Jing Guo

List of Publications by Year
in descending order

		71004	34195
128	15,584	43	103
papers	citations	h-index	g-index

130	130	130	19255
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A Multiscale Simulation Approach for Germanium-Hole-Based Quantum Processor. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2023, 42, 257-265.	1.9	3
2	Electroluminescence of atoms in a graphene nanogap. Science Advances, 2022, 8, eabj1742.	4.7	1
3	Circuitâ€Level Memory Technologies and Applications based on 2D Materials. Advanced Materials, 2022, 34, .	11.1	17
4	Nonparametric Decentralized Detection and Sparse Sensor Selection via Multi-Sensor Online Kernel Scalar Quantization. IEEE Transactions on Signal Processing, 2022, 70, 2593-2608.	3.2	1
5	A Folding Approach for Multiple Antenna Arrays Using Low-Resolution ADCs. IEEE Open Journal of the Communications Society, 2022, 3, 1206-1221.	4.4	0
6	Multiscale modeling of semimetal contact to two-dimensional transition metal dichalcogenide semiconductor. Applied Physics Letters, 2022, 121, .	1.5	6
7	Multiobjective Design of 2-D-Material-Based Field-Effect Transistors With Machine Learning Methods. IEEE Transactions on Electron Devices, 2021, 68, 5476-5482.	1.6	6
8	A Tantalum Disulfide Charge-Density-Wave Stochastic Artificial Neuron for Emulating Neural Statistical Properties. Nano Letters, 2021, 21, 3465-3472.	4.5	15
9	Sub-10-nm graphene nanoribbons with atomically smooth edges from squashed carbon nanotubes. Nature Electronics, 2021, 4, 653-663.	13.1	61
10	Reconfigurable Stochastic neurons based on tin oxide/MoS2 hetero-memristors for simulated annealing and the Boltzmann machine. Nature Communications, 2021, 12, 5710.	5.8	14
11	Atomic Layer MoTe₂ Field-Effect Transistors and Monolithic Logic Circuits Configured by Scanning Laser Annealing. ACS Nano, 2021, 15, 19733-19742.	7.3	13
12	Controlling Polarity of MoTe₂ Transistors for Monolithic Complementary Logic via Schottky Contact Engineering. ACS Nano, 2020, 14, 1457-1467.	7.3	31
13	Speed Up Quantum Transport Device Simulation on Ferroelectric Tunnel Junction With Machine Learning Methods. IEEE Transactions on Electron Devices, 2020, 67, 5229-5235.	1.6	15
14	Variability and Fidelity Limits of Silicon Quantum Gates Due to Random Interface Charge Traps. IEEE Electron Device Letters, 2020, , 1-1.	2.2	4
15	A computational study of spin Hall effect device based on 2D materials. Journal of Applied Physics, 2020, 128, 014303.	1.1	1
16	High tunnelling electroresistance in a ferroelectric van der Waals heterojunction via giant barrier height modulation. Nature Electronics, 2020, 3, 466-472.	13.1	150
17	Identifying alternative ferroelectric materials beyond Hf(Zr)O2. Applied Physics Letters, 2020, 117, 262903.	1.5	3
18	Performance Potential of 2D Kagome Lattice Interconnects. IEEE Electron Device Letters, 2019, 40, 1973-1975.	2.2	5

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19	Compact Model of Carrier Transport in Monolayer Transition Metal Dichalcogenide Transistors. IEEE Transactions on Electron Devices, 2019, 66, 177-183.	1.6	4
20	On Low-Resistance Contacts to 2-D MoTe₂ by Crystalline Phase Junctions. IEEE Transactions on Electron Devices, 2018, 65, 1583-1588.	1.6	6
21	On Image Charge Induced Barrier Lowering in Grapheneâ€“Semiconductor Contacts. IEEE Nanotechnology Magazine, 2018, 17, 320-324.	1.1	0
22	Tunneling current in HfO2 and Hf0.5Zr0.5O2-based ferroelectric tunnel junction. Journal of Applied Physics, 2018, 123, .	1.1	27
23	Computational Assessment of Silicon Quantum Gate Based on Detuning Mechanism for Quantum Computing. IEEE Transactions on Electron Devices, 2018, 65, 5530-5536.	1.6	3
24	Implementation of rate-adaptive integer forcing compression in distributed wireless relay networking. , 2018, , .		5
25	Atomically Thin CBRAM Enabled by 2-D Materials: Scaling Behaviors and Performance Limits. IEEE Transactions on Electron Devices, 2018, 65, 4160-4166.	1.6	19
26	Performance Assessment of Resonantly Driven Silicon Two-Qubit Quantum Gate. IEEE Electron Device Letters, 2018, 39, 1096-1099.	2.2	3
27	Assessment of 2-D Transition Metal Dichalcogenide FETs at Sub-5-nm Gate Length Scale. IEEE Transactions on Electron Devices, 2017, 64, 622-628.	1.6	24
28	A Simple Model of Negative Capacitance FET With Electrostatic Short Channel Effects. IEEE Transactions on Electron Devices, 2017, 64, 2927-2934.	1.6	65
29	Atomically Thin Femtojoule Memristive Device. Advanced Materials, 2017, 29, 1703232.	11.1	147
30	Two-Dimensional Intrinsic Half-Metals With Large Spin Gaps. Nano Letters, 2017, 17, 5251-5257.	4.5	172
31	Emulating Bilingual Synaptic Response Using a Junction-Based Artificial Synaptic Device. ACS Nano, 2017, 11, 7156-7163.	7.3	106
32	Receiver design and bit allocation for a multi-user distributed relay network performing vector quantization. , 2016, , .		3
33	Vertical Organic Field-Effect Transistors for Integrated Optoelectronic Applications. ACS Applied Materials & Interfaces, 2016, 8, 10430-10435.	4.0	61
34	Scaling Analysis of High Gain Monolayer MoS₂Photodetector for Its Performance Optimization. IEEE Transactions on Electron Devices, 2016, 63, 1608-1614.	1.6	12
35	Electrothermal simulation of single-walled carbon nanotube (SWCNT)-based phase change memory for 3-DICs. , 2015, , .		0
36	Assessment of performance potential of MoS2-based topological insulator field-effect transistors. Journal of Applied Physics, 2015, 118, 124502.	1.1	10

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37	Electrothermal Investigation on Vertically Aligned Single-Walled Carbon Nanotube Contacted Phase-Change Memory Array for 3-D ICs. IEEE Transactions on Electron Devices, 2015, 62, 3258-3263.	1.6	15
38	Simulation of Phosphorene Field-Effect Transistor at the Scaling Limit. IEEE Transactions on Electron Devices, 2015, 62, 659-665.	1.6	58
39	Graphene Nanoribbons Under Mechanical Strain. Advanced Materials, 2015, 27, 303-309.	11.1	36
40	Operating principles of vertical transistors based on monolayer two-dimensional semiconductor heterojunctions. Applied Physics Letters, 2014, 105, .	1.5	20
41	Effect of Nanoâ€Porosity on High Gain Permeable Metalâ€Base Transistors. Advanced Functional Materials, 2014, 24, 6056-6065.	7.8	17
42	Performance evaluation of MoS<inf>2</inf>-WTe<inf>2</inf> vertical tunneling transistor using real-space quantum simulator. , 2014, , .		6
43	Performance Limits Projection of Black Phosphorous Field-Effect Transistors. IEEE Electron Device Letters, 2014, 35, 963-965.	2.2	84
44	Simulation of phosphorene Schottky-barrier transistors. Applied Physics Letters, 2014, 105, .	1.5	27
45	Atomically thin pâ€“n junctions with van der Waals heterointerfaces. Nature Nanotechnology, 2014, 9, 676-681.	15.6	1,953
46	Coupled Electroâ€“Thermal Simulation for Self-Heating Effects in Graphene Transistors. IEEE Transactions on Electron Devices, 2013, 60, 2598-2603.	1.6	5
47	Device Performance of Heterojunction Tunneling Field-Effect Transistors Based on Transition Metal Dichalcogenide Monolayer. IEEE Electron Device Letters, 2013, 34, 1331-1333.	2.2	62
48	On Monolayer ${m MoS}_{2}$ Field-Effect Transistors at the Scaling Limit. IEEE Transactions on Electron Devices, 2013, 60, 4133-4139.	1.6	142
49	On pseudomagnetoresistance in graphene junctions. Journal of Computational Electronics, 2013, 12, 165-169.	1.3	0
50	Quantum simulation of topological insulator based spin transfer torque device. Applied Physics Letters, 2013, 102, .	1.5	12
51	Modeling and simulation of carbon nanotube-semiconductor heterojunction vertical field effect transistors. Journal of Applied Physics, 2013, 113, .	1.1	11
52	Carrier dynamics and design optimization of electrolyte-induced inversion layer carbon nanotube-silicon Schottky junction solar cell. Applied Physics Letters, 2012, 100, 103503.	1.5	15
53	A computational study of high-frequency behavior of graphene field-effect transistors. Journal of Applied Physics, 2012, 111, 094313.	1.1	15
54	Quantum mechanical simulation of graphene photodetectors. Journal of Applied Physics, 2012, 112, .	1.1	21

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55	Modeling of graphene nanoribbon devices. Nanoscale, 2012, 4, 5538.	2.8	53
56	Ab initioquantum transport simulation of silicide-silicon contacts. Journal of Applied Physics, 2012, 111, 014305.	1.1	9
57	A computational study of graphene silicon contact. Journal of Applied Physics, 2012, 112, 104502.	1.1	7
58	Modelling very large magnetoresistance of graphene nanoribbon devices. Nanoscale, 2012, 4, 982.	2.8	12
59	Thermal transport in grain boundary of graphene by non-equilibrium Greenâ€™s function approach. Applied Physics Letters, 2012, 101, 043112.	1.5	51
60	Performance projection of graphene nanomesh and nanoroad transistors. Nano Research, 2012, 5, 164-171.	5.8	6
61	Assessment of graphene nanomesh and nanoroad transistors by chemical modification. , 2011, , .		1
62	Graphene nanoribbons with smooth edges behave as quantum wires. Nature Nanotechnology, 2011, 6, 563-567.	15.6	197
63	Bandgap opening in boron nitride confined armchair graphene nanoribbon. Applied Physics Letters, 2011, 98, .	1.5	79
64	Graphene Nanoribbon FETs: Technology Exploration for Performance and Reliability. IEEE Nanotechnology Magazine, 2011, 10, 727-736.	1.1	45
65	ZnO, GaN, and InN Functionalized Nanowires for Sensing and Photonics Applications. IEEE Journal of Selected Topics in Quantum Electronics, 2011, 17, 1092-1101.	1.9	22
66	Performance Limits of Monolayer Transition Metal Dichalcogenide Transistors. IEEE Transactions on Electron Devices, 2011, 58, 3042-3047.	1.6	428
67	Inelastic Phonon Scattering in Graphene FETs. IEEE Transactions on Electron Devices, 2011, 58, 3997-4003.	1.6	10
68	Assessment of high-frequency performance limits of graphene field-effect transistors. Nano Research, 2011, 4, 571-579.	5.8	51
69	Effects of edge chemistry doping on graphene nanoribbon mobility. Surface Science, 2011, 605, 1643-1648.	0.8	28
70	Two-dimensional quantum mechanical modeling of silicideâ€“silicon contact resistance for nanoscale silicon-on-insulator metal-oxide-semiconductor field effect transistor. Journal of Applied Physics, 2011, 109, 104307.	1.1	4
71	Projected performance advantage of multilayer graphene nanoribbons as a transistor channel material. Nano Research, 2010, 3, 8-15.	5.8	63
72	Band gap of strained graphene nanoribbons. Nano Research, 2010, 3, 189-199.	5.8	179

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73	A computational study on interfacial doping and quantum transport of silicide-silicon contacts. , 2010, , .		2
74	Local strain in tunneling transistors based on graphene nanoribbons. Applied Physics Letters, 2010, 97, .	1.5	26
75	Atomistic simulation of graphene nanoribbon tunneling transistors. , 2010, , .		0
76	Computational Study of Tunneling Transistor Based on Graphene Nanoribbon. Nano Letters, 2009, 9, 684-688.	4.5	134
77	N-Doping of Graphene Through Electrothermal Reactions with Ammonia. Science, 2009, 324, 768-771.	6.0	2,020
78	Multilayer graphene nanoribbon for 3D stacking of the transistor channel. , 2009, , .		1
79	First principal simulation of CoSi<inf>2</inf>/Si and NiSi<inf>2</inf>/Si contacts. , 2009, , .		0
80	Computational model of edge effects in graphene nanoribbon transistors. Nano Research, 2008, 1, 395-402.	5.8	60
81	Modeling and Fabrication of ZnO Nanowire Transistors. IEEE Transactions on Electron Devices, 2008, 55, 3012-3019.	1.6	13
82	Performance Comparison of Graphene Nanoribbon FETs With Schottky Contacts and Doped Reservoirs. IEEE Transactions on Electron Devices, 2008, 55, 2314-2323.	1.6	138
83	Room-Temperature All-Semiconducting Sub-10-nm Graphene Nanoribbon Field-Effect Transistors. Physical Review Letters, 2008, 100, 206803.	2.9	1,345
84	Field effect on spin-polarized transport in graphene nanoribbons. Applied Physics Letters, 2008, 92, 163109.	1.5	93
85	Analysis of ballistic monolayer and bilayer graphene field-effect transistors. Applied Physics Letters, 2008, 92, .	1.5	41
86	Carrier scattering in graphene nanoribbon field-effect transistors. Applied Physics Letters, 2008, 92, .	1.5	40
87	Analytical Theory of Graphene Nanoribbon Transistors. , 2008, , .		14
88	Graphene nanoribbon FETs: Technology exploration and CAD. , 2008, , .		3
89	Edge chemistry engineering of graphene nanoribbon transistors: A computational study. , 2008, , .		9
90	Theoretical Investigations on Thermal Light Emission From Metallic Carbon Nanotubes. IEEE Nanotechnology Magazine, 2007, 6, 682-687.	1.1	3

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91	Dynamic Two-Port Parameters of Ballistic Carbon Nanotube FETs: A Quantum Simulation Study. Device Research Conference, IEEE Annual, 2007, , .	0.0	0
92	CARBON NANOTUBE FIELD-EFFECT TRANSISTORS. Selected Topics in Electornics and Systems, 2007, , 15-30.	0.2	1
93	Effect of edge roughness in graphene nanoribbon transistors. Applied Physics Letters, 2007, 91, .	1.5	153
94	Performance Comparison of Graphene Nanoribbon Schottky Barrier and MOS FETs. , 2007, , .		6
95	Effects of nanotube alignment and measurement direction on percolation resistivity in single-walled carbon nanotube films. Journal of Applied Physics, 2007, 102, .	1.1	136
96	Scaling Behaviors of Graphene Nanoribbon FETs. Device Research Conference, IEEE Annual, 2007, , .	0.0	6
97	Gate Electrostatics and Quantum Capacitance of Graphene Nanoribbons. Nano Letters, 2007, 7, 1935-1940.	4.5	87
98	Performance Assessment of Subpercolating Nanobundle Network Thin-Film Transistors by an Analytical Model. IEEE Transactions on Electron Devices, 2007, 54, 637-644.	1.6	23
99	Analysis of Strain Effects in Ballistic Carbon Nanotube FETs. IEEE Transactions on Electron Devices, 2007, 54, 1280-1287.	1.6	38
100	Scaling Behaviors of Graphene Nanoribbon FETs: A Three-Dimensional Quantum Simulation Study. IEEE Transactions on Electron Devices, 2007, 54, 2223-2231.	1.6	138
101	On the current delivery limit of semiconducting carbon nanotubes. Journal of Computer-Aided Materials Design, 2007, 14, 73-78.	0.7	4
102	Time-dependent quantum transport and nonquasistatic effects in carbon nanotube transistors. Applied Physics Letters, 2006, 89, 203122.	1.5	20
103	Comparison of performance limits for carbon nanoribbon and carbon nanotube transistors. Applied Physics Letters, 2006, 89, 203107.	1.5	124
104	Three-dimensional electrostatic effects of carbon nanotube transistors. IEEE Nanotechnology Magazine, 2006, 5, 385-392.	1.1	27
105	Effect of phonon scattering on intrinsic delay and cutoff frequency of carbon nanotube FETs. IEEE Transactions on Electron Devices, 2006, 53, 2467-2470.	1.6	37
106	CARBON NANOTUBE FIELD-EFFECT TRANSISTORS. International Journal of High Speed Electronics and Systems, 2006, 16, 897-912.	0.3	32
107	High Performance n-Type Carbon Nanotube Field-Effect Transistors with Chemically Doped Contacts. Nano Letters, 2005, 5, 345-348.	4.5	453
108	Assessment of High-Frequency Performance Potential of Carbon Nanotube Transistors. IEEE Nanotechnology Magazine, 2005, 4, 715-721.	1.1	169

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109	A quantum-mechanical treatment of phonon scattering in carbon nanotube transistors. Journal of Applied Physics, 2005, 98, 063519.	1.1	46
110	A Numerical Study of Scaling Issues for Schottky-Barrier Carbon Nanotube Transistors. IEEE Transactions on Electron Devices, 2004, 51, 172-177.	1.6	263
111	High-Field Quasiballistic Transport in Short Carbon Nanotubes. Physical Review Letters, 2004, 92, 106804.	2.9	543
112	Monte Carlo Simulation of Carbon Nanotube Devices. Journal of Computational Electronics, 2004, 3, 333-336.	1.3	8
113	Atomistic Simulation of Carbon Nanotube Field-Effect Transistors Using Non-Equilibrium Greenâ€™s Function Formalism. Journal of Computational Electronics, 2004, 3, 373-377.	1.3	24
114	Electrostatics of 3D carbon nanotube field-effect transistors. , 2004, , .		0
115	Atomistic simulation of carbon nanotube field-effect transistors using non-equilibrium Green's function formalism. , 2004, , .		9
116	Carbon Nanotube Field-Effect Transistors with Integrated Ohmic Contacts and High-Î¹ Gate Dielectrics. Nano Letters, 2004, 4, 447-450.	4.5	498
117	Monte-Carlo simulation of carbon nanotube devices. , 2004, , .		4
118	Toward Multiscale Modeling of Carbon Nanotube Transistors. International Journal for Multiscale Computational Engineering, 2004, 2, 257-276.	0.8	224
119	Theory of ballistic nanotransistors. IEEE Transactions on Electron Devices, 2003, 50, 1853-1864.	1.6	652
120	Ballistic carbon nanotube field-effect transistors. Nature, 2003, 424, 654-657.	13.7	2,883
121	Electrostatics of nanowire transistors. IEEE Nanotechnology Magazine, 2003, 2, 329-334.	1.1	68
122	A computational study of thin-body, double-gate, Schottky barrier MOSFETs. IEEE Transactions on Electron Devices, 2002, 49, 1897-1902.	1.6	154
123	A Computational Exploration of Lateral Channel Engineering to Enhance MOSFET Performance. Journal of Computational Electronics, 2002, 1, 185-189.	1.3	2
124	Assessment of silicon MOS and carbon nanotube FET performance limits using a general theory of ballistic transistors. , 0, , .		41
125	Electrostatics of nanowire transistors. , 0, , .		3
126	Choice of flat-rand voltage, V/sub DD/ and diameter of ambipolar Schottky-barrier carbon nanotube transistors in digital circuit design. , 0, , .		3

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127	Performance assessment of sub-percolating nanobundle network transistors by an analytical model. , 0, , .		3
128	Design of a novel three-valued static memory using schottky barrier carbon nanotube FETs. , 0, , .		1