Karabi Biswas

List of Publications by Year
in descending order

90 papers	1,943 citations	257101 24 h-index	264894 42 g-index
91 all docs	91 docs citations	91 times ranked	1060 citing authors

#	Article	IF	Citations
1	Fabrication of a Fractional Order Capacitor With Desired Specifications: A Study on Process Identification and Characterization. IEEE Transactions on Electron Devices, 2011, 58, 4067-4073.	1.6	155
2	Experimental studies on realization of fractional inductors and fractionalâ€order bandpass filters. International Journal of Circuit Theory and Applications, 2015, 43, 1183-1196.	1.3	147
3	Practical Realization of Tunable Fractional Order Parallel Resonator and Fractional Order Filters. IEEE Transactions on Circuits and Systems I: Regular Papers, 2016, 63, 1142-1151.	3.5	110
4	Performance study of fractional order integrator using single-component fractional order element. IET Circuits, Devices and Systems, 2011, 5, 334.	0.9	84
5	Solid-state fractional capacitor using MWCNT-epoxy nanocomposite. Applied Physics Letters, 2017, 110, .	1.5	78
6	A survey of single and multi-component Fractional-Order Elements (FOEs) and their applications. Microelectronics Journal, 2019, 84, 9-25.	1.1	74
7	A Design Example of a Fractional-Order Kerwinâ€“Huelsmanâ€“Newcomb Biquad Filter with Two Fractional Capacitors of Different Order. Circuits, Systems, and Signal Processing, 2013, 32, 1523-1536.	1.2	73
8	Performance study of a â€˜constant phase angle basedâ€™ impedance sensor to detect milk adulteration. Sensors and Actuators A: Physical, 2011, 167, 273-278.	2.0	68
9	Packaging of Single-Component Fractional Order Element. IEEE Transactions on Device and Materials Reliability, 2013, 13, 73-80.	1.5	67
10	Design and Performance Study of Dynamic Fractors in Any of the Four Quadrants. Circuits, Systems, and Signal Processing, 2016, 35, 1909-1932.	1.2	67
11	A constant phase element sensor for monitoring microbial growth. Sensors and Actuators B: Chemical, 2006, 119, 186-191.	4.0	55
12	Design and performance study of phaseâ€locked loop using fractionalâ€order loop filter. International Journal of Circuit Theory and Applications, 2015, 43, 776-792.	1.3	53
13	Milk Adulteration and Detection: A Review. Sensor Letters, 2016, 14, 4-18.	0.4	46
14	A microfluidic device for continuous manipulation of biological cells using dielectrophoresis. Medical Engineering and Physics, 2014, 36, 726-731.	0.8	43
15	Realization of a carbon nanotube based electrochemical fractor. , 2015, , .		42
16	Fractional-Order Devices. SpringerBriefs in Applied Sciences and Technology, 2017, , .	0.2	42
17	Modeling of a capacitive probe in a polarizable medium. Sensors and Actuators A: Physical, 2005, 120, 115-122.	2.0	35
18	Evaluation of single cell electrical parameters from bioimpedance of a cell suspension. RSC Advances, 2014, 4, 18178-18185.	1.7	35

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19	Limit of Detection for Five Common Adulterants in Milk: A Study With Different Fat Percent. IEEE Sensors Journal, 2018, 18, 2395-2403.	2.4	35
20	Bioimpedimetric analysis in conjunction with growth dynamics to differentiate aggressiveness of cancer cells. Scientific Reports, 2018, 8, 783.	1.6	35
21	Realization of Fractional Order Elements. INAE Letters, 2017, 2, 41-47.	1.0	32
22	Design and Hardware Realization of a Tunable Fractional-Order Series Resonator with High Quality Factor. Circuits, Systems, and Signal Processing, 2017, 36, 3457-3476.	1.2	30
23	Realization of Foster Structure-Based Ladder Fractor with Phase Band Specification. Circuits, Systems, and Signal Processing, 2020, 39, 2272-2292.	1.2	30
24	A low cost instrumentation system to analyze different types of milk adulteration. ISA Transactions, 2015, 56, 268-275.	3.1	28
25	Fabrication and performance study of BST/Teflon nanocomposite thin film for low voltage electrowetting devices. Sensors and Actuators A: Physical, 2016, 238, 122-132.	2.0	27
26	Guest Editorial: Fractional-Order Circuits and Systems: Theory, Design, and Applications. Circuits, Systems, and Signal Processing, 2016, 35, 1807-1813.	1.2	25
27	Electrical equivalent circuit modelling of solid state fractional capacitor. AEU - International Journal of Electronics and Communications, 2017, 78, 258-264.	1.7	25
28	Realization and characterization of carbon black based fractional order element. Microelectronics Journal, 2018, 82, 22-28.	1.1	23
29	Rational Approximation and Analog Realization of Fractional Order Transfer Function with Multiple Fractional Powered Terms. Asian Journal of Control, 2013, 15, 723-735.	1.9	22
30	MEMS Capacitive Accelerometers. Sensor Letters, 2007, 5, 471-484.	0.4	22
31	Reduced Order Approximation of MIMO Fractional Order Systems. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2013, 3, 451-458.	2.7	21
32	PMMA-Coated Capacitive Type Soil Moisture Sensor: Design, Fabrication, and Testing. IEEE Transactions on Instrumentation and Measurement, 2019, 68, 189-196.	2.4	20
33	Use of squared magnitude function in approximation and hardware implementation of SISO fractional order system. Journal of the Franklin Institute, 2013, 350, 1753-1767.	1.9	15
34	Modelling and performance improvement of phase-angle-based conductivity sensor. , 2016, , .		15
35	Perfomance Study of Urease-PMMA-Based Aqueous Urea Sensor. IEEE Sensors Journal, 2017, 17, 6850-6858.	2.4	15
36	A Fractional Order Notch Filter to Compensate the Attenuation-Loss Due to Change in Order of the Circuit. IEEE Transactions on Circuits and Systems I: Regular Papers, 2021, 68, 655-666.	3.5	15

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37	Rational approximation of fractional operator — A comparative study. , 2010, , .		13
38	Fragmental Frequency Analysis Method to Estimate Electrical Cell Parameters From Bioimpedance Study. IEEE Transactions on Instrumentation and Measurement, 2014, 63, 1991-2000.	2.4	13
39	Realization and study of a fractional order resonator using an obtuse angle fractor. , 2016, , .		12
40	An Impedimetric Cu-Polymer Sensor-Based Conductivity Meter for Precision Agriculture and Aquaculture Applications. IEEE Sensors Journal, 2019, 19, 12087-12095.	2.4	12
41	Milk Tester: Simultaneous Detection of Fat Content and Adulteration. IEEE Transactions on Instrumentation and Measurement, 2020, 69, 2468-2476.	2.4	12
42	Impedance Behaviour of a Microporous PMMA-Film â€˜Coated Constant Phase Elementâ€™ based Chemical Sensor. International Journal on Smart Sensing and Intelligent Systems, 2008, 1, 922-939.	0.4	12
43	Wavelet-based multiscale analysis of bioimpedance data measured by electric cell-substrate impedance sensing for classification of cancerous and normal cells. Physical Review E, 2015, 92, 062702.	0.8	11
44	Multifractal Texture Analysis of Salivary Fern Pattern for Oral Pre-Cancers and Cancer Assessment. IEEE Sensors Journal, 2021, 21, 9333-9340.	2.4	10
45	Performance Analysis of Solid-State Fractional Capacitor-Based Analog $$hbox {PI}^lambda hbox {D}^{mu }$$ Controller. Circuits, Systems, and Signal Processing, 2020, 39, 1815-1830.	1.2	9
46	Nanocomposite Material Characterization of a Solid-State Fractional Capacitor. IEEE Transactions on Electron Devices, 2020, 67, 1136-1142.	1.6	9
47	Performance of a constant phase element (CPE) sensor to detect adulteration in cow-milk with whey. , 2009, , .		8
48	Study of electrical equivalent model of the PMMA coated probe dipped in milk and milk adulterated with tap water. , 2010, , .		8
49	Hardware Platform to Detect Fat Percent in Milk Using a Lipase Immobilized PMMA-Coated Sensor. IEEE Transactions on Instrumentation and Measurement, 2019, 68, 4526-4534.	2.4	8
50	A comparative study of polymer coated capacitive sensors for soil moisture sensing. , 2017, , .		7
51	Electrical equivalent model of a PMMA-urease based aqueous urea sensor. , 2018, , .		7
52	Dynamic Sensing of Liquid Droplet in Electrowetting Devices. Sensor Letters, 2015, 13, 721-734.	0.4	6
53	Effect of electrode geometry on voltage reduction in EWOD based devices. , 2010, , .		5
54	Study of Electrical Equivalent Model of the PMMA Coated Probe Dipped in Milk and Milk Adulterated with Urea. , 2011, , .		5

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55	Fractional-Order Filter Design. , 2018, , 357-382.		5
56	Study of PDMS as Dielectric Layer in Electrowetting Devices. Environmental Science and Engineering, 2014, , 487-490.	0.1	4
57	Performance study of a two-electrode type aqueous conductivity sensor for smart farming. , 2019, , .		4
58	Single transistor fractional-order filter using a multi-walled carbon nanotube device. Analog Integrated Circuits and Signal Processing, 2019, 100, 215-219.	0.9	4
59	Digital Urea Meter for Impedeometric Urea Sensor. , 2019, , .		4
60	Hardware Implementation and Performance Study of Analog PÎ»DÎ¼ Controllers on DC Motor. Fractal and Fractional, 2020, 4, 34.	1.6	4
61	Detection of Formaldehyde by A RGO/PMMA Coated Sensor. , 2020, , .		4
62	Fabricating Solid State Fractional Capacitor in the Frequency Range of mHz to kHz. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2021, 11, 2035-2038.	1.4	4
63	Low-Noise Potentiostat Circuit for Electrochemical Detection of Heavy Metals or Metalloids. IEEE Transactions on Instrumentation and Measurement, 2022, 71, 1-9.	2.4	4
64	A statistical study of detergent and shampoo adulterated milk detection system. , 2016, , .		3
65	Introduction to Fractional-Order Elements and Devices. SpringerBriefs in Applied Sciences and Technology, 2017, , 1-20.	0.2	3
66	A review on the realization of fractional-order devices to use as sensors and circuit elements for experimental studies and research. , 2022, , 287-340.		3
67	Electrical characterization of suspended HeLa cells using ECIS based biosensor. , 2012, , .		2
68	Devices. SpringerBriefs in Applied Sciences and Technology, 2017, , 21-53.	0.2	2
69	Fractional-Order Models of Vegetable Tissues. SpringerBriefs in Applied Sciences and Technology, 2017, , 73-92.	0.2	2
70	Analysis of disturbance rejection by PI^{Î»} controller using solid state fractional capacitor. , 2018, , .		2
71	Effect of Electrolytic Capacitors on the Performance of Multicomponent Fractors. , 2020, , .		2
72	Optimisation of effective parameters of multiwalled carbon nanotubeâ€based solidâ€state fractional capacitor for evaluation of fractional exponent. IET Circuits, Devices and Systems, 2020, 14, 148-154.	0.9	2

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73	A novel approach for droplet position sensing in electrowetting devices. , 2013, , .		1
74	Dielectrophoresis based microfluidic chip for continuous label-free separation of cells. , 2015, , .		1
75	Hand-held soil moisture meter using polymer coated sensor. IEEE Instrumentation and Measurement Magazine, 2019, 22, 24-29.	1.2	1
76	Electrical Model for Lipase Immobilized PMMA Coated Sensor to Detect Fat Content in Milk. , 2019, , .		1
77	Jigsaw electrode design for electrowetting devices. Micro and Nano Letters, 2019, 14, 1046-1051.	0.6	1
78	Study of threshold voltage for different electrode shapes in electrowetting device. Materials Research Express, 2019, 6, 046414.	0.8	1
79	Design guidelines for fabrication of MWCNT-polymer based solid-state fractional capacitor. , 2022, , 485-522.		1
80	Radar-infrared sensor track correlation algorithm based on neural network fusion system. , 2011, , .		0
81	Design of FPGA based digital controller for 2nd and higher order systems. , 2012, , .		0
82	Wireless control of electrowetting devices. , 2013, , .		0
83	Circuit proposition for realization of approximated fractional order systems. , 2014, , .		0
84	Study of the parameters of a fractional order capacitor. , 2015, , .		0
85	A bioimpedance-based microflow cytometer with compact electronic instrumentation for counting of microparticles. , 2015, , .		0
86	Demonstrations and Applications of Fractional-Order Devices. SpringerBriefs in Applied Sciences and Technology, 2017, , 55-72.	0.2	0
87	Development of a Disposable Blood Creatinine Sensor. , 2020, , .		0
88	Determination of Fat, SNF and Protein Content in Cow Milk from the Voltage Output of â€˜MilkTesterâ€™. , 2021, , .		0
89	The Detection of Self-Similar/Branching Processes in Complex Biological Systems: Analysis of the Temporal Evolution of Impedance Measurements in Tulsi (Holy Basil) Leaves â€œOcimumtenuiflorumâ€• IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2022, 19, 3038-3047.	1.9	0
90	New class of fractal elements with log-periodic corrections: Confirmation on experimental data. Chaos, Solitons and Fractals, 2021, 153, 111519.	2.5	0