

Allen L Garner

List of Publications by Year in descending order

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Version: 2024-02-01

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 | Experimental study of gas breakdown and electron emission in nanoscale gaps at atmospheric pressure. <i>Applied Physics Letters</i> , 2022, 120, . | 1.5 | 17 |
| 2 | 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 |
| 3 | Dependence of Electric Pulse Mediated Growth Factor Release on the Platelet Rich Plasma Separation Method. <i>Applied Sciences (Switzerland)</i> , 2022, 12, 4965. | 1.3 | 2 |
| 4 | 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 |
| 5 | Infrared Laser-Based Single Cell Permeabilization by Plasma Membrane Temperature Gradients. <i>Membranes</i> , 2022, 12, 574. | 1.4 | 1 |
| 6 | Modifications of Limiting Current and Magnetic Insulation in a Crossed-Field Diode by a Series Resistor. <i>IEEE Access</i> , 2022, 10, 60438-60446. | 2.6 | 2 |
| 7 | Analysis of Injected Electron Beam Propagation in a Planar Crossed-Field Gap. <i>Applied Sciences (Switzerland)</i> , 2021, 11, 2540. | 1.3 | 6 |
| 8 | 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 |
| 9 | Space-charge limited current in nanodiodes: Ballistic, collisional, and dynamical effects. <i>Journal of Applied Physics</i> , 2021, 129, . | 1.1 | 104 |
| 10 | Linkage of electron emission and breakdown mechanism theories from quantum scales to Paschen's law. <i>Physics of Plasmas</i> , 2021, 28, . | 0.7 | 21 |
| 11 | Response to "Comment on "A coordinate system invariant formulation for space-charge limited current in vacuum" [Appl. Phys. Lett. 118, 266101 (2021)]. <i>Applied Physics Letters</i> , 2021, 118, . | 1.5 | 9 |
| 12 | 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 |
| 13 | 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 |
| 14 | 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 |
| 15 | 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 |
| 16 | High voltage atmospheric cold plasma modification of bovine serum albumin. <i>LWT - Food Science and Technology</i> , 2021, 149, 111995. | 2.5 | 16 |
| 17 | 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 |
| 18 | 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 |

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|----|---|-----|-----------|
| 19 | 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 |
| 20 | 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 |
| 21 | Nonlinear transmission line implemented as a combined pulse forming line and high-power microwave source. Review of Scientific Instruments, 2021, 92, 104702. | 0.6 | 5 |
| 22 | Analytic Solutions for Space-Charge-Limited Current Density From a Sharp Tip. IEEE Transactions on Electron Devices, 2021, 68, 6525-6531. | 1.6 | 10 |
| 23 | Space-Charge Limited Current for a Non-Planar Crossed-Field Diode. , 2021, , . | | 0 |
| 24 | Calculation of Ionization Coefficient in Microscale and Nanoscale Gaps Using PIC/MCC Simulations*. , 2021, , . | | 1 |
| 25 | Multi-Dimensional Space-Charge Limited Current Using Variational Calculus and Vacuum Capacitance. , 2021, , . | | 0 |
| 26 | Unification of Photo- Thermionic, and Field Emission. , 2021, , . | | 0 |
| 27 | Testing Composite Based Nonlinear Transmission Lines with Various Pulsed Power Drivers. , 2021, , . | | 0 |
| 28 | Diode Physics: From Child-Langmuir to Paschen's Law*. , 2021, , . | | 0 |
| 29 | Incorporating a Series Resistor into Microscale Gas Breakdown Theory. , 2021, , . | | 0 |
| 30 | Experimental Studies of Gas Breakdown and Electron Emission for Nanoscale Gaps at Atmospheric Pressure. , 2021, , . | | 0 |
| 31 | Electron Emission Nexus Theory for A Crossed-Field Diode*. , 2021, , . | | 0 |
| 32 | Theoretical Analysis of Microwave Breakdown for Microscale Gaps. , 2021, , . | | 0 |
| 33 | Microwave Generation in Coaxial, Composite Nonlinear Transmission Lines*. , 2021, , . | | 0 |
| 34 | Composite-Based Nonlinear Transmisison Line as a Complete High Power Microwave System *. , 2021, , . | | 0 |
| 35 | Space-Charge-Limited Current for Nonzero Electron Injection Velocity in Non-Planar Diodes. , 2021, , . | | 1 |
| 36 | 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 |

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|----|--|-----|-----------|
| 37 | A multi-dimensional Child-Langmuir law for any diode geometry. <i>Physics of Plasmas</i> , 2021, 28, . | 0.7 | 11 |
| 38 | 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 |
| 39 | A Review of Cold Atmospheric Pressure Plasmas for Trauma and Acute Care. <i>Frontiers in Physics</i> , 2021, 9, . | 1.0 | 7 |
| 40 | Electric Pulse Pretreatment for Enhanced Lipid Recovery from <i>Chlorella protothecoides</i> . <i>Bioenergy Research</i> , 2020, 13, 499-506. | 2.2 | 5 |
| 41 | Theoretical assessment of surface waviness on work function. <i>AIP Advances</i> , 2020, 10, . | 0.6 | 7 |
| 42 | Electrical stimulation of whole blood for growth factor release and potential clinical implications. <i>Medical Hypotheses</i> , 2020, 143, 110105. | 0.8 | 5 |
| 43 | 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 |
| 44 | A Review of Nonlinear Transmission Line System Design. <i>IEEE Access</i> , 2020, 8, 148606-148621. | 2.6 | 50 |
| 45 | Penetration and Microbial Inactivation by High Voltage Atmospheric Cold Plasma in Semi-Solid Material. <i>Food and Bioprocess Technology</i> , 2020, 13, 1688-1702. | 2.6 | 23 |
| 46 | Transitions between electron emission and gas breakdown mechanisms across length and pressure scales. <i>Journal of Applied Physics</i> , 2020, 128, . | 1.1 | 48 |
| 47 | 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 |
| 48 | 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 |
| 49 | Theoretical assessment of transitions across thermionic, field, and space-charge-limited emission. <i>Physical Review Research</i> , 2020, 2, . | 1.3 | 36 |
| 50 | Predicting Effective Dielectric Properties of Composites for Nonlinear Transmission Lines using Effective Medium Theories and CST Microwave Studios. , 2020, , . | | 1 |
| 51 | Analytical Solution for Space Charge Limited Current Emission from a Sharp Tip using Variational Methods. , 2020, , . | | 1 |
| 52 | Transitions in Electron Emission and Gas Breakdown from Nanoscale to Microscale. , 2020, , . | | 0 |
| 53 | Development of Composites for Nonlinear Transmission Lines. , 2020, , . | | 0 |
| 54 | 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 |

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|----|--|-----|-----------|
| 55 | A coordinate system invariant formulation for space-charge limited current in vacuum. Applied Physics Letters, 2019, 115, . | 1.5 | 38 |
| 56 | Nanosecond pulsed electric field induced proliferation and differentiation of osteoblasts and myoblasts. Journal of the Royal Society Interface, 2019, 16, 20190079. | 1.5 | 21 |
| 57 | 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 |
| 58 | Simulation of flame speed enhancement of a hydrocarbon flame with a microwave field. Combustion and Flame, 2019, 207, 250-264. | 2.8 | 11 |
| 59 | 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 |
| 60 | The Transition to Paschen's Law for Microscale Gas Breakdown at Subatmospheric Pressure. Scientific Reports, 2019, 9, 5669. | 1.6 | 29 |
| 61 | Using extracellular calcium concentration and electric pulse conditions to tune platelet-rich plasma growth factor release and clotting. Medical Hypotheses, 2019, 125, 100-105. | 0.8 | 13 |
| 62 | Spatio-temporal dynamics of pulsed gas breakdown in microgaps. Physics of Plasmas, 2019, 26, 014506. | 0.7 | 24 |
| 63 | Viability and cell cycle studies of metastatic triple negative breast cancer cells using low voltage electrical pulses and herbal curcumin. Biomedical Physics and Engineering Express, 2019, 5, 025040. | 0.6 | 6 |
| 64 | Unification of field emission and space charge limited emission with collisions. Applied Physics Letters, 2019, 114, . | 1.5 | 45 |
| 65 | 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 |
| 66 | Characterization of High Voltage Cold Atmospheric Plasma Generation in Sealed Packages as a Function of Container Material and Fill Gas. Plasma Chemistry and Plasma Processing, 2018, 38, 379-395. | 1.1 | 7 |
| 67 | Hematopoietic Stem Cell and Fibroblast Proliferation Following Platelet Electrostimulation. IEEE Access, 2018, 6, 56395-56401. | 2.6 | 7 |
| 68 | Sensitivity of modeled microscale gas breakdown voltage due to parametric variation. Physics of Plasmas, 2018, 25, . | 0.7 | 11 |
| 69 | Fabrication and characterization of implantable flushable electrodes for electric field-mediated drug delivery in a brain tissue-mimic agarose gel. Electrophoresis, 2018, 39, 2262-2269. | 1.3 | 7 |
| 70 | Synergistic bacterial inactivation by combining antibiotics with nanosecond electric pulses. Applied Microbiology and Biotechnology, 2018, 102, 7589-7596. | 1.7 | 20 |
| 71 | Demonstration of field emission driven microscale gas breakdown for pulsed voltages using <i>in-situ</i> optical imaging. Physics of Plasmas, 2018, 25, . | 0.7 | 44 |
| 72 | Variational Methods Applied to Crossed Field Devices. , 2018, , . | | 0 |

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|----|--|-----|-----------|
| 73 | Transition From Microscale to Nanoscale Breakdown Dynamics. , 2018, , . | | 0 |
| 74 | Generalization of Microdischarge Scaling Laws for All Gases at Atmospheric Pressure. IEEE Transactions on Plasma Science, 2017, 45, 574-583. | 0.6 | 35 |
| 75 | Calculated plasma membrane voltage induced by applying electric pulses using capacitive coupling. Biomedical Physics and Engineering Express, 2017, 3, 025016. | 0.6 | 9 |
| 76 | Scaling laws for AC gas breakdown and implications for universality. Physics of Plasmas, 2017, 24, . | 0.7 | 13 |
| 77 | Microbial Inactivation and Quality Changes in Orange Juice Treated by High Voltage Atmospheric Cold Plasma. Food and Bioprocess Technology, 2017, 10, 1778-1791. | 2.6 | 145 |
| 78 | A universal theory for gas breakdown from microscale to the classical Paschen law. Physics of Plasmas, 2017, 24, . | 0.7 | 70 |
| 79 | Scaling Laws For Ac Breakdown Voltage In Microdischarges. , 2017, , . | | 0 |
| 80 | 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 |
| 81 | Universal Gas Breakdown Theory from Microscale to the Classical Paschen Law. , 2017, , . | | 2 |
| 82 | Pilot study assessing the impact of platelet activation electric stimulation protocols on hematopoietic and mesenchymal stem cell proliferation. , 2016, , . | | 1 |
| 83 | Assessment of efficacy and reactive gas species generation for orange juice decontamination using high voltage atmospheric cold plasma. , 2016, , . | | 3 |
| 84 | Scaling laws for gas breakdown for nanoscale to microscale gaps at atmospheric pressure. Applied Physics Letters, 2016, 108, . | 1.5 | 51 |
| 85 | Optical absorption spectroscopy of high voltage, cold atmospheric pressure plasmas. , 2016, , . | | 2 |
| 86 | A semi-empirical approach for predicting the performance of multiphase composites at microwave frequencies. IEEE Transactions on Dielectrics and Electrical Insulation, 2016, 23, 1126-1134. | 1.8 | 9 |
| 87 | Plasma membrane temperature gradients and multiple cell permeabilization induced by low peak power density femtosecond lasers. Biochemistry and Biophysics Reports, 2016, 5, 168-174. | 0.7 | 11 |
| 88 | Modification of Pulsed Electric Field Conditions Results in Distinct Activation Profiles of Platelet-Rich Plasma. PLoS ONE, 2016, 11, e0160933. | 1.1 | 22 |
| 89 | Electric pulse shape impact on biological effects: A modeling study. , 2015, , . | | 5 |
| 90 | Age-dating uranium metal using microstructural damage. Annals of Nuclear Energy, 2015, 83, 298-301. | 0.9 | 2 |

| # | ARTICLE | IF | CITATIONS |
|-----|--|-----|-----------|
| 91 | 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 |
| 92 | Measuring dielectric properties of biological cells as a function of temperature. , 2014, , . | | 0 |
| 93 | Nanosecond pulsed electric field interactions with microglia and astrocytes. , 2014, , . | | 0 |
| 94 | Molecular dynamics simulations of cold atmospheric plasma interactions with lipid bilayers. , 2014, , . | | 0 |
| 95 | Modification of cell population dynamics by pulsed electric fields. , 2014, , . | | 0 |
| 96 | Compact solid state pulsed power architecture for biomedical workflows: Modular topology, programmable pulse output and experimental validation on Ex vivo platelet activation. , 2014, , . | | 4 |
| 97 | Platelet activation using electric pulse stimulation. Journal of Trauma and Acute Care Surgery, 2014, 77, S94-S100. | 1.1 | 25 |
| 98 | Buckingham Pi Analysis of Railgun Multiphysics. IEEE Transactions on Plasma Science, 2014, 42, 2104-2112. | 0.6 | 2 |
| 99 | Cell membrane thermal gradients induced by electromagnetic fields. Journal of Applied Physics, 2013, 113, 214701. | 1.1 | 35 |
| 100 | Predicting effective permittivity of composites containing conductive inclusions at microwave frequencies. AIP Advances, 2012, 2, . | 0.6 | 9 |
| 101 | Nonthermal Atmospheric Plasma Rapidly Disinfects Multidrug-Resistant Microbes by Inducing Cell Surface Damage. Antimicrobial Agents and Chemotherapy, 2012, 56, 2028-2036. | 1.4 | 152 |
| 102 | Extending membrane pore lifetime with AC fields: A modeling study. Journal of Applied Physics, 2012, 112, . | 1.1 | 7 |
| 103 | Ultrashort electric pulse induced changes in cellular dielectric properties. Biochemical and Biophysical Research Communications, 2007, 362, 139-144. | 1.0 | 81 |
| 104 | Nanosecond electric pulses penetrate the nucleus and enhance speckle formation. Biochemical and Biophysical Research Communications, 2007, 364, 220-225. | 1.0 | 56 |
| 105 | Incorporating spatial dependence into a multicellular tumor spheroid growth model. Journal of Applied Physics, 2005, 98, 124701. | 1.1 | 14 |
| 106 | Leukemic cell intracellular responses to nanosecond electric fields. Biochemical and Biophysical Research Communications, 2004, 317, 421-427. | 1.0 | 112 |
| 107 | Resistive destabilization of cycloidal electron flow and universality of (near- ϵ) Brillouin flow in a crossed-field gap. Physics of Plasmas, 1996, 3, 4455-4462. | 0.7 | 38 |