Debabrata Biswas

List of Publications by Year
in descending order

51 papers	613 citations	567281 15 h-index	642732 23 g-index
53 all docs	53 docs citations	53 times ranked	177 citing authors

#	Article	IF	Citations
1	Interpreting the field emission equation for large area field emitters. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2022, 40, 023201.	1.2	3
2	Gamow factors and current densities in cold field emission theory: A comparative study. Journal of Applied Physics, 2022, 131, 154301.	2.5	2
3	Semi-analytical theory of emission and transport in a LAFE-based diode. Physics of Plasmas, 2022, 29, 073102.	1.9	1
4	Enhancement of field emission performance of graphene nanowalls: the role of compound-cathode architecture and anode proximity effect. Carbon Trends, 2021, 2, 100008.	3.0	7
5	Simulating multi-scale gated field emittersâ€"A hybrid approach. Physics of Plasmas, 2021, 28, 013111.	1.9	6
6	Approximate universality in the tunneling potential for curved field emittersâ€"A line charge model approach. Journal of Applied Physics, 2021, 129, .	2.5	5
7	Higher order curvature corrections to the field emission current density. Journal of Applied Physics, 2021, 129, 194303.	2.5	10
8	Scaling in large area field emitters and the emission dimension. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2021, 39, .	1.2	3
9	Approximate universality in the electric field variation on a field-emitter tip in the presence of space charge. Physics of Plasmas, 2021, 28, .	1.9	7
10	Predicting space-charge affected field emission current from curved tips. Journal of Applied Physics, 2021, 130, .	2.5	8
11	The notional emission area for cylindrical posts and its variation with local electric field. , 2021, , .		4
12	Non-uniform guiding magnetic field for efficiency enhancement of RBWO. Physics of Plasmas, 2020, 27, .	1.9	2
13	Enhanced space charge limited current for curved electron emitters. Physics of Plasmas, 2020, 27, .	1.9	12
14	Hybrid approach to modeling large area field emitters. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2020, 38, .	1.2	9
15	Electrostatic shielding versus anode-proximity effect in large area field emitters. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2020, 38, 023207.	1.2	16
16	Schottky conjecture and beyond. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2020, 38, 023208.	1.2	8
17	Validation of current formula for a metallic nanotipped field emitter. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2019, 37, 040603.	1.2	15
18	The anode proximity effect for generic smooth field emitters. Physics of Plasmas, 2019, 26, 073106.	1.9	20

#	Article	IF	Citations
19	Curvature correction to the field emission current. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2019, 37, .	1.2	23
20	Electrostatic field enhancement on end-caps of cylindrical field-emitters. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2019, 37, .	1.2	11
21	Verification of shielding effect predictions for large area field emitters. AIP Advances, 2019, 9, 125207.	1.3	20
22	The cosine law of field enhancement factor variation: Generic emitter shapes. Physica E: Low-Dimensional Systems and Nanostructures, 2019, 109, 179-182.	2.7	24
23	A universal formula for the field enhancement factor. Physics of Plasmas, 2018, 25, .	1.9	52
24	Field-emission from parabolic tips: Current distributions, the net current, and effective emission area. Physics of Plasmas, 2018, 25, .	1.9	36
25	The tunneling potential for field emission from nanotips. Physics of Plasmas, 2018, 25, .	1.9	12
26	Variation of field enhancement factor near the emitter tip. Ultramicroscopy, 2018, 185, 1-4.	1.9	31
27	Shielding effects in random large area field emitters, the field enhancement factor distribution, and current calculation. Physics of Plasmas, 2018, 25, .	1.9	39
28	A Uniform, Pulsed Magnetic Field Coil for Gigawatt Operation of Relativistic Backward-Wave Oscillator. IEEE Transactions on Plasma Science, 2018, 46, 2834-2839.	1.3	9
29	The image-charge correction for curved field emitters. Physics of Plasmas, 2017, 24, 073107.	1.9	13
30	Modeling field emitter arrays using nonlinear line charge distribution. Journal of Applied Physics, 2016, 120, .	2.5	33
31	Boundary conditions for the solution of the three-dimensional Poisson equation in open metallic enclosures. Physics of Plasmas, 2015, 22, .	1.9	4
32	Calculating field emission current in nanodiodesâ€"A multi-group formalism with space charge and exchange-correlation effects. Journal of Applied Physics, 2014, 115, 114302.	2.5	3
33	Improved transfer matrix methods for calculating quantum transmission coefficient. Physical Review E, 2014, 90, 013301.	2.1	15
34	The Child-Langmuir law in the quantum domain. Europhysics Letters, 2013, 102, 58002.	2.0	8
35	Comment on â€œNew Scaling of Child-Langmuir Law in the Quantum Regimeâ€. Physical Review Letters, 2012, 109, 219801; discussion 219802.	7.8	4
36	Simulation study of modified coaxial vircator for improved power efficiency. , 2011, , .		1

#	Article	IF	Citations
37	Sensitive Dependence of Efficiency on Cathode-Wall Position in a Coaxial Vircatorâ€"Numerical Studies. IEEE Transactions on Plasma Science, 2011, 39, 1573-1576.	1.3	6
38	Microwave Power Enhancement in the Simulation of a Resonant Coaxial Vircator. IEEE Transactions on Plasma Science, 2010, 38, 1313-1317.	1.3	13
39	A one-dimensional basic oscillator model of the vircator. Physics of Plasmas, 2009, 16, .	1.9	26
40	The limiting current in a one-dimensional situation: Transition from a space charge limited to magnetically limited flow. Physics of Plasmas, 2008, 15, 023101.	1.9	3
41	Radiation from a space charge dominated linear electron beam. Physics of Plasmas, 2008, 15, 013103.	1.9	3
42	Response to â€œComment on â€˜Relation between space charge limited current and power loss in open drift tubes' â€•[Phys Plasmas 14, 094705 (2007)]. Physics of Plasmas, 2007, 14, .	1.9	2
43	Efficiency Enhancement of the Axial VIRCATOR. IEEE Transactions on Plasma Science, 2007, 35, 369-378.	1.3	17
44	EVOLUTION OF LIOUVILLE DENSITY IN BILLIARDS: THE QUANTUM CONNECTION. Modern Physics Letters B, 2006, 20, 795-813.	1.9	1
45	Liouville density evolution in billiards and the quantum connection. , 2006, , .		0
46	Evolution of classical projected phase space density in billiards. Pramana - Journal of Physics, 2005, 64, 563-575.	1.8	2
47	Power loss in open cavity diodes and a modified Child-Langmuir law. Physics of Plasmas, 2005, 12, 093102.	1.9	14
48	Generalization of the Childâ€"Langmuir law for nonzero injection velocities in a planar diode. Physics of Plasmas, 2004, 11, 1178-1186.	1.9	35
49	Classical Projected Phase Space Density of Billiards and Its Relation to the Quantum Neumann Spectrum. Physical Review Letters, 2004, 93, 204102.	7.8	3
50	Measuring billiard eigenfunctions with arbitrary trajectories. Physical Review E, 2003, 67, 026208.	2.1	4
51	Absence of saturation for finite injected currents in axially symmetric cavity diode. Physics of Plasmas, 2003, 10, 4521-4529.	1.9	4