Wei Wang

List of Publications by Year in descending order

51 papers	2,871 citations	331259 21 h-index	276539 41 g-index
52 all docs	52 docs citations	52 times ranked	2924 citing authors

#	Article	IF	Citations
1	Controllable Growth of Nanoscale Conductive Filaments in Solid-Electrolyte-Based ReRAM by Using a Metal Nanocrystal Covered Bottom Electrode. ACS Nano, 2010, 4, 6162-6168.	7.3	426
2	A Continuous, Analytic Drain-Current Model for DG MOSFETs. IEEE Electron Device Letters, 2004, 25, 107-109.	2.2	330
3	An Artificial Neuron Based on a Threshold Switching Memristor. IEEE Electron Device Letters, 2018, 39, 308-311.	2.2	248
4	Learning of spatiotemporal patterns in a spiking neural network with resistive switching synapses. Science Advances, 2018, 4, eaat4752.	4.7	213
5	Surface diffusion-limited lifetime of silver and copper nanofilaments in resistive switching devices. Nature Communications, 2019, 10, 81.	5.8	204
6	Breaking the Currentâ€Retention Dilemma in Cationâ€Based Resistive Switching Devices Utilizing Graphene with Controlled Defects. Advanced Materials, 2018, 30, e1705193.	11.1	190
7	Solving matrix equations in one step with cross-point resistive arrays. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 4123-4128.	3.3	169
8	Flexible Metal Oxide/Graphene Oxide Hybrid Neuromorphic Transistors on Flexible Conducting Graphene Substrates. Advanced Materials, 2016, 28, 5878-5885.	11.1	144
9	Emulating Short-Term and Long-Term Plasticity of Bio-Synapse Based on Cu/a-Si/Pt Memristor. IEEE Electron Device Letters, 2017, 38, 1208-1211.	2.2	131
10	Memristive Crossbar Arrays for Storage and Computing Applications. Advanced Intelligent Systems, 2021, 3, 2100017.	3.3	80
11	Enhancing the Matrix Addressing of Flexible Sensory Arrays by a Highly Nonlinear Threshold Switch. Advanced Materials, 2018, 30, e1802516.	11.1	70
12	Adaptive Extreme Edge Computing for Wearable Devices. Frontiers in Neuroscience, 2021, 15, 611300.	1.4	67
13	Recent Progress in Synaptic Devices Based on 2D Materials. Advanced Intelligent Systems, 2020, 2, 1900167.	3.3	55
14	Integration and Co-design of Memristive Devices and Algorithms for Artificial Intelligence. IScience, 2020, 23, 101809.	1.9	49
15	Volatile Resistive Switching Memory Based on Ag Ion Drift/Diffusion Part I: Numerical Modeling. IEEE Transactions on Electron Devices, 2019, 66, 3795-3801.	1.6	45
16	Neuromorphic Motion Detection and Orientation Selectivity by Volatile Resistive Switching Memories. Advanced Intelligent Systems, 2021, 3, 2000224.	3.3	45
17	Analysis of the contact resistance in amorphous InGaZnO thin film transistors. Applied Physics Letters, 2015, 107, .	1.5	43
18	Volatile Resistive Switching Memory Based on Ag Ion Drift/Diffusionâ€”Part II: Compact Modeling. IEEE Transactions on Electron Devices, 2019, 66, 3802-3808.	1.6	34

#	Article	IF	Citations
19	Progress in flexible organic thin-film transistors and integrated circuits. Science Bulletin, 2016, 61, 1081-1096.	4.3	31
20	Computing of temporal information in spiking neural networks with ReRAM synapses. Faraday Discussions, 2019, 213, 453-469.	1.6	29
21	Switching Dynamics of Ag-Based Filamentary Volatile Resistive Switching Devicesâ€”Part I: Experimental Characterization. IEEE Transactions on Electron Devices, 2021, 68, 4335-4341.	1.6	28
22	Switching Dynamics of Ag-Based Filamentary Volatile Resistive Switching Devicesâ€”Part II: Mechanism and Modeling. IEEE Transactions on Electron Devices, 2021, 68, 4342-4349.	1.6	22
23	Analytical carrier density and quantum capacitance for graphene. Applied Physics Letters, 2016, 108, 013503.	1.5	21
24	Modified Transmission Line Model for Bottom-Contact Organic Transistors. IEEE Electron Device Letters, 2013, 34, 1301-1303.	2.2	19
25	Electric field modified Arrhenius description of charge transport in amorphous oxide semiconductor thin film transistors. Physical Review B, 2018, 98, .	1.1	19
26	Physics-based modeling of volatile resistive switching memory (RRAM) for crosspoint selector and neuromorphic computing. , 2018, , .		16
27	Bulkâ€Like Electrical Properties Induced by Contactâ€Limited Charge Transport in Organic Diodes: Revised Space Charge Limited Current. Advanced Electronic Materials, 2018, 4, 1700493.	2.6	15
28	Surface-potential-based physical compact model for graphene field effect transistor. Journal of Applied Physics, 2016, 120, .	1.1	13
29	Universal description of exciton diffusion length in organic photovoltaic cell. Organic Electronics, 2015, 23, 53-56.	1.4	12
30	A Volatile RRAM Synapse for Neuromorphic Computing. , 2019, , .		10
31	Surface potential measurement on contact resistance of amorphous-InGaZnO thin film transistors by Kelvin probe force microscopy. Applied Physics Letters, 2016, 109, 023509.	1.5	9
32	A hardware neural network for handwritten digits recognition using binary RRAM as synaptic weight element. , 2016, , .		8
33	Efficient Training of the Memristive Deep Belief Net Immune to Nonâ€Idealities of the Synaptic Devices. Advanced Intelligent Systems, 2022, 4, .	3.3	8
34	Physical based compact model of Y-Flash memristor for neuromorphic computation. Applied Physics Letters, 2021, 119, 263504.	1.5	8
35	Phase-change memories (PCM) â€“ Experiments and modelling: general discussion. Faraday Discussions, 2019, 213, 393-420.	1.6	7
36	Contact Length Scaling in Staggered Organic Thin-Film Transistors. IEEE Electron Device Letters, 2015, 36, 609-611.	2.2	6

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37	Combining Bottom-Up and Top-Down Segmentation: A Way to Realize High-Performance Organic Circuit. IEEE Electron Device Letters, 2015, 36, 684-686.	2.2	6
38	Modeling of switching speed and retention time in volatile resistive switching memory by ionic drift and diffusion. , 2019, , .		6
39	A new surface potential based physical compact model for GFET in RF applications. , 2015, , .		5
40	An Improved Cut-Off Frequency Model With a Modified Small-Signal Equivalent Circuit in Graphene Field-Effect Transistors. IEEE Electron Device Letters, 2015, 36, 1351-1354.	2.2	5
41	Understanding mobility degeneration mechanism in organic thin-film transistors (OTFT). Chemical Physics Letters, 2017, 681, 36-39.	1.2	5
42	Resistive Switching: Breaking the Current-Retention Dilemma in Cation-Based Resistive Switching Devices Utilizing Graphene with Controlled Defects (Adv. Mater. 14/2018). Advanced Materials, 2018, 30, 1870100.	11.1	4
43	Analysis of the temperature dependent contact resistance in amorphous InGaZnO thin film transistors. , 2015, , .		3
44	In-memory solution of linear systems with crosspoint arrays without iterations. , 2019, , .		3
45	An organic rectifier diode based on poly-pyrrole (PPy) electrode. , 2014, , .		2
46	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
47	Synaptic and neuromorphic functions: general discussion. Faraday Discussions, 2019, 213, 553-578.	1.6	2
48	Valence change ReRAMs (VCM) - Experiments and modelling: general discussion. Faraday Discussions, 2019, 213, 259-286.	1.6	2
49	Monte Carlo simulation of the dynamic charge hopping transport in organic thin film transistors. , 2015, , .		1
50	A physical model for dual gate a-InGaZnO thin film transistors based on multiple trapping and release mechanism. Microelectronics Journal, 2019, 86, 1-6.	1.1	1
51	Origin of mobility degeneration at high gate bias in organic thin film transistors based on carriers' freeze to surface charges. , 2015, , .		0