Zhan Wang

List of Publications by Year
in descending order

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88 papers	4,760 citations	168829 31 h-index	107981 68 g-index
88 all docs	88 docs citations	88 times ranked	7627 citing authors

#	Article	IF	Citations
1	Spikeâ€Enabled Audio Learning in Multilevel Synaptic Memristor Arrayâ€Based Spiking Neural Network. Advanced Intelligent Systems, 2022, 4, 2100151.	3.3	19
2	Improved Power Performance and the Mechanism of AlGaN/GaN HEMTs Using Si-Rich SiN/Si₃N₄ Bilayer Passivation. IEEE Transactions on Electron Devices, 2022, 69, 631-636.	1.6	9
3	Silk Protein Based Volatile Threshold Switching Memristors for Neuromorphic Computing. Advanced Electronic Materials, 2022, 8, .	2.6	21
4	Physical Unclonable Functions Based on Transient Form of Memristors for Emergency Defenses. IEEE Electron Device Letters, 2022, 43, 378-381.	2.2	3
5	Tunable Plasticity in Printed Optoelectronic Synaptic Transistors by Contact Engineering. IEEE Electron Device Letters, 2022, 43, 882-885.	2.2	12
6	Fully Printed Optoelectronic Synaptic Transistors Based on Quantum Dotâ€“Metal Oxide Semiconductor Heterojunctions. ACS Nano, 2022, 16, 8651-8661.	7.3	70
7	Fully Physically Transient Volatile Memristor Based on Mg/Magnesium Oxide for Biodegradable Neuromorphic Electronics. IEEE Transactions on Electron Devices, 2022, 69, 3118-3123.	1.6	6
8	Bioâ€Inspired Inâ€Sensor Compression and Computing Based on Phototransistors. Small, 2022, 18, e2201111.	5.2	16
9	1-HEMT-1-Memristor With Hardware Encryptor for Privacy-Preserving Image Processing. IEEE Electron Device Letters, 2022, 43, 1223-1226.	2.2	4
10	High-Performance AlGaN/GaN HEMTs With Hybrid Schottkyâ€“Ohmic Drain for Ka-Band Applications. IEEE Transactions on Electron Devices, 2022, 69, 4188-4193.	1.6	2
11	A Physically Transient Self-Rectifying and Analogue Switching Memristor Synapse. IEEE Electron Device Letters, 2021, 42, 1599-1602.	2.2	14
12	Fully-printed flexible n-type tin oxide thin-film transistors and logic circuits. Journal of Materials Chemistry C, 2021, 9, 11662-11668.	2.7	26
13	Physically Transient Diode With Ultrathin Tunneling Layer as Selector for Bipolar One Diode-One Resistor Memory. IEEE Electron Device Letters, 2021, 42, 700-703.	2.2	4
14	Fully Printed High-Performance n-Type Metal Oxide Thin-Film Transistors Utilizing Coffee-Ring Effect. Nano-Micro Letters, 2021, 13, 164.	14.4	30
15	Interface Engineering of Metalâ€Oxide Fieldâ€Effect Transistors for Lowâ€Drift pH Sensing. Advanced Materials Interfaces, 2021, 8, 2100314.	1.9	13
16	A Skin-Inspired Artificial Mechanoreceptor for Tactile Enhancement and Integration. ACS Nano, 2021, 15, 16422-16431.	7.3	66
17	Physically Transient Optic-Neural Synapse for Secure In-Sensor Computing. IEEE Electron Device Letters, 2020, 41, 1641-1644.	2.2	14
18	Spike Encoding with Optic Sensory Neurons Enable a Pulse Coupled Neural Network for Ultraviolet Image Segmentation. Nano Letters, 2020, 20, 8015-8023.	4.5	59

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19	Flexible low-power source-gated transistors with solution-processed metalâ€“oxide semiconductors. Nanoscale, 2020, 12, 21610-21616.	2.8	23
20	Gesture recognition using a bioinspired learning architecture that integrates visual data with somatosensory data from stretchable sensors. Nature Electronics, 2020, 3, 563-570.	13.1	298
21	Physically Transient Resistive Memory With Programmable Switching Behaviors in MgO-Mo Based Devices. IEEE Electron Device Letters, 2020, 41, 553-556.	2.2	4
22	Physically Transient W/ZnO/MgO/W Schottky Diode for Rectifying and Artificial Synapse. IEEE Electron Device Letters, 2020, 41, 844-847.	2.2	10
23	Electrode-induced polarity conversion in Nb2O5/NbOx resistive switching devices. Applied Physics Letters, 2020, 117, .	1.5	16
24	Stochastic neuron based on IGZO Schottky diodes for neuromorphic computing. APL Materials, 2019, 7, .	2.2	35
25	Physically Transient Memristor Synapse Based on Embedding Magnesium Nanolayer in Oxide for Security Neuromorphic Electronics. IEEE Electron Device Letters, 2019, 40, 1265-1268.	2.2	22
26	Physically Transient True Random Number Generators Based on Paired Threshold Switches Enabling Monte Carlo Method Applications. IEEE Electron Device Letters, 2019, 40, 1096-1099.	2.2	26
27	A Boolean OR gate implemented with an optoelectronic switching memristor. Applied Physics Letters, 2019, 115, .	1.5	20
28	Physically Transient Resistive Switching Memory With Material Implication Operation. IEEE Electron Device Letters, 2019, 40, 1618-1621.	2.2	10
29	Room Temperature-Processed a-IGZO Schottky Diode for Rectifying Circuit and Bipolar 1D1R Crossbar Applications. IEEE Transactions on Electron Devices, 2019, 66, 4087-4091.	1.6	22
30	Growth of Monolayer WS2 Single Crystals with Atmospheric Pressure CVD: Role of Temperature. MRS Advances, 2019, 4, 255-262.	0.5	5
31	Physically Transient Memristive Synapse With Short-Term Plasticity Based on Magnesium Oxide. IEEE Electron Device Letters, 2019, 40, 706-709.	2.2	16
32	A Dual-Functional IGZO-Based Device With Schottky Diode Rectifying and Resistance Switching Behaviors. IEEE Electron Device Letters, 2019, 40, 24-27.	2.2	20
33	Solution-Processed Physically Transient Resistive Memory Based on Magnesium Oxide. IEEE Electron Device Letters, 2019, 40, 193-195.	2.2	23
34	ZnO-Based Physically Transient and Bioresorbable Memory on Silk Protein. IEEE Electron Device Letters, 2018, 39, 31-34.	2.2	42
35	Full imitation of synaptic metaplasticity based on memristor devices. Nanoscale, 2018, 10, 5875-5881.	2.8	99
36	NaCl-Assisted CVD Synthesis, Transfer and Persistent Photoconductivity Properties of Two-Dimensional Transition Metal Dichalcogenides. MRS Advances, 2018, 3, 365-371.	0.5	12

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37	A bio-inspired physically transient/biodegradable synapse for security neuromorphic computing based on memristors. Nanoscale, 2018, 10, 20089-20095.	2.8	82
38	Effect of Interface Layer Engineering on Resistive Switching Characteristics of ZrO₂-Based Resistive Switching Devices. IEEE Transactions on Electron Devices, 2018, 65, 5390-5394.	1.6	30
39	Electric field modified Arrhenius description of charge transport in amorphous oxide semiconductor thin film transistors. Physical Review B, 2018, 98, .	1.1	19
40	Charge Transfer within the F₄TCNQâ€MoS₂ van der Waals Interface: Toward Electrical Properties Tuning and Gas Sensing Application. Advanced Functional Materials, 2018, 28, 1806244.	7.8	62
41	Photoelectric Plasticity in Oxide Thin Film Transistors with Tunable Synaptic Functions. Advanced Electronic Materials, 2018, 4, 1800556.	2.6	94
42	Physically Transient Threshold Switching Device Based on Magnesium Oxide for Security Application. Small, 2018, 14, e1800945.	5.2	44
43	Enhancing the Matrix Addressing of Flexible Sensory Arrays by a Highly Nonlinear Threshold Switch. Advanced Materials, 2018, 30, e1802516.	11.1	70
44	Performance Enhancement of Planar Heterojunction Perovskite Solar Cells through Tuning the Doping Properties of Hole-Transporting Materials. ACS Omega, 2017, 2, 326-336.	1.6	72
45	Electronic Devices for Humanâ€Machine Interfaces. Advanced Materials Interfaces, 2017, 4, 1600709.	1.9	76
46	Electric Crosstalk Effect in Valence Change Resistive Random Access Memory. Journal of Electronic Materials, 2017, 46, 5296-5302.	1.0	2
47	Voltage-amplitude-controlled complementary and self-compliance bipolar resistive switching of slender filaments in Pt/HfO2/HfOx/Pt memory devices. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2017, 35, 032203.	0.6	5
48	Controllable growth of monolayer MoS₂by chemical vapor deposition via close MoO₂precursor for electrical and optical applications. Nanotechnology, 2017, 28, 084001.	1.3	51
49	Stretchable Motion Memory Devices Based on Mechanical Hybrid Materials. Advanced Materials, 2017, 29, 1701780.	11.1	68
50	NaCl-assisted one-step growth of MoS₂â€“WS₂in-plane heterostructures. Nanotechnology, 2017, 28, 325602.	1.3	85
51	High performance transient organic solar cells on biodegradable polyvinyl alcohol composite substrates. RSC Advances, 2017, 7, 52930-52937.	1.7	22
52	Fully Solutionâ€Processed Transparent Nonvolatile and Volatile Multifunctional Memory Devices from Conductive Polymer and Graphene Oxide. Advanced Electronic Materials, 2017, 3, 1700135.	2.6	30
53	Effect of nitrogen-accommodation ability of electrodes in SiNx-based resistive switching devices. Applied Physics Letters, 2017, 111, .	1.5	32
54	Alcoholâ€Mediated Resistanceâ€Switching Behavior in Metalâ€“Organic Frameworkâ€Based Electronic Devices. Angewandte Chemie, 2016, 128, 9030-9034.	1.6	19

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55	Flexible Integrated Electrical Cables Based on Biocomposites for Synchronous Energy Transmission and Storage. Advanced Functional Materials, 2016, 26, 3472-3479.	7.8	72
56	Silk Fibroin for Flexible Electronic Devices. Advanced Materials, 2016, 28, 4250-4265.	11.1	466
57	Alcoholâ€Mediated Resistanceâ€Switching Behavior in Metalâ€“Organic Frameworkâ€Based Electronic Devices. Angewandte Chemie - International Edition, 2016, 55, 8884-8888.	7.2	72
58	Ultraâ€Lightweight Resistive Switching Memory Devices Based on Silk Fibroin. Small, 2016, 12, 3360-3365.	5.2	97
59	Evolution of resistive switching and its ionic models in Pt/Nb-doped SrTiO₃junctions. Materials Research Express, 2016, 3, 075903.	0.8	7
60	Physically Transient Resistive Switching Memory Based on Silk Protein. Small, 2016, 12, 2715-2719.	5.2	148
61	Dissolvable and biodegradable resistive switching memory based on magnesium oxide. IEEE Electron Device Letters, 2016, , 1-1.	2.2	19
62	Skinâ€Inspired Haptic Memory Arrays with an Electrically Reconfigurable Architecture. Advanced Materials, 2016, 28, 1559-1566.	11.1	173
63	Thermal crosstalk in 3-dimensional RRAM crossbar array. Scientific Reports, 2015, 5, 13504.	1.6	92
64	Contact-Size-Dependent Cutoff Frequency of Bottom-Contact Organic Thin Film Transistors. Chinese Physics Letters, 2015, 32, 107304.	1.3	0
65	Improvement of resistive switching fluctuations by using one step liftâ€off process. Physica Status Solidi - Rapid Research Letters, 2015, 9, 594-596.	1.2	1
66	Configurable Resistive Switching between Memory and Threshold Characteristics for Proteinâ€Based Devices. Advanced Functional Materials, 2015, 25, 3825-3831.	7.8	175
67	Resistive Switching Memory Devices Based on Proteins. Advanced Materials, 2015, 27, 7670-7676.	11.1	140
68	Contact Length Scaling in Staggered Organic Thin-Film Transistors. IEEE Electron Device Letters, 2015, 36, 609-611.	2.2	6
69	A Surface Potential-Based Gate-Leakage Current Model for Organic Thin-Film Transistors. IEEE Transactions on Electron Devices, 2015, 62, 4225-4230.	1.6	2
70	A Mechanically and Electrically Selfâ€Healing Supercapacitor. Advanced Materials, 2014, 26, 3638-3643.	11.1	351
71	Microstructured Graphene Arrays for Highly Sensitive Flexible Tactile Sensors. Small, 2014, 10, 3625-3631.	5.2	540
72	Sericin for Resistance Switching Device with Multilevel Nonvolatile Memory. Advanced Materials, 2013, 25, 5498-5503.	11.1	219

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73	Contact-Length-Dependent Contact Resistance of Top-Gate Staggered Organic Thin-Film Transistors. IEEE Electron Device Letters, 2013, 34, 69-71.	2.2	19
74	Low-cost 13.56MHz Rectifier Based on Organic Diode. Materials Research Society Symposia Proceedings, 2012, 1402, 13.	0.1	1
75	Phototransistors and Photoswitches From an Ultraclosely pi-Stacked Organic Semiconductor. IEEE Electron Device Letters, 2012, 33, 1619-1621.	2.2	12
76	Patterning and pixelation of colloidal photonic crystals for addressable integrated photonics. Journal of Materials Chemistry, 2011, 21, 11330.	6.7	31
77	Low-Voltage Multilevel Memory Based on Organic Thin-Film Transistor. IEEE Electron Device Letters, 2011, 32, 1451-1453.	2.2	15
78	Threshold Voltage Tuning of Low-Voltage Organic Thin-Film Transistors. IEEE Transactions on Electron Devices, 2011, 58, 2127-2134.	1.6	5
79	Low voltage organic devices and circuits with aluminum oxide thin film dielectric layer. Science China Technological Sciences, 2011, 54, 95-98.	2.0	4
80	Nonvolatile memory devices based on organic field-effect transistors. Science Bulletin, 2011, 56, 1325-1332.	1.7	9
81	Nonvolatile nano-crystal floating gate OFET memory with light assisted program. Organic Electronics, 2011, 12, 1236-1240.	1.4	41
82	Organic Programmable Resistance Memory Device Based on $hbox{Au/Alq}_{3}/hbox{gold-nanoparticle/Alq}_{3}/hbox{Al}$ Structure. IEEE Electron Device Letters, 2011, 32, 1140-1142.	2.2	15
83	Î³ radiation caused graphene defects and increased carrier density. Chinese Physics B, 2011, 20, 086102.	0.7	26
84	Top contact organic field effect transistors fabricated using a photolithographic process. Chinese Physics B, 2011, 20, 087306.	0.7	1
85	Interface Effect on the Performance of Rectifier Based on Organic Diode. IEEE Electron Device Letters, 2010, 31, 506-508.	2.2	9
86	Advances in organic field-effect transistors and integrated circuits. Science in China Series D: Earth Sciences, 2009, 52, 3105-3116.	0.9	9
87	Optimizing molecular orientation for high performance organic thin film transistors based on titanyl phthalocyanine. Journal of Materials Chemistry, 2009, 19, 5507.	6.7	9
88	Light-induced hysteresis characteristics of copper phthalocyanine organic thin-film transistors. Applied Physics Letters, 2008, 93, 203302.	1.5	20