Cai Yimao

List of Publications by Year
in descending order

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39 papers	1,577 citations	471509 17 h-index	454955 30 g-index
39 all docs	39 docs citations	39 times ranked	1886 citing authors

#	Article	IF	Citations
1	Ion Gated Synaptic Transistors Based on 2D van der Waals Crystals with Tunable Diffusive Dynamics. Advanced Materials, 2018, 30, e1800195.	21.0	368
2	Engineering incremental resistive switching in TaO_xbased memristors for brain-inspired computing. Nanoscale, 2016, 8, 14015-14022.	5.6	271
3	Memory materials and devices: From concept to application. InformaÄnÃ-MateriÃ¡ly, 2020, 2, 261-290.	17.3	181
4	Nonassociative learning implementation by a single memristor-based multi-terminal synaptic device. Nanoscale, 2016, 8, 18897-18904.	5.6	81
5	Dual-Gated MoS₂ Neuristor for Neuromorphic Computing. ACS Applied Materials & Interfaces, 2019, 11, 41482-41489.	8.0	78
6	Improvement of HfO_x-Based RRAM Device Variation by Inserting ALD TiN Buffer Layer. IEEE Electron Device Letters, 2018, 39, 819-822.	3.9	57
7	Multifunctional Nanoionic Devices Enabling Simultaneous Heterosynaptic Plasticity and Efficient Inâ€Memory Boolean Logic. Advanced Electronic Materials, 2017, 3, 1700032.	5.1	56
8	Low Power Paryleneâ€Based Memristors with a Graphene Barrier Layer for Flexible Electronics Applications. Advanced Electronic Materials, 2019, 5, 1800852.	5.1	56
9	Artificial Neural Network Based on Doped HfO₂ Ferroelectric Capacitors With Multilevel Characteristics. IEEE Electron Device Letters, 2019, 40, 1309-1312.	3.9	41
10	Modulation of nonlinear resistive switching behavior of a TaO_x-based resistive device through interface engineering. Nanotechnology, 2017, 28, 055204.	2.6	35
11	Self-Selective Resistive Device With Hybrid Switching Mode for Passive Crossbar Memory Application. IEEE Electron Device Letters, 2020, 41, 1009-1012.	3.9	34
12	In-memory computing with emerging nonvolatile memory devices. Science China Information Sciences, 2021, 64, 1.	4.3	31
13	Artificial Shape Perception Retina Network Based on Tunable Memristive Neurons. Scientific Reports, 2018, 8, 13727.	3.3	30
14	Self-Activation Neural Network Based on Self-Selective Memory Device With Rectified Multilevel States. IEEE Transactions on Electron Devices, 2020, 67, 4166-4171.	3.0	23
15	Lattice: An ADC/DAC-less ReRAM-based Processing-In-Memory Architecture for Accelerating Deep Convolution Neural Networks. , 2020, , .		21
16	Encapsulation layer design and scalability in encapsulated vertical 3D RRAM. Nanotechnology, 2016, 27, 205202.	2.6	20
17	Bipolar to unipolar mode transition and imitation of metaplasticity in oxide based memristors with enhanced ionic conductivity. Journal of Applied Physics, 2018, 124, .	2.5	19
18	A Memristor-Based In-Memory Computing Network for Hamming Code Error Correction. IEEE Electron Device Letters, 2019, 40, 1080-1083.	3.9	17

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19	Investigation of NbOx-based volatile switching device with self-rectifying characteristics. Science China Information Sciences, 2019, 62, 1.	4.3	17
20	Early-Stage Fluctuation in Low-Power Analog Resistive Memory: Impacts on Neural Network and Mitigation Approach. IEEE Electron Device Letters, 2020, 41, 940-943.	3.9	17
21	Emulation of biphasic plasticity in retinal electrical synapses for light-adaptive pattern pre-processing. Nanoscale, 2021, 13, 3483-3492.	5.6	16
22	Exploring the Impact of Random Telegraph Noise-Induced Accuracy Loss on Resistive RAM-Based Deep Neural Network. IEEE Transactions on Electron Devices, 2020, 67, 3335-3340.	3.0	15
23	Tunable Stochastic Oscillator Based on Hybrid VOâ„/TaOâ€“ Device for Compressed Sensing. IEEE Electron Device Letters, 2021, 42, 102-105.	3.9	14
24	Localized metal doping effect on switching behaviors of TaO_x-based RRAM device. , 2016, , .		11
25	Technology-Array-Algorithm Co-Optimization of RRAM for Storage and Neuromorphic Computing: Device Non-idealities and Thermal Cross-talk. , 2020, , .		11
26	A TaOx-Based RRAM with Improved Uniformity and Excellent Analog Characteristics by Local Dopant Engineering. Electronics (Switzerland), 2021, 10, 2451.	3.1	9
27	Microscopic origin of read current noise in TaOx-based resistive switching memory by ultra-low temperature measurement. Applied Physics Letters, 2016, 108, .	3.3	8
28	Rotational Pattern Recognition by Spiking Correlated Neural Network Based on Dualâ€Gated MoS 2 Neuristor. Advanced Intelligent Systems, 2020, 2, 2000102.	6.1	7
29	Implementation of Neuronal Intrinsic Plasticity by Oscillatory Device in Spiking Neural Network. IEEE Transactions on Electron Devices, 2022, 69, 1830-1834.	3.0	7
30	Optimization Schemes for In-Memory Linear Regression Circuit With Memristor Arrays. IEEE Transactions on Circuits and Systems I: Regular Papers, 2021, 68, 4900-4909.	5.4	6
31	In Materia Neuron Spiking Plasticity for Sequential Event Processing Based on Dualâ€Mode Memristor. Advanced Intelligent Systems, 2022, 4, .	6.1	6
32	A RRAM based Max-Pooling Scheme for Convolutional Neural Network. , 2021, , .		5
33	Emulation of Synaptic Scaling Based on MoS₂ Neuristor for Selfâ€Adaptative Neuromorphic Computing. Advanced Electronic Materials, 2021, 7, 2001104.	5.1	3
34	Improvement of RRAM Uniformity and Analog Characteristics Through Localized Metal Doping. , 2021, , .		2
35	Enhancement of HfO2 Based RRAM Performance Through Hexagonal Boron Nitride Interface Layer. , 2018, , .		1
36	Nonlinear Weight Quantification for Mitigating Stress Induced Disturb Effect on Multilevel RRAM-Based Neural Network Accelerator. IEEE Journal of the Electron Devices Society, 2021, , 1-1.	2.1	1

#	Article	IF	Citations
37	A New Insight and Modeling of Pulse-to-Pulse Variability in Analog Resistive Memory for On-Chip Training. IEEE Transactions on Electron Devices, 2022, 69, 3100-3104.	3.0	1
38	Investigation of Read Voltage Impact on Foundry BEOL RRAM for Core Integration. , 2022, , .		1
39	Investigation of Non-Linear Selection Effect on RRAM based Neuromorphic Computing Array with Passive Selective Element. , 2021, , .		0