Eduardo Perez

List of Publications by Year
in descending order

50 papers	785 citations	623734 14 h-index	552781 26 g-index
50 all docs	50 docs citations	50 times ranked	555 citing authors

#	Article	IF	Citations
1	In-Memory Principal Component Analysis by Crosspoint Array of Resistive Switching Memory: A new hardware approach for energy-efficient data analysis in edge computing. IEEE Nanotechnology Magazine, 2022, 16, 4-13.	1.3	8
2	Implementation of device-to-device and cycle-to-cycle variability of memristive devices in circuit simulations. Solid-State Electronics, 2022, 194, 108321.	1.4	3
3	Statistical model of program/verify algorithms in resistive-switching memories for in-memory neural network accelerators. , 2022, , .		5
4	In-depth characterization of switching dynamics in amorphous HfO₂ memristive arrays for the implementation of synaptic updating rules. Japanese Journal of Applied Physics, 2022, 61, SM1007.	1.5	1
5	Modulating the Filamentary-Based Resistive Switching Properties of HfO2 Memristive Devices by Adding Al2O3 Layers. Electronics (Switzerland), 2022, 11, 1540.	3.1	5
6	Low Conductance State Drift Characterization and Mitigation in Resistive Switching Memories (RRAM) for Artificial Neural Networks. IEEE Transactions on Device and Materials Reliability, 2022, 22, 340-347.	2.0	11
7	Advanced temperature dependent statistical analysis of forming voltage distributions for three different HfO2-based RRAM technologies. Solid-State Electronics, 2021, 176, 107961.	1.4	4
8	Study of Quantized Hardware Deep Neural Networks Based on Resistive Switching Devices, Conventional versus Convolutional Approaches. Electronics (Switzerland), 2021, 10, 346.	3.1	21
9	A Versatile, Voltage-Pulse Based Read and Programming Circuit for Multi-Level RRAM Cells. Electronics (Switzerland), 2021, 10, 530.	3.1	5
10	Optimized programming algorithms for multilevel RRAM in hardware neural networks. , 2021, , .		15
11	Toward Reliable Compact Modeling of Multilevel 1T-1R RRAM Devices for Neuromorphic Systems. Electronics (Switzerland), 2021, 10, 645.	3.1	28
12	Behavioral Model of Dot-Product Engine Implemented with 1T1R Memristor Crossbar Including Assessment. , 2021, , .		2
13	Optimization of Multi-Level Operation in RRAM Arrays for In-Memory Computing. Electronics (Switzerland), 2021, 10, 1084.	3.1	15
14	Multilevel memristor based matrix-vector multiplication: influence of the discretization method. , 2021, , .		3
15	Variability and Energy Consumption Tradeoffs in Multilevel Programming of RRAM Arrays. IEEE Transactions on Electron Devices, 2021, 68, 2693-2698.	3.0	21
16	Performance Assessment of Amorphous HfO2-Based RRAM Devices for Neuromorphic Applications. ECS Journal of Solid State Science and Technology, 2021, 10, 083002.	1.8	2
17	Accurate Program/Verify Schemes of Resistive Switching Memory (RRAM) for In-Memory Neural Network Circuits. IEEE Transactions on Electron Devices, 2021, 68, 3832-3837.	3.0	56
18	Influence of variability on the performance of HfO2 memristor-based convolutional neural networks. Solid-State Electronics, 2021, 185, 108064.	1.4	5

#	ARTICLE	IF	CITATIONS
19	Memristive-based in-memory computing: from device to large-scale CMOS integration. Neuromorphic Computing and Engineering, 2021, 1, 024006.	5.9	3
20	Sensitivity of HfO2-based RRAM Cells to Laser Irradiation. Microprocessors and Microsystems, 2021, , 104376.	2.8	3
21	Tackling the Low Conductance State Drift through Incremental Reset and Verify in RRAM arrays. , 2021, , .		3
22	An Analysis on the Architecture and the Size of Quantized Hardware Neural Networks Based on Memristors. Electronics (Switzerland), 2021, 10, 3141.	3.1	2
23	Influence of specific forming algorithms on the device-to-device variability of memristive Al-doped HfO2 arrays. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2020, 38, 013201.	1.2	2
24	Reliability of Logic-in-Memory Circuits in Resistive Memory Arrays. IEEE Transactions on Electron Devices, 2020, 67, 4611-4615.	3.0	9
25	Neuromorphic on-chip recognition of saliva samples of COPD and healthy controls using memristive devices. Scientific Reports, 2020, 10, 19742.	3.3	11
26	Analogue pattern recognition with stochastic switching binary CMOS-integrated memristive devices. Scientific Reports, 2020, 10, 14450.	3.3	23
27	Behavioral modeling of multilevel HfO₂-based memristors for neuromorphic circuit simulation. , 2020, , .		5
28	Programming Pulse Width Assessment for Reliable and Low-Energy Endurance Performance in Al:HfO2-Based RRAM Arrays. Electronics (Switzerland), 2020, 9, 864.	3.1	25
29	Kinetic Monte Carlo analysis of data retention in Al:HfO₂-based resistive random access memories. Semiconductor Science and Technology, 2020, 35, 115012.	2.0	23
30	<i>(Invited) </i>Optimized HfO₂-Based MIM Module Fabrication for Emerging Memory Applications. ECS Transactions, 2019, 92, 211-221.	0.5	2
31	Toward Reliable Multi-Level Operation in RRAM Arrays: Improving Post-Algorithm Stability and Assessing Endurance/Data Retention. IEEE Journal of the Electron Devices Society, 2019, 7, 740-747.	2.1	44
32	Multilevel HfO2-based RRAM devices for low-power neuromorphic networks. APL Materials, 2019, 7, .	5.1	139
33	Reliability of CMOS Integrated Memristive HfO2 Arrays with Respect to Neuromorphic Computing. , 2019, , .		11
34	Analysis of the statistics of device-to-device and cycle-to-cycle variability in TiN/Ti/Al:HfO2/TiN RRAMs. Microelectronic Engineering, 2019, 214, 104-109.	2.4	61
35	Inherent Stochastic Learning in CMOS-Integrated HfO₂ Arrays for Neuromorphic Computing. IEEE Electron Device Letters, 2019, 40, 639-642.	3.9	26
36	Characterization of the interface-driven 1st Reset operation in HfO2-based 1T1R RRAM devices. Solid-State Electronics, 2019, 159, 51-56.	1.4	9

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37	Data retention investigation in Al:HfO2-based resistive random access memory arrays by using high-temperature accelerated tests. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2019, 37, .	1.2	11
38	Analysis of Parasitic Effects in Filamentary-Switching Memristive Memories Using an Approximated Verilog-A Memristor Model. IEEE Transactions on Circuits and Systems I: Regular Papers, 2019, 66, 1935-1947.	5.4	2
39	A Voltageâ€“Time Model for Memristive Devices. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2018, 26, 1452-1460.	3.1	6
40	The role of the bottom and top interfaces in the 1st reset operation in HfO<inf>2</inf> based RRAM devices. , 2018, , .		4
41	Impact of the precursor chemistry and process conditions on the cell-to-cell variability in 1T-1R based HfO2 RRAM devices. Scientific Reports, 2018, 8, 11160.	3.3	33
42	An Approximated Verilog-A Model for Memristive Devices. , 2018, , .		3
43	Temperature impact and programming algorithm for RRAM based memories. , 2018, , .		4
44	Impact of temperature on conduction mechanisms and switching parameters in HfO2-based 1T-1R resistive random access memories devices. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2017, 35, 01A103.	1.2	8
45	Assessing the forming temperature role on amorphous and polycrystalline HfO2-based 4 kbit RRAM arrays performance. Microelectronic Engineering, 2017, 178, 1-4.	2.4	4
46	Impact of the Incremental Programming Algorithm on the Filament Conduction in HfO₂-Based RRAM Arrays. IEEE Journal of the Electron Devices Society, 2017, 5, 64-68.	2.1	24
47	Reduction of the Cell-to-Cell Variability in Hf_{1-x}Al_xO_yBased RRAM Arrays by Using Program Algorithms. IEEE Electron Device Letters, 2017, 38, 175-178.	3.9	47
48	Electrical characterization and modeling of 1T-1R RRAM arrays with amorphous and poly-crystalline HfO2. Solid-State Electronics, 2017, 128, 187-193.	1.4	7
49	Performance and reliability comparison of 1T-1R RRAM arrays with amorphous and polycrystalline HfO2. , 2016, , .		14
50	Implications of the Incremental Pulse and Verify Algorithm on the Forming and Switching Distributions in RERAM Arrays. IEEE Transactions on Device and Materials Reliability, 2016, 16, 413-418.	2.0	7