Peng Zhang

List of Publications by Year
in descending order

132 papers	2,729 citations	159585 30 h-index	233421 45 g-index
134 all docs	134 docs citations	134 times ranked	1469 citing authors

#	Article	IF	Citations
1	Two surface multipactor discharge with two-frequency rf fields and space-charge effects. Physics of Plasmas, 2022, 29, .	1.9	12
2	Theory of laser-induced photoemission from a metal surface with nanoscale dielectric coating. Journal of Applied Physics, 2022, 131, .	2.5	6
3	Optical-field-induced Electron Emission in a dc-Biased Nanogap. Physical Review Applied, 2022, 17, .	3.8	6
4	Space charge waves in a two-dimensional electron gas. Journal of Applied Physics, 2022, 131, .	2.5	3
5	Review of recent studies on nanoscale electrical junctions and contacts: Quantum tunneling, current crowding, and interface engineering. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2022, 40, 030802.	2.1	8
6	An exact theory for few-cycle optical-field-induced photoelectron emission from biased surfaces. , 2022, , .		0
7	Similarity And Scaling Laws For Radio Frequency Discharge Plasmas Across Nonlinear Transition Regimes. , 2022, , .		0
8	Multipactor Mitigation Via Gaussian-Shape Transverse rf Electric Field Near a Dielectric Surface. , 2022, , .		0
9	A Discrete Cavity Analysis for Coupled-Cavity Travelling Wave Tubes. , 2022, , .		0
10	Non-Sinusoidal rf Field Induced Two-Surface Multipactor Discharge. , 2022, , .		0
11	Microscale Radio-Frequency Argon Discharges Via Particle-In-Cell Simulation Incorporating Self-Consistent Fluid Excited State Species. , 2022, , .		0
12	Interference of Quantum Pathways in Two-Color Laser Induced Photoemission with a Dc Bias. , 2022, , .		0
13	Smith-Purcell Radiation with Different Grating Parameters and Beam Bunching Frequencies. , 2022, , .		0
14	Transition characteristics and electron kinetics in microhollow cathode discharges. Journal of Applied Physics, 2021, 129, .	2.5	10
15	Few-cycle optical-field-induced photoemission from biased surfaces: An exact quantum theory. Physical Review B, 2021, 103, .	3.2	22
16	Spaceâ€“charge limited current in nanodiodes: Ballistic, collisional, and dynamical effects. Journal of Applied Physics, 2021, 129, .	2.5	104
17	Direct current microplasma formation around microstructure arrays. Applied Physics Letters, 2021, 118, .	3.3	9
18	Interface Engineering of Electrical Contacts. Physical Review Applied, 2021, 15, .	3.8	13

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19	Quantum efficiency of photoemission from biased metal surfaces with laser wavelengths from UV to NIR. Journal of Applied Physics, 2021, 130, .	2.5	18
20	Multilayer-Structured Discharge in Plasma Ionization Breakdown near a Dielectric Surface. , 2021, , .		0
21	Microplasma Formation Around a Microstructured Surface. , 2021, , .		1
22	Exact Analytical Solution for Pulsed Laser Induced Photoemission from Biased Surfaces. , 2021, , .		0
23	Engineered Electrical Contacts. , 2021, , .		0
24	Angular Momentum Effects in Coaxial Multipactor*. , 2021, , .		0
25	An exact quantum theory for photoemission from dielectric coated metal surfaces under a dc bias. , 2021, , .		0
26	Ultrafast optical-field-induced photoelectron emission in a vacuum nanoscale gap: An exact analytical formulation. Applied Physics Letters, 2021, 119, .	3.3	9
27	Generalizing Similarity Laws for Radio-Frequency Discharge Plasmas across Nonlinear Transition Regimes. Physical Review Applied, 2021, 16, .	3.8	11
28	A Review of Recent Studies on Two-Frequency RF Field-Induced Single-Surface Multipactor Discharge. IEEE Transactions on Plasma Science, 2021, 49, 3284-3292.	1.3	8
29	On the scaling laws for low-temperature plasmas at macro and micro scales. Journal of Physics: Conference Series, 2021, 2064, 012037.	0.4	0
30	Plasmon-Enhanced Resonant Photoemission from Metal Surfaces Coated with Ultrathin Dielectric. , 2021, , .		0
31	The Effects of Angular Momentum on Multipactor in Coaxial Lines. , 2021, , .		0
32	Field emission from dielectric coated metallic cathode surfaces: a theoretical study. , 2021, , .		1
33	Modeling and Interface Engineering of Electrical Contacts. , 2021, , .		0
34	Exact Analytical Theory for Pulsed Laser Induced Photoelectron Emission from Biased Surfaces. , 2021, , .		0
35	Multipactor Dynamics Near a Dielectric Due to Two-Frequency RF Fields. , 2021, , .		0
36	Observation of multilayer-structured discharge in plasma ionization breakdown. Applied Physics Letters, 2021, 119, .	3.3	13

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37	Empirical modeling and Monte Carlo simulation of secondary electron yield reduction of laser drilled microporous gold surfaces. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2020, 38, .	1.2	19
38	Time-dependent physics of single-surface multipactor discharge with two carrier frequencies. Physical Review E, 2020, 102, 043201.	2.1	27
39	Angular dependence of secondary electron yield from microporous gold surfaces. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2020, 38, .	1.2	17
40	Guest Editorial The Eighteenth Special Issue on High-Power Microwave and Millimeter-Wave Generation. IEEE Transactions on Plasma Science, 2020, 48, 1858-1859.	1.3	2
41	Interference modulation of photoemission from biased metal cathodes driven by two lasers of the same frequency. AIP Advances, 2020, 10, .	1.3	8
42	Similarity law and frequency scaling in low-pressure capacitive radio frequency plasmas. Applied Physics Letters, 2020, 117, .	3.3	19
43	Similarity of capacitive radio-frequency discharges in nonlocal regimes. Physics of Plasmas, 2020, 27, 113501.	1.9	15
44	Contact resistance and current crowding in tunneling type circular nano-contacts. Journal Physics D: Applied Physics, 2020, 53, 355301.	2.8	7
45	Recent theory of traveling-wave tubes: a tutorial-review. Plasma Research Express, 2020, 2, 023001.	0.9	17
46	Reducing Contact Resistance in Two-Dimensional-Material-Based Electrical Contacts by Roughness Engineering. Physical Review Applied, 2020, 13, .	3.8	35
47	Plasmon-Enhanced Resonant Photoemission Using Atomically Thick Dielectric Coatings. ACS Nano, 2020, 14, 8806-8815.	14.6	27
48	Harmonic Generation in Multipactor Discharges. IEEE Transactions on Plasma Science, 2020, 48, 1959-1966.	1.3	11
49	Electrical breakdown from macro to micro/nano scales: a tutorial and a review of the state of the art. Plasma Research Express, 2020, 2, 013001.	0.9	66
50	Frequency-Domain Analysis of Single-Surface Multipactor Discharge With Single- and Dual-Tone RF Electric Fields. IEEE Transactions on Plasma Science, 2020, 48, 1950-1958.	1.3	16
51	A quantum model for photoemission from metal surfaces and its comparison with the three-step model and Fowlerâ€“DuBridge model. Journal of Applied Physics, 2020, 127, .	2.5	30
52	Relativistic plasma physics in supercritical fields. Physics of Plasmas, 2020, 27, .	1.9	81
53	Direct imaging of plasma waves using ultrafast electron microscopy. Structural Dynamics, 2020, 7, 064301.	2.3	29
54	Current crowding and spreading resistance of electrical contacts with irregular contact edges. Journal Physics D: Applied Physics, 2020, 53, 485303.	2.8	6

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55	High-energy ballistic electrons in low-pressure radio-frequency plasmas. Plasma Sources Science and Technology, 2020, 29, 09LT01.	3.1	30
56	Theory of field emission from dielectric coated surfaces. Physical Review Research, 2020, 2, .	3.6	22
57	Quantitative Analysis of Single-Surface Dielectric Multipactor Susceptibility with Dual Carrier Frequencies. , 2020, , .		0
58	A General Empirical Model of Secondary Electron Yield and Its Application in Monte Carlo Simulation of a Microporous Gold Surface. , 2020, , .		0
59	Analysis of Single Surface Multipactor Discharge in the Frequency Domain. , 2020, , .		0
60	Multipactor Effects on Signal Quality in Transmission Lines with Impedance Mismatches. , 2020, , .		0
61	Two-Color Laser Induced Electron Emission from Biased Metal Surface. , 2020, , .		0
62	Transition of low-temperature plasma similarity laws from low to high ionization degree regimes. Plasma Sources Science and Technology, 2019, 28, 095012.	3.1	8
63	A Two Dimensional Tunneling Resistance Transmission Line Model for Nanoscale Parallel Electrical Contacts. Scientific Reports, 2019, 9, 14484.	3.3	17
64	Gas breakdown and its scaling law in microgaps with multiple concentric cathode protrusions. Applied Physics Letters, 2019, 114, .	3.3	31
65	Analysis of two-color laser-induced electron emission from a biased metal surface using an exact quantum mechanical solution. Physical Review Applied, 2019, 12, .	3.8	25
66	A generalized self-consistent model for quantum tunneling current in dissimilar metal-insulator-metal junction. AIP Advances, 2019, 9, .	1.3	44
67	Suppression of single-surface multipactor discharges due to non-sinusoidal transverse electric field. Physics of Plasmas, 2019, 26, .	1.9	31
68	Temporal multiparticle Monte Carlo simulation of dual frequency single surface multipactor. Physics of Plasmas, 2019, 26, .	1.9	35
69	Carbon Nanotube Fiber Field Emission Array Cathodes. IEEE Transactions on Plasma Science, 2019, 47, 2032-2038.	1.3	33
70	The effects of multipactor on the quality of a complex signal propagating in a transmission line. Physics of Plasmas, 2019, 26, .	1.9	37
71	Temporal single-surface multipactor dynamics under obliquely incident linearly polarized electric field. Physics of Plasmas, 2019, 26, .	1.9	23
72	Gas Breakdown in Microgaps With a Surface Protrusion On the Electrode. IEEE Transactions on Plasma Science, 2019, 47, 2011-2019.	1.3	14

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73	Effect of surface protrusion on plasma sheath properties in atmospheric microdischarges. Physics of Plasmas, 2018, 25, .	1.9	19
74	Evolution of sausage and helical modes in magnetized thin-foil cylindrical liners driven by a Z-pinch. Physics of Plasmas, 2018, 25, 056307.	1.9	32
75	Multipactor susceptibility on a dielectric with two carrier frequencies. Physics of Plasmas, 2018, 25, .	1.9	39
76	The coherent THz Smith-Purcell radiation from a three-dimensional open holes array structure. AIP Advances, 2018, 8, .	1.3	10
77	Ultrafast strong-field photoelectron emission due to two-color laser fields. Physical Review B, 2018, 98, .	3.2	28
78	Evaluating microgap breakdown mode transition with electric field non-uniformity. Plasma Sources Science and Technology, 2018, 27, 095014.	3.1	25
79	Gas breakdown in atmospheric pressure microgaps with a surface protrusion on the cathode. Applied Physics Letters, 2018, 112, .	3.3	27
80	Paschen's curve in microgaps with an electrode surface protrusion. Applied Physics Letters, 2018, 113, .	3.3	35
81	Temperature Comparison of Looped and Vertical Carbon Nanotube Fibers during Field Emission. Applied Sciences (Switzerland), 2018, 8, 1175.	2.5	33
82	Two-Color Laser Induced Electron Emission. , 2018, , .		0
83	On the evaluation of Pierce parameters C and Q in a traveling wave tube. Physics of Plasmas, 2017, 24, .	1.9	15
84	100 years of the physics of diodes. Applied Physics Reviews, 2017, 4, 011304.	11.3	168
85	Exact analytical theory for inverse tunneling of free vacuum electrons into a solid. AIP Advances, 2017, 7, .	1.3	5
86	Electric field distribution and current emission in a miniaturized geometrical diode. Journal of Applied Physics, 2017, 121, .	2.5	43
87	Field emission from carbon nanotube fibers in varying anode-cathode gap with the consideration of contact resistance. AIP Advances, 2017, 7, 125203.	1.3	38
88	Effects of temperature dependence of electrical and thermal conductivities on the Joule heating of a one dimensional conductor. Journal of Applied Physics, 2016, 120, .	2.5	19
89	Discrete helical modes in imploding and exploding cylindrical, magnetized liners. Physics of Plasmas, 2016, 23, .	1.9	30
90	Seeded and unseeded helical modes in magnetized, non-imploding cylindrical liner-plasmas. Physics of Plasmas, 2016, 23, .	1.9	24

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91	On relativistic space charge limited current in planar, cylindrical, and spherical diodes. Physics of Plasmas, 2016, 23, .	1.9	27
92	Ultrafast and nanoscale diodes. Journal of Plasma Physics, 2016, 82, .	2.1	37
93	Ultrafast strong-field photoelectron emission from biased metal surfaces: exact solution to time-dependent SchrÃ¶dinger Equation. Scientific Reports, 2016, 6, 19894.	3.3	62
94	Constriction Resistance and Current Crowding in Electrically Pumped Semiconductor Nanolasers with the Presence of Undercut and Sidewall Tilt. IEEE Journal of Quantum Electronics, 2016, 52, 1-7.	1.9	10
95	Analysis of current crowding in thin film contacts from exact field solution. Journal Physics D: Applied Physics, 2015, 48, 475501.	2.8	34
96	Maximal charge injection of consecutive electron pulses with uniform temporal pulse separation. Physics of Plasmas, 2015, 22, 084504.	1.9	9
97	Absolute Instability near the Band Edge of Traveling-Wave Amplifiers. Physical Review Letters, 2015, 115, 124801.	7.8	31
98	Harmonic Content in the Beam Current in a Traveling-Wave Tube. IEEE Transactions on Electron Devices, 2015, 62, 4285-4292.	3.0	17
99	Scaling for quantum tunneling current in nano- and subnano-scale plasmonic junctions. Scientific Reports, 2015, 5, 9826.	3.3	73
100	The effect of nonlinear quantum electrodynamics on relativistic transparency and laser absorption in ultra-relativistic plasmas. New Journal of Physics, 2015, 17, 043051.	2.9	41
101	Coupling of sausage, kink, and magneto-Rayleigh-Taylor instabilities in a cylindrical liner. Physics of Plasmas, 2015, 22, .	1.9	40
102	Enhancement of high-order harmonic generation in intense laser interactions with solid density plasma by multiple reflections and harmonic amplification. Applied Physics Letters, 2015, 106, .	3.3	18
103	Time dependent Doppler shifts in high-order harmonic generation in intense laser interactions with solid density plasma and frequency chirped pulses. Physics of Plasmas, 2015, 22, .	1.9	4
104	Enhancement of coherent Smith-Purcell radiation at terahertz frequency by optimized grating, prebunched beams, and open cavity. Physical Review Special Topics: Accelerators and Beams, 2015, 18, .	1.8	39
105	Maximal charge injection of a uniform separated electron pulse train in a drift space. Physical Review Special Topics: Accelerators and Beams, 2015, 18, .	1.8	3
106	Temporal evolution of surface ripples on a finite plasma slab subject to the magneto-Rayleigh-Taylor instability. Physics of Plasmas, 2014, 21, .	1.9	19
107	An analytical model for ballistic diode based on asymmetric geometry. Journal of Applied Physics, 2014, 115, .	2.5	13
108	Electromagnetic power absorption due to bumps and trenches on flat surfaces. Journal of Applied Physics, 2014, 116, .	2.5	12

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109	An exact field solution of contact resistance and comparison with the transmission line model. Applied Physics Letters, 2014, 104, .	3.3	23
110	Novel scaling laws for the Langmuir-Blodgett solutions in cylindrical and spherical diode. , 2013, , .		0
111	Multipactor-susceptible RF windows as power-tunable microwave limiters. , 2013, , .		0
112	Spreading Resistance of a Contact Spot on a Thin Film. , 2013, , .		5
113	Novel Scaling Laws for the Langmuir-Blodgett Solutions in Cylindrical and Spherical Diodes. Physical Review Letters, 2013, 110, 265007.	7.8	56
114	Passive mode control in the recirculating planar magnetron. Physics of Plasmas, 2013, 20, 033108.	1.9	18
115	Constriction Resistance and Current Crowding in Vertical Thin Film Contact. IEEE Journal of the Electron Devices Society, 2013, 1, 83-90.	2.1	16
116	Current flow in a 3-terminal thin film contact with dissimilar materials and general geometric aspect ratios. Journal Physics D: Applied Physics, 2013, 46, 065502.	2.8	23
117	A voltage scale for electro-thermal runaway. , 2013, , .		0
118	Magneto-Rayleigh-Taylor experiments on a MegaAmpere linear transformer driver. Physics of Plasmas, 2012, 19, 032701.	1.9	30
119	Excitation of a slow wave structure. Physics of Plasmas, 2012, 19, .	1.9	8
120	Effects of magnetic shear on magneto-Rayleigh-Taylor instability. Physics of Plasmas, 2012, 19, .	1.9	33
121	On the Spreading Resistance of Thin-Film Contacts. IEEE Transactions on Electron Devices, 2012, 59, 1936-1940.	3.0	42
122	Contact Resistance with Dissimilar Materials: Bulk Contacts and Thin Film Contacts. , 2011, , .		4
123	Thin film contact resistance with dissimilar materials. Journal of Applied Physics, 2011, 109, .	2.5	25
124	Multipactor susceptibility on a dielectric with a bias dc electric field and a background gas. Physics of Plasmas, 2011, 18, .	1.9	65
125	Minimization of thin film contact resistance. Applied Physics Letters, 2010, 97, .	3.3	17
126	Scaling laws for electrical contact resistance with dissimilar materials. Journal of Applied Physics, 2010, 108, .	2.5	30

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127	Recent advances on electrical contact resistance: Theory and experiment. , 2010, , .		1
128	Experimental validation of a higher dimensional theory of electrical contact resistance. Applied Physics Letters, 2009, 95, .	3.3	18
129	Analysis of radio-frequency absorption and electric and magnetic field enhancements due to surface roughness. Journal of Applied Physics, 2009, 105, .	2.5	30
130	RF power absorption and electric and magnetic field enhancements due to surface roughness. , 2009, , .		0
131	Short-pulse space-charge-limited electron flows in a drift space. Physics of Plasmas, 2008, 15, 063105.	1.9	5
132	Ultrashort-Pulse Child-Langmuir Law in the Quantum and Relativistic Regimes. Physical Review Letters, 2007, 98, 164802.	7.8	159