Hua-Qiang Wu

List of Publications by Year in Descending Order

228 papers	7,955 citations	43 h-index	84 g-index
269 ext. papers	10,738 ext. citations	9.1 avg, IF	6.46 L-index

#	Paper	IF	Citations
228	Memristive Behaviors Dominated by Reversible Nucleation Dynamics of Phase-Change Nanoclusters.. *Small*, **2022**, e2105070	11	0
227	A Unified PUF and TRNG Design Based on 40-nm RRAM With High Entropy and Robustness for IoT Security. *IEEE Transactions on Electron Devices*, **2022**, 69, 536-542	2.9	4
226	. *Tsinghua Science and Technology*, **2022**, 27, 455-471	3.4	4
225	Trends and challenges in the circuit and macro of RRAM-based computing-in-memory systems **2022**, 1, 100004		1
224	Rotating neurons for all-analog implementation of cyclic reservoir computing.. *Nature Communications*, **2022**, 13, 1549	17.4	3
223	Neuromorphic Computing Systems with Emerging Devices **2022**, 173-216		
222	Flexible Threshold Switching Selectors with Ultrahigh Endurance Based on Halide Perovskites. *Advanced Electronic Materials*, **2022**, 8, 2100771	6.4	1
221	Memristor-based analogue computing for brain-inspired sound localization with in situ training.. *Nature Communications*, **2022**, 13, 2026	17.4	11
220	Toward memristive in-memory computing: principles and applications. *Frontiers of Optoelectronics*, **2022**, 15,	2.8	2
219	Oxide-based filamentary RRAM for deep learning. *Journal Physics D: Applied Physics*, **2021**, 54, 083002	3	7
218	Vertical TSV-Like Diode ESD Protection **2021**,		2
217	Array-level boosting method with spatial extended allocation to improve the accuracy of memristor based computing-in-memory chips. *Science China Information Sciences*, **2021**, 64, 1	3.4	2
216	Large-scale neuromorphic optoelectronic computing with a reconfigurable diffractive processing unit. *Nature Photonics*, **2021**, 15, 367-373	33.9	65
215	Recent progress of integrated circuits and optoelectronic chips. *Science China Information Sciences*, **2021**, 64, 1	3.4	14
214	Nonvolatile magnetic half adder combined with memory writing. *Applied Physics Letters*, **2021**, 118, 182402	3.2	2
213	A Highly Reliable RRAM Physically Unclonable Function Utilizing Post-Process Randomness Source. *IEEE Journal of Solid-State Circuits*, **2021**, 56, 1641-1650	5.5	9
212	Oscillation neuron based on a low-variability threshold switching device for high-performance neuromorphic computing. *Journal of Semiconductors*, **2021**, 42, 064101	2.3	1

211	Compact Reliability Model of Analog RRAM for Computation-in-Memory Device-to-System Codesign and Benchmark. *IEEE Transactions on Electron Devices*, **2021**, 68, 2686-2692	2.9	1
210	In-memory Learning with Analog Resistive Switching Memory: A Review and Perspective. *Proceedings of the IEEE*, **2021**, 109, 14-42	14.3	37
209	Electrically Reconfigurable 3D Spin-Orbitronics. *Advanced Functional Materials*, **2021**, 31, 2007485	15.6	7
208	Diagonal Matrix Regression Layer: Training Neural Networks on Resistive Crossbars With Interconnect Resistance Effect. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, **2021**, 40, 1662-1671	2.5	5
207	Preface to the Special Issue on Beyond Moore: Resistive Switching Devices for Emerging Memory and Neuromorphic Computing. *Journal of Semiconductors*, **2021**, 42, 010101	2.3	2
206	Ratio-based multi-level resistive memory cells. *Scientific Reports*, **2021**, 11, 1351	4.9	3
205	Dynamic memristor-based reservoir computing for high-efficiency temporal signal processing. *Nature Communications*, **2021**, 12, 408	17.4	60
204	An On-chip Layer-wise Training Method for RRAM based Computing-in-memory Chips **2021**,		1
203	Preface to the Special Issue on Beyond Moore: Three-Dimensional (3D) Heterogeneous Integration. *Journal of Semiconductors*, **2021**, 42, 020101	2.3	0
202	Observation of the antiferromagnetic spin Hall effect. *Nature Materials*, **2021**, 20, 800-804	27	33
201	Analog memristive synapse based on topotactic phase transition for high-performance neuromorphic computing and neural network pruning. *Science Advances*, **2021**, 7,	14.3	12
200	Application of mathematical morphology operation with memristor-based computation-in-memory architecture for detecting manufacturing defects. *Fundamental Research*, **2021**, 2, 123-123		0
199	Crossbar-Level Retention Characterization in Analog RRAM Array-Based Computation-in-Memory System. *IEEE Transactions on Electron Devices*, **2021**, 68, 3813-3818	2.9	1
198	Cryogenic HfOx-Based Resistive Memory With a Thermal Enhancement Capping Layer. *IEEE Electron Device Letters*, **2021**, 42, 1276-1279	4.4	5
197	Dipole-induced modulation of effective work function of metal gate in junctionless FETs. *AIP Advances*, **2020**, 10, 055203	1.5	2
196	Current-Induced In-Plane Magnetization Switching in a Biaxial Ferrimagnetic Insulator. *Physical Review Applied*, **2020**, 13,	4.3	6
195	A Novel Capacitor-based Stateful Logic Operation Scheme for In-memory Computing in 1T1R RRAM Array **2020**,		2
194	Impact and Quantization of Short-Term Relaxation effect in Analog RRAM **2020**,		1

193	Alloying conducting channels for reliable neuromorphic computing. *Nature Nanotechnology*, **2020**, 15, 574-579	28.7	74
192	Parasitic Resistance Effect Analysis in RRAM-based TCAM for Memory Augmented Neural Networks **2020**,		3
191	A Compact Model of Analog RRAM With Device and Array Nonideal Effects for Neuromorphic Systems. *IEEE Transactions on Electron Devices*, **2020**, 67, 1593-1599	2.9	13
190	RRAM-based coprocessors for deep learning **2020**, 363-395		0
189	Power-efficient neural network with artificial dendrites. *Nature Nanotechnology*, **2020**, 15, 776-782	28.7	55
188	Quantitative, Dynamic TaOx Memristor/Resistive Random Access Memory Model. *ACS Applied Electronic Materials*, **2020**, 2, 701-709	4	17
187	A Self-Terminated Operation Scheme for High-Parallel and Energy-Efficient Forming of RRAM Array. *Advanced Electronic Materials*, **2020**, 6, 1901324	6.4	1
186	Artificial Synapse Based on van der Waals Heterostructures with Tunable Synaptic Functions for Neuromorphic Computing. *ACS Applied Materials & Interfaces*, **2020**, 12, 11945-11954	9.5	43
185	Resistive switching materials for information processing. *Nature Reviews Materials*, **2020**, 5, 173-195	73.3	318
184	Memory materials and devices: From concept to application. *InfoMat Mater*, **2020**, 2, 261-290	23.1	93
183	Fully hardware-implemented memristor convolutional neural network. *Nature*, **2020**, 577, 641-646	50.4	529
182	Neurohybrid Memristive CMOS-Integrated Systems for Biosensors and Neuroprosthetics. *Frontiers in Neuroscience*, **2020**, 14, 358	5.1	85
181	33.1 A 74 TMACS/W CMOS-RRAM Neurosynaptic Core with Dynamically Reconfigurable Dataflow and In-situ Transposable Weights for Probabilistic Graphical Models **2020**,		40
180	. *IEEE Transactions on Electron Devices*, **2020**, 67, 2213-2217	2.9	18
179	A Voltage-Mode Sensing Scheme with Differential-Row Weight Mapping for Energy-Efficient RRAM-Based In-Memory Computing **2020**,		8
178	Residual DNN: training diffractive deep neural networks via learnable light shortcuts. *Optics Letters*, **2020**, 45, 2688-2691	3	19
177	In situ optical backpropagation training of diffractive optical neural networks. *Photonics Research*, **2020**, 8, 940	6	33
176	In situ optical backpropagation training of diffractive optical neural networks: publisher's note. *Photonics Research*, **2020**, 8, 1323	6	1

175	A High-performance and Calibration-free True Random Number Generator Based on the Resistance Perturbation in RRAM Array **2020**,		1
174	An Improved RRAM-Based Binarized Neural Network With High Variation-Tolerated Forward/Backward Propagation Module. *IEEE Transactions on Electron Devices*, **2020**, 67, 469-473	2.9	8
173	Reliability of analog resistive switching memory for neuromorphic computing. *Applied Physics Reviews*, **2020**, 7, 011301	17.3	94
172	High-Uniformity Threshold Switching HfO-Based Selectors with Patterned Ag Nanodots. *Advanced Science*, **2020**, 7, 2002251	13.6	23
171	Multichannel parallel processing of neural signals in memristor arrays. *Science Advances*, **2020**, 6,	14.3	12
170	Neuro-inspired computing chips. *Nature Electronics*, **2020**, 3, 371-382	28.4	139
169	Atomic threshold-switching enabled MoS transistors towards ultralow-power electronics. *Nature Communications*, **2020**, 11, 6207	17.4	21
168	Triple-Cation Perovskite Resistive Switching Memory with Enhanced Endurance and Retention. *ACS Applied Electronic Materials*, **2020**, 2, 3695-3703	4	6
167	A Novel Bi-functional Memory-PUF Module Utilizing Adjustable Switching Window of RRAM **2020**,		2
166	Thermal generation, manipulation and thermoelectric detection of skyrmions. *Nature Electronics*, **2020**, 3, 672-679	28.4	33
165	A Unified Memory and Hardware Security Module Based on the Adjustable Switching Window of Resistive Memory. *IEEE Journal of the Electron Devices Society*, **2020**, 8, 1257-1265	2.3	4
164	Neural signal analysis with memristor arrays towards high-efficiency brain-machine interfaces. *Nature Communications*, **2020**, 11, 4234	17.4	27
163	Amplitude and frequency modulation based on memristor-controlled spin nano-oscillators. *Nanotechnology*, **2020**, 31, 045202	3.4	1
162	**2020**,		37
161	Bridging Biological and Artificial Neural Networks with Emerging Neuromorphic Devices: Fundamentals, Progress, and Challenges. *Advanced Materials*, **2019**, 31, e1902761	24	220
160	The Impact of Interconnect Resistance on One-Selector One-Resistor (1S1R) Crossbar Array Performance **2019**,		1
159	A Novel RRAM Based Watermark Technique Utilizing the Impact of Forming Conditions on Reset Distribution **2019**,		2
158	Reliability Perspective on Neuromorphic Computing Based on Analog RRAM **2019**,		6

157   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   2.9   25

156   Impact of Switching Window on Endurance Degradation in Analog RRAM **2019**,   2

155   In situ training of feed-forward and recurrent convolutional memristor networks. *Nature Machine Intelligence*, **2019**, 1, 434-442   22.5   93

154   Design Guidelines of RRAM based Neural-Processing-Unit **2019**,   17

153   Analog-Type Resistive Switching Devices for Neuromorphic Computing. *Physica Status Solidi - Rapid Research Letters*, **2019**, 13, 1900204   2.5   48

152   Threshold Switching Selectors: A Threshold Switching Selector Based on Highly Ordered Ag Nanodots for X-Point Memory Applications (Adv. Sci. 10/2019). *Advanced Science*, **2019**, 6, 1970058   13.6   3

151   Modulating metallic conductive filaments via bilayer oxides in resistive switching memory. *Applied Physics Letters*, **2019**, 114, 193502   3.4   25

150   Conductive metallic filaments dominate in hybrid perovskite-based memory devices. *Science China Materials*, **2019**, 62, 1323-1331   7.1   13

149   Memristors for Hardware Security Applications. *Advanced Electronic Materials*, **2019**, 5, 1800872   6.4   17

148   25.2 A Reconfigurable RRAM Physically Unclonable Function Utilizing Post-Process Randomness Source With **2019**,   11

147   Associative Memory for Image Recovery with a High-Performance Memristor Array. *Advanced Functional Materials*, **2019**, 29, 1900155   15.6   37

146   A Threshold Switching Selector Based on Highly Ordered Ag Nanodots for X-Point Memory Applications. *Advanced Science*, **2019**, 6, 1900024   13.6   65

145   memristor: Real memristor found. *Journal of Applied Physics*, **2019**, 125, 054504   2.5   22

144   On-Chip Analog Trojan Detection Framework for Microprocessor Trustworthiness. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, **2019**, 38, 1820-1830   2.5   6

143   Unsupervised Learning on Resistive Memory Array Based Spiking Neural Networks. *Frontiers in Neuroscience*, **2019**, 13, 812   5.1   30

142   Stateful Logic Operations in One-Transistor-One- Resistor Resistive Random Access Memory Array. *IEEE Electron Device Letters*, **2019**, 40, 1538-1541   4.4   27

141   Low-Voltage Oscillatory Neurons for Memristor-Based Neuromorphic Systems. *Global Challenges*, **2019**, 3, 1900015   4.3   22

140   Understanding memristive switching via in situ characterization and device modeling. *Nature Communications*, **2019**, 10, 3453   17.4   138

#	Title	IF	Cites
139	Intelligent Computing with RRAM **2019**,		1
138	Monolithic integration of flexible lithium-ion battery on a plastic substrate by printing methods. *Nano Research*, **2019**, 12, 2477-2484	10	4
137	Towards artificial general intelligence with hybrid Tianjic chip architecture. *Nature*, **2019**, 572, 106-111	50.4	215
136	Synaptic silicon-nanocrystal phototransistors for neuromorphic computing. *Nano Energy*, **2019**, 63, 103859	17.1	51
135	Endurance and Retention Degradation of Intermediate Levels in Filamentary Analog RRAM. *IEEE Journal of the Electron Devices Society*, **2019**, 7, 1239-1247	2.3	10
134	Bayesian Neural Network Realization by Exploiting Inherent Stochastic Characteristics of Analog RRAM **2019**,		3
133	A High-Speed and High-Reliability TRNG Based on Analog RRAM for IoT Security Application **2019**,		11
132	Circuit Design Challenges in Computing-in-Memory for AI Edge Devices **2019**,		1
131	Optimization Strategy for Accelerating Multi-Bit Resistive Weight Programming on the RRAM Array **2019**,		1
130	Performance-Enhancing Selector via Symmetrical Multilayer Design. *Advanced Functional Materials*, **2019**, 29, 1808376	15.6	38
129	Device and materials requirements for neuromorphic computing. *Journal Physics D: Applied Physics*, **2019**, 52, 113001	3	64
128	Three-Dimensional nand Flash for Vector–Matrix Multiplication. *IEEE Transactions on Very Large Scale Integration (VLSI) Systems*, **2019**, 27, 988-991	2.6	46
127	Recommended Methods to Study Resistive Switching Devices. *Advanced Electronic Materials*, **2019**, 5, 1800143	6.4	297
126	A Threshold Switching Selector Based on Highly Ordered Ag Nanodots for X-Point Memory Applications **2019**, 6, 1900024		1
125	Competition between Metallic and Vacancy Defect Conductive Filaments in a CH3NH3PbI3-Based Memory Device. *Journal of Physical Chemistry C*, **2018**, 122, 6431-6436	3.8	69
124	Thermal Stability of HfOx-Based Resistive Memory Array: A Temperature Coefficient Study. *IEEE Electron Device Letters*, **2018**, 39, 192-195	4.4	7
123	A drain leakage phenomenon in poly silicon channel 3D NAND flash caused by conductive paths along grain boundaries. *Microelectronic Engineering*, **2018**, 192, 66-69	2.5	13
122	An artificial nociceptor based on a diffusive memristor. *Nature Communications*, **2018**, 9, 417	17.4	183

121	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	15.6	7
120	Fully memristive neural networks for pattern classification with unsupervised learning. *Nature Electronics*, **2018**, 1, 137-145	28.4	511
119	Threshold Switching of Ag or Cu in Dielectrics: Materials, Mechanism, and Applications. *Advanced Functional Materials*, **2018**, 28, 1704862	15.6	168
118	Enhanced performance of Ag-filament threshold switching selector by rapid thermal processing **2018**,		3
117	Weighted Synapses Without Carry Operations for RRAM-Based Neuromorphic Systems. *Frontiers in Neuroscience*, **2018**, 12, 167	5.1	9
116	Improving electrical performance in Ge–Si core–shell nanowire transistor with a new stripped structure. *Semiconductor Science and Technology*, **2018**, 33, 095004	1.8	5
115	Capacitive neural network with neuro-transistors. *Nature Communications*, **2018**, 9, 3208	17.4	132
114	Graphene Oxide Quantum Dots Based Memristors with Progressive Conduction Tuning for Artificial Synaptic Learning. *Advanced Functional Materials*, **2018**, 28, 1803728	15.6	156
113	R2D2: Runtime reassurance and detection of A2 Trojan **2018**,		11
112	Conduction mechanisms, dynamics and stability in ReRAMs. *Microelectronic Engineering*, **2018**, 187-188, 121-133	2.5	34
111	Demonstration of Generative Adversarial Network by Intrinsic Random Noises of Analog RRAM Devices **2018**,		9
110	Characterizing Endurance Degradation of Incremental Switching in Analog RRAM for Neuromorphic Systems **2018**,		33
109	A Novel Graphene Double-Balanced Passive Mixer **2018**,		1
108	Impact of variations of threshold voltage and hold voltage of threshold switching selectors in 1S1R crossbar array. *Chinese Physics B*, **2018**, 27, 118502	1.2	2
107	Suppress variations of analog resistive memory for neuromorphic computing by localizing Vo formation. *Journal of Applied Physics*, **2018**, 124, 152108	2.5	11
106	A Methodology to Improve Linearity of Analog RRAM for Neuromorphic Computing **2018**,		71
105	Novel In-Memory Matrix-Matrix Multiplication with Resistive Cross-Point Arrays **2018**,		10
104	Sign backpropagation: An on-chip learning algorithm for analog RRAM neuromorphic computing systems. *Neural Networks*, **2018**, 108, 217-223	9.1	28

103	Resistance Switching Characteristics Induced by O 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	9.5	22
102	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	4.4	6
101	Face classification using electronic synapses. *Nature Communications*, **2017**, 8, 15199	17.4	502
100	Circuit design for beyond von Neumann applications using emerging memory: From nonvolatile logics to neuromorphic computing **2017**,		12
99	Neuromorphic Computing based on Resistive RAM **2017**,		4
98	A nondestructive approach to study resistive switching mechanism in metal oxide based on defect photoluminescence mapping. *Nanoscale*, **2017**, 9, 13449-13456	7.7	9
97	Uniformity improvements of low current 1T1R RRAM arrays through optimized verification strategy **2017**,		3
96	Design and optimization of strong Physical Unclonable Function (PUF) based on RRAM array **2017**,		2
95	Boosting the performance of resistive switching memory with a transparent ITO electrode using supercritical fluid nitridation. *RSC Advances*, **2017**, 7, 11585-11590	3.7	16
94	Optimization of RRAM-Based Physical Unclonable Function With a Novel Differential Read-Out Method. *IEEE Electron Device Letters*, **2017**, 38, 168-171	4.4	31
93	Conduction Mechanism and Improved Endurance in HfO-Based RRAM with Nitridation Treatment. *Nanoscale Research Letters*, **2017**, 12, 574	5	31
92	Ultrafast RESET Analysis of HfOx-Based RRAM by Sub-Nanosecond Pulses. *Advanced Electronic Materials*, **2017**, 3, 1700263	6.4	37
91	Investigation of statistical retention of filamentary analog RRAM for neuromophic computing **2017**,		40
90	Extending 1kb RRAM array from weak PUF to strong PUF by employment of SHA module **2017**,		3
89	Truly Electroforming-Free and Low-Energy Memristors with Preconditioned Conductive Tunneling Paths. *Advanced Functional Materials*, **2017**, 27, 1702010	15.6	56
88	New structure with SiO $_2$ -gate-dielectric select gates in vertical-channel three-dimensional (3D) NAND flash memory. *Microelectronics Reliability*, **2017**, 78, 80-84	1.2	6
87	Online training on RRAM based neuromorphic network: Experimental demonstration and operation scheme optimization **2017**,		2
86	Performance Improvements by SL-Current Limiter and Novel Programming Methods on 16MB RRAM Chip **2017**,		2

85	Improving Analog Switching in HfOx-Based Resistive Memory With a Thermal Enhanced Layer. *IEEE Electron Device Letters*, **2017**, 38, 1019-1022	4.4	136
84	Short Time High-Resistance State Instability of TaOx-Based RRAM Devices. *IEEE Electron Device Letters*, **2017**, 38, 32-35	4.4	15
83	Reconfigurable Magnetic Logic Combined with Nonvolatile Memory Writing. *Advanced Materials*, **2017**, 29, 1605027	24	28
82	Modeling disorder effect of the oxygen vacancy distribution in filamentary analog RRAM for neuromorphic computing **2017**,		23
81	Si Interface Barrier Modification on Memristor for Brain-Inspired Computing. *Journal of Physics: Conference Series*, **2017**, 864, 012064	0.3	
80	A novel PUF against machine learning attack: Implementation on a 16 Mb RRAM chip **2017**,		4
79	Evaluation and optimization of physical unclonable function (PUF) based on the variability of FinFET SRAM **2017**,		1
78	Device and circuit optimization of RRAM for neuromorphic computing **2017**,		35
77	Optimization of writing scheme on 1T1R RRAM to achieve both high speed and good uniformity **2017**,		2
76	Fractional memristor. *Applied Physics Letters*, **2017**, 111, 243502	3.4	12
75	Resistive Random Access Memory for Future Information Processing System. *Proceedings of the IEEE*, **2017**, 105, 1770-1789	14.3	62
74	Deep-submicron Graphene Field-Effect Transistors with State-of-Art f. *Scientific Reports*, **2016**, 6, 35717	4.9	21
73	A novel speed-up coding method in quadruple-level-cell 3D NAND flash memory **2016**,		1
72	Fabrication and characterization of thermoelectric power generators with segmented legs synthesized by one-step spark plasma sintering. *Energy*, **2016**, 113, 35-43	7.9	37
71	. *IEEE Transactions on Electron Devices*, **2016**, 63, 4737-4743	2.9	10
70	Synthesis and characterization of vertically standing MoS2 nanosheets. *Scientific Reports*, **2016**, 6, 21171	4.9	141
69	RRAM Cross-Point Arrays **2016**, 223-260		0
68	Electrode-induced digital-to-analog resistive switching in TaO x -based RRAM devices. *Nanotechnology*, **2016**, 27, 305201	3.4	33

67	An efficient method for evaluating RRAM crossbar array performance. *Solid-State Electronics*, **2016**, 120, 32-40	1.7	5
66	Relaxation Effect in RRAM Arrays: Demonstration and Characteristics. *IEEE Electron Device Letters*, **2016**, 37, 182-185	4.4	21
65	Probing the Photovoltage and Photocurrent in Perovskite Solar Cells with Nanoscale Resolution. *Advanced Functional Materials*, **2016**, 26, 3048-3058	15.6	64
64	A compact model for the SET parameter variations of oxide RRAM array **2016**,		2
63	A highly reliable and tamper-resistant RRAM PUF: Design and experimental validation **2016**,		28
62	Bipolar resistive switching in Al/GO-PEDOT:PSS/Pt memory devices **2016**,		2
61	The Statistical Evaluation of Correlations between LRS and HRS Relaxations in RRAM Array **2016**,		2
60	Engineering interface-type resistance switching based on forming current compliance in ITO/Ga2O3:ITO/TiN resistance random access memory: Conduction mechanisms, temperature effects, and electrode influence. *Applied Physics Letters*, **2016**, 109, 183509	3.4	14
59	Oxide-based analog synapse: Physical modeling, experimental characterization, and optimization **2016**,		14
58	**2016**,		116
57	Electrochemical control of the phase transition of ultrathin FeRh films. *Applied Physics Letters*, **2016**, 108, 202404	3.4	25
56	Suppression of relaxation effect in HfO2resistive random access memory array by improved program operations. *Applied Physics Express*, **2016**, 9, 051501	2.4	
55	HfO2/Al2O3 multilayer for RRAM arrays: a technique to improve tail-bit retention. *Nanotechnology*, **2016**, 27, 395201	3.4	30
54	Redistribution of carbon atoms in Pt substrate for high quality monolayer graphene synthesis. *Journal of Semiconductors*, **2015**, 36, 013005	2.3	3
53	Double-Balanced Graphene Integrated Mixer with Outstanding Linearity. *Nano Letters*, **2015**, 15, 6677-82	11.5	32
52	Experimental Characterization of Physical Unclonable Function Based on 1 kb Resistive Random Access Memory Arrays. *IEEE Electron Device Letters*, **2015**, 36, 1380-1383	4.4	92
51	Optimization of TiN/TaOx/HfO2/TiN RRAM Arrays for Improved Switching and Data Retention **2015**,		13
50	Graphene oxide and TiO2 nano-particle composite based nonvolatile memory **2015**,		2

49	Graphene Distributed Amplifiers: Generating Desirable Gain for Graphene Field-Effect Transistors. *Scientific Reports*, **2015**, 5, 17649	4.9	8
48	Stacked 3D RRAM Array with Graphene/CNT as Edge Electrodes. *Scientific Reports*, **2015**, 5, 13785	4.9	28
47	Theory study and implementation of configurable ECC on RRAM memory **2015**,		10
46	The effect of variation on neuromorphic network based on 1T1R memristor array **2015**,		2
45	A 16 Mb RRAM test chip based on analog power system with tunable write pulses **2015**,		1
44	Scaling-up resistive synaptic arrays for neuro-inspired architecture: Challenges and prospect **2015**,		98
43	Synaptic learning behaviors achieved by metal ion migration in a Cu/PEDOT:PSS/Ta memristor **2015**,		3
42	Magnetoelectric Coupling Induced by Interfacial Orbital Reconstruction. *Advanced Materials*, **2015**, 27, 6651-6	24	69
41	Asymmetric resistive switching processes in W:AlO x /WO y bilayer devices. *Chinese Physics B*, **2015**, 24, 058501	1.2	2
40	Stable self-compliance resistive switching in AlO𝑥/Ta2O(5-x)/TaOy triple layer devices. *Nanotechnology*, **2015**, 26, 035203	3.4	27
39	Atomistic study of dynamics for metallic filament growth in conductive-bridge random access memory. *Physical Chemistry Chemical Physics*, **2015**, 17, 8627-32	3.6	23
38	Study of multi-level characteristics for 3D vertical resistive switching memory. *Scientific Reports*, **2014**, 4, 5780	4.9	82
37	Metallic to hopping conduction transition in Ta2O5𝑥/TaOy resistive switching device. *Applied Physics Letters*, **2014**, 105, 063508	3.4	67
36	Inverted process for graphene integrated circuits fabrication. *Nanoscale*, **2014**, 6, 5826-30	7.7	13
35	Monolithic graphene frequency multiplier working at 10GHz range **2014**,		2
34	Resistive Switching Performance Improvement of ${\rm Ta}_{2}{\rm O}_{5-x}/{\rm TaO}_{y}$ Bilayer ReRAM Devices by Inserting ${\rm AlO}_{delta}$ Barrier Layer. *IEEE Electron Device Letters*, **2014**, 35, 39-41	4.4	47
33	Graphene nonvolatile memory prototype based on charge-transfer mechanism. *Applied Physics Express*, **2014**, 7, 045101	2.4	5
32	Geometry Optimization of Planar Hall Devices Under Voltage Biasing. *IEEE Transactions on Electron Devices*, **2014**, 61, 4216-4223	2.9	8

31	Random telegraph noise analysis in AlOx/WOy resistive switching memories. *Applied Physics Letters*, **2014**, 104, 103507	3.4	16
30	Non-Volatile Threshold Adaptive Transistors with Embedded RRAM. *Chinese Physics Letters*, **2014**, 31, 108504	1.8	2
29	Graphene applications in electronic and optoelectronic devices and circuits. *Chinese Physics B*, **2013**, 22, 098106	1.2	50
28	Graphene mobility enhancement by organosilane interface engineering. *Applied Physics Letters*, **2013**, 102, 183107	3.4	12
27	Study of conduction and switching mechanisms in Al/AlOx/WOx/W resistive switching memory for multilevel applications. *Applied Physics Letters*, **2013**, 102, 233502	3.4	78
26	High carrier mobility in suspended-channel graphene field effect transistors. *Applied Physics Letters*, **2013**, 103, 193102	3.4	14
25	The study of the effects of cooling conditions on high quality graphene growth by the APCVD method. *Nanoscale*, **2013**, 5, 5524-9	7.7	23
24	Resisitive switching variability study on 1T1R AlOx/WOx-based RRAM array **2013**,		1
23	Low power W:AlOx/WOx bilayer resistive switching structure based on conductive filament formation and rupture mechanism. *Applied Physics Letters*, **2013**, 102, 173503	3.4	42
22	Electrochemical simulation of filament growth and dissolution in conductive-bridging RAM (CBRAM) with cylindrical coordinates **2012**,		7
21	A CMOS Compatible WOx RRAM with Optimized Switching Operations. *ECS Transactions*, **2012**, 44, 1235-1240		
20	An N-channel graded-junction lateral diffused MOS transistor in 0.18 μm low-power logic CMOS process **2011**,		1
19	High-yield GaN nanowire synthesis and field-effect transistor fabrication. *Journal of Electronic Materials*, **2006**, 35, 670-674	1.9	25
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