Zhan Wang

List of Publications by Year
in descending order

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88 papers	4,760 citations	147786 31 h-index	95259 68 g-index
88 all docs	88 docs citations	88 times ranked	6514 citing authors

#	Article	IF	Citations
1	Microstructured Graphene Arrays for Highly Sensitive Flexible Tactile Sensors. Small, 2014, 10, 3625-3631.	10.0	540
2	Silk Fibroin for Flexible Electronic Devices. Advanced Materials, 2016, 28, 4250-4265.	21.0	466
3	A Mechanically and Electrically Selfâ€Healing Supercapacitor. Advanced Materials, 2014, 26, 3638-3643.	21.0	351
4	Gesture recognition using a bioinspired learning architecture that integrates visual data with somatosensory data from stretchable sensors. Nature Electronics, 2020, 3, 563-570.	26.0	298
5	Sericin for Resistance Switching Device with Multilevel Nonvolatile Memory. Advanced Materials, 2013, 25, 5498-5503.	21.0	219
6	Configurable Resistive Switching between Memory and Threshold Characteristics for Proteinâ€Based Devices. Advanced Functional Materials, 2015, 25, 3825-3831.	14.9	175
7	Skinâ€Inspired Haptic Memory Arrays with an Electrically Reconfigurable Architecture. Advanced Materials, 2016, 28, 1559-1566.	21.0	173
8	Physically Transient Resistive Switching Memory Based on Silk Protein. Small, 2016, 12, 2715-2719.	10.0	148
9	Resistive Switching Memory Devices Based on Proteins. Advanced Materials, 2015, 27, 7670-7676.	21.0	140
10	Full imitation of synaptic metaplasticity based on memristor devices. Nanoscale, 2018, 10, 5875-5881.	5.6	99
11	Ultraâ€Lightweight Resistive Switching Memory Devices Based on Silk Fibroin. Small, 2016, 12, 3360-3365.	10.0	97
12	Photoelectric Plasticity in Oxide Thin Film Transistors with Tunable Synaptic Functions. Advanced Electronic Materials, 2018, 4, 1800556.	5.1	94
13	Thermal crosstalk in 3-dimensional RRAM crossbar array. Scientific Reports, 2015, 5, 13504.	3.3	92
14	NaCl-assisted one-step growth of MoS₂â€“WS₂in-plane heterostructures. Nanotechnology, 2017, 28, 325602.	2.6	85
15	A bio-inspired physically transient/biodegradable synapse for security neuromorphic computing based on memristors. Nanoscale, 2018, 10, 20089-20095.	5.6	82
16	Electronic Devices for Humanâ€Machine Interfaces. Advanced Materials Interfaces, 2017, 4, 1600709.	3.7	76
17	Flexible Integrated Electrical Cables Based on Biocomposites for Synchronous Energy Transmission and Storage. Advanced Functional Materials, 2016, 26, 3472-3479.	14.9	72
18	Alcoholâ€Mediated Resistanceâ€Switching Behavior in Metalâ€“Organic Frameworkâ€Based Electronic Devices. Angewandte Chemie - International Edition, 2016, 55, 8884-8888.	13.8	72

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19	Performance Enhancement of Planar Heterojunction Perovskite Solar Cells through Tuning the Doping Properties of Hole-Transporting Materials. ACS Omega, 2017, 2, 326-336.	3.5	72
20	Enhancing the Matrix Addressing of Flexible Sensory Arrays by a Highly Nonlinear Threshold Switch. Advanced Materials, 2018, 30, e1802516.	21.0	70
21	Fully Printed Optoelectronic Synaptic Transistors Based on Quantum Dotâ€“Metal Oxide Semiconductor Heterojunctions. ACS Nano, 2022, 16, 8651-8661.	14.6	70
22	Stretchable Motion Memory Devices Based on Mechanical Hybrid Materials. Advanced Materials, 2017, 29, 1701780.	21.0	68
23	A Skin-Inspired Artificial Mechanoreceptor for Tactile Enhancement and Integration. ACS Nano, 2021, 15, 16422-16431.	14.6	66
24	Charge Transfer within the F₄TCNQâ€MoS₂ van der Waals Interface: Toward Electrical Properties Tuning and Gas Sensing Application. Advanced Functional Materials, 2018, 28, 1806244.	14.9	62
25	Spike Encoding with Optic Sensory Neurons Enable a Pulse Coupled Neural Network for Ultraviolet Image Segmentation. Nano Letters, 2020, 20, 8015-8023.	9.1	59
26	Controllable growth of monolayer MoS₂by chemical vapor deposition via close MoO₂precursor for electrical and optical applications. Nanotechnology, 2017, 28, 084001.	2.6	51
27	Physically Transient Threshold Switching Device Based on Magnesium Oxide for Security Application. Small, 2018, 14, e1800945.	10.0	44
28	ZnO-Based Physically Transient and Bioresorbable Memory on Silk Protein. IEEE Electron Device Letters, 2018, 39, 31-34.	3.9	42
29	Nonvolatile nano-crystal floating gate OFET memory with light assisted program. Organic Electronics, 2011, 12, 1236-1240.	2.6	41
30	Stochastic neuron based on IGZO Schottky diodes for neuromorphic computing. APL Materials, 2019, 7, .	5.1	35
31	Effect of nitrogen-accommodation ability of electrodes in SiNx-based resistive switching devices. Applied Physics Letters, 2017, 111, .	3.3	32
32	Patterning and pixelation of colloidal photonic crystals for addressable integrated photonics. Journal of Materials Chemistry, 2011, 21, 11330.	6.7	31
33	Fully Solutionâ€Processed Transparent Nonvolatile and Volatile Multifunctional Memory Devices from Conductive Polymer and Graphene Oxide. Advanced Electronic Materials, 2017, 3, 1700135.	5.1	30
34	Effect of Interface Layer Engineering on Resistive Switching Characteristics of ZrO₂-Based Resistive Switching Devices. IEEE Transactions on Electron Devices, 2018, 65, 5390-5394.	3.0	30
35	Fully Printed High-Performance n-Type Metal Oxide Thin-Film Transistors Utilizing Coffee-Ring Effect. Nano-Micro Letters, 2021, 13, 164.	27.0	30
36	Î³ radiation caused graphene defects and increased carrier density. Chinese Physics B, 2011, 20, 086102.	1.4	26

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37	Physically Transient True Random Number Generators Based on Paired Threshold Switches Enabling Monte Carlo Method Applications. IEEE Electron Device Letters, 2019, 40, 1096-1099.	3.9	26
38	Fully-printed flexible n-type tin oxide thin-film transistors and logic circuits. Journal of Materials Chemistry C, 2021, 9, 11662-11668.	5.5	26
39	Solution-Processed Physically Transient Resistive Memory Based on Magnesium Oxide. IEEE Electron Device Letters, 2019, 40, 193-195.	3.9	23
40	Flexible low-power source-gated transistors with solution-processed metalâ€“oxide semiconductors. Nanoscale, 2020, 12, 21610-21616.	5.6	23
41	High performance transient organic solar cells on biodegradable polyvinyl alcohol composite substrates. RSC Advances, 2017, 7, 52930-52937.	3.6	22
42	Physically Transient Memristor Synapse Based on Embedding Magnesium Nanolayer in Oxide for Security Neuromorphic Electronics. IEEE Electron Device Letters, 2019, 40, 1265-1268.	3.9	22
43	Room Temperature-Processed a-IGZO Schottky Diode for Rectifying Circuit and Bipolar 1D1R Crossbar Applications. IEEE Transactions on Electron Devices, 2019, 66, 4087-4091.	3.0	22
44	Silk Protein Based Volatile Threshold Switching Memristors for Neuromorphic Computing. Advanced Electronic Materials, 2022, 8, .	5.1	21
45	Light-induced hysteresis characteristics of copper phthalocyanine organic thin-film transistors. Applied Physics Letters, 2008, 93, 203302.	3.3	20
46	A Boolean OR gate implemented with an optoelectronic switching memristor. Applied Physics Letters, 2019, 115, .	3.3	20
47	A Dual-Functional IGZO-Based Device With Schottky Diode Rectifying and Resistance Switching Behaviors. IEEE Electron Device Letters, 2019, 40, 24-27.	3.9	20
48	Contact-Length-Dependent Contact Resistance of Top-Gate Staggered Organic Thin-Film Transistors. IEEE Electron Device Letters, 2013, 34, 69-71.	3.9	19
49	Alcoholâ€Mediated Resistanceâ€Switching Behavior in Metalâ€“Organic Frameworkâ€Based Electronic Devices. Angewandte Chemie, 2016, 128, 9030-9034.	2.0	19
50	Dissolvable and biodegradable resistive switching memory based on magnesium oxide. IEEE Electron Device Letters, 2016, , 1-1.	3.9	19
51	Electric field modified Arrhenius description of charge transport in amorphous oxide semiconductor thin film transistors. Physical Review B, 2018, 98, .	3.2	19
52	Spikeâ€Enabled Audio Learning in Multilevel Synaptic Memristor Arrayâ€Based Spiking Neural Network. Advanced Intelligent Systems, 2022, 4, 2100151.	6.1	19
53	Physically Transient Memristive Synapse With Short-Term Plasticity Based on Magnesium Oxide. IEEE Electron Device Letters, 2019, 40, 706-709.	3.9	16
54	Electrode-induced polarity conversion in Nb2O5/NbOx resistive switching devices. Applied Physics Letters, 2020, 117, .	3.3	16

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55	Bioâ€Inspired Inâ€Sensor Compression and Computing Based on Phototransistors. Small, 2022, 18, e2201111.	10.0	16
56	Low-Voltage Multilevel Memory Based on Organic Thin-Film Transistor. IEEE Electron Device Letters, 2011, 32, 1451-1453.	3.9	15
57	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.	3.9	15
58	Physically Transient Optic-Neural Synapse for Secure In-Sensor Computing. IEEE Electron Device Letters, 2020, 41, 1641-1644.	3.9	14
59	A Physically Transient Self-Rectifying and Analogue Switching Memristor Synapse. IEEE Electron Device Letters, 2021, 42, 1599-1602.	3.9	14
60	Interface Engineering of Metalâ€Oxide Fieldâ€Effect Transistors for Lowâ€Drift pH Sensing. Advanced Materials Interfaces, 2021, 8, 2100314.	3.7	13
61	Phototransistors and Photoswitches From an Ultraclosely pi-Stacked Organic Semiconductor. IEEE Electron Device Letters, 2012, 33, 1619-1621.	3.9	12
62	NaCl-Assisted CVD Synthesis, Transfer and Persistent Photoconductivity Properties of Two-Dimensional Transition Metal Dichalcogenides. MRS Advances, 2018, 3, 365-371.	0.9	12
63	Tunable Plasticity in Printed Optoelectronic Synaptic Transistors by Contact Engineering. IEEE Electron Device Letters, 2022, 43, 882-885.	3.9	12
64	Physically Transient Resistive Switching Memory With Material Implication Operation. IEEE Electron Device Letters, 2019, 40, 1618-1621.	3.9	10
65	Physically Transient W/ZnO/MgO/W Schottky Diode for Rectifying and Artificial Synapse. IEEE Electron Device Letters, 2020, 41, 844-847.	3.9	10
66	Advances in organic field-effect transistors and integrated circuits. Science in China Series D: Earth Sciences, 2009, 52, 3105-3116.	0.9	9
67	Optimizing molecular orientation for high performance organic thin film transistors based on titanyl phthalocyanine. Journal of Materials Chemistry, 2009, 19, 5507.	6.7	9
68	Interface Effect on the Performance of Rectifier Based on Organic Diode. IEEE Electron Device Letters, 2010, 31, 506-508.	3.9	9
69	Nonvolatile memory devices based on organic field-effect transistors. Science Bulletin, 2011, 56, 1325-1332.	1.7	9
70	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.	3.0	9
71	Evolution of resistive switching and its ionic models in Pt/Nb-doped SrTiO₃junctions. Materials Research Express, 2016, 3, 075903.	1.6	7
72	Contact Length Scaling in Staggered Organic Thin-Film Transistors. IEEE Electron Device Letters, 2015, 36, 609-611.	3.9	6

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73	Fully Physically Transient Volatile Memristor Based on Mg/Magnesium Oxide for Biodegradable Neuromorphic Electronics. IEEE Transactions on Electron Devices, 2022, 69, 3118-3123.	3.0	6
74	Threshold Voltage Tuning of Low-Voltage Organic Thin-Film Transistors. IEEE Transactions on Electron Devices, 2011, 58, 2127-2134.	3.0	5
75	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.	1.2	5
76	Growth of Monolayer WS2 Single Crystals with Atmospheric Pressure CVD: Role of Temperature. MRS Advances, 2019, 4, 255-262.	0.9	5
77	Low voltage organic devices and circuits with aluminum oxide thin film dielectric layer. Science China Technological Sciences, 2011, 54, 95-98.	4.0	4
78	Physically Transient Resistive Memory With Programmable Switching Behaviors in MgO-Mo Based Devices. IEEE Electron Device Letters, 2020, 41, 553-556.	3.9	4
79	Physically Transient Diode With Ultrathin Tunneling Layer as Selector for Bipolar One Diode-One Resistor Memory. IEEE Electron Device Letters, 2021, 42, 700-703.	3.9	4
80	1-HEMT-1-Memristor With Hardware Encryptor for Privacy-Preserving Image Processing. IEEE Electron Device Letters, 2022, 43, 1223-1226.	3.9	4
81	Physical Unclonable Functions Based on Transient Form of Memristors for Emergency Defenses. IEEE Electron Device Letters, 2022, 43, 378-381.	3.9	3
82	A Surface Potential-Based Gate-Leakage Current Model for Organic Thin-Film Transistors. IEEE Transactions on Electron Devices, 2015, 62, 4225-4230.	3.0	2
83	Electric Crosstalk Effect in Valence Change Resistive Random Access Memory. Journal of Electronic Materials, 2017, 46, 5296-5302.	2.2	2
84	High-Performance AlGaN/GaN HEMTs With Hybrid Schottkyâ€“Ohmic Drain for Ka-Band Applications. IEEE Transactions on Electron Devices, 2022, 69, 4188-4193.	3.0	2
85	Top contact organic field effect transistors fabricated using a photolithographic process. Chinese Physics B, 2011, 20, 087306.	1.4	1
86	Low-cost 13.56MHz Rectifier Based on Organic Diode. Materials Research Society Symposia Proceedings, 2012, 1402, 13.	0.1	1
87	Improvement of resistive switching fluctuations by using one step liftâ€off process. Physica Status Solidi - Rapid Research Letters, 2015, 9, 594-596.	2.4	1
88	Contact-Size-Dependent Cutoff Frequency of Bottom-Contact Organic Thin Film Transistors. Chinese Physics Letters, 2015, 32, 107304.	3.3	0