Wenchao Chen

List of Publications by Year
in descending order

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Version: 2024-02-01

		471509	206112
57	2,989	17	48
papers	citations	h-index	g-index

57	57	57	5772
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Atomically thin pâ€“n junctions with van der Waals heterointerfaces. Nature Nanotechnology, 2014, 9, 676-681.	31.5	1,953
2	18.5% efficient graphene/GaAs van der Waals heterostructure solar cell. Nano Energy, 2015, 16, 310-319.	16.0	180
3	Observation of ballistic avalanche phenomena in nanoscale vertical InSe/BP heterostructures. Nature Nanotechnology, 2019, 14, 217-222.	31.5	153
4	Tuning of the Contact Properties for High-Efficiency Si/PEDOT:PSS Heterojunction Solar Cells. ACS Energy Letters, 2017, 2, 556-562.	17.4	75
5	Highly efficient graphene-on-gap modulator by employing the hybrid plasmonic effect. Optics Letters, 2017, 42, 1736.	3.3	44
6	Electrothermal Characterization of Single-Walled Carbon Nanotube (SWCNT) Interconnect Arrays. IEEE Nanotechnology Magazine, 2009, 8, 718-728.	2.0	43
7	Tunable THz Multiband Frequency-Selective Surface Based on Hybrid Metalâ€“Graphene Structures. IEEE Nanotechnology Magazine, 2017, 16, 1132-1137.	2.0	41
8	Wideband Modeling of Graphene-Based Structures at Different Temperatures Using Hybrid FDTD Method. IEEE Nanotechnology Magazine, 2015, 14, 250-258.	2.0	30
9	Electrothermal Cosimulation of 3-D Carbon-Based Heterogeneous Interconnects. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2016, 6, 518-526.	2.5	30
10	Fully Coupled Multiphysics Simulation of Crosstalk Effect in Bipolar Resistive Random Access Memory. IEEE Transactions on Electron Devices, 2017, 64, 3647-3653.	3.0	29
11	Electrothermal Characterization in 3-D Resistive Random Access Memory Arrays. IEEE Transactions on Electron Devices, 2016, 63, 4720-4728.	3.0	28
12	Electrothermal Effects on Hot-Carrier Reliability in SOI MOSFETsâ€”AC Versus Circuit-Speed Random Stress. IEEE Transactions on Electron Devices, 2016, 63, 3669-3676.	3.0	24
13	Optical Kerr effect and third harmonic generation in topological Dirac/Weyl semimetal. Optics Express, 2019, 27, 38270.	3.4	24
14	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
15	Study on High-Density Integration Resistive Random Access Memory Array From Multiphysics Perspective by Parallel Computing. IEEE Transactions on Electron Devices, 2019, 66, 1747-1753.	3.0	21
16	Electrothermal Effects on Hot Carrier Injection in n-Type SOI FinFET Under Circuit-Speed Bias. IEEE Transactions on Electron Devices, 2017, 64, 3802-3807.	3.0	18
17	Broadband Janus Scattering from Tilted Dipolar Metagratings. Laser and Photonics Reviews, 2022, 16, .	8.7	18
18	Effect of Nanoâ€Porosity on High Gain Permeable Metalâ€Base Transistors. Advanced Functional Materials, 2014, 24, 6056-6065.	14.9	17

#	Article	IF	Citations
19	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
20	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
21	Modeling and simulation of graphene-gated graphene-GaAs Schottky junction field-effect solar cell for its performance enhancement. IEEE Transactions on Electron Devices, 2015, 62, 3760-3766.	3.0	15
22	Computational study of graphene-based vertical field effect transistor. Journal of Applied Physics, 2013, 113, 094507.	2.5	13
23	Intrinsic delay of permeable base transistor. Journal of Applied Physics, 2014, 116, .	2.5	13
24	Scaling Analysis of High Gain Monolayer MoS₂Photodetector for Its Performance Optimization. IEEE Transactions on Electron Devices, 2016, 63, 1608-1614.	3.0	12
25	Massively Parallel Electromagneticâ€“Thermal Cosimulation of Large Antenna Arrays. IEEE Antennas and Wireless Propagation Letters, 2020, 19, 1551-1555.	4.0	12
26	Electricalâ€“Thermal Cosimulation of Coaxial TSVs With Temperature-Dependent MOS Effect Using Equivalent Circuit Models. IEEE Transactions on Electromagnetic Compatibility, 2020, 62, 2247-2256.	2.2	12
27	Modeling and simulation of carbon nanotube-semiconductor heterojunction vertical field effect transistors. Journal of Applied Physics, 2013, 113, .	2.5	11
28	Fully Coupled Electrothermal Simulation of Large RRAM Arrays in the â€œThermal-Houseâ€• IEEE Access, 2019, 7, 3897-3908.	4.2	11
29	Modeling and Simulation of Resistive Random Access Memory With Graphene Electrode. IEEE Transactions on Electron Devices, 2020, 67, 915-921.	3.0	11
30	Performance analysis of carbon nanotube contacted phase change memory by finite element method. Journal of Applied Physics, 2011, 110, .	2.5	10
31	Design Considerations for Si- and Ge-Stacked Nanosheet pMOSFETs Based on Quantum Transport Simulations. IEEE Transactions on Electron Devices, 2020, 67, 26-32.	3.0	10
32	An Improved Algorithm for Drift Diffusion Transport and Its Application on Large Scale Parallel Simulation of Resistive Random Access Memory Arrays. IEEE Access, 2019, 7, 31273-31285.	4.2	9
33	An Active Absorber Based on Nonvolatile Floating-Gate Graphene Structure. IEEE Nanotechnology Magazine, 2017, 16, 189-195.	2.0	8
34	Parallel Simulation of Fully Coupled Electrothermal Processes in Large-Scale Phase-Change Memory Arrays. IEEE Transactions on Electron Devices, 2019, 66, 5117-5125.	3.0	8
35	Quantum Transport Study of Si Ultrathin-Body Double-Gate pMOSFETs: <inline-formula> <tex-math notation="LaTeX">${I}$ </tex-math> </inline-formula>â€“<inline-formula> <tex-math notation="LaTeX">${V}$ </tex-math> </inline-formula>, <inline-formula> <tex-math notation="LaTeX">${C}$ </tex-math> </inline-formula>â€“<inline-f. IEEE Transactions on Electron Devices, 2019, 66, 655-663.	3.0	7
36	Terahertz frequency selective surface based on metalâ€graphene structure with independent frequency tuneability. IET Microwaves, Antennas and Propagation, 2019, 13, 911-916.	1.4	6

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37	Magnetic Metamirrors as Spatial Frequency Filters. IEEE Transactions on Antennas and Propagation, 2020, 68, 5505-5511.	5.1	6
38	Diffusion Barrier Prediction of Graphene and Boron Nitride for Copper Interconnects by Deep Learning. IEEE Access, 2020, 8, 210542-210549.	4.2	5
39	An Artificial Neural Network Model for Electro-Thermal Effect Affected Hot Carrier Injection Reliability in 14-nm FinFETs. IEEE Transactions on Microwave Theory and Techniques, 2022, 70, 4827-4834.	4.6	5
40	A Hybrid Streamline Upwind Finite Volume-Finite Element Method for Semiconductor Continuity Equations. IEEE Transactions on Electron Devices, 2021, 68, 5421-5429.	3.0	4
41	Carrier Dynamics of Nanopillar Textured Ultrathin Si Film/PEDOT:PSS Heterojunction Solar Cell. IEEE Journal of Photovoltaics, 2018, 8, 757-762.	2.5	3
42	Recent progress of nano-electromagnetic compatibility (nano-EMC) in the emerging carbon nanoelectronics. IEEE Electromagnetic Compatibility Magazine, 2018, 7, 71-81.	0.1	3
43	Fully coupled electrothermal simulation of resistive random access memory (RRAM) array. Science China Information Sciences, 2020, 63, 1.	4.3	3
44	Multiphysics Computation for Resistive Random Access Memories With Different Metal Oxides. IEEE Transactions on Electron Devices, 2022, 69, 133-140.	3.0	3
45	Hexahedron-Based Control Volume Finite Element Method for Fully Coupled Nonlinear Drift-Diffusion Transport Equations in Semiconductor Devices. IEEE Transactions on Microwave Theory and Techniques, 2022, 70, 2965-2978.	4.6	3
46	First-principles investigation of copper diffusion barrier performance in defective 2D layered materials*. Nanotechnology, 2022, 33, 165201.	2.6	2
47	Electrothermal characterization of SOI FinFETs. , 2016, , .		1
48	Modeling and simulation of Si/PEDOT:PSS planar heterojunction photovoltaics by finite element method. , 2017, , .		1
49	Multiphysics Modeling and Simulation of Carrier Dynamics and Thermal Transport in Monolayer MoS2/WSe2 Heterojunction. IEEE Transactions on Electron Devices, 2018, 65, 4542-4547.	3.0	1
50	Rigorous Modeling and Investigation of Low-Field Hole Mobility in Silicon and Germanium Gate-All-Around Nanosheet Transistors. IEEE Transactions on Electron Devices, 2022, 69, 4777-4785.	3.0	1
51	Modelling of multilayer graphene (MLG)-based structures at different temperatures. , 2015, , .		0
52	Multiphysics modeling and simulation of ultra-thin channel Germanium on insulator (GeOI) MOSFETs. , 2017, , .		0
53	An improved multifilamentary conduction model for multiphysics analysis of reset process in resistive random access memory. AIP Advances, 2019, 9, 045310.	1.3	0
54	Electrothermal Study on Resistive Random Access Memory (RRAM) Arrays. , 2019, , .		0

#	Article	IF	Citations
55	Electrothermal Effects on Reliability of Vertical Resistive Random Access Memory Array by Parallel Computing. , 2019, , .		0
56	Electrothermal Modeling and Simulation of Resistive Random Access Memory (RRAM) with Different Resistive Switching Oxides. , 2020, , .		0
57	A Physics-based Compact Model for Set Process of Resistive Random Access Memory (RRAM) with Graphene Electrode. , 2022, , .		0