Jing Guo

List of Publications by Year
in descending order

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128	15,584	61984	30087
papers	citations	43 h-index	103 g-index

130	130	130	16384
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Ballistic carbon nanotube field-effect transistors. Nature, 2003, 424, 654-657.	27.8	2,883
2	N-Doping of Graphene Through Electrothermal Reactions with Ammonia. Science, 2009, 324, 768-771.	12.6	2,020
3	Atomically thin pâ€“n junctions with van der Waals heterointerfaces. Nature Nanotechnology, 2014, 9, 676-681.	31.5	1,953
4	Room-Temperature All-Semiconducting Sub-10-nm Graphene Nanoribbon Field-Effect Transistors. Physical Review Letters, 2008, 100, 206803.	7.8	1,345
5	Theory of ballistic nanotransistors. IEEE Transactions on Electron Devices, 2003, 50, 1853-1864.	3.0	652
6	High-Field Quasiballistic Transport in Short Carbon Nanotubes. Physical Review Letters, 2004, 92, 106804.	7.8	543
7	Carbon Nanotube Field-Effect Transistors with Integrated Ohmic Contacts and High-Î¹ Gate Dielectrics. Nano Letters, 2004, 4, 447-450.	9.1	498
8	High Performance n-Type Carbon Nanotube Field-Effect Transistors with Chemically Doped Contacts. Nano Letters, 2005, 5, 345-348.	9.1	453
9	Performance Limits of Monolayer Transition Metal Dichalcogenide Transistors. IEEE Transactions on Electron Devices, 2011, 58, 3042-3047.	3.0	428
10	A Numerical Study of Scaling Issues for Schottky-Barrier Carbon Nanotube Transistors. IEEE Transactions on Electron Devices, 2004, 51, 172-177.	3.0	263
11	Toward Multiscale Modeling of Carbon Nanotube Transistors. International Journal for Multiscale Computational Engineering, 2004, 2, 257-276.	1.2	224
12	Graphene nanoribbons with smooth edges behave as quantum wires. Nature Nanotechnology, 2011, 6, 563-567.	31.5	197
13	Band gap of strained graphene nanoribbons. Nano Research, 2010, 3, 189-199.	10.4	179
14	Two-Dimensional Intrinsic Half-Metals With Large Spin Gaps. Nano Letters, 2017, 17, 5251-5257.	9.1	172
15	Assessment of High-Frequency Performance Potential of Carbon Nanotube Transistors. IEEE Nanotechnology Magazine, 2005, 4, 715-721.	2.0	169
16	A computational study of thin-body, double-gate, Schottky barrier MOSFETs. IEEE Transactions on Electron Devices, 2002, 49, 1897-1902.	3.0	154
17	Effect of edge roughness in graphene nanoribbon transistors. Applied Physics Letters, 2007, 91, .	3.3	153
18	High tunnelling electroresistance in a ferroelectric van der Waals heterojunction via giant barrier height modulation. Nature Electronics, 2020, 3, 466-472.	26.0	150

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19	Atomically Thin Femtojoule Memristive Device. Advanced Materials, 2017, 29, 1703232.	21.0	147
20	On Monolayer ${m MoS}_{2}$ Field-Effect Transistors at the Scaling Limit. IEEE Transactions on Electron Devices, 2013, 60, 4133-4139.	3.0	142
21	Scaling Behaviors of Graphene Nanoribbon FETs: A Three-Dimensional Quantum Simulation Study. IEEE Transactions on Electron Devices, 2007, 54, 2223-2231.	3.0	138
22	Performance Comparison of Graphene Nanoribbon FETs With Schottky Contacts and Doped Reservoirs. IEEE Transactions on Electron Devices, 2008, 55, 2314-2323.	3.0	138
23	Effects of nanotube alignment and measurement direction on percolation resistivity in single-walled carbon nanotube films. Journal of Applied Physics, 2007, 102, .	2.5	136
24	Computational Study of Tunneling Transistor Based on Graphene Nanoribbon. Nano Letters, 2009, 9, 684-688.	9.1	134
25	Comparison of performance limits for carbon nanoribbon and carbon nanotube transistors. Applied Physics Letters, 2006, 89, 203107.	3.3	124
26	Emulating Bilingual Synaptic Response Using a Junction-Based Artificial Synaptic Device. ACS Nano, 2017, 11, 7156-7163.	14.6	106
27	Field effect on spin-polarized transport in graphene nanoribbons. Applied Physics Letters, 2008, 92, 163109.	3.3	93
28	Gate Electrostatics and Quantum Capacitance of Graphene Nanoribbons. Nano Letters, 2007, 7, 1935-1940.	9.1	87
29	Performance Limits Projection of Black Phosphorous Field-Effect Transistors. IEEE Electron Device Letters, 2014, 35, 963-965.	3.9	84
30	Bandgap opening in boron nitride confined armchair graphene nanoribbon. Applied Physics Letters, 2011, 98, .	3.3	79
31	Electrostatics of nanowire transistors. IEEE Nanotechnology Magazine, 2003, 2, 329-334.	2.0	68
32	A Simple Model of Negative Capacitance FET With Electrostatic Short Channel Effects. IEEE Transactions on Electron Devices, 2017, 64, 2927-2934.	3.0	65
33	Projected performance advantage of multilayer graphene nanoribbons as a transistor channel material. Nano Research, 2010, 3, 8-15.	10.4	63
34	Device Performance of Heterojunction Tunneling Field-Effect Transistors Based on Transition Metal Dichalcogenide Monolayer. IEEE Electron Device Letters, 2013, 34, 1331-1333.	3.9	62
35	Vertical Organic Field-Effect Transistors for Integrated Optoelectronic Applications. ACS Applied Materials & Interfaces, 2016, 8, 10430-10435.	8.0	61
36	Sub-10-nm graphene nanoribbons with atomically smooth edges from squashed carbon nanotubes. Nature Electronics, 2021, 4, 653-663.	26.0	61

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37	Computational model of edge effects in graphene nanoribbon transistors. Nano Research, 2008, 1, 395-402.	10.4	60
38	Simulation of Phosphorene Field-Effect Transistor at the Scaling Limit. IEEE Transactions on Electron Devices, 2015, 62, 659-665.	3.0	58
39	Modeling of graphene nanoribbon devices. Nanoscale, 2012, 4, 5538.	5.6	53
40	Assessment of high-frequency performance limits of graphene field-effect transistors. Nano Research, 2011, 4, 571-579.	10.4	51
41	Thermal transport in grain boundary of graphene by non-equilibrium Greenâ€™s function approach. Applied Physics Letters, 2012, 101, 043112.	3.3	51
42	A quantum-mechanical treatment of phonon scattering in carbon nanotube transistors. Journal of Applied Physics, 2005, 98, 063519.	2.5	46
43	Graphene Nanoribbon FETs: Technology Exploration for Performance and Reliability. IEEE Nanotechnology Magazine, 2011, 10, 727-736.	2.0	45
44	Assessment of silicon MOS and carbon nanotube FET performance limits using a general theory of ballistic transistors. , 0, , .		41
45	Analysis of ballistic monolayer and bilayer graphene field-effect transistors. Applied Physics Letters, 2008, 92, .	3.3	41
46	Carrier scattering in graphene nanoribbon field-effect transistors. Applied Physics Letters, 2008, 92, .	3.3	40
47	Analysis of Strain Effects in Ballistic Carbon Nanotube FETs. IEEE Transactions on Electron Devices, 2007, 54, 1280-1287.	3.0	38
48	Effect of phonon scattering on intrinsic delay and cutoff frequency of carbon nanotube FETs. IEEE Transactions on Electron Devices, 2006, 53, 2467-2470.	3.0	37
49	Graphene Nanoribbons Under Mechanical Strain. Advanced Materials, 2015, 27, 303-309.	21.0	36
50	CARBON NANOTUBE FIELD-EFFECT TRANSISTORS. International Journal of High Speed Electronics and Systems, 2006, 16, 897-912.	0.7	32
51	Controlling Polarity of MoTe₂ Transistors for Monolithic Complementary Logic via Schottky Contact Engineering. ACS Nano, 2020, 14, 1457-1467.	14.6	31
52	Effects of edge chemistry doping on graphene nanoribbon mobility. Surface Science, 2011, 605, 1643-1648.	1.9	28
53	Three-dimensional electrostatic effects of carbon nanotube transistors. IEEE Nanotechnology Magazine, 2006, 5, 385-392.	2.0	27
54	Simulation of phosphorene Schottky-barrier transistors. Applied Physics Letters, 2014, 105, .	3.3	27

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55	Tunneling current in HfO2 and Hf0.5Zr0.5O2-based ferroelectric tunnel junction. Journal of Applied Physics, 2018, 123, .	2.5	27
56	Local strain in tunneling transistors based on graphene nanoribbons. Applied Physics Letters, 2010, 97, .	3.3	26
57	Atomistic Simulation of Carbon Nanotube Field-Effect Transistors Using Non-Equilibrium Greenâ€™s Function Formalism. Journal of Computational Electronics, 2004, 3, 373-377.	2.5	24
58	Assessment of 2-D Transition Metal Dichalcogenide FETs at Sub-5-nm Gate Length Scale. IEEE Transactions on Electron Devices, 2017, 64, 622-628.	3.0	24
59	Performance Assessment of Subpercolating Nanobundle Network Thin-Film Transistors by an Analytical Model. IEEE Transactions on Electron Devices, 2007, 54, 637-644.	3.0	23
60	ZnO, GaN, and InN Functionalized Nanowires for Sensing and Photonics Applications. IEEE Journal of Selected Topics in Quantum Electronics, 2011, 17, 1092-1101.	2.9	22
61	Quantum mechanical simulation of graphene photodetectors. Journal of Applied Physics, 2012, 112, .	2.5	21
62	Time-dependent quantum transport and nonquasistatic effects in carbon nanotube transistors. Applied Physics Letters, 2006, 89, 203122.	3.3	20
63	Operating principles of vertical transistors based on monolayer two-dimensional semiconductor heterojunctions. Applied Physics Letters, 2014, 105, .	3.3	20
64	Atomically Thin CBRAM Enabled by 2-D Materials: Scaling Behaviors and Performance Limits. IEEE Transactions on Electron Devices, 2018, 65, 4160-4166.	3.0	19
65	Effect of Nanoâ€Porosity on High Gain Permeable Metalâ€Base Transistors. Advanced Functional Materials, 2014, 24, 6056-6065.	14.9	17
66	Circuitâ€Level Memory Technologies and Applications based on 2D Materials. Advanced Materials, 2022, 34, .	21.0	17
67	Carrier dynamics and design optimization of electrolyte-induced inversion layer carbon nanotube-silicon Schottky junction solar cell. Applied Physics Letters, 2012, 100, 103503.	3.3	15
68	A computational study of high-frequency behavior of graphene field-effect transistors. Journal of Applied Physics, 2012, 111, 094313.	2.5	15
69	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.	3.0	15
70	Speed Up Quantum Transport Device Simulation on Ferroelectric Tunnel Junction With Machine Learning Methods. IEEE Transactions on Electron Devices, 2020, 67, 5229-5235.	3.0	15
71	A Tantalum Disulfide Charge-Density-Wave Stochastic Artificial Neuron for Emulating Neural Statistical Properties. Nano Letters, 2021, 21, 3465-3472.	9.1	15
72	Analytical Theory of Graphene Nanoribbon Transistors. , 2008, , .		14

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73	Reconfigurable Stochastic neurons based on tin oxide/MoS2 hetero-memristors for simulated annealing and the Boltzmann machine. Nature Communications, 2021, 12, 5710.	12.8	14
74	Modeling and Fabrication of ZnO Nanowire Transistors. IEEE Transactions on Electron Devices, 2008, 55, 3012-3019.	3.0	13
75	Atomic Layer MoTe₂ Field-Effect Transistors and Monolithic Logic Circuits Configured by Scanning Laser Annealing. ACS Nano, 2021, 15, 19733-19742.	14.6	13
76	Modelling very large magnetoresistance of graphene nanoribbon devices. Nanoscale, 2012, 4, 982.	5.6	12
77	Quantum simulation of topological insulator based spin transfer torque device. Applied Physics Letters, 2013, 102, .	3.3	12
78	Scaling Analysis of High Gain Monolayer MoS₂Photodetector for Its Performance Optimization. IEEE Transactions on Electron Devices, 2016, 63, 1608-1614.	3.0	12
79	Modeling and simulation of carbon nanotube-semiconductor heterojunction vertical field effect transistors. Journal of Applied Physics, 2013, 113, .	2.5	11
80	Inelastic Phonon Scattering in Graphene FETs. IEEE Transactions on Electron Devices, 2011, 58, 3997-4003.	3.0	10
81	Assessment of performance potential of MoS2-based topological insulator field-effect transistors. Journal of Applied Physics, 2015, 118, 124502.	2.5	10
82	Atomistic simulation of carbon nanotube field-effect transistors using non-equilibrium Green's function formalism. , 2004, , .		9
83	Edge chemistry engineering of graphene nanoribbon transistors: A computational study. , 2008, , .		9
84	Ab initioquantum transport simulation of silicide-silicon contacts. Journal of Applied Physics, 2012, 111, 014305.	2.5	9
85	Monte Carlo Simulation of Carbon Nanotube Devices. Journal of Computational Electronics, 2004, 3, 333-336.	2.5	8
86	A computational study of graphene silicon contact. Journal of Applied Physics, 2012, 112, 104502.	2.5	7
87	Performance Comparison of Graphene Nanoribbon Schottky Barrier and MOS FETs. , 2007, , .		6
88	Scaling Behaviors of Graphene Nanoribbon FETs. Device Research Conference, IEEE Annual, 2007, , .	0.0	6
89	Performance projection of graphene nanomesh and nanoroad transistors. Nano Research, 2012, 5, 164-171.	10.4	6
90	Performance evaluation of MoS<inf>2</inf>-WTe<inf>2</inf> vertical tunneling transistor using real-space quantum simulator. , 2014, , .		6

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91	On Low-Resistance Contacts to 2-D MoTe₂ by Crystalline Phase Junctions. IEEE Transactions on Electron Devices, 2018, 65, 1583-1588.	3.0	6
92	Multiobjective Design of 2-D-Material-Based Field-Effect Transistors With Machine Learning Methods. IEEE Transactions on Electron Devices, 2021, 68, 5476-5482.	3.0	6
93	Multiscale modeling of semimetal contact to two-dimensional transition metal dichalcogenide semiconductor. Applied Physics Letters, 2022, 121, .	3.3	6
94	Coupled Electroâ€“Thermal Simulation for Self-Heating Effects in Graphene Transistors. IEEE Transactions on Electron Devices, 2013, 60, 2598-2603.	3.0	5
95	Implementation of rate-adaptive integer forcing compression in distributed wireless relay networking. , 2018, , .		5
96	Performance Potential of 2D Kagome Lattice Interconnects. IEEE Electron Device Letters, 2019, 40, 1973-1975.	3.9	5
97	Monte-Carlo simulation of carbon nanotube devices. , 2004, , .		4
98	On the current delivery limit of semiconducting carbon nanotubes. Journal of Computer-Aided Materials Design, 2007, 14, 73-78.	0.7	4
99	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.	2.5	4
100	Compact Model of Carrier Transport in Monolayer Transition Metal Dichalcogenide Transistors. IEEE Transactions on Electron Devices, 2019, 66, 177-183.	3.0	4
101	Variability and Fidelity Limits of Silicon Quantum Gates Due to Random Interface Charge Traps. IEEE Electron Device Letters, 2020, , 1-1.	3.9	4
102	Electrostatics of nanowire transistors. , 0, , .		3
103	Choice of flat-rand voltage, V/sub DD/ and diameter of ambipolar Schottky-barrier carbon nanotube transistors in digital circuit design. , 0, , .		3
104	Performance assessment of sub-percolating nanobundle network transistors by an analytical model. , 0, , .		3
105	Theoretical Investigations on Thermal Light Emission From Metallic Carbon Nanotubes. IEEE Nanotechnology Magazine, 2007, 6, 682-687.	2.0	3
106	Graphene nanoribbon FETs: Technology exploration and CAD. , 2008, , .		3
107	Receiver design and bit allocation for a multi-user distributed relay network performing vector quantization. , 2016, , .		3
108	Computational Assessment of Silicon Quantum Gate Based on Detuning Mechanism for Quantum Computing. IEEE Transactions on Electron Devices, 2018, 65, 5530-5536.	3.0	3

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109	Performance Assessment of Resonantly Driven Silicon Two-Qubit Quantum Gate. IEEE Electron Device Letters, 2018, 39, 1096-1099.	3.9	3
110	Identifying alternative ferroelectric materials beyond Hf(Zr)O2. Applied Physics Letters, 2020, 117, 262903.	3.3	3
111	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.	2.7	3
112	A Computational Exploration of Lateral Channel Engineering to Enhance MOSFET Performance. Journal of Computational Electronics, 2002, 1, 185-189.	2.5	2
113	A computational study on interfacial doping and quantum transport of silicide-silicon contacts. , 2010, , .		2
114	Design of a novel three-valued static memory using schottky barrier carbon nanotube FETs. , 0, , .		1
115	CARBON NANOTUBE FIELD-EFFECT TRANSISTORS. Selected Topics in Electornics and Systems, 2007, , 15-30.	0.2	1
116	Multilayer graphene nanoribbon for 3D stacking of the transistor channel. , 2009, , .		1
117	Assessment of graphene nanomesh and nanoroad transistors by chemical modification. , 2011, , .		1
118	A computational study of spin Hall effect device based on 2D materials. Journal of Applied Physics, 2020, 128, 014303.	2.5	1
119	Electroluminescence of atoms in a graphene nanogap. Science Advances, 2022, 8, eabj1742.	10.3	1
120	Nonparametric Decentralized Detection and Sparse Sensor Selection via Multi-Sensor Online Kernel Scalar Quantization. IEEE Transactions on Signal Processing, 2022, 70, 2593-2608.	5.3	1
121	Electrostatics of 3D carbon nanotube field-effect transistors. , 2004, , .		0
122	Dynamic Two-Port Parameters of Ballistic Carbon Nanotube FETs: A Quantum Simulation Study. Device Research Conference, IEEE Annual, 2007, , .	0.0	0
123	First principal simulation of CoSi<inf>2</inf>/Si and NiSi<inf>2</inf>/Si contacts. , 2009, , .		0
124	Atomistic simulation of graphene nanoribbon tunneling transistors. , 2010, , .		0
125	On pseudomagnetoresistance in graphene junctions. Journal of Computational Electronics, 2013, 12, 165-169.	2.5	0
126	Electrothermal simulation of single-walled carbon nanotube (SWCNT)-based phase change memory for 3-DICs. , 2015, , .		0

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127	On Image Charge Induced Barrier Lowering in Grapheneâ€“Semiconductor Contacts. IEEE Nanotechnology Magazine, 2018, 17, 320-324.	2.0	0
128	A Folding Approach for Multiple Antenna Arrays Using Low-Resolution ADCs. IEEE Open Journal of the Communications Society, 2022, 3, 1206-1221.	6.9	0