

Hua-Qiang Wu

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/1609636/publications.pdf>

Version: 2024-02-01

262
papers

14,195
citations

38742

50
h-index

24982

109
g-index

269
all docs

269
docs citations

269
times ranked

9429
citing authors

#	ARTICLE	IF	CITATIONS
1	A Memristors-Based Dendritic Neuron for High-Efficiency Spatial-Temporal Information Processing. <i>Advanced Materials</i> , 2023, 35, .	21.0	18
2	Application of mathematical morphology operation with memristor-based computation-in-memory architecture for detecting manufacturing defects. <i>Fundamental Research</i> , 2022, 2, 123-130.	3.3	5
3	Memristor-based signal processing for edge computing. <i>Tsinghua Science and Technology</i> , 2022, 27, 455-471.	6.1	24
4	Memristive Behaviors Dominated by Reversible Nucleation Dynamics of Phase-Change Nanoclusters. <i>Small</i> , 2022, , 2105070.	10.0	3
5	A Unified PUF and TRNG Design Based on 40-nm RRAM With High Entropy and Robustness for IoT Security. <i>IEEE Transactions on Electron Devices</i> , 2022, 69, 536-542.	3.0	26
6	Trends and challenges in the circuit and macro of RRAM-based computing-in-memory systems. , 2022, 1, 100004.		12
7	Rotating neurons for all-analog implementation of cyclic reservoir computing. <i>Nature Communications</i> , 2022, 13, 1549.	12.8	44
8	Investigation of Resistive Switching Mechanisms in Ti/TiO _x /Pd-Based RRAM Devices. <i>Advanced Electronic Materials</i> , 2022, 8, .	5.1	12
9	Flexible Threshold Switching Selectors with Ultrahigh Endurance Based on Halide Perovskites. <i>Advanced Electronic Materials</i> , 2022, 8, .	5.1	7
10	Memristor-based analogue computing for brain-inspired sound localization with in situ training. <i>Nature Communications</i> , 2022, 13, 2026.	12.8	42
11	Toward memristive in-memory computing: principles and applications. <i>Frontiers of Optoelectronics</i> , 2022, 15, .	3.7	17
12	The Impact of Thermal Enhance Layers on the Relaxation Effect in Analog RRAM. <i>IEEE Transactions on Electron Devices</i> , 2022, 69, 4254-4258.	3.0	10
13	Pt/TiO _x /Ti-based Dynamic Optoelectronic Memristor for Neuromorphic Computing. , 2022, , .		2
14	Effects of Gate Metal Work Function and Line Edge Roughness on the Variability of Junctionless Field-Effect Transistor. , 2022, , .		0
15	Real-Time-Scale 3D Kinetic Monte Carlo Simulation for Hafnium Oxide Based RRAM in 1T1R Cell. , 2022, , .		0
16	Concealable physically unclonable function chip with a memristor array. <i>Science Advances</i> , 2022, 8, .	10.3	27
17	Reconfigurable heterogeneous integration using stackable chips with embedded artificial intelligence. <i>Nature Electronics</i> , 2022, 5, 386-393.	26.0	57
18	In-memory Learning with Analog Resistive Switching Memory: A Review and Perspective. <i>Proceedings of the IEEE</i> , 2021, 109, 14-42.	21.3	96

#	ARTICLE	IF	CITATIONS
19	Electrically Reconfigurable 3D Spin-Orbitronics. <i>Advanced Functional Materials</i> , 2021, 31, 2007485.	14.9	16
20	Diagonal Matrix Regression Layer: Training Neural Networks on Resistive Crossbars With Interconnect Resistance Effect. <i>IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems</i> , 2021, 40, 1662-1671.	2.7	15
21	Artificial intelligence accelerated by light. <i>Nature</i> , 2021, 589, 25-26.	27.8	25
22	Preface to the Special Issue on Beyond Moore: Resistive Switching Devices for Emerging Memory and Neuromorphic Computing. <i>Journal of Semiconductors</i> , 2021, 42, 010101.	3.7	5
23	Ratio-based multi-level resistive memory cells. <i>Scientific Reports</i> , 2021, 11, 1351.	3.3	7
24	Dynamic memristor-based reservoir computing for high-efficiency temporal signal processing. <i>Nature Communications</i> , 2021, 12, 408.	12.8	231
25	An On-chip Layer-wise Training Method for RRAM based Computing-in-memory Chips. , 2021, , .		5
26	Preface to the Special Issue on Beyond Moore: Three-Dimensional (3D) Heterogeneous Integration. <i>Journal of Semiconductors</i> , 2021, 42, 020101.	3.7	2
27	Observation of the antiferromagnetic spin Hall effect. <i>Nature Materials</i> , 2021, 20, 800-804.	27.5	113
28	Vertical TSV-Like Diode ESD Protection. , 2021, , .		2
29	Array-level boosting method with spatial extended allocation to improve the accuracy of memristor based computing-in-memory chips. <i>Science China Information Sciences</i> , 2021, 64, 1.	4.3	13
30	Identifying relaxation and random telegraph noises in filamentary analog RRAM for neuromorphic computing. , 2021, , .		3
31	Artificial Neuron with Spike Frequency Adaptation Based on Mott Memristor. , 2021, , .		3
32	Neuronal Firing Characteristics in the NbO ₂ based Mott Memristor. , 2021, , .		1
33	Large-scale neuromorphic optoelectronic computing with a reconfigurable diffractive processing unit. <i>Nature Photonics</i> , 2021, 15, 367-373.	31.4	266
34	Recent progress of integrated circuits and optoelectronic chips. <i>Science China Information Sciences</i> , 2021, 64, 1.	4.3	56
35	Nonvolatile magnetic half adder combined with memory writing. <i>Applied Physics Letters</i> , 2021, 118, .	3.3	2
36	A Highly Reliable RRAM Physically Unclonable Function Utilizing Post-Process Randomness Source. <i>IEEE Journal of Solid-State Circuits</i> , 2021, 56, 1641-1650.	5.4	32

#	ARTICLE	IF	CITATIONS
37	Oscillation neuron based on a low-variability threshold switching device for high-performance neuromorphic computing. <i>Journal of Semiconductors</i> , 2021, 42, 064101.	3.7	8
38	Compact Reliability Model of Analog RRAM for Computation-in-Memory Device-to-System Codesign and Benchmark. <i>IEEE Transactions on Electron Devices</i> , 2021, 68, 2686-2692.	3.0	9
39	Analog memristive synapse based on topotactic phase transition for high-performance neuromorphic computing and neural network pruning. <i>Science Advances</i> , 2021, 7, .	10.3	63
40	Crossbar-Level Retention Characterization in Analog RRAM Array-Based Computation-in-Memory System. <i>IEEE Transactions on Electron Devices</i> , 2021, 68, 3813-3818.	3.0	8
41	Cryogenic HfO ₂ -Based Resistive Memory With a Thermal Enhancement Capping Layer. <i>IEEE Electron Device Letters</i> , 2021, 42, 1276-1279.	3.9	12
42	Oxide-based filamentary RRAM for deep learning. <i>Journal Physics D: Applied Physics</i> , 2021, 54, 083002.	2.8	20
43	Amplitude and frequency modulation based on memristor-controlled spin nano-oscillators. <i>Nanotechnology</i> , 2020, 31, 045202.	2.6	2
44	An Improved RRAM-Based Binarized Neural Network With High Variation-Tolerated Forward/Backward Propagation Module. <i>IEEE Transactions on Electron Devices</i> , 2020, 67, 469-473.	3.0	14
45	Reliability of analog resistive switching memory for neuromorphic computing. <i>Applied Physics Reviews</i> , 2020, 7, .	11.3	199
46	High-Uniformity Threshold Switching HfO ₂ -Based Selectors with Patterned Ag Nanodots. <i>Advanced Science</i> , 2020, 7, 2002251.	11.2	43
47	Multichannel parallel processing of neural signals in memristor arrays. <i>Science Advances</i> , 2020, 6, .	10.3	36
48	Neuro-inspired computing chips. <i>Nature Electronics</i> , 2020, 3, 371-382.	26.0	402
49	Atomic threshold-switching enabled MoS ₂ transistors towards ultralow-power electronics. <i>Nature Communications</i> , 2020, 11, 6207.	12.8	52
50	Triple-Cation Perovskite Resistive Switching Memory with Enhanced Endurance and Retention. <i>ACS Applied Electronic Materials</i> , 2020, 2, 3695-3703.	4.3	18
51	A Novel Bi-functional Memory-PUF Module Utilizing Adjustable Switching Window of RRAM. , 2020, , .		4
52	In-Hole Diodes for on-Chip Thermal Sensing. , 2020, , .		1
53	Thermal generation, manipulation and thermoelectric detection of skyrmions. <i>Nature Electronics</i> , 2020, 3, 672-679.	26.0	86
54	A Unified Memory and Hardware Security Module Based on the Adjustable Switching Window of Resistive Memory. <i>IEEE Journal of the Electron Devices Society</i> , 2020, 8, 1257-1265.	2.1	5

#	ARTICLE	IF	CITATIONS
55	Neural signal analysis with memristor arrays towards high-efficiency brain-machine interfaces. Nature Communications, 2020, 11, 4234.	12.8	82
56	Dipole-induced modulation of effective work function of metal gate in junctionless FETs. AIP Advances, 2020, 10, .	1.3	4
57	Current-Induced In-Plane Magnetization Switching in a Biaxial Ferrimagnetic Insulator. Physical Review Applied, 2020, 13, .	3.8	14
58	A Novel Capacitor-based Stateful Logic Operation Scheme for In-memory Computing in 1T1R RRAM Array. , 2020, , .		4
59	Impact and Quantization of Short-Term Relaxation effect in Analog RRAM. , 2020, , .		5
60	Alloying conducting channels for reliable neuromorphic computing. Nature Nanotechnology, 2020, 15, 574-579.	31.5	160
61	Parasitic Resistance Effect Analysis in RRAM-based TCAM for Memory Augmented Neural Networks. , 2020, , .		6
62	A Compact Model of Analog RRAM With Device and Array Nonideal Effects for Neuromorphic Systems. IEEE Transactions on Electron Devices, 2020, 67, 1593-1599.	3.0	29
63	RRAM-based coprocessors for deep learning. , 2020, , 363-395.		1
64	Power-efficient neural network with artificial dendrites. Nature Nanotechnology, 2020, 15, 776-782.	31.5	141
65	A RRAM-based Data Hiding Technique Utilizing the Impact of Form Condition on SET Performance. , 2020, , .		1
66	Quantitative, Dynamic TaO _x Memristor/Resistive Random Access Memory Model. ACS Applied Electronic Materials, 2020, 2, 701-709.	4.3	38
67	A Self-Terminated Operation Scheme for High-Parallel and Energy-Efficient Forming of RRAM Array. Advanced Electronic Materials, 2020, 6, 1901324.	5.1	5
68	Artificial Synapse Based on van der Waals Heterostructures with Tunable Synaptic Functions for Neuromorphic Computing. ACS Applied Materials & Interfaces, 2020, 12, 11945-11954.	8.0	75
69	Resistive switching materials for information processing. Nature Reviews Materials, 2020, 5, 173-195.	48.7	668
70	Memory materials and devices: From concept to application. Informa Mater, 2020, 2, 261-290.	17.3	181
71	Fully hardware-implemented memristor convolutional neural network. Nature, 2020, 577, 641-646.	27.8	1,198
72	Neurohybrid Memristive CMOS-Integrated Systems for Biosensors and Neuroprosthetics. Frontiers in Neuroscience, 2020, 14, 358.	2.8	143

#	ARTICLE	IF	CITATIONS
73	33.1 A 74 TMACS/W CMOS-RRAM Neurosynaptic Core with Dynamically Reconfigurable Dataflow and In-situ Transposable Weights for Probabilistic Graphical Models. , 2020, , .		85
74	A Parallel Multibit Programming Scheme With High Precision for RRAM-Based Neuromorphic Systems. IEEE Transactions on Electron Devices, 2020, 67, 2213-2217.	3.0	34
75	33.2 A Fully Integrated Analog ReRAM Based 78.4TOPS/W Compute-In-Memory Chip with Fully Parallel MAC Computing. , 2020, , .		121
76	A Voltage-Mode Sensing Scheme with Differential-Row Weight Mapping for Energy-Efficient RRAM-Based In-Memory Computing. , 2020, , .		21
77	Residual D ² NN: training diffractive deep neural networks via learnable light shortcuts. Optics Letters, 2020, 45, 2688.	3.3	53
78	In situ optical backpropagation training of diffractive optical neural networks. Photonics Research, 2020, 8, 940.	7.0	95
79	Neural Spike Detection Based on 1T1R Memristor. , 2020, , .		0
80	A High-performance and Calibration-free True Random Number Generator Based on the Resistance Perturbation in RRAM Array. , 2020, , .		5
81	Atomic-Device Hybrid Modeling of Relaxation Effect in Analog RRAM for Neuromorphic Computing. , 2020, , .		7
82	In situ optical backpropagation training of diffractive optical neural networks: publisher's note. Photonics Research, 2020, 8, 1323.	7.0	2
83	Optical backpropagation training method and its applications. , 2020, , .		1
84	On-Chip Analog Trojan Detection Framework for Microprocessor Trustworthiness. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2019, 38, 1820-1830.	2.7	15
85	Unsupervised Learning on Resistive Memory Array Based Spiking Neural Networks. Frontiers in Neuroscience, 2019, 13, 812.	2.8	50
86	Stateful Logic Operations in One-Transistor-One- Resistor Resistive Random Access Memory Array. IEEE Electron Device Letters, 2019, 40, 1538-1541.	3.9	41
87	Low-Voltage Oscillatory Neurons for Memristor-Based Neuromorphic Systems. Global Challenges, 2019, 3, 1900015.	3.6	35
88	Understanding memristive switching via in situ characterization and device modeling. Nature Communications, 2019, 10, 3453.	12.8	275
89	Intelligent Computing with RRAM. , 2019, , .		2
90	Monolithic integration of flexible lithium-ion battery on a plastic substrate by printing methods. Nano Research, 2019, 12, 2477-2484.	10.4	9

#	ARTICLE	IF	CITATIONS
91	Efficient Weight Mapping Scheme without Verification for RRAM Based Neuromorphic Computing. , 2019, , .		1
92	Towards artificial general intelligence with hybrid Tianjic chip architecture. Nature, 2019, 572, 106-111.	27.8	517
93	Synaptic silicon-nanocrystal phototransistors for neuromorphic computing. Nano Energy, 2019, 63, 103859.	16.0	107
94	Endurance and Retention Degradation of Intermediate Levels in Filamentary Analog RRAM. IEEE Journal of the Electron Devices Society, 2019, 7, 1239-1247.	2.1	20
95	Bridging Biological and Artificial Neural Networks with Emerging Neuromorphic Devices: Fundamentals, Progress, and Challenges. Advanced Materials, 2019, 31, e1902761.	21.0	418
96	The Impact of Interconnect Resistance on One-Selector One-Resistor (1S1R) Crossbar Array Performance. , 2019, , .		1
97	A Novel RRAM Based Watermark Technique Utilizing the Impact of Forming Conditions on Reset Distribution. , 2019, , .		2
98	Reliability Perspective on Neuromorphic Computing Based on Analog RRAM. , 2019, , .		10
99	Impacts of State Instability and Retention Failure of Filamentary Analog RRAM on the Performance of Deep Neural Network. IEEE Transactions on Electron Devices, 2019, 66, 4517-4522.	3.0	37
100	Impact of Switching Window on Endurance Degradation in Analog RRAM. , 2019, , .		2
101	In situ training of feed-forward and recurrent convolutional memristor networks. Nature Machine Intelligence, 2019, 1, 434-442.	16.0	201
102	Design Guidelines of RRAM based Neural-Processing-Unit. , 2019, , .		39
103	Analog-type Resistive Switching Devices for Neuromorphic Computing. Physica Status Solidi - Rapid Research Letters, 2019, 13, 1900204.	2.4	83
104	Threshold Switching Selectors: A Threshold Switching Selector Based on Highly Ordered Ag Nanodots for X-ray Point Memory Applications (Adv. Sci. 10/2019). Advanced Science, 2019, 6, 1970058.	11.2	4
105	Modulating metallic conductive filaments via bilayer oxides in resistive switching memory. Applied Physics Letters, 2019, 114, 193502.	3.3	37
106	Conductive metallic filaments dominate in hybrid perovskite-based memory devices. Science China Materials, 2019, 62, 1323-1331.	6.3	18
107	Memristors for Hardware Security Applications. Advanced Electronic Materials, 2019, 5, 1800872.	5.1	35
108	25.2 A Reconfigurable RRAM Physically Unclonable Function Utilizing Post-Process Randomness Source With $\sim 10^{-6}$ Native Bit Error Rate. , 2019, , .		27

#	ARTICLE	IF	CITATIONS
109	Associative Memory for Image Recovery with a High-Performance Memristor Array. <i>Advanced Functional Materials</i> , 2019, 29, 1900155.	14.9	50
110	A Threshold Switching Selector Based on Highly Ordered Ag Nanodots for X-Point Memory Applications. <i>Advanced Science</i> , 2019, 6, 1900024.	11.2	91
111	1T1R memristor: Real memristor found. <i>Journal of Applied Physics</i> , 2019, 125, 054504.	2.5	32
112	Bayesian Neural Network Realization by Exploiting Inherent Stochastic Characteristics of Analog RRAM. , 2019, , .		13
113	A High-Speed and High-Reliability TRNG Based on Analog RRAM for IoT Security Application. , 2019, , .		21
114	Circuit Design Challenges in Computing-in-Memory for AI Edge Devices. , 2019, , .		6
115	The Impact of Endurance Degradation in Analog RRAM for In-Situ Training. , 2019, , .		0
116	Optimization Strategy for Accelerating Multi-Bit Resistive Weight Programming on the RRAM Array. , 2019, , .		3
117	Performance-Enhancing Selector via Symmetrical Multilayer Design. <i>Advanced Functional Materials</i> , 2019, 29, 1808376.	14.9	56
118	Device and materials requirements for neuromorphic computing. <i>Journal Physics D: Applied Physics</i> , 2019, 52, 113001.	2.8	105
119	Three-Dimensional nand Flash for Vector-Matrix Multiplication. <i>IEEE Transactions on Very Large Scale Integration (VLSI) Systems</i> , 2019, 27, 988-991.	3.1	78
120	Recommended Methods to Study Resistive Switching Devices. <i>Advanced Electronic Materials</i> , 2019, 5, 1800143.	5.1	452
121	A Threshold Switching Selector Based on Highly Ordered Ag Nanodots for X-Point Memory Applications. , 2019, 6, 1900024.		1
122	Stitching video streams captured by multi-UAVs with stabilization. , 2019, , .		0
123	Competition between Metallic and Vacancy Defect Conductive Filaments in a $\text{CH}_3\text{NH}_3\text{PbI}_3$ -Based Memory Device. <i>Journal of Physical Chemistry C</i> , 2018, 122, 6431-6436.	3.1	115
124	Thermal Stability of HfO_x -Based Resistive Memory Array: A Temperature Coefficient Study. <i>IEEE Electron Device Letters</i> , 2018, 39, 192-195.	3.9	12
125	A drain leakage phenomenon in poly silicon channel 3D NAND flash caused by conductive paths along grain boundaries. <i>Microelectronic Engineering</i> , 2018, 192, 66-69.	2.4	22
126	An artificial nociceptor based on a diffusive memristor. <i>Nature Communications</i> , 2018, 9, 417.	12.8	295

#	ARTICLE	IF	CITATIONS
127	Threshold Switching: Threshold Switching of Ag or Cu in Dielectrics: Materials, Mechanism, and Applications (Adv. Funct. Mater. 6/2018). Advanced Functional Materials, 2018, 28, 1870036.	14.9	10
128	Fully memristive neural networks for pattern classification with unsupervised learning. Nature Electronics, 2018, 1, 137-145.	26.0	787
129	Multiplication on the edge. Nature Electronics, 2018, 1, 8-9.	26.0	16
130	Threshold Switching of Ag or Cu in Dielectrics: Materials, Mechanism, and Applications. Advanced Functional Materials, 2018, 28, 1704862.	14.9	239
131	Conduction mechanisms, dynamics and stability in ReRAMs. Microelectronic Engineering, 2018, 187-188, 121-133.	2.4	59
132	Demonstration of Generative Adversarial Network by Intrinsic Random Noises of Analog RRAM Devices. , 2018, , .		18
133	Characterizing Endurance Degradation of Incremental Switching in Analog RRAM for Neuromorphic Systems. , 2018, , .		44
134	A Novel Graphene Double-Balanced Passive Mixer. , 2018, , .		1
135	Building Towards "Invisible Cloak": Robust Physical Adversarial Attack on YOLO Object Detector. , 2018, , .		5
136	Impact of variations of threshold voltage and hold voltage of threshold switching selectors in 1S1R crossbar array. Chinese Physics B, 2018, 27, 118502.	1.4	5
137	Suppress variations of analog resistive memory for neuromorphic computing by localizing Vo formation. Journal of Applied Physics, 2018, 124, 152108.	2.5	19
138	A Methodology to Improve Linearity of Analog RRAM for Neuromorphic Computing. , 2018, , .		124
139	Novel In-Memory Matrix-Matrix Multiplication with Resistive Cross-Point Arrays. , 2018, , .		12
140	Sign backpropagation: An on-chip learning algorithm for analog RRAM neuromorphic computing systems. Neural Networks, 2018, 108, 217-223.	5.9	48
141	First-principles study on GeIn-x$/\text{Sn}$-x$/\text{Si}$ core-shell nanowire transistors. , 2018, , .		0
142	Enhanced performance of Ag-filament threshold switching selector by rapid thermal processing. , 2018, , .		5
143	Weighted Synapses Without Carry Operations for RRAM-Based Neuromorphic Systems. Frontiers in Neuroscience, 2018, 12, 167.	2.8	10
144	Improving electrical performance in GeSi coreSi-shell nanowire transistor with a new stripped structure. Semiconductor Science and Technology, 2018, 33, 095004.	2.0	6

#	ARTICLE	IF	CITATIONS
145	Capacitive neural network with neuro-transistors. Nature Communications, 2018, 9, 3208.	12.8	199
146	Graphene Oxide Quantum Dots Based Memristors with Progressive Conduction Tuning for Artificial Synaptic Learning. Advanced Functional Materials, 2018, 28, 1803728.	14.9	218
147	A compact model of analog RRAM for neuromorphic computing system design. , 2018, , .		1
148	R2D2: Runtime reassurance and detection of A2 Trojan. , 2018, , .		19
149	Resistance Switching Characteristics Induced by O ₂ Plasma Treatment of an Indium Tin Oxide Film for Use as an Insulator in Resistive Random Access Memory. ACS Applied Materials & Interfaces, 2017, 9, 3149-3155.	8.0	27
150	Controlling the Degree of Forming Soft-Breakdown and Producing Superior Endurance Performance by Inserting BN-Based Layers in Resistive Random Access Memory. IEEE Electron Device Letters, 2017, 38, 445-448.	3.9	9
151	Face classification using electronic synapses. Nature Communications, 2017, 8, 15199.	12.8	683
152	Circuit design for beyond von Neumann applications using emerging memory: From nonvolatile logics to neuromorphic computing. , 2017, , .		21
153	Neuromorphic Computing based on Resistive RAM. , 2017, , .		4
154	A nondestructive approach to study resistive switching mechanism in metal oxide based on defect photoluminescence mapping. Nanoscale, 2017, 9, 13449-13456.	5.6	13
155	Uniformity improvements of low current 1T1R RRAM arrays through optimized verification strategy. , 2017, , .		6
156	Design and optimization of strong Physical Unclonable Function (PUF) based on RRAM array. , 2017, , .		6
157	Boosting the performance of resistive switching memory with a transparent ITO electrode using supercritical fluid nitridation. RSC Advances, 2017, 7, 11585-11590.	3.6	21
158	Optimization of RRAM-Based Physical Unclonable Function With a Novel Differential Read-Out Method. IEEE Electron Device Letters, 2017, 38, 168-171.	3.9	44
159	Conduction Mechanism and Improved Endurance in HfO ₂ -Based RRAM with Nitridation Treatment. Nanoscale Research Letters, 2017, 12, 574.	5.7	54
160	Ultrafast RESET Analysis of HfO _x -Based RRAM by Sub-Nanosecond Pulses. Advanced Electronic Materials, 2017, 3, 1700263.	5.1	46
161	Truly Electroforming-Free and Low-Energy Memristors with Preconditioned Conductive Tunneling Paths. Advanced Functional Materials, 2017, 27, 1702010.	14.9	75
162	New structure with SiO ₂ -gate-dielectric select gates in vertical-channel three-dimensional (3D) NAND flash memory. Microelectronics Reliability, 2017, 78, 80-84.	1.7	6

#	ARTICLE	IF	CITATIONS
163	Online training on RRAM based neuromorphic network: Experimental demonstration and operation scheme optimization. , 2017, , .		4
164	AFD: A feature detection method for outdoor real-time video stitching system. , 2017, , .		0
165	Performance Improvements by SL-Current Limiter and Novel Programming Methods on 16MB RRAM Chip. , 2017, , .		3
166	Improving Analog Switching in HfO ₂ -Based Resistive Memory With a Thermal Enhanced Layer. IEEE Electron Device Letters, 2017, 38, 1019-1022.	3.9	203
167	Short Time High-Resistance State Instability of TaO _x -Based RRAM Devices. IEEE Electron Device Letters, 2017, 38, 32-35.	3.9	22
168	Reconfigurable Magnetic Logic Combined with Nonvolatile Memory Writing. Advanced Materials, 2017, 29, 1605027.	21.0	35
169	Modeling disorder effect of the oxygen vacancy distribution in filamentary analog RRAM for neuromorphic computing. , 2017, , .		31
170	Si Interface Barrier Modification on Memristor for Brain-Inspired Computing. Journal of Physics: Conference Series, 2017, 864, 012064.	0.4	0
171	A novel PUF against machine learning attack: Implementation on a 16 Mb RRAM chip. , 2017, , .		17
172	Evaluation and optimization of physical unclonable function (PUF) based on the variability of FinFET SRAM. , 2017, , .		1
173	Device and circuit optimization of RRAM for neuromorphic computing. , 2017, , .		53
174	Optimization of writing scheme on 1T1R RRAM to achieve both high speed and good uniformity. , 2017, , .		7
175	Fractional memristor. Applied Physics Letters, 2017, 111, .	3.3	20
176	A new 3D NAND flash structure to improve program/erase operation speed. , 2017, , .		0
177	Investigation of statistical retention of filamentary analog RRAM for neuromorphic computing. , 2017, , .		57
178	Extending 1kb RRAM array from weak PUF to strong PUF by employment of SHA module. , 2017, , .		5
179	Resistive Random Access Memory for Future Information Processing System. Proceedings of the IEEE, 2017, 105, 1770-1789.	21.3	88
180	Probing the Photovoltage and Photocurrent in Perovskite Solar Cells with Nanoscale Resolution. Advanced Functional Materials, 2016, 26, 3048-3058.	14.9	79

#	ARTICLE	IF	CITATIONS
181	A compact model for the SET parameter variations of oxide RRAM array. , 2016, , .		2
182	A highly reliable and tamper-resistant RRAM PUF: Design and experimental validation. , 2016, , .		36
183	Bipolar resistive switching in Al/GO-PEDOT:PSS/Pt memory devices. , 2016, , .		3
184	The Statistical Evaluation of Correlations between LRS and HRS Relaxations in RRAM Array. , 2016, , .		2
185	Engineering interface-type resistance switching based on forming current compliance in ITO/Ga ₂ O ₃ :ITO/TiN resistance random access memory: Conduction mechanisms, temperature effects, and electrode influence. Applied Physics Letters, 2016, 109, .	3.3	21
186	Oxide-based analog synapse: Physical modeling, experimental characterization, and optimization. , 2016, , .		19
187	Binary neural network with 16 Mb RRAM macro chip for classification and online training. , 2016, , .		154
188	Electrochemical control of the phase transition of ultrathin FeRh films. Applied Physics Letters, 2016, 108, .	3.3	27
189	Suppression of relaxation effect in HfO ₂ resistive random access memory array by improved program operations. Applied Physics Express, 2016, 9, 051501.	2.4	0
190	HfO ₂ /Al ₂ O ₃ multilayer for RRAM arrays: a technique to improve tail-bit retention. Nanotechnology, 2016, 27, 395201.	2.6	41
191	Synaptic learning behavior based on a Ag/PEDOT:PSS/Ta memristor. , 2016, , .		1
192	Deep-submicron Graphene Field-Effect Transistors with State-of-Art fmax. Scientific Reports, 2016, 6, 35717.	3.3	26
193	A novel speed-up coding method in quadruple-level-cell 3D NAND flash memory. , 2016, , .		1
194	Fabrication and characterization of thermoelectric power generators with segmented legs synthesized by one-step spark plasma sintering. Energy, 2016, 113, 35-43.	8.8	46
195	Ultralow Power Resistance Random Access Memory Device and Oxygen Accumulation Mechanism in an Indium-Tin-Oxide Electrode. IEEE Transactions on Electron Devices, 2016, 63, 4737-4743.	3.0	15
196	Synthesis and characterization of vertically standing MoS ₂ nanosheets. Scientific Reports, 2016, 6, 21171.	3.3	168
197	RRAM Cross-Point Arrays. , 2016, , 223-260.		2
198	A high speed low power negative sensing architecture for 3D NAND Flash memory. , 2016, , .		1

#	ARTICLE	IF	CITATIONS
199	Electrode-induced digital-to-analog resistive switching in TaO _x -based RRAM devices. Nanotechnology, 2016, 27, 305201.	2.6	48
200	An efficient method for evaluating RRAM crossbar array performance. Solid-State Electronics, 2016, 120, 32-40.	1.4	6
201	Relaxation Effect in RRAM Arrays: Demonstration and Characteristics. IEEE Electron Device Letters, 2016, 37, 182-185.	3.9	27
202	Graphene oxide and TiO ₂ nano-particle composite based nonvolatile memory. , 2015, , .		4
203	1S1R device with self-compliance property for high density cross-point memory applications. , 2015, , .		0
204	Graphene Distributed Amplifiers: Generating Desirable Gain for Graphene Field-Effect Transistors. Scientific Reports, 2015, 5, 17649.	3.3	10
205	Stacked 3D RRAM Array with Graphene/CNT as Edge Electrodes. Scientific Reports, 2015, 5, 13785.	3.3	38
206	Theory study and implementation of configurable ECC on RRAM memory. , 2015, , .		11
207	The effect of variation on neuromorphic network based on 1T1R memristor array. , 2015, , .		3
208	A 16 Mb RRAM test chip based on analog power system with tunable write pulses. , 2015, , .		3
209	Scaling-up resistive synaptic arrays for neuro-inspired architecture: Challenges and prospect. , 2015, , .		128
210	Synaptic learning behaviors achieved by metal ion migration in a Cu/PEDOT:PSS/Ta memristor. , 2015, , .		3
211	Magnetoelectric Coupling Induced by Interfacial Orbital Reconstruction. Advanced Materials, 2015, 27, 6651-6656.	21.0	81
212	Asymmetric resistive switching processes in W:AlO _x /WO _y bilayer devices. Chinese Physics B, 2015, 24, 058501.	1.4	3
213	Stable self-compliance resistive switching in AlO _x /Ta ₂ O ₅ /TaO _y triple layer devices. Nanotechnology, 2015, 26, 035203.	2.6	32
214	Atomistic study of dynamics for metallic filament growth in conductive-bridge random access memory. Physical Chemistry Chemical Physics, 2015, 17, 8627-8632.	2.8	33
215	Redistribution of carbon atoms in Pt substrate for high quality monolayer graphene synthesis. Journal of Semiconductors, 2015, 36, 013005.	3.7	4
216	Double-Balanced Graphene Integrated Mixer with Outstanding Linearity. Nano Letters, 2015, 15, 6677-6682.	9.1	37

#	ARTICLE	IF	CITATIONS
217	A self-compliance RRAM device for high density cross-point array applications. , 2015, , .		0
218	Experimental Characterization of Physical Unclonable Function Based on 1 kb Resistive Random Access Memory Arrays. IEEE Electron Device Letters, 2015, 36, 1380-1383.	3.9	109
219	Optimization of TiN/TaOx/HfO2/TiN RRAM Arrays for Improved Switching and Data Retention. , 2015, , .		15
220	Graphene nonvolatile memory prototype based on charge-transfer mechanism. Applied Physics Express, 2014, 7, 045101.	2.4	6
221	Geometry Optimization of Planar Hall Devices Under Voltage Biasing. IEEE Transactions on Electron Devices, 2014, 61, 4216-4223.	3.0	10
222	Random telegraph noise analysis in AlOx/WOy resistive switching memories. Applied Physics Letters, 2014, 104, .	3.3	20
223	Uniform 3D vertical AlO ₃ B ₄ /Ta ₂ O ₅ /TaO _y RRAM: Fabrication, characterization and mechanism analysis. , 2014, , .		0
224	Investigation on Hot-Carrier-Induced degradation of LDMOS transistor fabricated in logic CMOS process. , 2014, , .		0
225	Non-Volatile Threshold Adaptive Transistors with Embedded RRAM. Chinese Physics Letters, 2014, 31, 108504.	3.3	3
226	Metallic to hopping conduction transition in Ta ₂ O ₅ ^x /TaO _y resistive switching device. Applied Physics Letters, 2014, 105, .	3.3	79
227	Stack engineering for ReRAM devices performance improvement. , 2014, , .		0
228	Inverted process for graphene integrated circuits fabrication. Nanoscale, 2014, 6, 5826-5830.	5.6	15
229	Monolithic graphene frequency multiplier working at 10GHz range. , 2014, , .		4
230	Resistive Switching Performance Improvement of $\text{Ta}_{2\text{m}}\text{O}_{5-x}/\text{TaO}_y$ Bilayer ReRAM Devices by Inserting AlO_{Δ} Barrier Layer. IEEE Electron Device Letters, 2014, 35, 39-41.	3.9	60
231	Study of Multi-level Characteristics for 3D Vertical Resistive Switching Memory. Scientific Reports, 2014, 4, 5780.	3.3	98
232	Graphene applications in electronic and optoelectronic devices and circuits. Chinese Physics B, 2013, 22, 098106.	1.4	58
233	Graphene mobility enhancement by organosilane interface engineering. Applied Physics Letters, 2013, 102, .	3.3	16
234	Study of conduction and switching mechanisms in Al/AlOx/WOx/W resistive switching memory for multilevel applications. Applied Physics Letters, 2013, 102, .	3.3	92

#	ARTICLE	IF	CITATIONS
235	High carrier mobility in suspended-channel graphene field effect transistors. Applied Physics Letters, 2013, 103, .	3.3	17
236	The study of the effects of cooling conditions on high quality graphene growth by the APCVD method. Nanoscale, 2013, 5, 5524.	5.6	28
237	Resistive switching variability study on 1T1R AlOx/WOx-based RRAM array. , 2013, , .		3
238	Low power W:AlOx/WOx bilayer resistive switching structure based on conductive filament formation and rupture mechanism. Applied Physics Letters, 2013, 102, .	3.3	50
239	A CMOS Compatible WOx RRAM with Optimized Switching Operations. ECS Transactions, 2012, 44, 1235-1240.	0.5	0
240	Electrochemical simulation of filament growth and dissolution in conductive-bridging RAM (CBRAM) with cylindrical coordinates. , 2012, , .		10
241	An N-channel graded-junction lateral diffused MOS transistor in 0.18μm low-power logic CMOS process. , 2011, , .		4
242	Photoluminescence and cathodoluminescence analyses of GaN powder doped with Eu. Applied Physics Letters, 2006, 88, 011921.	3.3	31
243	Luminescence dynamics and waveguide applications of europium doped gallium nitride powder. Applied Physics Letters, 2006, 89, 111912.	3.3	8
244	Distributions of Conduction Electrons as Manifested in MAS NMR of Gallium Nitride. Journal of the American Chemical Society, 2006, 128, 4952-4953.	13.7	33
245	High-yield GaN nanowire synthesis and field-effect transistor fabrication. Journal of Electronic Materials, 2006, 35, 670-674.	2.2	26
246	Fabrication and characterization of pre-aligned gallium nitride nanowire field-effect transistors. Nanotechnology, 2006, 17, 1264-1271.	2.6	58
247	Gallium nitride nanowire nonvolatile memory device. Journal of Applied Physics, 2006, 100, 024307.	2.5	32
248	Rapid synthesis of gallium nitride powder. Journal of Crystal Growth, 2005, 279, 303-310.	1.5	25
249	Bulk GaN growth by Gallium Vapor Transport technique. Physica Status Solidi C: Current Topics in Solid State Physics, 2005, 2, 2032-2035.	0.8	9
250	Rapid synthesis of high purity GaN powder. Physica Status Solidi C: Current Topics in Solid State Physics, 2005, 2, 2074-2078.	0.8	6
251	Green emission from Er-doped GaN powder. Applied Physics Letters, 2005, 86, 191918.	3.3	28
252	Luminescence and Lifetime Properties of Europium Doped Gallium Nitride Compatible with CMOS Technology. Materials Research Society Symposia Proceedings, 2005, 866, 71.	0.1	2

#	ARTICLE	IF	CITATIONS
253	Rapid growth of bulk GaN crystal using GaN powder as source material. Materials Research Society Symposia Proceedings, 2005, 892, 684.	0.1	3
254	THICK GaN LAYER GROWN BY Ga VAPOR TRANSPORT TECHNIQUE. , 2005, , .		0
255	Structural characterization of GaN single crystal layers grown by vapor transport from a gallium oxide (Ga ₂ O ₃) powder source. Materials Research Society Symposia Proceedings, 2005, 892, 708.	0.1	0
256	High Quality, Low Cost Continuous Poly-GaN Film on Si and Glass Substrates Produced by Spin Coating. Materials Research Society Symposia Proceedings, 2004, 831, 619.	0.1	0
257	X-ray characterization of GaN single crystal layers grown by the ammonothermal technique on HVPE GaN seeds and by the sublimation technique on sapphire seeds. Materials Research Society Symposia Proceedings, 2004, 831, 55.	0.1	0
258	Growth and Characterization of bulk GaN by Ga Vapor Transport. Materials Research Society Symposia Proceedings, 2004, 831, 176.	0.1	1
259	THICK GaN LAYER GROWN BY Ga VAPOR TRANSPORT TECHNIQUE. International Journal of High Speed Electronics and Systems, 2004, 14, 745-749.	0.7	0
260	Computed depth profile method of X-ray diffraction and its application to Ni/Pd films. Surface and Coatings Technology, 2002, 149, 198-205.	4.8	9
261	Thick GaN layer grown by Ga vapor transport technique. , 0, , .		0
262	Memristive structure of Nb/HfO _x /Pd with controllable switching mechanisms to perform featured actions in neuromorphic networks. Nano Research, 0, , .	10.4	2