Zhongqiang Wang

List of Publications by Year
in descending order

76	2,885	147801 31	175258 52
papers	citations	h-index	g-index

77	77	77	2799
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	True Random Number Generation by Variability of Resistive Switching in Oxide-Based Devices. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2015, 5, 214-221.	3.6	200
2	Voltage-Controlled Cycling Endurance of HfO_{<italic>x</italic>}-Based Resistive-Switching Memory. IEEE Transactions on Electron Devices, 2015, 62, 3365-3372.	3.0	180
3	Toward a generalized Bienenstock-Cooper-Munro rule for spatiotemporal learning via triplet-STDP in memristive devices. Nature Communications, 2020, 11, 1510.	12.8	124
4	Flexible Resistive Switching Memory Device Based on Amorphous InGaZnO Film With Excellent Mechanical Endurance. IEEE Electron Device Letters, 2011, 32, 1442-1444.	3.9	121
5	Memristors with organicâ€inorganic halide perovskites. InformaÄnÃ-MateriÃ¡ly, 2019, 1, 183-210.	17.3	111
6	Biodegradable Natural Pectinâ€Based Flexible Multilevel Resistive Switching Memory for Transient Electronics. Small, 2019, 15, e1803970.	10.0	109
7	Performance improvement of resistive switching memory achieved by enhancing local-electric-field near electromigrated Ag-nanoclusters. Nanoscale, 2013, 5, 4490.	5.6	105
8	Physical Unbiased Generation of Random Numbers With Coupled Resistive Switching Devices. IEEE Transactions on Electron Devices, 2016, 63, 2029-2035.	3.0	95
9	Nonvolatile/volatile behaviors and quantized conductance observed in resistive switching memory based on amorphous carbon. Carbon, 2015, 91, 38-44.	10.3	90
10	Plasmonic Optoelectronic Memristor Enabling Fully Lightâ€Modulated Synaptic Plasticity for Neuromorphic Vision. Advanced Science, 2022, 9, e2104632.	11.2	81
11	A 2-transistor/1-resistor artificial synapse capable of communication and stochastic learning in neuromorphic systems. Frontiers in Neuroscience, 2014, 8, 438.	2.8	74
12	Interface State-Induced Negative Differential Resistance Observed in Hybrid Perovskite Resistive Switching Memory. ACS Applied Materials & Interfaces, 2018, 10, 21755-21763.	8.0	74
13	Reversible alternation between bipolar and unipolar resistive switching in Ag/MoS₂/Au structure for multilevel flexible memory. Journal of Materials Chemistry C, 2018, 6, 7195-7200.	5.5	63
14	Photoassisted Electroforming Method for Reliable Lowâ€Power Organicâ€“Inorganic Perovskite Memristors. Advanced Functional Materials, 2020, 30, 1910151.	14.9	62
15	Transferable and Flexible Artificial Memristive Synapse Based on WO_x Schottky Junction on Arbitrary Substrates. Advanced Electronic Materials, 2018, 4, 1800373.	5.1	58
16	Photocatalytic Reduction of Graphene Oxideâ€“TiO₂ Nanocomposites for Improving Resistiveâ€Switching Memory Behaviors. Small, 2018, 14, e1801325.	10.0	58
17	Flexible, transferable and conformal egg albumen based resistive switching memory devices. RSC Advances, 2017, 7, 32114-32119.	3.6	51
18	Ultrafast carrier dynamics in two-dimensional transition metal dichalcogenides. Journal of Materials Chemistry C, 2019, 7, 4304-4319.	5.5	51

#	Article	IF	Citations
19	Transferable and flexible resistive switching memory devices based on PMMA films with embedded Fe3O4 nanoparticles. Applied Physics Letters, 2017, 110, .	3.3	50
20	Brain-inspired computing via memory device physics. APL Materials, 2021, 9, .	5.1	49
21	Cyclingâ€Induced Degradation of Organicâ€“Inorganic Perovskiteâ€Based Resistive Switching Memory. Advanced Materials Technologies, 2019, 4, 1800238.	5.8	47
22	Photoreduced nanocomposites of graphene oxide/N-doped carbon dots toward all-carbon memristive synapses. NPG Asia Materials, 2020, 12, .	7.9	47
23	Moisture-powered memristor with interfacial oxygen migration for power-free reading of multiple memory states. Nano Energy, 2020, 71, 104628.	16.0	44
24	Humidity Effect on Resistive Switching Characteristics of the CH₃NH₃PbI₃ Memristor. ACS Applied Materials & Interfaces, 2021, 13, 28555-28563.	8.0	43
25	Improved performance of Ta2O5â^'x resistive switching memory by Gd-doping: Ultralow power operation, good data retention, and multilevel storage. Applied Physics Letters, 2017, 111, .	3.3	41
26	Enhanced near-UV electroluminescence from p-GaN/i-Al₂O₃/n-ZnO heterojunction LEDs by optimizing the insulator thickness and introducing surface plasmons of Ag nanowires. Journal of Materials Chemistry C, 2017, 5, 3288-3295.	5.5	40
27	Highly uniform switching of HfO2â^'x based RRAM achieved through Ar plasma treatment for low power and multilevel storage. Applied Surface Science, 2018, 458, 216-221.	6.1	39
28	Color-Tunable ZnO/GaN Heterojunction LEDs Achieved by Coupling with Ag Nanowire Surface Plasmons. ACS Applied Materials & Interfaces, 2018, 10, 15812-15819.	8.0	36
29	Oxidized carbon quantum dotâ€“graphene oxide nanocomposites for improving data retention of resistive switching memory. Journal of Materials Chemistry C, 2018, 6, 2026-2033.	5.5	36
30	Analytical Modeling of Organicâ€“Inorganic CH₃NH₃PbI₃ Perovskite Resistive Switching and its Application for Neuromorphic Recognition. Advanced Theory and Simulations, 2018, 1, 1700035.	2.8	35
31	Postcycling Degradation in Metal-Oxide Bipolar Resistive Switching Memory. IEEE Transactions on Electron Devices, 2016, 63, 4279-4287.	3.0	34
32	Analogâ€“Digital Hybrid Memristive Devices for Image Pattern Recognition with Tunable Learning Accuracy and Speed. Small Methods, 2019, 3, 1900160.	8.6	31
33	Natural Acidic Polysaccharideâ€Based Memristors for Transient Electronics: Highly Controllable Quantized Conductance for Integrated Memory and Nonvolatile Logic Applications. Advanced Materials, 2021, 33, e2104023.	21.0	30
34	Oxygen-concentration effect on p-type CuAlOx resistive switching behaviors and the nature of conducting filaments. Applied Physics Letters, 2014, 104, .	3.3	28
35	Forming-free electrochemical metallization resistive memory devices based on nanoporous TiO x N y thin film. Journal of Alloys and Compounds, 2016, 656, 612-617.	5.5	28
36	Sp² clustering-induced improvement of resistive switching uniformity in Cu/amorphous carbon/Pt electrochemical metallization memory. Journal of Materials Chemistry C, 2017, 5, 5420-5425.	5.5	26

#	Article	IF	Citations
37	Improved Uniformity and Endurance Through Suppression of Filament Overgrowth in Electrochemical Metallization Memory With AgInSbTe Buffer Layer. IEEE Journal of the Electron Devices Society, 2018, 6, 714-720.	2.1	26
38	Insertion of Nanoscale AgInSbTe Layer between the Ag Electrode and the CH₃NH₃PbI₃ Electrolyte Layer Enabling Enhanced Multilevel Memory. ACS Applied Nano Materials, 2019, 2, 307-314.	5.0	26
39	Improved resistive switching reliability by using dual-layer nanoporous carbon structure. Applied Physics Letters, 2017, 111, .	3.3	25
40	Complementary Resistive Switching Observed in Graphene Oxide-Based Memory Device. IEEE Electron Device Letters, 2018, 39, 488-491.	3.9	25
41	Slow Cooling of Highâ€Energy C Excitons Is Limited by Intervalleyâ€Transfer in Monolayer MoS 2. Laser and Photonics Reviews, 2019, 13, 1800270.	8.7	22
42	Analytical Modeling of Current Overshoot in Oxide-Based Resistive Switching Memory (RRAM). IEEE Electron Device Letters, 2016, 37, 1268-1271.	3.9	21
43	Reliability Improvement of Amorphous Carbon Based Resistive Switching Memory by Inserting Nanoporous Layer. IEEE Electron Device Letters, 2016, 37, 1430-1433.	3.9	21
44	The role of graphene in enhancing electrical heating and mechanical performances of grapheneâ^aligned silver nanowire hybrid transparent heaters. Applied Physics Letters, 2017, 110, .	3.3	21
45	Nitrogen-induced ultralow power switching in flexible ZnO-based memristor for artificial synaptic learning. Applied Physics Letters, 2021, 118, .	3.3	21
46	Photo-tunable organic resistive random access memory based on PVP/N-doped carbon dot nanocomposites for encrypted image storage. Journal of Materials Chemistry C, 2020, 8, 14789-14795.	5.5	18
47	Silent Synapse Activation by Plasmaâ€Induced Oxygen Vacancies in TiO₂ Nanowireâ€Based Memristor. Advanced Electronic Materials, 2020, 6, 2000536.	5.1	17
48	Flexible and transparent memristive synapse based on polyvinylpyrrolidone/N-doped carbon quantum dot nanocomposites for neuromorphic computing. Nanoscale Advances, 2021, 3, 2623-2631.	4.6	17
49	Improved switching reliability achieved in HfOx based RRAM with mountain-like surface-graphited carbon layer. Applied Surface Science, 2018, 440, 107-112.	6.1	16
50	Dual Buffer Layers for Developing Electrochemical Metallization Memory With Low Current and High Endurance. IEEE Electron Device Letters, 2021, 42, 308-311.	3.9	16
51	Improvement of resistive switching memory achieved by using arc-shaped bottom electrode. Applied Physics Express, 2015, 8, 014101.	2.4	15
52	Solutionâ€Grown Serpentine Silver Nanofiber Meshes for Stretchable Transparent Conductors. Advanced Electronic Materials, 2018, 4, 1800346.	5.1	15
53	Structural Optimization of Oxide/Metal/Oxide Transparent Conductors for Highâ€Performance Lowâ€Emissivity Heaters. Advanced Materials Interfaces, 2018, 5, 1801287.	3.7	14
54	Intensity-modulated LED achieved through integrating p-GaN/n-ZnO heterojunction with multilevel RRAM. Applied Physics Letters, 2018, 113, .	3.3	13

#	Article	IF	Citations
55	Zeoliteâ€Based Memristive Synapse with Ultralow Subâ€10â€fJ Energy Consumption for Neuromorphic Computation. Small, 2021, 17, e2006662.	10.0	13
56	Graphite Microislands Prepared for Reliability Improvement of Amorphous Carbon Based Resistive Switching Memory. Physica Status Solidi - Rapid Research Letters, 2018, 12, 1800285.	2.4	12
57	Unveiling Bandgap Evolution and Carrier Redistribution in Multilayer WSe 2 : Enhanced Photon Emission via Heat Engineering. Advanced Optical Materials, 2020, 8, 1901226.	7.3	12
58	p-NiO/n+-Si single heterostructure for one diode-one resistor memory applications. Journal of Alloys and Compounds, 2017, 721, 520-524.	5.5	11
59	The Nature of Lithiumâ€Ion Transport in Low Power Consumption LiFePO₄ Resistive Memory with Graphite as Electrode. Physica Status Solidi - Rapid Research Letters, 2018, 12, 1800320.	2.4	11
60	Interface engineering of solution-grown silver nanofiber networks designed as flexible transparent electrodes. Journal of Materials Chemistry C, 2019, 7, 3924-3933.	5.5	11
61	Revealing the interrelation between C- and A-exciton dynamics in monolayer WS2 via transient absorption spectroscopy. Applied Physics Letters, 2021, 119, .	3.3	10
62	Resistive switching performance improvement of amorphous carbon-based electrochemical metallization memory via current stressing. Applied Physics Letters, 2019, 115, 073501.	3.3	9
63	Pavlovian conditioning achieved via one-transistor/one-resistor memristive synapse. Applied Physics Letters, 2022, 120, .	3.3	8
64	Voltage-dependent plasticity and image Boolean operations realized in a WO _x-based memristive synapse. Journal of Semiconductors, 2021, 42, 014102.	3.7	7
65	Self-Powered Memristive Systems for Storage and Neuromorphic Computing. Frontiers in Neuroscience, 2021, 15, 662457.	2.8	7
66	Engineering Relaxation-Paths of C-Exciton for Constructing Band Nesting Bypass in WS₂ Monolayer. Nano Letters, 2022, 22, 3699-3706.	9.1	6
67	Rapid microwave annealing of CH3NH3PbI3 with controllable crystallization for enhancing the resistive-switching performance. Semiconductor Science and Technology, 2021, 36, 095012.	2.0	4
68	Neutron irradiation-induced effects on the reliability performance of electrochemical metallization memory devices. Journal of Semiconductors, 2021, 42, 014103.	3.7	3
69	High switching uniformity and 50 fJ/bit energy consumption achieved in amorphous silicon-based memristive device with an AgInSbTe buffer layer. Applied Physics Letters, 2021, 118, 263507.	3.3	3
70	Thermal-assisted electroforming enables performance improvement by suppressing the overshoot current in amorphous carbon-based electrochemical metallization memory. Applied Physics Letters, 2021, 119, .	3.3	3
71	Recent progress in optoelectronic memristive devices for in-sensor computing. Wuli Xuebao/Acta Physica Sinica, 2022, 71, 148701.	0.5	3
72	Photocatalysisâ€Induced Nanopores toward Highly Reliable Organic Electrochemical Metallization Memory. Advanced Electronic Materials, 2022, 8, .	5.1	3

#	Article	IF	Citations
73	Analytical modeling of electrochemical metallization memory device with dual-layer structure of Ag/AgInSbTe/amorphous C/Pt. Semiconductor Science and Technology, 2020, 35, 02LT01.	2.0	2
74	Silent Synapse: Silent Synapse Activation by Plasmaâ€Induced Oxygen Vacancies in TiO₂ Nanowireâ€Based Memristor (Adv. Electron. Mater. 9/2020). Advanced Electronic Materials, 2020, 6, 2070039.	5.1	2
75	Conductance Quantization in CH₃NH₃PbI₃ Memristor. IEEE Electron Device Letters, 2022, 43, 1037-1040.	3.9	2
76	Two-terminal optoelectronic memory device. , 2020, , 75-105.		0