

Matthew L Johnston

List of Publications by Year in descending order

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55
papers

509
citations

1040056

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794594

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g-index

55
all docs

55
docs citations

55
times ranked

452
citing authors

#	ARTICLE	IF	CITATIONS
1	FBAR-CMOS Oscillator Array for Mass-Sensing Applications. IEEE Sensors Journal, 2010, 10, 1042-1047.	4.7	63
2	3D-Printed Liquid Metal Interconnects for Stretchable Electronics. IEEE Sensors Journal, 2019, 19, 3832-3840.	4.7	57
3	Integrated Cold Start of a Boost Converter at 57 mV Using Cross-Coupled Complementary Charge Pumps and Ultra-Low-Voltage Ring Oscillator. IEEE Journal of Solid-State Circuits, 2019, 54, 2867-2878.	5.4	46
4	A 3.5-mV Input Single-Inductor Self-Starting Boost Converter With Loss-Aware MPPT for Efficient Autonomous Body-Heat Energy Harvesting. IEEE Journal of Solid-State Circuits, 2021, 56, 1837-1848.	5.4	34
5	A Batteryless Motion-Adaptive Heartbeat Detection System-on-Chip Powered by Human Body Heat. IEEE Journal of Solid-State Circuits, 2020, 55, 2902-2913.	5.4	32
6	A Stacked-Inverter Ring Oscillator for 50 mV Fully-Integrated Cold-Start of Energy Harvesters. , 2018, , .		20
7	A 1.2 V to 20 V Closed-Loop Charge Pump for High Dynamic Range Photodetector Array Biasing. IEEE Transactions on Circuits and Systems II: Express Briefs, 2019, 66, 327-331.	3.0	20
8	Combined In-Pixel Linear and Single-Photon Avalanche Diode Operation With Integrated Biasing for Wide-Dynamic-Range Optical Sensing. IEEE Journal of Solid-State Circuits, 2020, 55, 392-403.	5.4	20
9	Heterogeneous Integration of CMOS Sensors and Fluidic Networks Using Wafer-Level Molding. IEEE Transactions on Biomedical Circuits and Systems, 2018, 12, 1046-1055.	4.0	18
10	Highly-Stretchable Biomechanical Strain Sensor using Printed Liquid Metal Paste. , 2018, , .		16
11	Integrated VOC vapor sensing on FBAR-CMOS array. , 2012, , .		14
12	Parametric Study of p-n Junctions and Structures for CMOS-Integrated Single-Photon Avalanche Diodes. IEEE Sensors Journal, 2018, 18, 5291-5299.	4.7	14
13	Dual-mode, enhanced dynamic range CMOS optical sensor for biomedical applications. , 2017, , .		12
14	Fully-integrated 57 mV cold start of a thermoelectric energy harvester using a cross-coupled complementary charge pump. , 2018, , .		10
15	On-chip high-voltage SPAD bias generation using a dual-mode, closed-loop charge pump. , 2017, , .		9
16	A 3.5mV Input, 82% Peak Efficiency Boost Converter with Loss-Optimized MPPT and 50mV Integrated Cold-Start for Thermoelectric Energy Harvesting. , 2019, , .		9
17	Towards Intelligent Fruit Picking with In-hand Sensing. , 2021, , .		8
18	Frequency-Division Multiplexing With Graphene Active Electrodes for Neurosensor Applications. IEEE Transactions on Circuits and Systems II: Express Briefs, 2021, 68, 1735-1739.	3.0	7

#	ARTICLE	IF	CITATIONS
19	Multi-Channel Biopotential Acquisition System Using Frequency-Division Multiplexing With Cable Motion Artifact Suppression. IEEE Transactions on Biomedical Circuits and Systems, 2021, 15, 1419-1429.	4.0	7
20	A Passive Wideband Noise-Canceling Mixer-First Architecture With Shared Antenna Interface for Interferer-Tolerant Wake-Up Receivers and Low-Noise Primary Receivers. IEEE Journal of Solid-State Circuits, 2022, 57, 2611-2625.	5.4	7
21	Code-Division Multiplex Encoding Analog Front End for Current-Mode Sensor Arrays. IEEE Solid-State Circuits Letters, 2018, 1, 118-121.	2.0	6
22	Dual-mode, in-pixel linear and single-photon avalanche diode readout for low-light dynamic range extension in photodetector arrays. , 2018, , .		6
23	DC-100 kHz Tunable Readout IC for Impedance Spectroscopy and Amperometric Measurement of Electrochemical Sensors. , 2020, 2020, 651-654.		6
24	An all-digital CMOS ambient light sensor using a single photon avalanche diode. , 2017, , .		5
25	Analysis of Skin-Worn Thermoelectric Generators for Body Heat Energy Harvesting to Power Wearable Devices. , 2021, 2021, 7158-7161.		5
26	An array of monolithic FBAR-CMOS oscillators for mass-sensing applications. , 2009, 2009, 1626-1629.		4
27	Single-element thermal flow sensor using dual-slope control scheme. , 2017, , .		4
28	Zero Reversion Loss, High-Efficiency Charge Pump for Wide Output Current Load Range. , 2018, , .		4
29	Two-Step, piecewise-linear SAR ADC with programmable transfer function. Electronics Letters, 2019, 55, 444-446.	1.0	4
30	A Widely Reconfigurable Piecewise-Linear ADC for Information-Aware Quantization. IEEE Transactions on Circuits and Systems II: Express Briefs, 2021, 68, 1073-1077.	3.0	4
31	Stenciled Liquid Metal Paste for Robust Stretchable Electrical Interconnects. , 2021, , .		4
32	Scalable hybrid integration of CMOS circuits and fluidic networks for biosensor applications. , 2017, , .		3
33	Wireless Smartphone Control using Electromyography and Automated Gesture Recognition. , 2018, 2018, 5390-5393.		3
34	A 20 $\frac{1}{4}$ W, 0.05mm ² Duty-Cycled Resistor and Frequency-Locked-Loop-based Wheatstone Bridge Interface for Low Resistance Sensing Systems. , 2021, , .		3
35	A 10 M Ω , 50 kHz-40 MHz Impedance Measurement Architecture for Source-Differential Flow Cytometry. IEEE Transactions on Biomedical Circuits and Systems, 2022, 16, 766-778.	4.0	3
36	Portable real-time PCR system using tablet-based fluorescence imaging. , 2016, , .		2

#	ARTICLE	IF	CITATIONS
37	A Fully-Integrated, Single-Element CMOS Anemometer. , 2019, 3, 1-4.		2
38	Fully-Integrated Charge Pump Design Optimization for Above-Breakdown Biasing of Single-Photon Avalanche Diodes in $0.13\text{-}\mu\text{m}$ CMOS. IEEE Transactions on Circuits and Systems I: Regular Papers, 2019, 66, 1258-1269.	5.4	2
39	26.5 A $20\text{-}\mu\text{W}$ Heartbeat Detection System-on-Chip Powered by Human Body Heat for Self-Sustaining Wearable Healthcare. , 2020, , .		2
40	Autonomous Sensor System for Wind Turbine Blade Collision Detection. IEEE Sensors Journal, 2022, 22, 11382-11392.	4.7	2
41	Modeling and Design Considerations for Resistive Impedance-Based Flow Cytometry. , 2020, , .		2
42	A Frequency-Locked Oscillator Using Complex RC Impedance IQ-Balancing. IEEE Journal of Solid-State Circuits, 2022, 57, 677-687.	5.4	2
43	Direct-Write 3D Printing of Interconnects for Fan-Out Wafer-Level Packaging. , 2022, , .		2
44	Electrical Characterization of Stretchable Printed Liquid Metal Interconnects under Repeated Cyclic Loading. , 2019, , .		1
45	Sensor System and Signal Processing for Automated Blade Collision Detection on Wind Turbines. , 2020, , .		1
46	A Digitally-Reconfigurable RC Frequency Generator using Impedance IQ-Balanced Frequency-Locked-Loop with Selectable Phase Mixing. , 2021, , .		1
47	Linear and Single-Photon Avalanche Diode Dual-Mode CMOS Optical Sensor with High Frame Rate Operation. , 2021, , .		1
48	A Multichannel Analyzer with Programmable Energy Bins for Gamma Ray Spectroscopy. , 2021, , .		1
49	Self-Sensing, Stretchable, Active Circuit Arrays: Liquid Metal Paste as a Combination Interconnect and Strain Sensor. , 2022, , .		1
50	Compact Modeling of Stretchable Printed Liquid Metal Electrical Interconnects. , 2019, , .		0
51	An Amplifier-Free 2^{nd} SAR-VCO MASH $\Sigma\Delta$ ADC. , 2019, , .		0
52	Auger-Based 3D Printing of Stretchable Liquid Metal Paste Interconnects: A Brief Tutorial. , 2021, , .		0
53	A 6-pA 50-kHz - 40-MHz Impedance Sensor for Source-Differential Flow Cytometry. , 2021, , .		0
54	Guest Editorial Special Issue on Selected Papers From ISCAS 2021. IEEE Transactions on Biomedical Circuits and Systems, 2021, 15, 1126-1128.	4.0	0

#	ARTICLE	IF	CITATIONS
55	Stretchable Electronics Fabrication Techniques for Wearable Glove Sensors using Encapsulated Liquid Metal Paste. , 2022, , .		0