Writam Banerjee

List of Publications by Year
in descending order

54 papers	2,536 citations	186209 28 h-index	197736 49 g-index
55 all docs	55 docs citations	55 times ranked	2527 citing authors

#	Article	IF	Citations
1	Eliminating Negativeâ€SET Behavior by Suppressing Nanofilament Overgrowth in Cationâ€Based Memory. Advanced Materials, 2016, 28, 10623-10629.	11.1	189
2	Challenges and Applications of Emerging Nonvolatile Memory Devices. Electronics (Switzerland), 2020, 9, 1029.	1.8	163
3	Confining Cation Injection to Enhance CBRAM Performance by Nanopore Graphene Layer. Small, 2017, 13, 1603948.	5.2	147
4	Evolution of conductive filament and its impact on reliability issues in oxide-electrolyte based resistive random access memory. Scientific Reports, 2015, 5, 7764.	1.6	117
5	Transparent and flexible resistive switching memory devices with a very high ON/OFF ratio using gold nanoparticles embedded in a silk protein matrix. Nanotechnology, 2013, 24, 345202.	1.3	109
6	Full imitation of synaptic metaplasticity based on memristor devices. Nanoscale, 2018, 10, 5875-5881.	2.8	99
7	Nanocrystals for silicon-based light-emitting and memory devices. Journal Physics D: Applied Physics, 2013, 46, 153001.	1.3	95
8	Electronic imitation of behavioral and psychological synaptic activities using TiO_x/Al₂O₃-based memristor devices. Nanoscale, 2017, 9, 14442-14450.	2.8	95
9	Various Threshold Switching Devices for Integrate and Fire Neuron Applications. Advanced Electronic Materials, 2019, 5, 1800866.	2.6	91
10	Super non-linear RRAM with ultra-low power for 3D vertical nano-crossbar arrays. Nanoscale, 2016, 8, 15629-15636.	2.8	90
11	Hafnium Oxide (HfO₂) â€" A Multifunctional Oxide: A Review on the Prospect and Challenges of Hafnium Oxide in Resistive Switching and Ferroelectric Memories. Small, 2022, 18, e2107575.	5.2	78
12	Atomic View of Filament Growth in Electrochemical Memristive Elements. Scientific Reports, 2015, 5, 13311.	1.6	72
13	Improvement of durability and switching speed by incorporating nanocrystals in the HfOx based resistive random access memory devices. Applied Physics Letters, 2018, 113, .	1.5	72
14	Engineering of defects in resistive random access memory devices. Journal of Applied Physics, 2020, 127, .	1.1	65
15	Near ideal synaptic functionalities in Li ion synaptic transistor using Li3POxSex electrolyte with high ionic conductivity. Scientific Reports, 2019, 9, 18883.	1.6	64
16	Design of CMOS Compatible, Highâ€Speed, Highlyâ€Stable Complementary Switching with Multilevel Operation in 3D Vertically Stacked Novel HfO₂/Al₂O₃/TiO<i>_x</i> (HAT) RRAM. Advanced Electronic Materials, 2018, 4, 1700561.	2.6	62
17	Quantized Conduction Device with 6â€Bit Storage Based on Electrically Controllable Break Junctions. Advanced Electronic Materials, 2019, 5, 1900744.	2.6	56
18	Variability Improvement of TiO_{<i>x</i>}/Al₂O₃ Bilayer Nonvolatile Resistive Switching Devices by Interfacial Band Engineering with an Ultrathin Al₂O₃ Dielectric Material. ACS Omega, 2017, 2, 6888-6895.	1.6	51

#	Article	IF	Citations
19	Formation polarity dependent improved resistive switching memory characteristics using nanoscale (1.3 nm) core-shell IrOx nano-dots. Nanoscale Research Letters, 2012, 7, 194.	3.1	48
20	Demonstration of 3D vertical RRAM with ultra low-leakage, high-selectivity and self-compliance memory cells. , 2015, , .		44
21	Intrinsic anionic rearrangement by extrinsic control: transition of RS and CRS in thermally elevated TiN/HfO₂/Pt RRAM. Nanoscale, 2017, 9, 18908-18917.	2.8	44
22	Occurrence of Resistive Switching and Threshold Switching in Atomic Layer Deposited Ultrathin (2) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 333-335.	2.2	43
23	Multilevel unipolar resistive switching with negative differential resistance effect in Ag/SiO2/Pt device. Journal of Applied Physics, 2014, 116, .	1.1	42
24	Charge carrier hopping transport based on Marcus theory and variable-range hopping theory in organic semiconductors. Journal of Applied Physics, 2015, 118, .	1.1	39
25	Cu BEOL compatible selector with high selectivity (>107), extremely low off-current (âˆ¼pA) and high endurance (>1010). , 2015, , .		38
26	Deep Insight into Steepâ€Slope Threshold Switching with Record Selectivity (>4ÂÃ—Â10¹⁰) Controlled by Metalâ€Ion Movement through Vacancyâ€Inducedâ€Percolation Path: Quantumâ€Level Control of Hybridâ€Filament. Advanced Functional Materials, 2021, 31, 2104054.	7.8	37
27	Complementary Switching in 3D Resistive Memory Array. Advanced Electronic Materials, 2017, 3, 1700287.	2.6	36
28	In Quest of Nonfilamentary Switching: A Synergistic Approach of Dual Nanostructure Engineering to Improve the Variability and Reliability of Resistive Randomâ€Accessâ€Memory Devices. Advanced Electronic Materials, 2020, 6, 2000209.	2.6	36
29	Crystal that remembers: several ways to utilize nanocrystals in resistive switching memory. Journal Physics D: Applied Physics, 2017, 50, 303002.	1.3	34
30	Transformation of threshold volatile switching to quantum point contact originated nonvolatile switching in graphene interface controlled memory devices. Nanoscale Advances, 2019, 1, 3753-3760.	2.2	33
31	Ionic Sieving Through Oneâ€Atomâ€Thick 2D Material Enables Analog Nonvolatile Memory for Neuromorphic Computing. Small, 2021, 17, e2103543.	5.2	31
32	Understanding of Selectorâ€Less 1S1R Type Cuâ€Based CBRAM Devices by Controlling Subâ€Quantum Filament. Advanced Electronic Materials, 2020, 6, 2000488.	2.6	29
33	An Efficient Approach Based on Tuned Nanoionics to Maximize Memory Characteristics in Agâ€Based Devices. Advanced Electronic Materials, 2021, 7, 2100022.	2.6	28
34	Impact of electrically formed interfacial layer and improved memory characteristics of IrOx/high-Îºx/W structures containing AlOx, GdOx, HfOx, and TaOx switching materials. Nanoscale Research Letters, 2013, 8, 379.	3.1	23
35	Prospect and challenges of analog switching for neuromorphic hardware. Applied Physics Letters, 2022, 120, .	1.5	22
36	High-Îº Al₂O₃/WO_x Bilayer Dielectrics for Low-Power Resistive Switching Memory Applications. Japanese Journal of Applied Physics, 2011, 50, 10PH01.	0.8	21

#	ARTICLE	IF	CITATIONS
37	Application of Resistive Random Access Memory in Hardware Security: A Review. Advanced Electronic Materials, 2021, 7, 2100536.	2.6	20
38	Electric field modified Arrhenius description of charge transport in amorphous oxide semiconductor thin film transistors. Physical Review B, 2018, 98, .	1.1	19
39	Physical model of Seebeck coefficient under surface dipole effect in organic thin-film transistors. Organic Electronics, 2016, 29, 27-32.	1.4	16
40	Excellent Uniformity and Multilevel Operation in Formation-Free Low Power Resistive Switching Memory Using IrO_{<i>x</i>}/AlO_{<i>x</i>}/W Cross-Point. Japanese Journal of Applied Physics, 2012, 51, 04DD10.	0.8	16
41	A unified physical model of Seebeck coefficient in amorphous oxide semiconductor thin-film transistors. Journal of Applied Physics, 2014, 116, 104502.	1.1	14
42	Improved Threshold Switching and Endurance Characteristics Using Controlled Atomicâ€Scale Switching in a 0.5 nm Thick Stoichiometric HfO₂Layer. Advanced Electronic Materials, 2021, 7, 2000869.	2.6	14
43	Surface Diffusion and Epitaxial Selfâ€Planarization for Waferâ€Scale Singleâ€Grain Metal Chalcogenide Thin Films. Advanced Materials, 2021, 33, e2102252.	11.1	13
44	High-Îº Al₂O₃/WO_{<i>x</i>}Bilayer Dielectrics for Low-Power Resistive Switching Memory Applications. Japanese Journal of Applied Physics, 2011, 50, 10PH01.	0.8	13
45	Highly-stable (< 3% fluctuation) Ag-based Threshold Switch with Extreme-low OFF Current of 0.1 pA, Extreme-high Selectivity of 10⁹ and High Endurance of 10⁹ Cycles. , 2020, , .		12
46	Compact model for organic thin-film transistor with Gaussian density of states. AIP Advances, 2015, 5, 047123.	0.6	11
47	Carrier-transport-path-induced switching parameter fluctuation in oxide-based resistive switching memory. Materials Research Express, 2015, 2, 046304.	0.8	10
48	Investigation of Retention Behavior of TiOx/Al2O3 Resistive Memory and Its Failure Mechanism Based on Meyerâ€“Neldel Rule. IEEE Transactions on Electron Devices, 2018, 65, 957-962.	1.6	10
49	Excellent Uniformity and Multilevel Operation in Formation-Free Low Power Resistive Switching Memory Using IrO$_{x}$/AlO$_{x}$/W Cross-Point. Japanese Journal of Applied Physics, 2012, 51, 04DD10.	0.8	9
50	Memory Devices: Eliminating Negativeâ€SET Behavior by Suppressing Nanofilament Overgrowth in Cationâ€Based Memory (Adv. Mater. 48/2016). Advanced Materials, 2016, 28, 10809-10809.	11.1	6
51	Origin of negative resistance in anion migration controlled resistive memory. Applied Physics Letters, 2018, 112, .	1.5	5
52	Evolution of 0.7 conductance anomaly in electric field driven ferromagnetic CuO junction based resistive random access memory devices. Applied Physics Letters, 2020, 116, .	1.5	4
53	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
54	Three-dimensional emerging nonvolatile memory for the high-density and neuromorphic applications. , 2017, , .		0