

Lang Zeng

List of Publications by Year in descending order

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82
papers

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citations

471061

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83
all docs

83
docs citations

83
times ranked

1730
citing authors

#	ARTICLE	IF	CITATIONS
1	A Physics-Based Compact Model of Metal-Oxide-Based RRAM DC and AC Operations. IEEE Transactions on Electron Devices, 2013, 60, 4090-4097.	1.6	169
2	RRAM Crossbar Array With Cell Selection Device: A Device and Circuit Interaction Study. IEEE Transactions on Electron Devices, 2013, 60, 719-726.	1.6	155
3	Ionic doping effect in ZrO ₂ resistive switching memory. Applied Physics Letters, 2010, 96, .	1.5	154
4	Origin of interfacial perpendicular magnetic anisotropy in MgO/CoFe/metallic capping layer structures. Scientific Reports, 2015, 5, 18173.	1.6	120
5	All Spin Artificial Neural Networks Based on Compound Spintronic Synapse and Neuron. IEEE Transactions on Biomedical Circuits and Systems, 2016, 10, 828-836.	2.7	84
6	Remote phonon and impurity screening effect of substrate and gate dielectric on electron dynamics in single layer MoS ₂ . Applied Physics Letters, 2013, 103, .	1.5	56
7	A Novel MTJ-Based Non-Volatile Ternary Content-Addressable Memory for High-Speed, Low-Power, and High-Reliable Search Operation. IEEE Transactions on Circuits and Systems I: Regular Papers, 2019, 66, 1454-1464.	3.5	35
8	Spin wave propagation in perpendicularly magnetized nm-thick yttrium iron garnet films. Journal of Magnetism and Magnetic Materials, 2018, 450, 3-6.	1.0	32
9	Large influence of capping layers on tunnel magnetoresistance in magnetic tunnel junctions. Applied Physics Letters, 2016, 109, .	1.5	26
10	Analysis of the Voltage-Time Dilemma of Metal Oxide-Based RRAM and Solution Exploration of High Speed and Low Voltage AC Switching. IEEE Nanotechnology Magazine, 2014, 13, 1127-1132.	1.1	24
11	Physically Based Evaluation of Electron Mobility in Ultrathin-Body Double-Gate Junctionless Transistors. IEEE Electron Device Letters, 2014, 35, 817-819.	2.2	24
12	Impact of Line-Edge Roughness on Double-Gate Schottky-Barrier Field-Effect Transistors. IEEE Transactions on Electron Devices, 2009, 56, 1211-1219.	1.6	22
13	Mixed-Mode Analysis of Different Mode Silicon Nanowire Transistors-Based Inverter. IEEE Nanotechnology Magazine, 2014, 13, 362-367.	1.1	22
14	Experimental investigation of self heating effect (SHE) in multiple-fin SOI FinFETs. Semiconductor Science and Technology, 2014, 29, 115021.	1.0	20
15	Design of Magnetic Non-Volatile TCAM With Priority-Decision in Memory Technology for High Speed, Low Power, and High Reliability. IEEE Transactions on Circuits and Systems I: Regular Papers, 2020, 67, 464-474.	3.5	20
16	Reliability-Enhanced Separated Pre-Charge Sensing Amplifier for Hybrid CMOS/MTJ Logic Circuits. IEEE Transactions on Magnetics, 2017, 53, 1-5.	1.2	19
17	Reliability-Enhanced Hybrid CMOS/MTJ Logic Circuit Architecture. IEEE Transactions on Magnetics, 2017, 53, 1-5.	1.2	18
18	Effects of Ionic Doping on the Behaviors of Oxygen Vacancies in HfO ₂ and ZrO ₂ : A First Principles Study. , 2009, , .		17

#	ARTICLE	IF	CITATIONS
19	Phonon-Limited Electron Mobility in Single-Layer MoS ₂ . Chinese Physics Letters, 2014, 31, 027301.	1.3	17
20	A Computational Study of Dopant-Segregated Schottky Barrier MOSFETs. IEEE Nanotechnology Magazine, 2010, 9, 108-113.	1.1	16
21	Investigation of Hole Mobility in Strained InSb Ultrathin Body pMOSFETs. IEEE Transactions on Electron Devices, 2015, 62, 947-954.	1.6	15
22	Self-Adaptive Write Circuit for Magnetic Tunneling Junction Memory With Voltage-Controlled Magnetic Anisotropy Effect. IEEE Nanotechnology Magazine, 2018, 17, 492-499.	1.1	15
23	Magnetic Nonvolatile SRAM Based on Voltage-Gated Spin-Orbit-Torque Magnetic Tunnel Junctions. IEEE Transactions on Electron Devices, 2020, 67, 1965-1971.	1.6	15
24	Defects Induced Charge Trapping/Detrapping and Hysteresis Phenomenon in MoS ₂ Field-Effect Transistors: Mechanism Revealed by Anharmonic Marcus Charge Transfer Theory. ACS Applied Materials & Interfaces, 2022, 14, 2185-2193.	4.0	15
25	Path to Wigner localization in circular quantum dots. Physical Review B, 2009, 79, .	1.1	14
26	High-Speed, Low-Power, and Error-Free Asynchronous Write Circuit for STT-MRAM and Logic. IEEE Transactions on Magnetics, 2016, 52, 1-4.	1.2	14
27	Energy-efficient neuromorphic computation based on compound spin synapse with stochastic learning. , 2015, , .		13
28	Gate-Induced Image Force Barrier Lowering in Schottky Barrier FETs. IEEE Nanotechnology Magazine, 2009, 8, 10-15.	1.1	12
29	Hole mobility in InSb-based devices: Dependence on surface orientation, body thickness, and strain. Solid-State Electronics, 2015, 113, 68-72.	0.8	12
30	Low rank approximation method for efficient Green's function calculation of dissipative quantum transport. Journal of Applied Physics, 2013, 113, 213707.	1.1	11
31	Magic-angle magnonic nanocavity in a magnetic moiré superlattice. Physical Review B, 2022, 105, .	1.1	11
32	Metal-Gate/High- κ /Ge nMOS at Small CET With Higher Mobility Than SiO_2/Si at Wide Range Carrier Densities. IEEE Electron Device Letters, 2013, 34, 163-165.	2.2	10
33	Negative Capacitance Enhanced All Spin Logic Devices With an Ultra-Low 1 mV Working Voltage. IEEE Journal of the Electron Devices Society, 2018, 6, 245-249.	1.2	9
34	Robust phase shift keying modulation method for spin torque nano-oscillator. Nanotechnology, 2020, 31, 375205.	1.3	8
35	Fully Single Event Double Node Upset Tolerant Design for Magnetic Random Access Memory. , 2021, , .		7
36	Impact of random discrete dopant in extension induced fluctuation in gate-source/drain underlap FinFET. Japanese Journal of Applied Physics, 2014, 53, 04EC05.	0.8	6

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37	Impact of Random Interface Traps and Random Dopants in High- κ /Metal Gate Junctionless FETs. IEEE Nanotechnology Magazine, 2014, 13, 584-588.	1.1	6
38	Novel Magnetic Tunneling Junction Memory Cell With Negative Capacitance-Amplified Voltage-Controlled Magnetic Anisotropy Effect. IEEE Transactions on Electron Devices, 2017, 64, 4919-4927.	1.6	6
39	Time Division Multiplexing Ising Computer Using Single Tunable True Random Number Generator Based on Spin Torque Nano-Oscillator. , 2021, , .		6
40	Evaluation of Mobility in Graphene Nanoribbons Including Line Edge Roughness Scattering. , 2009, , .		4
41	Variability Induced by Line Edge Roughness in Double-Gate Dopant-Segregated Schottky MOSFETs. IEEE Nanotechnology Magazine, 2011, 10, 244-249.	1.1	4
42	Strain effects on monolayer MoS ₂ field effect transistors. Japanese Journal of Applied Physics, 2015, 54, 04DC17.	0.8	4
43	Performance Evaluation and Optimization of Single Layer MoS ₂ Double Gate Transistors With Schottky Barrier Contacts. IEEE Transactions on Electron Devices, 2017, 64, 2999-3006.	1.6	4
44	High speed low power all spin logic devices assisted by negative capacitance amplified voltage controlled magnetic anisotropy effect. , 2017, , .		4
45	Compact modeling of high spin transfer torque efficiency double-barrier magnetic tunnel junction. , 2017, , .		4
46	Phase-Locking of Spin-Torque Nano-Oscillator Pairs by Magnetic Dipolar Coupling in Electrical Serial Connection. Spin, 2018, 08, 1850013.	0.6	4
47	Compact Model for Negative Capacitance Enhanced Spintronics Devices. IEEE Transactions on Electron Devices, 2019, 66, 2795-2801.	1.6	4
48	Impact of Gate Overlap on Performance of Schottky Barrier Metal-Oxide-Semiconductor Field-Effect Transistors Including Gate Induced Barrier Lowering Effect. Japanese Journal of Applied Physics, 2008, 47, 2660-2663.	0.8	3
49	Calculation of the valence band structure in strained In _{0.7} Ga _{0.3} As devices with different surface orientation. , 2013, , .		3
50	Low power all spin logic device with voltage controlled magnetic anisotropy. , 2016, , .		3
51	A Novel 15T-4MTJ based Non-volatile Ternary Content-Addressable Memory Cell for High-Speed, Low-Power and High-Reliable Search Operation. , 2018, , .		3
52	Realization of mutual synchronization of spin torque nano-oscillators under room temperature by noise reduction technique. Applied Physics Letters, 2020, 117, .	1.5	3
53	Impact of gate misalignment on the performance of dopant-segregated Schottky Barrier MOSFETs. , 2008, , .		2
54	Strain affected electronic properties of bilayer tungsten disulfide. Japanese Journal of Applied Physics, 2014, 53, 04EN06.	0.8	2

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55	An adaptive grid algorithm for self-consistent κ -Schrodinger and Poisson equations in UTB InSb-based pMOSFETs. , 2014, , .		2
56	Hole mobility enhancements in strained In _x Ga _{1-x} Sb heterostructure p-channel MOSFETs. Japanese Journal of Applied Physics, 2015, 54, 04DF08.	0.8	2
57	Spin wave based synapse and neuron for ultra low power neuromorphic computation system. , 2016, , .		2
58	Hardware Acceleration Implementation of Sparse Coding Algorithm with Spintronic Devices. , 2018, , .		2
59	Noise reduction of spin torque oscillator by phase-locked loop with combinational frequency tuning method. Applied Physics Letters, 2020, 117, 072407.	1.5	2
60	Proposal of High Density Two-Bits-Cell Based NAND-Like Magnetic Random Access Memory. IEEE Transactions on Circuits and Systems II: Express Briefs, 2021, 68, 1665-1669.	2.2	2
61	Hysteretic mutual phase-locking of perpendicular-to-plane polarizer spin-torque nano-oscillator pairs analyzed by a generalized pendulum-like model. Journal of Applied Physics, 2021, 130, .	1.1	2
62	Influence of gate-source/drain misalignment on the performance of bulk FinFETs by a 3D full band Monte Carlo simulation. Journal of Semiconductors, 2013, 34, 044005.	2.0	1
63	Strain effects on valence band structure of In _{0.7} Ga _{0.3} As: From bulk to thin film. , 2013, , .		1
64	Hole mobility in InSb-based devices: Dependency on surface orientation, body thickness and strain. , 2014, , .		1
65	Realization of neural coding by stochastic switching of magnetic tunnel junction. , 2015, , .		1
66	Accelerated 3D full band self-consistent ensemble Monte Carlo device simulation utilizing intel MIC co-processors on tianhe II. , 2015, , .		1
67	Channel Modeling and Reliability Enhancement Design Techniques for STT-MRAM. , 2015, , .		1
68	Proposal for novel magnetic memory device with spin momentum locking materials. , 2017, , .		1
69	Reconfigurable Logic based on Voltage-Controlled Magnetic Tunnel Junction (VC-MTJ) for Stochastic Computing. , 2018, , .		1
70	Stability Analysis of Spin-Torque Nano-oscillator in the Rotating Frame. Spin, 2019, 09, .	0.6	1
71	Low-Power, High-Speed and High-Density Magnetic Non-Volatile SRAM Design with Voltage-Gated Spin-Orbit Torque. , 2019, , .		1
72	Time-Division Multiplexing Ising Computer Using Single Stochastic Magnetic Tunneling Junction. IEEE Transactions on Electron Devices, 2022, 69, 4700-4707.	1.6	1

#	ARTICLE	IF	CITATIONS
73	On the effect of scattering in Schottky Barrier MOSFETs. , 2008, , .		0
74	A Monte Carlo Study of Ambipolar Schottky Barrier MOSFETs. , 2009, , .		0
75	Performance investigation on the reconfigurable Si nanowire schottky barrier transistors. , 2012, , .		0
76	Three dimensional electro-thermal coupled Monte Carlo device simulation. , 2014, , .		0
77	Electronic structures of strained MoS ₂ nanoribbons. , 2014, , .		0
78	Performance evaluation and optimization of single layer MoS ₂ double gate transistors with metallic contacts. , 2016, , .		0
79	Frequency modulation of spin torque nano oscillator with voltage controlled magnetic anisotropy effect. , 2017, , .		0
80	Ultrafast spintronic integrated circuits. , 2017, , .		0
81	Modulation and Demodulation of Digital Frequency Shift Keying System Based on Spin Torque Nano Oscillator with Voltage Controlled Magnetic Anisotropy Effect. , 2019, , .		0
82	Robust Mobility Enhancement and Comprehensive Reliability Evaluation for Amorphous InGaZnO TFT by Double Layers With Quantum Well Structures. IEEE Transactions on Electron Devices, 2022, 69, 1876-1882.	1.6	0