

Mohamed E Fouda

List of Publications by Year in descending order

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118
papers

2,153
citations

279798

23
h-index

302126

39
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120
all docs

120
docs citations

120
times ranked

1254
citing authors

#	ARTICLE	IF	CITATIONS
1	Toward the Optimal Design and FPGA Implementation of Spiking Neural Networks. IEEE Transactions on Neural Networks and Learning Systems, 2022, 33, 3988-4002.	11.3	18
2	On numerical approximations of fractional-order spiking neuron models. Communications in Nonlinear Science and Numerical Simulation, 2022, 105, 106078.	3.3	13
3	A flexible capacitive photoreceptor for the biomimetic retina. Light: Science and Applications, 2022, 11, 3.	16.6	33
4	In-Memory Associative Processors: Tutorial, Potential, and Challenges. IEEE Transactions on Circuits and Systems II: Express Briefs, 2022, 69, 2641-2647.	3.0	6
5	CNTFET-Based Ternary Multiply-and-Accumulate Unit. Electronics (Switzerland), 2022, 11, 1455.	3.1	5
6	CNTFET-based ternary address decoder design. International Journal of Circuit Theory and Applications, 2022, 50, 3682-3691.	2.0	3
7	Comment on "FPGA realization of fractional order neuron" [Appl. Math. Model. 81 (2020) 372-385]. Applied Mathematical Modelling, 2021, 92, 951-954.	4.2	1
8	Optimal charging of fractional-order circuits with Cuckoo search. Journal of Advanced Research, 2021, 32, 119-131.	9.5	5
9	Programmable constant phase element realization with crossbar arrays. Journal of Advanced Research, 2021, 29, 137-145.	9.5	3
10	Variability analysis of resistive ternary content addressable memories. International Journal of Circuit Theory and Applications, 2021, 49, 453-475.	2.0	4
11	Design Exploration of Sensing Techniques in 2T-2R Resistive Ternary CAMs. IEEE Transactions on Circuits and Systems II: Express Briefs, 2021, 68, 762-766.	3.0	9
12	Blind Source Separation For Full-Duplex Systems: Potential and Challenges. IEEE Open Journal of the Communications Society, 2021, 2, 1379-1389.	6.9	8
13	Cost- and Dataset-free Stuck-at Fault Mitigation for ReRAM-based Deep Learning Accelerators. , 2021, , .		10
14	Neural Coding in Spiking Neural Networks: A Comparative Study for Robust Neuromorphic Systems. Frontiers in Neuroscience, 2021, 15, 638474.	2.8	89
15	Revisiting the Time-Domain and Frequency-Domain Definitions of Capacitance. IEEE Transactions on Electron Devices, 2021, 68, 2912-2916.	3.0	24
16	CNTFET design of a multiple-port ternary register file. Microelectronics Journal, 2021, 113, 105076.	2.0	5
17	Parameter Identification of Commercial Li-ion Batteries with Marine Predator Algorithm. , 2021, , .		2
18	Inverse problem of reconstructing the capacitance of electric double-layer capacitors. Electrochimica Acta, 2021, 390, 138848.	5.2	17

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19	Memristive Bio-Impedance Modeling of Fruits and Vegetables. IEEE Access, 2021, 9, 21498-21506.	4.2	2
20	Pinched hysteresis loops in non-linear resonators. IET Circuits, Devices and Systems, 2021, 15, 88-93.	1.4	5
21	Fast and Low-Cost Mitigation of ReRAM Variability for Deep Learning Applications. , 2021, , .		4
22	Independent Component Analysis with Nonlinearity Mitigation for MIMO Full-Duplex Systems. , 2021, , .		2
23	Time-domain Li-ion Battery Modeling Under Staircase Charging and Discharging. , 2021, , .		0
24	Compact memristor-based ultra-wide band chirp pulse generator. International Journal of Circuit Theory and Applications, 2020, 48, 286-293.	2.0	4
25	A general emulator for fractional-order memristive elements with multiple pinched points and application. AEU - International Journal of Electronics and Communications, 2020, 124, 153338.	2.9	21
26	Unsupervised Adaptive Weight Pruning for Energy-Efficient Neuromorphic Systems. Frontiers in Neuroscience, 2020, 14, 598876.	2.8	12
27	Towards Efficient Neuromorphic Hardware: Unsupervised Adaptive Neuron Pruning. Electronics (Switzerland), 2020, 9, 1059.	3.1	11
28	Learning to Predict IR Drop with Effective Training for ReRAM-based Neural Network Hardware. , 2020, , .		25
29	Memristor-CNTFET based Ternary Full Adders. , 2020, , .		12
30	Do the Bio-impedance Models Exhibit Pinched Hysteresis?. , 2020, , .		1
31	On-Chip Error-Triggered Learning of Multi-Layer Memristive Spiking Neural Networks. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2020, 10, 522-535.	3.6	18
32	Error-triggered Three-Factor Learning Dynamics for Crossbar Arrays. , 2020, , .		15
33	Spiking neural networks for inference and learning: a memristor-based design perspective. , 2020, , 499-530.		11
34	Optimal Charging and Discharging of Supercapacitors. Journal of the Electrochemical Society, 2020, 167, 110521.	2.9	16
35	Application of ICA on Self-Interference Cancellation of In-Band Full Duplex Systems. IEEE Wireless Communications Letters, 2020, 9, 924-927.	5.0	11
36	Nonlinear charge-voltage relationship in constant phase element. AEU - International Journal of Electronics and Communications, 2020, 117, 153104.	2.9	26

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37	Communicationâ€™The Ragone Plot of Supercapacitors Under Different Loading Conditions. Journal of the Electrochemical Society, 2020, 167, 020533.	2.9	15
38	Two-Port Network Analysis of Equal Fractional-order Wireless Power Transfer Circuit. , 2020, , .		3
39	Comparative Study of CNTFET Implementations of 1-trit Multiplier. , 2020, , .		5
40	Threshold Switch Modeling for Analog CAM Design. , 2020, , .		0
41	Parameter Identification of Flexible Supercapacitors with Fractional Cuckoo Search. , 2020, , .		3
42	Fractional-order Memristor Emulator with Multiple Pinched Points. , 2020, , .		4
43	On Series Connections of Fractional-Order Elements and Memristive Elements. , 2020, , .		0
44	IR-QNN Framework: An IR Drop-Aware Offline Training of Quantized Crossbar Arrays. IEEE Access, 2020, 8, 228392-228408.	4.2	21
45	Full-Duplex Self Cancellation Techniques Using Independent Component Analysis. , 2020, , .		4
46	Commercial supercapacitor parameter estimation from step voltage excitation. International Journal of Circuit Theory and Applications, 2019, 47, 1705-1712.	2.0	2
47	Supercapacitor discharge under constant resistance, constant current and constant power loads. Journal of Power Sources, 2019, 435, 226829.	7.8	31
48	Mask Technique for Fast and Efficient Training of Binary Resistive Crossbar Arrays. IEEE Nanotechnology Magazine, 2019, 18, 704-716.	2.0	31
49	Communicationâ€™Convolution-Based Estimation of Supercapacitor Parameters under Periodic Voltage Excitations. Journal of the Electrochemical Society, 2019, 166, A2267-A2269.	2.9	11
50	Ternary Functions Design Using Memristive Threshold Logic. IEEE Access, 2019, 7, 48371-48381.	4.2	34
51	Multiple Pinch-Off Points in Memristive Equations: Analysis and Experiments. IEEE Transactions on Circuits and Systems I: Regular Papers, 2019, 66, 3052-3063.	5.4	16
52	Simple MOS Transistor-Based Realization of Fractional-Order Capacitors. , 2019, , .		3
53	Realization of fractional-order capacitor based on passive symmetric network. Journal of Advanced Research, 2019, 18, 147-159.	9.5	38
54	N-digits Ternary Carry Lookahead Adder Design. , 2019, , .		7

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55	Effect of Asymmetric Nonlinearity Dynamics in RRAMs on Spiking Neural Network Performance. , 2019, ,		5
56	Non-Stationary Polar Codes for Resistive Memories. , 2019, ,		7
57	Activated Current Sensing Circuit for Resistive Neuromorphic Networks. , 2019, ,		0
58	A Universal Fractional-Order Memelement Emulation Circuit. , 2019, ,		4
59	CAD Tool for Two-Digit Ternary Functions Design. , 2019, ,		0
60	Digital Emulation of a Versatile Memristor With Speech Encryption Application. IEEE Access, 2019, 7, 174280-174297.	4.2	7
61	Memristor FPGA IP Core Implementation for Analog and Digital Applications. IEEE Transactions on Circuits and Systems II: Express Briefs, 2019, 66, 1381-1385.	3.0	20
62	Independent Component Analysis Using RRAMs. IEEE Nanotechnology Magazine, 2019, 18, 611-615.	2.0	14
63	Memristor-CNTFET based ternary logic gates. Microelectronics Journal, 2018, 72, 74-85.	2.0	48
64	Capacitive behavior and stored energy in supercapacitors at power line frequencies. Journal of Power Sources, 2018, 390, 142-147.	7.8	48
65	Modeling and Analysis of Passive Switching Crossbar Arrays. IEEE Transactions on Circuits and Systems I: Regular Papers, 2018, 65, 270-282.	5.4	55
66	Memristor-CNTFET based Ternary Comparator unit. , 2018, ,		6
67	Extracting the Cole-Cole Model Parameters of Tissue-mimicking Materials. , 2018, ,		1
68	Overcoming Crossbar Nonidealities in Binary Neural Networks Through Learning. , 2018, ,		12
69	Experimental Verification of Triple Lobes Generation in Fractional Memristive Circuits. IEEE Access, 2018, 6, 75169-75180.	4.2	11
70	Memristor Based Programmable Current Reference Generator. , 2018, ,		3
71	Study of fractional flux-controlled memristor emulator connections. , 2018, ,		6
72	Conditions and Emulation of Double Pinch-off Points in Fractional-order Memristor. , 2018, ,		8

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73	Review of fractional-order electrical characterization of supercapacitors. Journal of Power Sources, 2018, 400, 457-467.	7.8	125
74	A generalized family of memristor-based voltage controlled relaxation oscillator. International Journal of Circuit Theory and Applications, 2018, 46, 1311-1327.	2.0	23
75	Minimal Disturbed Bits in Writing Resistive Crossbar Memories. , 2018, , .		1
76	A Novel Flux-Controlled Memristive Emulator for Analog Applications. Studies in Computational Intelligence, 2017, , 493-511.	0.9	5
77	Memristor and Inverse Memristor: Modeling, Implementation and Experiments. Studies in Computational Intelligence, 2017, , 371-392.	0.9	15
78	Electrical Nonlinearity Emulation Technique for Current-Controlled Memristive Devices. IEEE Access, 2017, 5, 5399-5409.	4.2	35
79	On the analysis of current-controlled fractional-order memristor emulator. , 2017, , .		16
80	On one step row readout technique of selector-less resistive arrays. , 2017, , .		3
81	Design and analysis of 2T-2M Ternary content addressable memories. , 2017, , .		10
82	Fractional-Order Two-Port Networks. Mathematical Problems in Engineering, 2016, 2016, 1-5.	1.1	15
83	Process variations-aware resistive associative processor design. , 2016, , .		4
84	Simple generic memristor emulator for voltage-controlled models. , 2016, , .		13
85	Voltage-controlled M-M relaxation oscillator. , 2016, , .		5
86	Reactance-less RM relaxation oscillator using exponential memristor model. , 2016, , .		7
87	Fractional-order multi-phase oscillators design and analysis suitable for higher-order PSK applications. Analog Integrated Circuits and Signal Processing, 2016, 87, 301-312.	1.4	36
88	Power and energy analysis of fractional-order electrical energy storage devices. Energy, 2016, 111, 785-792.	8.8	99
89	Memristor emulator based on single CCII. , 2015, , .		17
90	A new simple emulator circuit for current controlled memristor. , 2015, , .		11

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91	Series and parallel circuit models containing memristors and inverse memristors. , 2015, , .		5
92	Review of the missing mechanical element: Memdamper. , 2015, , .		4
93	A novel memristor emulator based only on an exponential amplifier and CCII+. , 2015, , .		14
94	Power Dissipation of Memristor-Based Relaxation Oscillators. Radioengineering, 2015, 24, 968-973.	0.6	4
95	Boundary Dynamics of Memcapacitor in Voltage-Excited Circuits and Relaxation Oscillators. Circuits, Systems, and Signal Processing, 2015, 34, 2765-2783.	2.0	7
96	Memcapacitor: Modeling, Analysis, and Emulators. Studies in Systems, Decision and Control, 2015, , 151-185.	1.0	4
97	Memristor Mathematical Models and Emulators. Studies in Systems, Decision and Control, 2015, , 51-84.	1.0	4
98	Pinched hysteresis with inverse-memristor frequency characteristics in some nonlinear circuit elements. Microelectronics Journal, 2015, 46, 834-838.	2.0	43
99	Memristor emulator based on practical current controlled model. , 2015, , .		22
100	Memristor-Based Relaxation Oscillator Circuits. Studies in Systems, Decision and Control, 2015, , 85-119.	1.0	0
101	Memcapacitor Based Applications. Studies in Systems, Decision and Control, 2015, , 187-205.	1.0	0
102	Resistive-less memcapacitor-based relaxation oscillator. International Journal of Circuit Theory and Applications, 2015, 43, 959-965.	2.0	21
103	Fractional-order Memristor Response Under DC and Periodic Signals. Circuits, Systems, and Signal Processing, 2015, 34, 961-970.	2.0	51
104	Memristor-less current- and voltage-controlled meminductor emulators. , 2014, , .		24
105	Multi-phase oscillator for higher-order PSK applications. , 2014, , .		5
106	On the mathematical modeling of memcapacitor bridge synapses. , 2014, , .		1
107	Meminductor Response Under Periodic Current Excitations. Circuits, Systems, and Signal Processing, 2014, 33, 1573-1583.	2.0	20
108	Memcapacitor response under step and sinusoidal voltage excitations. Microelectronics Journal, 2014, 45, 1372-1379.	2.0	18

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109	Memristor-based voltage-controlled relaxation oscillators. International Journal of Circuit Theory and Applications, 2014, 42, 1092-1102.	2.0	46
110	Optimization of Fractional-Order RLC Filters. Circuits, Systems, and Signal Processing, 2013, 32, 2097-2118.	2.0	96
111	A Simple Model of Double-Loop Hysteresis Behavior in Memristive Elements. IEEE Transactions on Circuits and Systems II: Express Briefs, 2013, 60, 487-491.	3.0	100
112	On the mathematical modeling of series and parallel memcapacitors. , 2013, , .		7
113	Generalized Analysis of Symmetric and Asymmetric Memristive Two-Gate Relaxation Oscillators. IEEE Transactions on Circuits and Systems I: Regular Papers, 2013, 60, 2701-2708.	5.4	43
114	Improved memristor-based relaxation oscillator. Microelectronics Journal, 2013, 44, 814-820.	2.0	34
115	A simple MOS realization of current controlled memristor emulator. , 2013, , .		27
116	Memristor-based relaxation oscillators using digital gates. , 2012, , .		9
117	Charge controlled memristor-less memcapacitor emulator. Electronics Letters, 2012, 48, 1454.	1.0	78
118	Effect of boundary on controlled memristor-based oscillator. , 2012, , .		11