Ahmed S Elwakil

List of Publications by Year
in descending order

552 papers	12,367 citations	34016 52 h-index	54797 84 g-index
568 all docs	568 docs citations	568 times ranked	3712 citing authors

#	Article	IF	Citations
1	Fractional-Order Circuits and Systems: An Emerging Interdisciplinary Research Area. IEEE Circuits and Systems Magazine, 2010, 10, 40-50.	2.6	458
2	On the stability of linear systems with fractional-order elements. Chaos, Solitons and Fractals, 2009, 40, 2317-2328.	2.5	277
3	Fractional-order sinusoidal oscillators: Design procedure and practical examples. IEEE Transactions on Circuits and Systems I: Regular Papers, 2008, 55, 2051-2063.	3.5	262
4	FIRST-ORDER FILTERS GENERALIZED TO THE FRACTIONAL DOMAIN. Journal of Circuits, Systems and Computers, 2008, 17, 55-66.	1.0	221
5	Construction of classes of circuit-independent chaotic oscillators using passive-only nonlinear devices. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2001, 48, 289-307.	0.1	215
6	ON THE GENERALIZATION OF SECOND-ORDER FILTERS TO THE FRACTIONAL-ORDER DOMAIN. Journal of Circuits, Systems and Computers, 2009, 18, 361-386.	1.0	214
7	Measurement of Supercapacitor Fractional-Order Model Parameters From Voltage-Excited Step Response. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2013, 3, 367-376.	2.7	158
8	FPGA implementation of two fractional order chaotic systems. AEU - International Journal of Electronics and Communications, 2017, 78, 162-172.	1.7	155
9	Field programmable analogue array implementation of fractional step filters. IET Circuits, Devices and Systems, 2010, 4, 514.	0.9	154
10	Fractional-order models of supercapacitors, batteries and fuel cells: a survey. Materials for Renewable and Sustainable Energy, 2015, 4, 1.	1.5	149
11	Reevaluation of Performance of Electric Double-layer Capacitors from Constant-current Charge/Discharge and Cyclic Voltammetry. Scientific Reports, 2016, 6, 38568.	1.6	144
12	Fractional-order Wien-bridge oscillator. Electronics Letters, 2001, 37, 1110.	0.5	139
13	On the practical realization of higher-order filters with fractional stepping. Signal Processing, 2011, 91, 484-491.	2.1	127
14	Review of fractional-order electrical characterization of supercapacitors. Journal of Power Sources, 2018, 400, 457-467.	4.0	125
15	Design equations for fractional€order sinusoidal oscillators: Four practical circuit examples. International Journal of Circuit Theory and Applications, 2008, 36, 473-492.	1.3	122
16	Improved implementation of Chua's chaotic oscillator using current feedback op amp. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2000, 47, 76-79.	0.1	110
17	Creation of a complex butterfly attractor using a novel Lorenz-Type system. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2002, 49, 527-530.	0.1	108
18	A Simple Model of Double-Loop Hysteresis Behavior in Memristive Elements. IEEE Transactions on Circuits and Systems II: Express Briefs, 2013, 60, 487-491.	2.2	100

#	Article	IF	Citations
19	Power and energy analysis of fractional-order electrical energy storage devices. Energy, 2016, 111, 785-792.	4.5	99
20	Optimization of Fractional-Order RLC Filters. Circuits, Systems, and Signal Processing, 2013, 32, 2097-2118.	1.2	96
21	Generalized double-humped logistic map-based medical image encryption. Journal of Advanced Research, 2018, 10, 85-98.	4.4	93
22	Symmetric encryption algorithms using chaotic and non-chaotic generators: A review. Journal of Advanced Research, 2016, 7, 193-208.	4.4	89
23	High-quality factor asymmetric-slope band-pass filters: a fractional-order capacitor approach. IET Circuits, Devices and Systems, 2012, 6, 187.	0.9	86
24	Fractional Order Sallen–Key and KHN Filters: Stability and Poles Allocation. Circuits, Systems, and Signal Processing, 2015, 34, 1461-1480.	1.2	86
25	On The Optimization of Fractional Order Low-Pass Filters. Circuits, Systems, and Signal Processing, 2016, 35, 2017-2039.	1.2	86
26	A novel image encryption system merging fractional-order edge detection and generalized chaotic maps. Signal Processing, 2020, 167, 107280.	2.1	85
27	Biological inspired optimization algorithms for cole-impedance parameters identification. AEU - International Journal of Electronics and Communications, 2017, 78, 79-89.	1.7	80
28	Experimental comparison of integer/fractional-order electrical models of plant. AEU - International Journal of Electronics and Communications, 2017, 80, 1-9.	1.7	80
29	Fractional order oscillators based on operational transresistance amplifiers. AEU - International Journal of Electronics and Communications, 2015, 69, 988-1003.	1.7	78
30	A Novel Chaotic System without Equilibrium: Dynamics, Synchronization, and Circuit Realization. Complexity, 2017, 2017, 1-11.	0.9	77
31	Generalized fractional logistic map encryption system based on FPGA. AEU - International Journal of Electronics and Communications, 2017, 80, 114-126.	1.7	76
32	Approximated Fractional Order Chebyshev Lowpass Filters. Mathematical Problems in Engineering, 2015, 2015, 1-7.	0.6	75
33	Electronically Tunable Fully Integrated Fractional-Order Resonator. IEEE Transactions on Circuits and Systems II: Express Briefs, 2018, 65, 166-170.	2.2	74
34	n-scroll chaos generator using nonlinear transconductor. Electronics Letters, 2002, 38, 685.	0.5	72
35	Emulation of a constant phase element using operational transconductance amplifiers. Analog Integrated Circuits and Signal Processing, 2015, 85, 413-423.	0.9	71
36	Reconfigurable chaotic pseudo random number generator based on FPGA. AEU - International Journal of Electronics and Communications, 2019, 98, 174-180.	1.7	70

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37	Extracting the parameters of the double-dispersion Cole bioimpedance model from magnitude response measurements. Medical and Biological Engineering and Computing, 2014, 52, 749-758.	1.6	69
38	Extracting the Cole-Cole impedance model parameters without direct impedance measurement. Electronics Letters, 2010, 46, 1367.	0.5	67
39	Approximated Fractional-Order Inverse Chebyshev Lowpass Filters. Circuits, Systems, and Signal Processing, 2016, 35, 1973-1982.	1.2	67
40	Modeling and analysis of fractional order DC-DC converter. ISA Transactions, 2018, 82, 184-199.	3.1	67
41	CCII based fractional filters of different orders. Journal of Advanced Research, 2014, 5, 157-164.	4.4	65
42	A low frequency oscillator using a super-capacitor. AEU - International Journal of Electronics and Communications, 2016, 70, 970-973.	1.7	65
43	Three Fractional-Order-Capacitors-Based Oscillators with Controllable Phase and Frequency. Journal of Circuits, Systems and Computers, 2017, 26, 1750160.	1.0	65
44	On some generalized discrete logistic maps. Journal of Advanced Research, 2013, 4, 163-171.	4.4	63
45	Design of CMOS Analog Integrated Fractional-Order Circuits. Springer Briefs in Electrical and Computer Engineering, 2017, , .	0.3	63
46	Fractionalâ€order electronically controlled generalized filters. International Journal of Circuit Theory and Applications, 2017, 45, 595-612.	1.3	62
47	Experimental verification of onâ€chip CMOS fractionalâ€order capacitor emulators. Electronics Letters, 2016, 52, 1298-1300.	0.5	60
48	Hardware stream cipher with controllable chaos generator for colour image encryption. IET Image Processing, 2014, 8, 33-43.	1.4	57
49	EXPERIMENTAL VERIFICATION OF THE BUTTERFLY ATTRACTOR IN A MODIFIED LORENZ SYSTEM. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2002, 12, 1627-1632.	0.7	56
50	A family of Wien-type oscillators modified for chaos. International Journal of Circuit Theory and Applications, 1997, 25, 561-579.	1.3	55
51	On a multivibrator that employs a fractional capacitor. Analog Integrated Circuits and Signal Processing, 2010, 62, 99-103.	0.9	55
52	A fractalâ€based image encryption system. IET Image Processing, 2014, 8, 742-752.	1.4	55
53	Review of activated carbon adsorbent material for textile dyes removal: Preparation, and modelling. Current Research in Green and Sustainable Chemistry, 2022, 5, 100325.	2.9	54
54	Fractionalâ€order mutual inductance: analysis and design. International Journal of Circuit Theory and Applications, 2016, 44, 85-97.	1.3	53

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55	Approximation of the Fractional-Order Laplacian <inline-formula> <tex-math notation="LaTeX">s^alpha </tex-math> </inline-formula> As a Weighted Sum of First-Order High-Pass Filters. IEEE Transactions on Circuits and Systems II: Express Briefs, 2018, 65, 1114-1118.	2.2	53
56	Optimized Edge Detection Technique for Brain Tumor Detection in MR Images. IEEE Access, 2020, 8, 136243-136259.	2.6	53
57	Chaotic Flower Pollination and Grey Wolf Algorithms for parameter extraction of bio-impedance models. Applied Soft Computing Journal, 2019, 75, 750-774.	4.1	52
58	Generalized Hardware Post-processing Technique for Chaos-Based Pseudorandom Number Generators. ETRI Journal, 2013, 35, 448-458.	1.2	51
59	Fractional-order Memristor Response Under DC and Periodic Signals. Circuits, Systems, and Signal Processing, 2015, 34, 961-970.	1.2	51
60	FPGA Implementation of the Fractional Order Integrator/Differentiator: Two Approaches and Applications. IEEE Transactions on Circuits and Systems I: Regular Papers, 2019, 66, 1484-1495.	3.5	50
61	Two-port two impedances fractional order oscillators. Microelectronics Journal, 2016, 55, 40-52.	1.1	49
62	1-D DIGITALLY-CONTROLLED MULTISCROLL CHAOS GENERATOR. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2007, 17, 227-242.	0.7	48
63	Capacitive behavior and stored energy in supercapacitors at power line frequencies. Journal of Power Sources, 2018, 390, 142-147.	4.0	48
64	Synchronization and FPGA realization of fractional-order Izhikevich neuron model. Microelectronics Journal, 2019, 89, 56-69.	1.1	48
65	An inductorless CMOS realization of Chua's circuit. Chaos, Solitons and Fractals, 2003, 18, 149-158.	2.5	47
66	A Grunwald–Letnikov based Manta ray foraging optimizer for global optimization and image segmentation. Engineering Applications of Artificial Intelligence, 2021, 98, 104105.	4.3	47
67	A FOUR-WING BUTTERFLY ATTRACTOR FROM A FULLY AUTONOMOUS SYSTEM. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2003, 13, 3093-3098.	0.7	46
68	Multiscroll Chaotic Oscillators: The Nonautonomous Approach. IEEE Transactions on Circuits and Systems Part 2: Express Briefs, 2006, 53, 862-866.	2.3	46
69	Cole impedance extractions from the step-response of a current excited fruit sample. Computers and Electronics in Agriculture, 2013, 98, 100-108.	3.7	46
70	Fractional Resonance-Based<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" id="M1"><mml:msub><mml:mi>RL</mml:mi> <mml:mi>ΐ²</mml:mi> </mml:msub><mml:msub><mml:mi>C</mml:mi><mml:mi>ΐ±</mml Mathematical Problems in Engineering, 2013, 2013, 1-10.	0.6	46
71	Spectral Capacitance of Series and Parallel Combinations of Supercapacitors. ChemElectroChem, 2016, 3, 1429-1436.	1.7	46
72	Parameter identification of fractional-order chaotic systems using different Meta-heuristic Optimization Algorithms. Nonlinear Dynamics, 2019, 95, 2491-2542.	2.7	46

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73	Fractional-step Tow-Thomas biquad filters. Nonlinear Theory and Its Applications IEICE, 2012, 3, 357-374.	0.4	45
74	A New Second-Order All-Pass Filter in 130-nm CMOS. IEEE Transactions on Circuits and Systems II: Express Briefs, 2016, 63, 249-253.	2.2	45
75	All Possible Topologies of the Fractional-Order Wien Oscillator Family Using Different Approximation Techniques. Circuits, Systems, and Signal Processing, 2019, 38, 3931-3951.	1.2	45
76	On the Realization of Multiphase Oscillators UsingÂFractional-Order Allpass Filters. Circuits, Systems, and Signal Processing, 2012, 31, 3-17.	1.2	44
77	Fractional Order Oscillator Design Based on Two-Port Network. Circuits, Systems, and Signal Processing, 2016, 35, 3086-3112.	1.2	44
78	Partial fraction expansionâ€"based realizations of fractionalâ€order differentiators and integrators using active filters. International Journal of Circuit Theory and Applications, 2019, 47, 513-531.	1.3	44
79	Chua's circuit decomposition: a systematic design approach for chaotic oscillators. Journal of the Franklin Institute, 2000, 337, 251-265.	1.9	43
80	Generalized Analysis of Symmetric and Asymmetric Memristive Two-Gate Relaxation Oscillators. IEEE Transactions on Circuits and Systems I: Regular Papers, 2013, 60, 2701-2708.	3.5	43
81	Pinched hysteresis with inverse-memristor frequency characteristics in some nonlinear circuit elements. Microelectronics Journal, 2015, 46, 834-838.	1.1	43
82	Fractional X-shape controllable multi-scroll attractor with parameter effect and FPGA automatic design tool software. Chaos, Solitons and Fractals, 2019, 126, 292-307.	2.5	43
83	Fractional order integrator/differentiator: FPGA implementation and FOPID controller application. AEU - International Journal of Electronics and Communications, 2019, 98, 220-229.	1.7	43
84	AN EQUATION FOR GENERATING CHAOS AND ITS MONOLITHIC IMPLEMENTATION. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2002, 12, 2885-2895.	0.7	41
85	Extracting single dispersion Coleâ€"Cole impedance model parameters using an integrator setup. Analog Integrated Circuits and Signal Processing, 2012, 71, 107-110.	0.9	41
86	On inverse problem of generalized synchronization between different dimensional integer-order and fractional-order chaotic systems. , 2016, , .		41
87	Short-term memory in electric double-layer capacitors. Applied Physics Letters, 2018, 113, .	1.5	41
88	Power law filters: A new class of fractional-order filters without a fractional-order Laplacian operator. AEU - International Journal of Electronics and Communications, 2021, 129, 153537.	1.7	41
89	High frequency Wien-type chaotic oscillator. Electronics Letters, 1998, 34, 1161.	0.5	40
90	Experimental demonstration of fractional-order oscillators of orders 2.6 and 2.7. Chaos, Solitons and Fractals, 2017, 96, 160-164.	2.5	40

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91	Switched-Capacitor Fractional-Step Butterworth Filter Design. Circuits, Systems, and Signal Processing, 2016, 35, 1377-1393.	1.2	39
92	Effect of Different Approximation Techniques on Fractional-Order KHN Filter Design. Circuits, Systems, and Signal Processing, 2018, 37, 5222-5252.	1.2	39
93	Cancellable face recognition based on fractional-order Lorenz chaotic system and Haar wavelet fusion. , 2021, 116, 103103.		39
94	Realization of fractional-order capacitor based on passive symmetric network. Journal of Advanced Research, 2019, 18, 147-159.	4.4	38
95	Enhanced hardware implementation of a mixed-order nonlinear chaotic system and speech encryption application. AEU - International Journal of Electronics and Communications, 2020, 125, 153347.	1.7	38
96	A semi-systematic procedure for producing chaos from sinusoidal oscillators using diode-inductor and FET-capacitor composites. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2000, 47, 582-590.	0.1	37
97	Cross-coupled chaotic oscillators and application to random bit generation. IET Circuits, Devices and Systems, 2006, 153, 506.	0.6	37
98	FPGA implementation of sound encryption system based on fractional-order chaotic systems. Microelectronics Journal, 2019, 90, 323-335.	1.1	37
99	Extracting the parameters of the single-dispersion Cole bioimpedance model using a magnitude-only method. Computers and Electronics in Agriculture, 2015, 119, 153-157.	3.7	36
100	Fractional-order multi-phase oscillators design and analysis suitable for higher-order PSK applications. Analog Integrated Circuits and Signal Processing, 2016, 87, 301-312.	0.9	36
101	Generalized two-port network based fractional order filters. AEU - International Journal of Electronics and Communications, 2019, 104, 128-146.	1.7	36
102	Further experimental evidence of the fractional-order energy equation in supercapacitors. AEU - International Journal of Electronics and Communications, 2017, 78, 209-212.	1.7	35
103	Wien oscillators using current conveyors. Computers and Electrical Engineering, 1999, 25, 45-55.	3.0	34
104	Emulation of current excited fractional-order capacitors and inductors using OTA topologies. Microelectronics Journal, 2016, 55, 70-81.	1.1	34
105	Fractional controllable multi-scroll V-shape attractor with parameters effect. , 2017, , .		34
106	Ternary Functions Design Using Memristive Threshold Logic. IEEE Access, 2019, 7, 48371-48381.	2.6	34
107	A family of Colpitts-like chaotic oscillators. Journal of the Franklin Institute, 1999, 336, 687-700.	1.9	33
108	Current conveyor chaos generators. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 1999, 46, 393-398.	0.1	33

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109	Chaos synchronisation of continuous systems via scalar signal. , 2017, , .		33
110	Single active element implementation of fractional-order differentiators and integrators. AEU - International Journal of Electronics and Communications, 2018, 97, 6-15.	1.7	33
111	Generalized switched synchronization and dependent image encryption using dynamically rotating fractional-order chaotic systems. AEU - International Journal of Electronics and Communications, 2020, 123, 153268.	1.7	33
112	Hardware Optimized FPGA Implementations of High-Speed True Random Bit Generators Based on Switching-Type Chaotic Oscillators. Circuits, Systems, and Signal Processing, 2019, 38, 1342-1359.	1.2	32
113	Ferroelectric Fractional‐Order Capacitors. ChemElectroChem, 2017, 4, 2807-2813.	1.7	31
114	Supercapacitor discharge under constant resistance, constant current and constant power loads. Journal of Power Sources, 2019, 435, 226829.	4.0	31
115	Multiplierless chaotic Pseudo random number generators. AEU - International Journal of Electronics and Communications, 2020, 113, 152947.	1.7	29
116	Chaos in pulse-excited resonator with self feedback. Electronics Letters, 2003, 39, 831.	0.5	28
117	Dead-beat synchronization control in discrete-time chaotic systems. , 2017, , .		28
118	FPGA realizations of high-speed switching-type chaotic oscillators using compact VHDL codes. Nonlinear Dynamics, 2018, 93, 819-833.	2.7	28
119	On the Approximations of CFOA-Based Fractional-Order Inverse Filters. Circuits, Systems, and Signal Processing, 2020, 39, 2-29.	1.2	28
120	Nonautonomous pulse-driven chaotic oscillator based on Chua's circuit. Microelectronics Journal, 2002, 33, 479-486.	1.1	27
121	Design and application examples of CMOS fractional-order differentiators and integrators. Microelectronics Journal, 2019, 83, 155-167.	1.1	27
122	Extracting Optimized Bio-Impedance Model Parameters Using Different Topologies of Oscillators. IEEE Sensors Journal, 2020, 20, 9947-9954.	2.4	27
123	Towards the realization of fractional step filters. , 2010, , .		26
124	Least squares estimation technique of Cole-Cole parameters from step response. Electronics Letters, 2012, 48, 752.	0.5	26
125	An expression for the voltage response of a current‐excited fractance device based on fractional‐order trigonometric identities. International Journal of Circuit Theory and Applications, 2012, 40, 533-538.	1.3	26
126	Fundamentals of fractional‐order LTI circuits and systems: number of poles, stability, time and frequency responses. International Journal of Circuit Theory and Applications, 2016, 44, 2114-2133.	1.3	26

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127	Comparison between three approximation methods on oscillator circuits. Microelectronics Journal, 2018, 81, 162-178.	1.1	26
128	Comprehensive comparison based on meta-heuristic algorithms for approximation of the fractional-order Laplacian s as a weighted sum of first-order high-pass filters. Microelectronics Journal, 2019, 87, 110-120.	1.1	26
129	Nonlinear charge-voltage relationship in constant phase element. AEU - International Journal of Electronics and Communications, 2020, 117, 153104.	1.7	26
130	On the necessary and sufficient conditions for latch-up in sinusoidal oscillators. International Journal of Electronics, 2002, 89, 197-206.	0.9	25
131	Guest Editorial: Fractional-Order Circuits and Systems: Theory, Design, and Applications. Circuits, Systems, and Signal Processing, 2016, 35, 1807-1813.	1.2	25
132	Reduced Graphene Oxide Thin Film on Conductive Substrates by Bipolar Electrochemistry. Scientific Reports, 2016, 6, 21282.	1.6	25
133	On the Analysis and Design of Fractional-Order Chebyshev Complex Filter. Circuits, Systems, and Signal Processing, 2018, 37, 915-938.	1.2	25
134	GENERIC RC REALIZATIONS OF CHUA'S CIRCUIT. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2000, 10, 1981-1985.	0.7	24
135	Image encryption in the fractional-order domain. , 2012, , .		24
136	Image encryption using generalized tent map. , 2013, , .		24
137	Memristor-less current- and voltage-controlled meminductor emulators. , 2014, , .		24
138	Finite Precision Logistic Map between Computational Efficiency and Accuracy with Encryption Applications. Complexity, 2017, 2017, 1-21.	0.9	24
139	Cole Bio-Impedance Model Variations in $Daucus~Carota~Sativus$ Under Heating and Freezing Conditions. IEEE Access, 2019, 7, 113254-113263.	2.6	24
140	FPGA realization of a speech encryption system based on a generalized modified chaotic transition map and bit permutation. Multimedia Tools and Applications, 2019, 78, 16097-16127.	2.6	24
141	Numerical Simulations and FPGA Implementations of Fractional-Order Systems Based on Product Integration Rules. IEEE Access, 2020, 8, 102093-102105.	2.6	24
142	Revisiting the Time-Domain and Frequency-Domain Definitions of Capacitance. IEEE Transactions on Electron Devices, 2021, 68, 2912-2916.	1.6	24
143	Inductorless hyperchaos generator. Microelectronics Journal, 1999, 30, 739-743.	1.1	23
144	Mathematical Models of the Twin-T, Wien-bridgeand Family of Minimum Component Electronic ChaosGenerators with Demonstrative Recurrence Plots. Chaos, Solitons and Fractals, 1999, 10, 1399-1412.	2.5	23

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145	Chaotic oscillator configuration using a frequency dependent negative resistor. International Journal of Circuit Theory and Applications, 2000, 28, 69-76.	1.3	23
146	Systematic realization of a class of hysteresis chaotic oscillators. International Journal of Circuit Theory and Applications, 2000, 28, 319-334.	1.3	23
147	Design of Positive, Negative, and Alternating Sign Generalized Logistic Maps. Discrete Dynamics in Nature and Society, 2015, 2015, 1-23.	0.5	23
148	Experimental Verification of Fractional-Order Filters Using a Reconfigurable Fractional-Order Impedance Emulator. Journal of Circuits, Systems and Computers, 2017, 26, 1750142.	1.0	23
149	Generalized Synchronization of Different Dimensional Integer-Order and Fractional Order Chaotic Systems. Studies in Computational Intelligence, 2017, , 671-697.	0.7	23
150	Allâ€Solidâ€State Doubleâ€Layer Capacitors Using Binderless Reduced Graphene Oxide Thin Films Prepared by Bipolar Electrochemistry. ChemElectroChem, 2017, 4, 2084-2090.	1.7	23
151	A generalized family of memristorâ€based voltage controlled relaxation oscillator. International Journal of Circuit Theory and Applications, 2018, 46, 1311-1327.	1.3	23
152	One-terminal electronically controlled fractional-order capacitor and inductor emulator. AEU - International Journal of Electronics and Communications, 2019, 103, 32-45.	1.7	23
153	Novel two-measurements-only Cole-Cole bio-impedance parameters extraction technique. Measurement: Journal of the International Measurement Confederation, 2019, 131, 394-399.	2.5	23
154	Fractional-Order Bio-Impedance Modeling for Interdisciplinary Applications: A Review. IEEE Access, 2021, 9, 33158-33168.	2.6	23
155	Fractional-Order Inductor: Design, Simulation, and Implementation. IEEE Access, 2021, 9, 73695-73702.	2.6	23
156	Reconfigurable FPGA Realization of Fractional-Order Chaotic Systems. IEEE Access, 2021, 9, 89376-89389.	2.6	23
157	Discrete fractional-order Caputo method to overcome trapping in local optima: Manta Ray Foraging Optimizer as a case study. Expert Systems With Applications, 2022, 192, 116355.	4.4	23
158	Supercapacitor reciprocity and response to linear current and voltage ramps. Electrochimica Acta, 2017, 258, 1081-1085.	2.6	22
159	High-Frequency Capacitorless Fractional-Order CPE and FI Emulator. Circuits, Systems, and Signal Processing, 2018, 37, 2694-2713.	1.2	22
160	Optimal fractional-order PI with DC-DC converter and PV system. Ain Shams Engineering Journal, 2021, 12, 1895-1906.	3.5	22
161	Design of a Portable Low-Cost Impedance Analyzer. , 2017, , .		22
162	Two Twin-T based op amp oscillators modified for chaos. Journal of the Franklin Institute, 1998, 335, 771-787.	1.9	21

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163	Two Modified for Chaos Negative Impedance Converter Op Amp Oscillators with Symmetrical and Antisymmetrical Nonlinearities. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 1998, 08, 1335-1346.	0.7	21
164	A system for chaos generation and its implementation in monolithic form. , 0, , .		21
165	Digitally programmed fractional-order Chebyshev filters realizations using current-mirrors. , 2015, , .		21
166	Resistiveâ€‹less memcapacitorâ€‹based relaxation oscillator. International Journal of Circuit Theory and Applications, 2015, 43, 959-965.	1.3	21
167	Experimental behavior evaluation of series and parallel connected constant phase elements. AEU - International Journal of Electronics and Communications, 2017, 74, 5-12.	1.7	21
168	A general emulator for fractional-order memristive elements with multiple pinched points and application. AEU - International Journal of Electronics and Communications, 2020, 124, 153338.	1.7	21
169	A study of the nonlinear dynamics of human behavior and its digital hardware implementation. Journal of Advanced Research, 2020, 25, 111-123.	4.4	21
170	Modelling and implementation of soft bio-mimetic turtle using echo state network and soft pneumatic actuators. Scientific Reports, 2021, 11, 12076.	1.6	21
171	Systematic realization of low-frequency oscillators using composite passive-active resistors. IEEE Transactions on Instrumentation and Measurement, 1998, 47, 584-586.	2.4	20
172	CHAOTIC OSCILLATOR CONFIGURATION USING A FREQUENCY DEPENDENT NEGATIVE RESISTOR. Journal of Circuits, Systems and Computers, 1999, 09, 229-242.	1.0	20
173	On the Realization of Circuit-Independent Nonautonomous Pulse-Excited Chaotic Oscillator Circuits. IEEE Transactions on Circuits and Systems Part 2: Express Briefs, 2004, 51, 552-556.	2.3	20
174	Meminductor Response Under Periodic Current Excitations. Circuits, Systems, and Signal Processing, 2014, 33, 1573-1583.	1.2	20
175	Single Transistor Active Filters: What is Possible and What is Not. IEEE Transactions on Circuits and Systems I: Regular Papers, 2014, 61, 2517-2524.	3.5	20
176	Analysis and realization of a switched fractionalâ€‹orderâ€‹capacitor integrator. International Journal of Circuit Theory and Applications, 2016, 44, 2035-2040.	1.3	20
177	Fractional-Order and Memristive Nonlinear Systems: Advances and Applications. Complexity, 2017, 2017, 1-2.	0.9	20
178	Extraction of Phase Information from Magnitude-Only Bio-impedance Measurements Using a Modified Kramersâ€"Kronig Transform. Circuits, Systems, and Signal Processing, 2018, 37, 3635-3650.	1.2	20
179	Memristor FPGA IP Core Implementation for Analog and Digital Applications. IEEE Transactions on Circuits and Systems II: Express Briefs, 2019, 66, 1381-1385.	2.2	20
180	Double Exponent Fractional-Order Filters: Approximation Methods and Realization. Circuits, Systems, and Signal Processing, 2021, 40, 993-1004.	1.2	20

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181	Chaotic Oscillators Derived from Sinusoidal Oscillators Based on the Current Feedback Op Amp. Analog Integrated Circuits and Signal Processing, 2000, 24, 239-251.	0.9	19
182	Novel Approximate Square-Root Domain All-Pass Filter with Application to Multiphase Oscillators. Analog Integrated Circuits and Signal Processing, 2006, 46, 297-301.	0.9	19
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