	2.7	26
24	Platelet activation using electric pulse stimulation. Journal of Trauma and Acute Care Surgery, 2014, 77, S94-S100.	1.1	25
25	Spatio-temporal dynamics of pulsed gas breakdown in microgaps. Physics of Plasmas, 2019, 26, 014506.	0.7	24
26	Penetration and Microbial Inactivation by High Voltage Atmospheric Cold Plasma in Semi-Solid Material. Food and Bioprocess Technology, 2020, 13, 1688-1702.	2.6	23
27	Modification of Pulsed Electric Field Conditions Results in Distinct Activation Profiles of Platelet-Rich Plasma. PLoS ONE, 2016, 11, e0160933.	1.1	22
28	Nanosecond pulsed electric field induced proliferation and differentiation of osteoblasts and myoblasts. Journal of the Royal Society Interface, 2019, 16, 20190079.	1.5	21
29	Linkage of electron emission and breakdown mechanism theories from quantum scales to Paschen's law. Physics of Plasmas, 2021, 28, .	0.7	21
30	Synergistic bacterial inactivation by combining antibiotics with nanosecond electric pulses. Applied Microbiology and Biotechnology, 2018, 102, 7589-7596.	1.7	20
31	The impact of cathode surface roughness and multiple breakdown events on microscale gas breakdown at atmospheric pressure. Journal of Applied Physics, 2019, 125, 203302.	1.1	20
32	Experimental study of gas breakdown and electron emission in nanoscale gaps at atmospheric pressure. Applied Physics Letters, 2022, 120, .	1.5	17
33	Incorporating Resistance Into the Transition From Field Emission to Space Charge Limited Emission With Collisions. IEEE Journal of the Electron Devices Society, 2019, 7, 650-654.	1.2	16
34	High voltage atmospheric cold plasma modification of bovine serum albumin. LWT - Food Science and Technology, 2021, 149, 111995.	2.5	16
35	Incorporating spatial dependence into a multicellular tumor spheroid growth model. Journal of Applied Physics, 2005, 98, 124701.	1.1	14
36	Accounting for conducting inclusion permeability in the microwave regime in a modified generalized effective medium theory. IEEE Transactions on Dielectrics and Electrical Insulation, 2015, 22, 2064-2072.	1.8	14

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37	Scaling laws for AC gas breakdown and implications for universality. <i>Physics of Plasmas</i> , 2017, 24, .	0.7	13
38	Using extracellular calcium concentration and electric pulse conditions to tune platelet-rich plasma growth factor release and clotting. <i>Medical Hypotheses</i> , 2019, 125, 100-105.	0.8	13
39	Nanosecond electric pulses rapidly enhance the inactivation of Gram-negative bacteria using Gram-positive antibiotics. <i>Applied Microbiology and Biotechnology</i> , 2020, 104, 2217-2227.	1.7	13
40	Space-charge limited current in planar and cylindrical crossed-field diodes using variational calculus. <i>Physics of Plasmas</i> , 2021, 28, 082110.	0.7	13
41	Incorporating photoemission into the theoretical unification of electron emission and space-charge limited current. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2021, 39, .	0.6	13
42	Plasma membrane temperature gradients and multiple cell permeabilization induced by low peak power density femtosecond lasers. <i>Biochemistry and Biophysics Reports</i> , 2016, 5, 168-174.	0.7	11
43	Sensitivity of modeled microscale gas breakdown voltage due to parametric variation. <i>Physics of Plasmas</i> , 2018, 25, .	0.7	11
44	Simulation of flame speed enhancement of a hydrocarbon flame with a microwave field. <i>Combustion and Flame</i> , 2019, 207, 250-264.	2.8	11
45	A multi-dimensional Childâ€™Langmuir law for any diode geometry. <i>Physics of Plasmas</i> , 2021, 28, .	0.7	11
46	Analytic theory for field emission driven microscale gas breakdown for a pin-to-plate geometry. <i>Journal of Applied Physics</i> , 2021, 129, .	1.1	10
47	Nonlinear Permeability Measurements for Nickel Zinc Ferrite and Nickel Zinc Ferrite/Barium Strontium Titanate Composites From 1 to 4 GHz. <i>IEEE Transactions on Magnetics</i> , 2021, 57, 1-10.	1.2	10
48	Electromagnetic measurements of composites containing barium strontium titanate or nickel zinc ferrite inclusions from 1 to 4 GHz. <i>Composites Science and Technology</i> , 2021, 210, 108798.	3.8	10
49	Analytic Solutions for Space-Charge-Limited Current Density From a Sharp Tip. <i>IEEE Transactions on Electron Devices</i> , 2021, 68, 6525-6531.	1.6	10
50	Predicting effective permittivity of composites containing conductive inclusions at microwave frequencies. <i>AIP Advances</i> , 2012, 2, .	0.6	9
51	A semi-empirical approach for predicting the performance of multiphase composites at microwave frequencies. <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , 2016, 23, 1126-1134.	1.8	9
52	Calculated plasma membrane voltage induced by applying electric pulses using capacitive coupling. <i>Biomedical Physics and Engineering Express</i> , 2017, 3, 025016.	0.6	9
53	Response to â€™Comment on â€™A coordinate system invariant formulation for space-charge limited current in vacuumâ€™ [Appl. Phys. Lett. 118, 266101 (2021)]. <i>Applied Physics Letters</i> , 2021, 118, .	1.5	9
54	A Tutorial on Calculating Space-Charge-Limited Current Density for General Geometries and Multiple Dimensions. <i>IEEE Transactions on Plasma Science</i> , 2022, 50, 2528-2540.	0.6	9

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55	Electromagnetic properties of multiphase composites containing barium strontium titanate and nickel zinc ferrite inclusions from 1-4 GHz. <i>Composites Science and Technology</i> , 2021, 211, 108826.	3.8	8
56	Extending membrane pore lifetime with AC fields: A modeling study. <i>Journal of Applied Physics</i> , 2012, 112, .	1.1	7
57	Characterization of High Voltage Cold Atmospheric Plasma Generation in Sealed Packages as a Function of Container Material and Fill Gas. <i>Plasma Chemistry and Plasma Processing</i> , 2018, 38, 379-395.	1.1	7
58	Hematopoietic Stem Cell and Fibroblast Proliferation Following Platelet Electrostimulation. <i>IEEE Access</i> , 2018, 6, 56395-56401.	2.6	7
59	Fabrication and characterization of implantable flushable electrodes for electric field-mediated drug delivery in a brain tissue-mimic agarose gel. <i>Electrophoresis</i> , 2018, 39, 2262-2269.	1.3	7
60	Theoretical assessment of surface waviness on work function. <i>AIP Advances</i> , 2020, 10, .	0.6	7
61	Theoretical analysis of the transition from field emission to space-charge-limited emission in liquids and gases. <i>Journal of Applied Physics</i> , 2020, 128, .	1.1	7
62	Modelling effective electromagnetic properties of composites containing barium strontium titanate and/or nickel zinc ferrite inclusions from 1 to 4 GHz. <i>Composites Science and Technology</i> , 2021, 214, 108978.	3.8	7
63	A Review of Cold Atmospheric Pressure Plasmas for Trauma and Acute Care. <i>Frontiers in Physics</i> , 2021, 9, .	1.0	7
64	Viability and cell cycle studies of metastatic triple negative breast cancer cells using low voltage electrical pulses and herbal curcumin. <i>Biomedical Physics and Engineering Express</i> , 2019, 5, 025040.	0.6	6
65	Analysis of Injected Electron Beam Propagation in a Planar Crossed-Field Gap. <i>Applied Sciences (Switzerland)</i> , 2021, 11, 2540.	1.3	6
66	Electric pulse shape impact on biological effects: A modeling study. , 2015, , .		5
67	Electric Pulse Pretreatment for Enhanced Lipid Recovery from <i>Chlorella protothecoides</i> . <i>Bioenergy Research</i> , 2020, 13, 499-506.	2.2	5
68	Electrical stimulation of whole blood for growth factor release and potential clinical implications. <i>Medical Hypotheses</i> , 2020, 143, 110105.	0.8	5
69	A Multi-Donor Ex Vivo Platelet Activation and Growth Factor Release Study Using Electric Pulses With Durations Up to 100 Microseconds. <i>IEEE Access</i> , 2021, 9, 31340-31349.	2.6	5
70	Nonlinear transmission line implemented as a combined pulse forming line and high-power microwave source. <i>Review of Scientific Instruments</i> , 2021, 92, 104702.	0.6	5
71	Compact solid state pulsed power architecture for biomedical workflows: Modular topology, programmable pulse output and experimental validation on Ex vivo platelet activation. , 2014, , .		4
72	Theoretical Linkage of Thermionic, Field, and Space-Charge Limited Emission for a Vacuum Crossed-Field Gap. <i>IEEE Transactions on Plasma Science</i> , 2022, 50, 2609-2620.	0.6	4

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73	Assessment of efficacy and reactive gas species generation for orange juice decontamination using high voltage atmospheric cold plasma. , 2016, , .		3
74	Simulated and Measured Output From a Composite Nonlinear Transmission Line Driven by a Blumlein Pulse Generator. IEEE Transactions on Plasma Science, 2021, 49, 3383-3391.	0.6	3
75	Response to "Comment on "A coordinate system invariant formulation for space-charge limited current in vacuum" [Appl. Phys. Lett. 119, 206101 (2021)]. Applied Physics Letters, 2021, 119, .	1.5	3
76	Buckingham Pi Analysis of Railgun Multiphysics. IEEE Transactions on Plasma Science, 2014, 42, 2104-2112.	0.6	2
77	Age-dating uranium metal using microstructural damage. Annals of Nuclear Energy, 2015, 83, 298-301.	0.9	2
78	Optical absorption spectroscopy of high voltage, cold atmospheric pressure plasmas. , 2016, , .		2
79	Universal Gas Breakdown Theory from Microscale to the Classical Paschen Law. , 2017, , .		2
80	Dependence of Electric Pulse Mediated Growth Factor Release on the Platelet Rich Plasma Separation Method. Applied Sciences (Switzerland), 2022, 12, 4965.	1.3	2
81	Modifications of Limiting Current and Magnetic Insulation in a Crossed-Field Diode by a Series Resistor. IEEE Access, 2022, 10, 60438-60446.	2.6	2
82	Pilot study assessing the impact of platelet activation electric stimulation protocols on hematopoietic and mesenchymal stem cell proliferation. , 2016, , .		1
83	Calculation of Ionization Coefficient in Microscale and Nanoscale Gaps Using PIC/MCC Simulations* . , 2021, , .		1
84	Space-Charge-Limited Current for Nonzero Electron Injection Velocity in Non-Planar Diodes. , 2021, , .		1
85	Predicting Effective Dielectric Properties of Composites for Nonlinear Transmission Lines using Effective Medium Theories and CST Microwave Studios. , 2020, , .		1
86	Analytical Solution for Space Charge Limited Current Emission from a Sharp Tip using Variational Methods. , 2020, , .		1
87	Infrared Laser-Based Single Cell Permeabilization by Plasma Membrane Temperature Gradients. Membranes, 2022, 12, 574.	1.4	1
88	Measuring dielectric properties of biological cells as a function of temperature. , 2014, , .		0
89	Nanosecond pulsed electric field interactions with microglia and astrocytes. , 2014, , .		0
90	Molecular dynamics simulations of cold atmospheric plasma interactions with lipid bilayers. , 2014, , .		0

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91	Modification of cell population dynamics by pulsed electric fields. , 2014, , .		0
92	Scaling Laws For Ac Breakdown Voltage In Microdischarges. , 2017, , .		0
93	Variational Methods Applied to Crossed Field Devices. , 2018, , .		0
94	Transition From Microscale to Nanoscale Breakdown Dynamics. , 2018, , .		0
95	Space-Charge Limited Current for a Non-Planar Crossed-Field Diode. , 2021, , .		0
96	Multi-Dimensional Space-Charge Limited Current Using Variational Calculus and Vacuum Capacitance. , 2021, , .		0
97	Unification of Photo- Thermionic, and Field Emission. , 2021, , .		0
98	Testing Composite Based Nonlinear Transmission Lines with Various Pulsed Power Drivers. , 2021, , .		0
99	Diode Physics: From Child-Langmuir to Paschenâ€™s Law*. , 2021, , .		0
100	Incorporating a Series Resistor into Microscale Gas Breakdown Theory. , 2021, , .		0
101	Experimental Studies of Gas Breakdown and Electron Emission for Nanoscale Gaps at Atmospheric Pressure. , 2021, , .		0
102	Electron Emission Nexus Theory for A Crossed-Field Diode*. , 2021, , .		0
103	Theoretical Analysis of Microwave Breakdown for Microscale Gaps. , 2021, , .		0
104	Microwave Generation in Coaxial, Composite Nonlinear Transmission Lines*. , 2021, , .		0
105	Composite-Based Nonlinear Transmisison Line as a Complete High Power Microwave System *. , 2021, , .		0
106	Transitions in Electron Emission and Gas Breakdown from Nanoscale to Microscale. , 2020, , .		0
107	Development of Composites for Nonlinear Transmission Lines. , 2020, , .		0