

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

218 papers	9,794 citations	50 h-index	92 g-index
236 ext. papers	11,796 ext. citations	6.6 avg, IF	6.25 L-index

#	Paper	IF	Citations
218	Fully room-temperature-fabricated nonvolatile resistive memory for ultrafast and high-density memory application. <i>Nano Letters</i> , <b>2009</b> , 9, 1636-43	11.5	718
217	Real-time observation on dynamic growth/dissolution of conductive filaments in oxide-electrolyte-based ReRAM. <i>Advanced Materials</i> , <b>2012</b> , 24, 1844-9	24	443
216	Controllable growth of nanoscale conductive filaments in solid-electrolyte-based ReRAM by using a metal nanocrystal covered bottom electrode. <i>ACS Nano</i> , <b>2010</b> , 4, 6162-8	16.7	371
215	Recommended Methods to Study Resistive Switching Devices. <i>Advanced Electronic Materials</i> , <b>2019</b> , 5, 1800143	6.4	297
214	Nonpolar Nonvolatile Resistive Switching in Cu Doped $\text{ZrO}_2$ . <i>IEEE Electron Device Letters</i> , <b>2008</b> , 29, 434-437	4.4	231
213	Investigation of resistive switching in Cu-doped HfO <sub>2</sub> thin film for multilevel non-volatile memory applications. <i>Nanotechnology</i> , <b>2010</b> , 21, 045202	3.4	228
212	Memristor with Ag-Cluster-Doped TiO <sub>2</sub> Films as Artificial Synapse for Neuroinspired Computing. <i>Advanced Functional Materials</i> , <b>2018</b> , 28, 1705320	15.6	221
211	Direct Observation of Conversion Between Threshold Switching and Memory Switching Induced by Conductive Filament Morphology. <i>Advanced Functional Materials</i> , <b>2014</b> , 24, 5679-5686	15.6	218
210	Resistive switching memory effect of ZrO <sub>2</sub> films with Zr <sup>+</sup> implanted. <i>Applied Physics Letters</i> , <b>2008</b> , 92, 012117	3.4	209
209	Two-dimensional materials for next-generation computing technologies. <i>Nature Nanotechnology</i> , <b>2020</b> , 15, 545-557	28.7	196
208	Improvement of Resistive Switching Properties in $\text{ZrO}_2$ -Based ReRAM With Implanted Ti Ions. <i>IEEE Electron Device Letters</i> , <b>2009</b> , 30, 1335-1337	4.4	181
207	On the resistive switching mechanisms of Cu/ZrO <sub>2</sub> :Cu/Pt. <i>Applied Physics Letters</i> , <b>2008</b> , 93, 223506	3.4	168
206	Eliminating Negative-SET Behavior by Suppressing Nanofilament Overgrowth in Cation-Based Memory. <i>Advanced Materials</i> , <b>2016</b> , 28, 10623-10629	24	161
205	Breaking the Current-Retention Dilemma in Cation-Based Resistive Switching Devices Utilizing Graphene with Controlled Defects. <i>Advanced Materials</i> , <b>2018</b> , 30, e1705193	24	157
204	Graphene Oxide Quantum Dots Based Memristors with Progressive Conduction Tuning for Artificial Synaptic Learning. <i>Advanced Functional Materials</i> , <b>2018</b> , 28, 1803728	15.6	156
203	An Artificial Neuron Based on a Threshold Switching Memristor. <i>IEEE Electron Device Letters</i> , <b>2018</b> , 39, 308-311	4.4	146
202	Vacancy-Induced Synaptic Behavior in 2D WS Nanosheet-Based Memristor for Low-Power Neuromorphic Computing. <i>Small</i> , <b>2019</b> , 15, e1901423	11	142

201	Multilevel resistive switching with ionic and metallic filaments. <i>Applied Physics Letters</i> , <b>2009</b> , 94, 233106	3.4	142
200	Self-Assembled Networked PbS Distribution Quantum Dots for Resistive Switching and Artificial Synapse Performance Boost of Memristors. <i>Advanced Materials</i> , <b>2019</b> , 31, e1805284	24	142
199	Graphene and Related Materials for Resistive Random Access Memories. <i>Advanced Electronic Materials</i> , <b>2017</b> , 3, 1600195	6.4	137
198	Resistive Switching Properties of $\text{Au}/\text{ZrO}_2/\text{Ag}$ Structure for Low-Voltage Nonvolatile Memory Applications. <i>IEEE Electron Device Letters</i> , <b>2010</b> , 31, 117-119	4.4	123
197	Confining Cation Injection to Enhance CBRAM Performance by Nanopore Graphene Layer. <i>Small</i> , <b>2017</b> , 13, 1603948	11	113
196	Resistive Switching Performance Improvement via Modulating Nanoscale Conductive Filament, Involving the Application of Two-Dimensional Layered Materials. <i>Small</i> , <b>2017</b> , 13, 1604306	11	105
195	An artificial spiking afferent nerve based on Mott memristors for neurorobotics. <i>Nature Communications</i> , <b>2020</b> , 11, 51	17.4	105
194	Evolution of conductive filament and its impact on reliability issues in oxide-electrolyte based resistive random access memory. <i>Scientific Reports</i> , <b>2015</b> , 5, 7764	4.9	99
193	Programmable transition metal dichalcogenide homojunctions controlled by nonvolatile ferroelectric domains. <i>Nature Electronics</i> , <b>2020</b> , 3, 43-50	28.4	98
192	Schottky barrier diode based on $\text{EGa}_2\text{O}_3$ (100) single crystal substrate and its temperature-dependent electrical characteristics. <i>Applied Physics Letters</i> , <b>2017</b> , 110, 093503	3.4	96
191	Formation of multiple conductive filaments in the $\text{Cu}/\text{ZrO}_2/\text{Cu}/\text{Pt}$ device. <i>Applied Physics Letters</i> , <b>2009</b> , 95, 023501	3.4	95
190	Memory materials and devices: From concept to application. <i>Information Materials</i> , <b>2020</b> , 2, 261-290	23.1	93
189	Emulating Short-Term and Long-Term Plasticity of Bio-Synapse Based on $\text{Cu}/\text{a-Si}/\text{Pt}$ Memristor. <i>IEEE Electron Device Letters</i> , <b>2017</b> , 38, 1208-1211	4.4	89
188	Electronic imitation of behavioral and psychological synaptic activities using $\text{TiO}/\text{AlO}$ -based memristor devices. <i>Nanoscale</i> , <b>2017</b> , 9, 14442-14450	7.7	76
187	Full imitation of synaptic metaplasticity based on memristor devices. <i>Nanoscale</i> , <b>2018</b> , 10, 5875-5881	7.7	75
186	Thermoelectric Seebeck effect in oxide-based resistive switching memory. <i>Nature Communications</i> , <b>2014</b> , 5, 4598	17.4	75
185	Super non-linear RRAM with ultra-low power for 3D vertical nano-crossbar arrays. <i>Nanoscale</i> , <b>2016</b> , 8, 15629-36	7.7	72
184	Effects of Capping Electrode on Ferroelectric Properties of $\text{Hf}_{0.5}\text{Zr}_{0.5}\text{O}_2$ Thin Films. <i>IEEE Electron Device Letters</i> , <b>2018</b> , 39, 1207-1210	4.4	70

183	Flexible memristors as electronic synapses for neuro-inspired computation based on scotch tape-exfoliated mica substrates. <i>Nano Research</i> , <b>2018</b> , 11, 1183-1192	10	69
182	Self-rectifying effect in gold nanocrystal-embedded zirconium oxide resistive memory. <i>Journal of Applied Physics</i> , <b>2009</b> , 106, 073724	2.5	69
181	Atomic View of Filament Growth in Electrochemical Memristive Elements. <i>Scientific Reports</i> , <b>2015</b> , 5, 13311	4.9	65
180	Conductance Quantization in Resistive Random Access Memory. <i>Nanoscale Research Letters</i> , <b>2015</b> , 10, 420	5	65
179	Ultrasensitive negative capacitance phototransistors. <i>Nature Communications</i> , <b>2020</b> , 11, 101	17.4	63
178	MoTe p-n Homojunctions Defined by Ferroelectric Polarization. <i>Advanced Materials</i> , <b>2020</b> , 32, e1907937	24	60
177	High-Performance Metal-Organic Chemical Vapor Deposition Grown $\epsilon$ -Ga <sub>2</sub> O <sub>3</sub> Solar-Blind Photodetector With Asymmetric Schottky Electrodes. <i>IEEE Electron Device Letters</i> , <b>2019</b> , 40, 1475-1478	4.4	59
176	Fatigue mechanism of yttrium-doped hafnium oxide ferroelectric thin films fabricated by pulsed laser deposition. <i>Physical Chemistry Chemical Physics</i> , <b>2017</b> , 19, 3486-3497	3.6	56
175	An overview of resistive random access memory devices. <i>Science Bulletin</i> , <b>2011</b> , 56, 3072-3078		55
174	In situ observation of nickel as an oxidizable electrode material for the solid-electrolyte-based resistive random access memory. <i>Applied Physics Letters</i> , <b>2013</b> , 102, 053502	3.4	54
173	Uniformity Improvement in 1T1R RRAM With Gate Voltage Ramp Programming. <i>IEEE Electron Device Letters</i> , <b>2014</b> , 35, 1224-1226	4.4	54
172	Advances in Understanding Materials for Rechargeable Lithium Batteries by Atomic Force Microscopy. <i>Energy and Environmental Materials</i> , <b>2018</b> , 1, 28-40	13	53
171	A highly CMOS compatible hafnia-based ferroelectric diode. <i>Nature Communications</i> , <b>2020</b> , 11, 1391	17.4	52
170	Amorphous Gallium Oxide-Based Gate-Tunable High-Performance Thin Film Phototransistor for Solar-Blind Imaging. <i>Advanced Electronic Materials</i> , <b>2019</b> , 5, 1900389	6.4	50
169	Nitrogen-induced improvement of resistive switching uniformity in a HfO <sub>2</sub> -based RRAM device. <i>Semiconductor Science and Technology</i> , <b>2012</b> , 27, 125008	1.8	50
168	Resistive switching characteristics of MnO <sub>x</sub> -based ReRAM. <i>Journal Physics D: Applied Physics</i> , <b>2009</b> , 42, 055112	3	50
167	Fabrication and charging characteristics of MOS capacitor structure with metal nanocrystals embedded in gate oxide. <i>Journal Physics D: Applied Physics</i> , <b>2007</b> , 40, 2754-2758	3	50
166	Highly Stable Radiation-Hardened Resistive-Switching Memory. <i>IEEE Electron Device Letters</i> , <b>2010</b> , 31, 1470-1472	4.4	49

165	Highly improved performance in ZrO <sub>5</sub> HfO <sub>5</sub> O <sub>2</sub> films inserted with graphene oxide quantum dots layer for resistive switching non-volatile memory. <i>Journal of Materials Chemistry C</i> , <b>2017</b> , 5, 11046-11052	7.1	48
164	Oxide-Based Electrolyte-Gated Transistors for Spatiotemporal Information Processing. <i>Advanced Materials</i> , <b>2020</b> , 32, e2003018	24	48
163	Short-Term and Long-Term Plasticity Mimicked in Low-Voltage Ag/GeSe/TiN Electronic Synapse. <i>IEEE Electron Device Letters</i> , <b>2018</b> , 39, 492-495	4.4	46
162	Design of CMOS Compatible, High-Speed, Highly-Stable Complementary Switching with Multilevel Operation in 3D Vertically Stacked Novel HfO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub> /TiO <sub>x</sub> (HAT) RRAM. <i>Advanced Electronic Materials</i> , <b>2018</b> , 4, 1700561	6.4	45
161	Self-Rectifying and Forming-Free Resistive-Switching Device for Embedded Memory Application. <i>IEEE Electron Device Letters</i> , <b>2018</b> , 39, 664-667	4.4	45
160	Bipolar one diode-one resistor integration for high-density resistive memory applications. <i>Nanoscale</i> , <b>2013</b> , 5, 4785-9	7.7	45
159	Superior Retention of Low-Resistance State in Conductive Bridge Random Access Memory With Single Filament Formation. <i>IEEE Electron Device Letters</i> , <b>2015</b> , 36, 129-131	4.4	44
158	Self-Rectifying Resistive-Switching Device With $\text{Si}/\text{WO}_3$ Bilayer. <i>IEEE Electron Device Letters</i> , <b>2013</b> , 34, 229-231	4.4	44
157	Improvement of resistive switching characteristics in ZrO <sub>2</sub> film by embedding a thin TiO <sub>x</sub> layer. <i>Nanotechnology</i> , <b>2011</b> , 22, 254028	3.4	43
156	Review of deep ultraviolet photodetector based on gallium oxide. <i>Chinese Physics B</i> , <b>2019</b> , 28, 018501	1.2	42
155	Proton-based total-dose irradiation effects on Cu/HfO <sub>2</sub> :Cu/Pt ReRAM devices. <i>Nanotechnology</i> , <b>2010</b> , 21, 475206	3.4	42
154	Improvement of Endurance in HZO-Based Ferroelectric Capacitor Using Ru Electrode. <i>IEEE Electron Device Letters</i> , <b>2019</b> , 40, 1744-1747	4.4	41
153	Improved Resistive Switching Uniformity in $\text{Cu}/\text{HfO}_2/\text{Pt}$ Devices by Using Current Sweeping Mode. <i>IEEE Electron Device Letters</i> , <b>2011</b> , 32, 1053-1055	4.4	41
152	Enhancement-Mode $\beta\text{-Ga}_2\text{O}_3$ Metal-Oxide-Semiconductor Field-Effect Solar-Blind Phototransistor With Ultrahigh Detectivity and Photo-to-Dark Current Ratio. <i>IEEE Electron Device Letters</i> , <b>2019</b> , 40, 742-745	4.4	40
151	Schottky Barrier Rectifier Based on (100) $\beta\text{-Ga}_2\text{O}_3$ and its DC and AC Characteristics. <i>IEEE Electron Device Letters</i> , <b>2018</b> , 1-1	4.4	40
150	Characterization of the inhomogeneous barrier distribution in a Pt/(100) $\beta\text{-Ga}_2\text{O}_3$ Schottky diode via its temperature-dependent electrical properties. <i>AIP Advances</i> , <b>2018</b> , 8, 015316	1.5	39
149	Set statistics in conductive bridge random access memory device with Cu/HfO <sub>2</sub> /Pt structure. <i>Applied Physics Letters</i> , <b>2014</b> , 105, 193501	3.4	39
148	Performance-Enhancing Selector via Symmetrical Multilayer Design. <i>Advanced Functional Materials</i> , <b>2019</b> , 29, 1808376	15.6	38

147	A Habituation Sensory Nervous System with Memristors. <i>Advanced Materials</i> , <b>2020</b> , 32, e2004398	24	37
146	<b>2020</b> ,		37
145	Integration of nanosized ZIF-8 particles onto mesoporous TiO <sub>2</sub> nanobeads for enhanced photocatalytic activity. <i>RSC Advances</i> , <b>2017</b> , 7, 8004-8010	3.7	36
144	Occurrence of Resistive Switching and Threshold Switching in Atomic Layer Deposited Ultrathin (2 nm) Aluminium Oxide Crossbar Resistive Random Access Memory. <i>IEEE Electron Device Letters</i> , <b>2015</b> , 36, 333-335	4.4	36
143	Resistance switching of Au-implanted-ZrO <sub>2</sub> film for nonvolatile memory application. <i>Journal of Applied Physics</i> , <b>2008</b> , 104, 114514	2.5	36
142	Ultrahigh drive current and large selectivity in GeS selector. <i>Nature Communications</i> , <b>2020</b> , 11, 4636	17.4	36
141	Variability Improvement of TiO <sub>2</sub> /AlO <sub>x</sub> Bilayer Nonvolatile Resistive Switching Devices by Interfacial Band Engineering with an Ultrathin AlO <sub>x</sub> Dielectric Material. <i>ACS Omega</i> , <b>2017</b> , 2, 6888-6895	3.9	34
140	Multilevel unipolar resistive switching with negative differential resistance effect in Ag/SiO <sub>2</sub> /Pt device. <i>Journal of Applied Physics</i> , <b>2014</b> , 116, 154509	2.5	34
139	A Review of Resistive Switching Devices: Performance Improvement, Characterization, and Applications. <i>Small Structures</i> , <b>2021</b> , 2, 2000109	8.7	34
138	Engineering of defects in resistive random access memory devices. <i>Journal of Applied Physics</i> , <b>2020</b> , 127, 051101	2.5	32
137	Investigation of resistive switching behaviours in WO <sub>3</sub> -based RRAM devices. <i>Chinese Physics B</i> , <b>2011</b> , 20, 017305	1.2	32
136	Nonvolatile multilevel memory effect in Cu/WO <sub>3</sub> /Pt device structures. <i>Physica Status Solidi - Rapid Research Letters</i> , <b>2010</b> , 4, 124-126	2.5	32
135	Bipolar Analog Memristors as Artificial Synapses for Neuromorphic Computing. <i>Materials</i> , <b>2018</b> , 11,	3.5	32
134	Crystal that remembers: several ways to utilize nanocrystals in resistive switching memory. <i>Journal Physics D: Applied Physics</i> , <b>2017</b> , 50, 303002	3	31
133	Cu BEOL compatible selector with high selectivity (>10 <sup>7</sup> ), extremely low off-current (~pA) and high endurance (>10 <sup>10</sup> ) <b>2015</b> ,		31
132	ZrO <sub>2</sub> -Based Memory Cell With a Self-Rectifying Effect for Crossbar WORM Memory Application. <i>IEEE Electron Device Letters</i> , <b>2010</b> , 31, 344-346	4.4	31
131	C-V and J-V investigation of HfO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub> bilayer dielectrics MOSCAPs on (100) EGa <sub>2</sub> O <sub>3</sub> . <i>AIP Advances</i> , <b>2018</b> , 8, 065215	1.5	30
130	Intrinsic anionic rearrangement by extrinsic control: transition of RS and CRS in thermally elevated TiN/HfO <sub>2</sub> /Pt RRAM. <i>Nanoscale</i> , <b>2017</b> , 9, 18908-18917	7.7	30

129	2015,		30
128	Modeling of retention characteristics for metal and semiconductor nanocrystal memories. <i>Solid-State Electronics</i> , <b>2007</b> , 51, 806-811	1.7	29
127	Complementary Switching in 3D Resistive Memory Array. <i>Advanced Electronic Materials</i> , <b>2017</b> , 3, 1700287.	4	28
126	Dynamic observation of oxygen vacancies in hafnia layer by in situ transmission electron microscopy. <i>Nano Research</i> , <b>2015</b> , 8, 3571-3579	10	27
125	A Ti/AlO <sub>x</sub> /TaO <sub>x</sub> /Pt Analog Synapse for Memristive Neural Network. <i>IEEE Electron Device Letters</i> , <b>2018</b> , 39, 1298-1301	4.4	27
124	Site- and Configuration-Selective Anchoring of IronPhtalocyanine on the Step Edges of Au(111) Surface. <i>Journal of Physical Chemistry C</i> , <b>2011</b> , 115, 10791-10796	3.8	27
123	Transformation of threshold volatile switching to quantum point contact originated nonvolatile switching in graphene interface controlled memory devices. <i>Nanoscale Advances</i> , <b>2019</b> , 1, 3753-3760	5.1	26
122	A Self-Rectification and Quasi-Linear Analogue Memristor for Artificial Neural Networks. <i>IEEE Electron Device Letters</i> , <b>2019</b> , 40, 1407-1410	4.4	26
121	Overcoming the Dilemma Between RESET Current and Data Retention of RRAM by Lateral Dissolution of Conducting Filament. <i>IEEE Electron Device Letters</i> , <b>2013</b> , 34, 873-875	4.4	26
120	HfO <sub>2</sub> -Based Highly Stable Radiation-Immune Ferroelectric Memory. <i>IEEE Electron Device Letters</i> , <b>2017</b> , 38, 330-333	4.4	25
119	Resistive switching mechanism of Ag/ZrO <sub>2</sub> :Cu/Pt memory cell. <i>Applied Physics A: Materials Science and Processing</i> , <b>2011</b> , 102, 915-919	2.6	25
118	Atomic Scale Modulation of Self-Rectifying Resistive Switching by Interfacial Defects. <i>Advanced Science</i> , <b>2018</b> , 5, 1800096	13.6	24
117	Artificial Visual Perception Nervous System Based on Low-Dimensional Material Photoelectric Memristors. <i>ACS Nano</i> , <b>2021</b> ,	16.7	24
116	Investigation of LRS dependence on the retention of HRS in CBRAM. <i>Nanoscale Research Letters</i> , <b>2015</b> , 10, 61	5	23
115	Investigation on the RESET switching mechanism of bipolar Cu/HfO <sub>2</sub> /Pt RRAM devices with a statistical methodology. <i>Journal Physics D: Applied Physics</i> , <b>2013</b> , 46, 245107	3	23
114	. <i>IEEE Electron Device Letters</i> , <b>2010</b> ,	4.4	23
113	High on/off ratio black phosphorus based memristor with ultra-thin phosphorus oxide layer. <i>Applied Physics Letters</i> , <b>2019</b> , 115, 193503	3.4	22
112	2017,		22

111	Improving the electrical performance of resistive switching memory using doping technology. <i>Science Bulletin</i> , <b>2012</b> , 57, 1235-1240		22
110	Improvement of Device Reliability by Introducing a BEOL-Compatible TiN Barrier Layer in CBRAM. <i>IEEE Electron Device Letters</i> , <b>2017</b> , 38, 1371-1374	4.4	21
109	A novel method of identifying the carrier transport path in metal oxide resistive random access memory. <i>Journal Physics D: Applied Physics</i> , <b>2015</b> , 48, 065101	3	21
108	Metal dopants in HfO <sub>2</sub> -based RRAM: first principle study. <i>Journal of Semiconductors</i> , <b>2014</b> , 35, 042002	2.3	21
107	. <i>IEEE Electron Device Letters</i> , <b>2012</b> , 33, 1556-1558	4.4	20
106	Effects of interaction between defects on the uniformity of doping HfO <sub>2</sub> -based RRAM: a first principle study. <i>Journal of Semiconductors</i> , <b>2013</b> , 34, 032001	2.3	20
105	Composition-Dependent Ferroelectric Properties in Sputtered Hf <sub>0.9</sub> Zr <sub>0.1</sub> O <sub>2</sub> Thin Films. <i>IEEE Electron Device Letters</i> , <b>2019</b> , 40, 570-573	4.4	19
104	Solution-chemical route to generalized synthesis of metal germanate nanowires with room-temperature, light-driven hydrogenation activity of CO <sub>2</sub> into renewable hydrocarbon fuels. <i>Inorganic Chemistry</i> , <b>2014</b> , 53, 359-64	5.1	19
103	Design of high-performance memristor cell using W-implanted SiO <sub>2</sub> films. <i>Applied Physics Letters</i> , <b>2016</b> , 108, 153501	3.4	19
102	Unique Zinc Germanium Oxynitride Hyperbranched Nanostructures with Enhanced Visible-Light Photocatalytic Activity for CO <sub>2</sub> Reduction. <i>European Journal of Inorganic Chemistry</i> , <b>2017</b> , 2017, 2195-2200	2.3	18
101	Elemental electrical switch enabling phase segregation-free operation. <i>Science</i> , <b>2021</b> , 374, 1390-1394	33.3	18
100	Fast Switching $\beta$ -Ga <sub>2</sub> O <sub>3</sub> Power MOSFET With a Trench-Gate Structure. <i>IEEE Electron Device Letters</i> , <b>2019</b> , 40, 1385-1388	4.4	17
99	One Transistor One Electrolyte-Gated Transistor Based Spiking Neural Network for Power-Efficient Neuromorphic Computing System. <i>Advanced Functional Materials</i> , <b>2021</b> , 31, 2100042	15.6	17
98	<b>2018</b> ,		17
97	Interface Engineering via MoS <sub>2</sub> Insertion Layer for Improving Resistive Switching of Conductive-Bridging Random Access Memory. <i>Advanced Electronic Materials</i> , <b>2019</b> , 5, 1800747	6.4	16
96	Coordination-driven self-assembly: construction of a Fe <sub>3</sub> O <sub>4</sub> @graphene hybrid 3D framework and its long cycle lifetime for lithium-ion batteries. <i>RSC Advances</i> , <b>2015</b> , 5, 40249-40257	3.7	15
95	. <i>IEEE Electron Device Letters</i> , <b>2019</b> , 40, 554-557	4.4	15
94	. <i>IEEE Electron Device Letters</i> , <b>2019</b> , 40, 718-721	4.4	14

93	Proton Radiation Effects on Y-Doped HfO <sub>2</sub> -Based Ferroelectric Memory. <i>IEEE Electron Device Letters</i> , <b>2018</b> , 39, 823-826	4.4	14
92	Investigation on the Conductive Filament Growth Dynamics in Resistive Switching Memory via a Universal Monte Carlo Simulator. <i>Scientific Reports</i> , <b>2017</b> , 7, 11204	4.9	14
91	Reset Instability in $\text{Cu}/\text{ZrO}_2/\text{Cu}$ :Cu/Pt RRAM Device. <i>IEEE Electron Device Letters</i> , <b>2011</b> , 32, 363-365	4.4	14
90	Analysis of the Negative-SET Behaviors in Cu/ZrO <sub>2</sub> /Pt Devices. <i>Nanoscale Research Letters</i> , <b>2016</b> , 11, 542	5	14
89	A Compact Model for Drift and Diffusion Memristor Applied in Neuron Circuits Design. <i>IEEE Transactions on Electron Devices</i> , <b>2018</b> , 65, 4290-4296	2.9	14
88	A Semi-Floating Memory with 535% Enhancement of Refresh Time by Local Field Modulation. <i>Advanced Functional Materials</i> , <b>2020</b> , 30, 1908089	15.6	13
87	An overview of the switching parameter variation of RRAM. <i>Science Bulletin</i> , <b>2014</b> , 59, 5324-5337		13
86	Statistical characteristics of reset switching in Cu/HfO <sub>2</sub> /Pt resistive switching memory. <i>Nanoscale Research Letters</i> , <b>2014</b> , 9, 2500	5	13
85	Response to "comment on real-time observation on dynamic growth/dissolution of conductive filaments in oxide-electrolyte-based ReRAM". <i>Advanced Materials</i> , <b>2013</b> , 25, 165-7	24	13
84	Hybrid memristor-CMOS neurons for in-situ learning in fully hardware memristive spiking neural networks. <i>Science Bulletin</i> , <b>2021</b> , 66, 1624-1624	10.6	13
83	Evolution of the conductive filament system in HfO <sub>2</sub> -based memristors observed by direct atomic-scale imaging.. <i>Nature Communications</i> , <b>2021</b> , 12, 7232	17.4	13
82	Light-Emitting Devices Modulated by Multilevel Resistive Memories. <i>ACS Photonics</i> , <b>2018</b> , 5, 1006-1011	6.3	12
81	Highly improved resistive switching performances of the self-doped Pt/HfO <sub>2</sub> :Cu/Cu devices by atomic layer deposition. <i>Science China: Physics, Mechanics and Astronomy</i> , <b>2016</b> , 59, 1	3.6	12
80	Approaches for improving the performance of filament-type resistive switching memory. <i>Science Bulletin</i> , <b>2011</b> , 56, 461-464		12
79	Fully Memristive SNNs with Temporal Coding for Fast and Low-power Edge Computing <b>2020</b> ,		12
78	Efficient and Robust Nonvolatile Computing-In-Memory Based on Voltage Division in 2T2R RRAM With Input-Dependent Sensing Control. <i>IEEE Transactions on Circuits and Systems II: Express Briefs</i> , <b>2021</b> , 68, 1640-1644	3.5	12
77	A Heterogeneously Integrated Spiking Neuron Array for Multimode-Fused Perception and Object Classification.. <i>Advanced Materials</i> , <b>2022</b> , e2200481	24	12
76	A Physical Model for the Statistics of the Set Switching Time of Resistive RAM Measured With the Width-Adjusting Pulse Operation Method. <i>IEEE Electron Device Letters</i> , <b>2015</b> , 36, 1303-1306	4.4	11

75	Uniformity and Retention Improvement of TaOx-Based Conductive Bridge Random Access Memory by CuSiN Interfacial Layer Engineering. <i>IEEE Electron Device Letters</i> , <b>2017</b> , 38, 1232-1235	4.4	11
74	Effect of low constant current stress treatment on the performance of the Cu/ZrO <sub>2</sub> /Pt resistive switching device. <i>Semiconductor Science and Technology</i> , <b>2012</b> , 27, 105007	1.8	11
73	Resistive switching properties of HfO <sub>2</sub> -based ReRAM with implanted Si/Al ions <b>2012</b> ,		11
72	Ion-Gated Transistor: An Enabler for Sensing and Computing Integration. <i>Advanced Intelligent Systems</i> , <b>2020</b> , 2, 2000156	6	11
71	The conductive path in HfO <sub>2</sub> : first principles study. <i>Journal of Semiconductors</i> , <b>2012</b> , 33, 072002	2.3	10
70	Improvement of Resistive Switching Uniformity in TiOx Film by Nitrogen Annealing. <i>Journal of the Korean Physical Society</i> , <b>2011</b> , 58, 407-410	0.6	10
69	Experimental Demonstration of Conversion-Based SNNs with 1T1R Mott Neurons for Neuromorphic Inference <b>2019</b> ,		10
68	Flexible cation-based threshold selector for resistive switching memory integration. <i>Science China Information Sciences</i> , <b>2018</b> , 61, 1	3.4	9
67	Modulating 3D memristor synapse by analog spiking pulses for bioinspired neuromorphic computing. <i>Science China: Physics, Mechanics and Astronomy</i> , <b>2018</b> , 61, 1	3.6	9
66	Carrier-transport-path-induced switching parameter fluctuation in oxide-based resistive switching memory. <i>Materials Research Express</i> , <b>2015</b> , 2, 046304	1.7	9
65	Operation methods of resistive random access memory. <i>Science China Technological Sciences</i> , <b>2014</b> , 57, 2295-2304	3.5	9
64	Recent Advances of Electroplating Additives Enabling Lithium Metal Anodes to Applicable Battery Techniques. <i>Energy and Environmental Materials</i> , <b>2021</b> , 4, 284-292	13	9
63	Investigation of Retention Behavior of TiOx/Al <sub>2</sub> O <sub>3</sub> Resistive Memory and Its Failure Mechanism Based on Meyer-Neldel Rule. <i>IEEE Transactions on Electron Devices</i> , <b>2018</b> , 65, 957-962	2.9	8
62	Highly uniform and nonlinear selection device based on trapezoidal band structure for high density nano-crossbar memory array. <i>Nano Research</i> , <b>2017</b> , 10, 3295-3302	10	8
61	Controlled Synthesis of Monodispersed Sub-50 nm Nanoporous In <sub>2</sub> O <sub>3</sub> Spheres and Their Photoelectrochemical Performance. <i>European Journal of Inorganic Chemistry</i> , <b>2015</b> , 2015, 845-851	2.3	8
60	Progress in rectifying-based RRAM passive crossbar array. <i>Science China Technological Sciences</i> , <b>2011</b> , 54, 811-818	3.5	8
59	Toward emerging gallium oxide semiconductors: A roadmap. <i>Fundamental Research</i> , <b>2021</b> , 1, 697-697		8
58	Realizing High-Performance EGa <sub>2</sub> O MOSFET by Using Variation of Lateral Doping: A TCAD Study. <i>IEEE Transactions on Electron Devices</i> , <b>2021</b> , 68, 1501-1506	2.9	8

57	Analysis on the Filament Structure Evolution in Reset Transition of Cu/HfO <sub>2</sub> /Pt RRAM Device. <i>Nanoscale Research Letters</i> , <b>2016</b> , 11, 269	5	8
56	A Few-Step and Low-Cost Memristor Logic Based on MIG Logic for Frequent-Off Instant-On Circuits in IoT Applications. <i>IEEE Transactions on Circuits and Systems II: Express Briefs</i> , <b>2019</b> , 66, 662-666	3.5	8
55	A 4T2R RRAM Bit Cell for Highly Parallel Ternary Content Addressable Memory. <i>IEEE Transactions on Electron Devices</i> , <b>2021</b> , 68, 4933-4937	2.9	7
54	Controlled synthesis of pyrochlore Pr <sub>2</sub> Sn <sub>2</sub> O <sub>7</sub> nanospheres with enhanced gas sensing performance. <i>RSC Advances</i> , <b>2016</b> , 6, 21564-21570	3.7	6
53	Comparison of discrete-storage nonvolatile memories: advantage of hybrid method for fabrication of Au nanocrystal nonvolatile memory. <i>Journal Physics D: Applied Physics</i> , <b>2008</b> , 41, 035109	3	6
52	Quantitatively Evaluating the Effect of Read Noise in Memristive Hopfield Network on Solving Traveling Salesman Problem. <i>IEEE Electron Device Letters</i> , <b>2020</b> , 41, 1688-1691	4.4	6
51	Unveiling the Switching Mechanism of a TaOx/HfO <sub>2</sub> Self-Selective Cell by Probing the Trap Profiles With RTN Measurements. <i>IEEE Electron Device Letters</i> , <b>2018</b> , 39, 1152-1155	4.4	6
50	Impact of Ta/Ti electrodes on linearities of TaOx-based resistive random-access memories for neuromorphic computing. <i>Science China: Physics, Mechanics and Astronomy</i> , <b>2020</b> , 63, 1	3.6	5
49	Origin of negative resistance in anion migration controlled resistive memory. <i>Applied Physics Letters</i> , <b>2018</b> , 112, 133108	3.4	5
48	Classification of Three-Level Random Telegraph Noise and Its Application in Accurate Extraction of Trap Profiles in Oxide-Based Resistive Switching Memory. <i>IEEE Electron Device Letters</i> , <b>2018</b> , 39, 1302-1305	4.4	5
47	Emerging dynamic memristors for neuromorphic reservoir computing.. <i>Nanoscale</i> , <b>2021</b> ,	7.7	5
46	High-performance flexible resistive random access memory devices based on graphene oxidized with a perpendicular oxidation gradient. <i>Nanoscale</i> , <b>2021</b> , 13, 2448-2455	7.7	5
45	Transparent HfO <sub>2</sub> -based memristor with robust flexibility and synapse characteristics by interfacial control of oxygen vacancies movement. <i>Nanotechnology</i> , <b>2021</b> , 32, 145202	3.4	5
44	Voltage-control oscillator based on Pt/C/NbOx/TiN device with highly improved threshold switching performances. <i>Science China: Physics, Mechanics and Astronomy</i> , <b>2019</b> , 62, 1	3.6	4
43	Oxalic Acid-Assisted Hydrothermal Synthesis and Luminescent of Hexagonal NaYF <sub>4</sub> :Ln <sup>3+</sup> (Ln = Sm, Eu, Yb/Er) Micro/Nanoplates. <i>Journal of Nanomaterials</i> , <b>2017</b> , 2017, 1-10	3.2	4
42	Identifying multiple configurations of complex molecules on metal surfaces. <i>Small</i> , <b>2012</b> , 8, 796-806, 795	11	4
41	Improvement of resistive switching properties in ZrO <sub>2</sub> - based ReRAM with implanted metal ions <b>2009</b> ,		4
40	Microscopic mechanism of imprint in hafnium oxide-based ferroelectrics. <i>Nano Research</i> , 1	10	4

39	An Energy Efficient Computing-in-Memory Accelerator With 1T2R Cell and Fully Analog Processing for Edge AI Applications. <i>IEEE Transactions on Circuits and Systems II: Express Briefs</i> , <b>2021</b> , 68, 2932-2936	3.5	4
38	A flexible nickel phthalocyanine resistive random access memory with multi-level data storage capability. <i>Journal of Materials Science and Technology</i> , <b>2021</b> , 86, 151-157	9.1	4
37	Formation mechanism and morphology-dependent luminescence of NdF <sub>3</sub> nanoplates with cavities. <i>CrystEngComm</i> , <b>2017</b> , 19, 2487-2493	3.3	3
36	Optimal migration route of Cu in HfO <sub>2</sub> . <i>Journal of Semiconductors</i> , <b>2014</b> , 35, 013001	2.3	3
35	Resistive switching mechanism of Cu doped ZrO <sub>2</sub> -based RRAM <b>2010</b> ,		3
34	CMOS Compatible Nonvolatile Memory Devices Based on SiO <sub>2</sub> /Cu/SiO <sub>2</sub> Multilayer Films. <i>Chinese Physics Letters</i> , <b>2011</b> , 28, 077201	1.8	3
33	Resistive switching memory for high density storage and computing*. <i>Chinese Physics B</i> , <b>2021</b> , 30, 058702.	2.2	3
32	Two-Step Synthesis of Laminar Vanadate via a Facile Hydrothermal Route and Enhancing the Photocatalytic Reduction of CO <sub>2</sub> into Solar Fuel through Tuning of the Oxygen Vacancies by in Situ Vacuum Illumination Treatment. <i>ACS Applied Energy Materials</i> , <b>2018</b> , 1, 6857-6864	6.1	3
31	Implementing in-situ self-organizing maps with memristor crossbar arrays for data mining and optimization.. <i>Nature Communications</i> , <b>2022</b> , 13, 2289	17.4	3
30	Improved Uniformity of TaOx-Based Resistive Random Access Memory with Ultralow Operating Voltage by Electrodes Engineering. <i>ECS Journal of Solid State Science and Technology</i> , <b>2020</b> , 9, 041005	2	2
29	Resistance-switching mechanism of SiO <sub>2</sub> :Pt-based Mott memory. <i>Journal of Applied Physics</i> , <b>2015</b> , 118, 245701	2.5	2
28	Understanding formation of molecular rotor array on Au(111) surface. <i>Frontiers of Physics in China</i> , <b>2010</b> , 5, 380-386		2
27	A Configurable Artificial Neuron Based on a Threshold-Tunable TiN/NbOx/Pt Memristor. <i>IEEE Electron Device Letters</i> , <b>2022</b> , 1-1	4.4	2
26	Scaling MoS <sub>2</sub> NCFET to 83 nm with Record-low Ratio of SS <sub>ave</sub> /SS <sub>Ref</sub> =0.177 and Minimum 20 mV Hysteresis <b>2020</b> ,		2
25	Modulating the filament rupture degree of threshold switching device for self-selective and low-current nonvolatile memory application. <i>Nanotechnology</i> , <b>2020</b> , 31, 144002	3.4	2
24	Scalability of Sulfur-Based Ovonic Threshold Selectors for 3D Stackable Memory Applications. <i>Physica Status Solidi - Rapid Research Letters</i> , <b>2021</b> , 15, 2100084	2.5	2
23	High-Yield and Uniform NbOx-Based Threshold Switching Devices for Neuron Applications. <i>IEEE Transactions on Electron Devices</i> , <b>2022</b> , 1-7	2.9	2
22	Toward memristive in-memory computing: principles and applications. <i>Frontiers of Optoelectronics</i> , <b>2022</b> , 15,	2.8	2

21	Improving the resistive switching reliability via controlling the resistance states of RRAM <b>2015</b> ,		1
20	Effect of Pulse and dc Formation on the Performance of One-Transistor and One-Resistor Resistance Random Access Memory Devices. <i>Chinese Physics Letters</i> , <b>2015</b> , 32, 028502	1.8	1
19	Surfaces: Identifying Multiple Configurations of Complex Molecules on Metal Surfaces (Small 6/2012). <i>Small</i> , <b>2012</b> , 8, 795-795	11	1
18	Programming resistive switching memory by a charged capacitor. <i>Applied Physics A: Materials Science and Processing</i> , <b>2011</b> , 102, 1003-1007	2.6	1
17	Formation and annihilation of Cu conductive filament in the nonpolar resistive switching Cu/ZrO <sub>2</sub> :Cu/Pt ReRAM <b>2010</b> ,		1
16	Resistance switching characteristics of zirconium oxide containing gold nanocrystals for nonvolatile memory applications. <i>Journal of Nanoscience and Nanotechnology</i> , <b>2009</b> , 9, 723-6	1.3	1
15	Engineering Spiking Neurons Using Threshold Switching Devices for High-Efficient Neuromorphic Computing.. <i>Frontiers in Neuroscience</i> , <b>2021</b> , 15, 786694	5.1	1
14	A Flexible LIF Neuron Based on NbO <sub>x</sub> Memristors for Neural Interface Applications <b>2021</b> ,		1
13	Valence Band Structure of Chalcogenide Obtained by X-Ray Photoelectron Spectroscopy and Etching Technique. <i>Physica Status Solidi (B): Basic Research</i> , <b>2021</b> , 258, 2100038	1.3	1
12	An Artificial Spiking Nociceptor Integrating Pressure Sensors and Memristors. <i>IEEE Electron Device Letters</i> , <b>2022</b> , 1-1	4.4	1
11	Self-rectifying and forming-free resistive switching behaviors in Pt/La <sub>2</sub> Ti <sub>2</sub> O <sub>7</sub> /Pt structure. <i>Ceramics International</i> , <b>2021</b> , 48, 4693-4693	5.1	0
10	One transistor one electrolyte-gated transistor for supervised learning in spiking neural networks. <i>IEEE Electron Device Letters</i> , <b>2021</b> , 1-1	4.4	0
9	A dual-functional Ta/TaO <sub>x</sub> /Ru device with both nonlinear selector and resistive switching behaviors.. <i>RSC Advances</i> , <b>2021</b> , 11, 18241-18245	3.7	0
8	Research on flexible memristive spiking neuron for neuromorphic sensing and computing. <i>Wuli Xuebao/Acta Physica Sinica</i> , <b>2022</b> ,	0.6	0
7	A neuromorphic core based on threshold switching memristor with asynchronous address event representation circuits. <i>Science China Information Sciences</i> , <b>2022</b> , 65, 1	3.4	0
6	Elevated barrier height originated from electric dipole effect and improved breakdown characteristics in PtO <sub>x</sub> /EGa <sub>2</sub> O <sub>3</sub> Schottky barrier diodes. <i>Journal Physics D: Applied Physics</i> , <b>2022</b> , 55, 304003	3	0
5	Characteristics and mechanisms in resistive random-access memory <b>2020</b> , 13-52		
4	FangTianSim: High-Level Cycle-Accurate Resistive Random-Access Memory-Based Multi-Core Spiking Neural Network Processor Simulator.. <i>Frontiers in Neuroscience</i> , <b>2021</b> , 15, 806325	5.1	

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1 Uniform, fast, and reliable CMOS compatible resistive switching memory. *Journal of Semiconductors*, **2022**, 43, 054102 2.3