

Andrea De Marcellis

List of Publications by Year in descending order

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120
papers

1,644
citations

279798

23
h-index

345221

36
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126
all docs

126
docs citations

126
times ranked

1164
citing authors

#	ARTICLE	IF	CITATIONS
1	A 1.8 V Low-Power Low-Noise High Tunable Gain TIA for CMOS Integrated Optoelectronic Biomedical Applications. Electronics (Switzerland), 2022, 11, 1271.	3.1	5
2	A Fully-Analogue Light-to-Frequency Converter Circuit for Optical Sensing Applications. IEEE Sensors Journal, 2022, 22, 16120-16130.	4.7	3
3	Laser Transmission Spectroscopy Based on Tunable-Gain Dual-Channel Dual-Phase LIA for Biological Nanoparticles Characterization. IEEE Transactions on Biomedical Circuits and Systems, 2021, 15, 177-187.	4.0	8
4	A Novel Light-to-Frequency Converter Based Analog Front-End for Optical Sensing Applications. , 2021, , .		0
5	A New Multilevel Pulsed Modulation Technique for Low Power High Data Rate Optical Biotelemetry. , 2021, , .		2
6	Fast-Response Paradigm of Si Photodiode Array to Increase the Effective Sensitive Area of Detectors in Wireless Optical Biotelemetry Links. , 2020, , .		0
7	A 300 Mbps 37 pJ/bit UWB-Based Transcutaneous Optical Biotelemetry Link. IEEE Transactions on Biomedical Circuits and Systems, 2020, 14, 1-1.	4.0	9
8	Autonomous robot for cleaning photovoltaic panels in desert zones. Mechatronics, 2020, 68, 102372.	3.3	27
9	CMOS Capacitance-to-Time Converter-Based Interface for Differential Capacitive Sensors. , 2020, , .		3
10	Selected Articles from the NGCAS 2018 Conference. Journal of Low Power Electronics, 2019, 15, 27-29.	0.6	0
11	Portable Lock-In Amplifier-Based Optoelectronic Readout Circuit for High-Sensitivity Differential Measurements of Laser Pulse Energy Variations. Journal of Low Power Electronics, 2019, 15, 87-94.	0.6	2
12	A true random number generator architecture based on a reduced number of FPGA primitives. AEU - International Journal of Electronics and Communications, 2019, 105, 15-23.	2.9	28
13	Metasurface based on cross-shaped plasmonic nanoantennas as chemical sensor for surface-enhanced infrared absorption spectroscopy. Sensors and Actuators B: Chemical, 2019, 286, 600-607.	7.8	32
14	Balanced Laser Transmission Spectroscopy Based on a Tunable Gain Double Channel LIA for Nanoparticles Detection in Biomedical Applications. , 2019, , .		1
15	Live Demonstration: Tactile Sensory Feedback System based on UWB Optical Link for Prosthetics. , 2019, , .		0
16	A 0.35 μ m CMOS UWB-Inspired Bidirectional Communication System-on-Chip for Transcutaneous Optical Biotelemetry Links. , 2019, , .		0
17	FPGA-Based Tactile Sensory Feedback System with Optical Fiber Data Communication Link for Prosthetic Applications. , 2019, , .		3
18	Impulse-Based Asynchronous Serial Communication Protocol on Optical Fiber Link for AER Systems. , 2019, , .		1

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19	A Capacitance-to-Time Converter-Based Electronic Interface for Differential Capacitive Sensors. Electronics (Switzerland), 2019, 8, 80.	3.1	18
20	Design of a metasurface-based dual-band Terahertz perfect absorber with very high Q -factors for sensing applications. Optics Communications, 2018, 416, 152-159.	2.1	89
21	CCII-Based Voltage Amplifier Optimization for Reduced Relative Gain Error. Circuits, Systems, and Signal Processing, 2018, 37, 1315-1326.	2.0	3
22	High-Sensitivity Differential Interface for the Detection of Energy Variations of Nanosecond Laser Pulses for Spectroscopic Applications. IEEE Sensors Journal, 2018, , 1-1.	4.7	4
23	Photodiode Bridge-Based Differential Readout Circuit for High-Sensitivity Measurements of Energy Variations of Laser Pulses for Optoelectronic Sensing Systems. , 2018, , .		2
24	An Ultra-Wideband-Inspired System-on-Chip for an Optical Bidirectional Transcutaneous Biotelemetry. , 2018, , .		8
25	A Current-Mode TransImpedance Amplifier for Capacitive Sensors. Proceedings (mdpi), 2018, 2, .	0.2	2
26	A 0.35 μ m CMOS 200kHzâ€“2GHz Fully-Analogue Closed-Loop Circuit for Continuous-Time Clock Duty-Cycle Correction in Integrated Digital Systems. , 2018, , .		0
27	Battery-Powered Autonomous Robot for Cleaning of Dusty Photovoltaic Panels in Desert Zones. Advances in Intelligent Systems and Computing, 2018, , 653-661.	0.6	2
28	Design Optimisation of Plasmonic Metasurfaces for Mid-Infrared High-Sensitivity Chemical Sensing. Plasmonics, 2017, 12, 293-298.	3.4	17
29	Differential measurements of light power variations through Si photodiodes in a bridge configuration for high-sensitivity chemical/biological optical sensing. Sensors and Actuators B: Chemical, 2017, 246, 305-309.	7.8	12
30	Low-Cost Portable 1 MHz Lock-In Amplifier for Fast Measurements of Pulsed Signals in Sensing Applications. , 2017, 1, 1-4.		12
31	Monolithic integration of GMR sensors for standard CMOS-IC current sensing. Solid-State Electronics, 2017, 135, 100-104.	1.4	16
32	Current-Based Measurement Technique for High Sensitivity Detection of Resistive Bridges With External Balancing Through Control Voltages. IEEE Sensors Journal, 2017, 17, 404-411.	4.7	13
33	A CCIâ€“based nonâ€“inverting Schmitt trigger and its application as astable multivibrator for capacitive sensor interfacing. International Journal of Circuit Theory and Applications, 2017, 45, 1060-1076.	2.0	24
34	A 250Mbps 24pJ/bit UWB-inspired optical communication system for bioimplants. , 2017, , .		9
35	Metasurface-Based THz Dual-Band Absorber Sensor for the Measurement of Refractive Index Variations of Chemical and Biological Substances. Proceedings (mdpi), 2017, 1, .	0.2	1
36	A Pulsed Coding Technique Based on Optical UWB Modulation for High Data Rate Low Power Wireless Implantable Biotelemetry. Electronics (Switzerland), 2016, 5, 69.	3.1	16

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37	Integration of GMR Sensors with Different Technologies. <i>Sensors</i> , 2016, 16, 939.	3.8	70
38	Current-Based High-Sensitivity Differential Detection of Light Power Using Si Photodiodes in Bridge Configuration for Chemical/Biological Optical Sensing. <i>Procedia Engineering</i> , 2016, 168, 1300-1303.	1.2	0
39	Bandwidth Optimisation and Frequency Tuning of Plasmonic Functionalised Metasurfaces for Optical Sensing of Chemical and Biological Substances. <i>Procedia Engineering</i> , 2016, 168, 1329-1333.	1.2	0
40	Low-cost Discrete Off-the-shelf Components 1MHz Analogue Lock-in Amplifier for Fast Detection of Organic Compounds through Pulsed Lasers. <i>Procedia Engineering</i> , 2016, 168, 1714-1716.	1.2	3
41	A New Optical UWB Modulation Technique for 250Mbps Wireless Link in Implantable Biotelemetry Systems. <i>Procedia Engineering</i> , 2016, 168, 1676-1680.	1.2	1
42	Metamodelling technique for the efficient design optimisation of metasurfaces. <i>Electronics Letters</i> , 2016, 52, 1191-1192.	1.0	3
43	One-Decade Frequency Range, In-Phase Auto-Aligned 1.8 V 2 mW Fully Analog CMOS Integrated Lock-In Amplifier for Small/Noisy Signal Detection. <i>IEEE Sensors Journal</i> , 2016, 16, 5690-5701.	4.7	27
44	The influence of thermal and visible light activation modes on the NO ₂ response of WO ₃ nanofibers prepared by electrospinning. <i>Sensors and Actuators B: Chemical</i> , 2016, 229, 387-395.	7.8	48
45	Optical Measurements by Phase Shift Based Technique for High Sensitivity and High Resolution Detection of Chemical/Biological Substances. <i>Procedia Engineering</i> , 2015, 120, 1187-1190.	1.2	0
46	NO ₂ Gas Response of WO ₃ Nanofibers by Light and Thermal Activation. <i>Procedia Engineering</i> , 2015, 120, 791-794.	1.2	8
47	Uncalibrated operational amplifier-based sensor interface for capacitive/resistive sensor applications. <i>IET Circuits, Devices and Systems</i> , 2015, 9, 249-255.	1.4	18
48	Optimisation of the Detection Sensitivity of Plasmonic Nanoantenna Based Sensors for Mid-infrared Spectroscopy. <i>Procedia Engineering</i> , 2015, 120, 1179-1182.	1.2	0
49	Very high-sensitivity tunable phase detection of light power variations using electrical modulation of Si-photodiode in photovoltaic regime. <i>Electronics Letters</i> , 2015, 51, 282-284.	1.0	5
50	A Fully Analog High Performances Automatic System for Phase Measurement of Electrical and Optical Signals. <i>IEEE Transactions on Instrumentation and Measurement</i> , 2015, 64, 1043-1054.	4.7	11
51	High-Sensitivity High-Resolution Optical Phase Shift Detection Technique Using a Si Photodiode Operating in Photovoltaic Mode. <i>IEEE Sensors Journal</i> , 2015, 15, 6898-6903.	4.7	4
52	Non-Inverting CCII-based Astable Multivibrator and Its Application as Uncalibrated Wide-Range Capacitive Sensor Interface. <i>Lecture Notes in Electrical Engineering</i> , 2015, , 291-295.	0.4	1
53	A novel current-based approach for very low variation detection of resistive sensors in wheatstone bridge configuration. , 2014, , .		9
54	Novel Modified De-Sauty Autobalancing Bridge-Based Analog Interfaces for Wide-Range Capacitive Sensor Applications. <i>IEEE Sensors Journal</i> , 2014, 14, 1664-1672.	4.7	46

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55	Very high sensitivity electrically modulated Si-photodiode in photovoltaic-mode as phase-sensitive detector of light power. , 2014, , .		1
56	Giant Magnetoresistance (GMR) sensors for 0.35µm CMOS technology sub-mA current sensing. , 2014, , .		2
57	Electrical self-modulation of optical sensors for light power measurement in chemical applications by phase detection technique. Sensors and Actuators B: Chemical, 2014, 193, 375-383.	7.8	7
58	A new 0.35µm CMOS electronic interface for wide range floating capacitive and grounded/floating resistive sensor applications. Microelectronics Journal, 2014, 45, 910-920.	2.0	2
59	Uncalibrated automatic bridge-based CMOS integrated interfaces for wide-range resistive sensors portable applications. Microelectronics Journal, 2014, 45, 589-596.	2.0	12
60	Fast, Versatile, and Low-Cost Interface Circuit for Electrochemical and Resistive Gas Sensor. IEEE Sensors Journal, 2014, 14, 315-323.	4.7	33
61	Monolithic integration of Giant Magnetoresistance (GMR) devices onto standard processed CMOS dies. Microelectronics Journal, 2014, 45, 702-707.	2.0	18
62	Quasi-digital front-ends for current measurement in integrated circuits with giant magnetoresistance technology. IET Circuits, Devices and Systems, 2014, 8, 291-300.	1.4	13
63	Integrable Electronic Interface for Chemical Sensor Management. Lecture Notes in Electrical Engineering, 2014, , 475-479.	0.4	0
64	Automatic Analog Wheatstone Bridge for Wide-Range Resistive Sensor Interfacing Applications. Lecture Notes in Electrical Engineering, 2014, , 535-539.	0.4	0
65	A CCM-based wide frequency range square waveform generator. International Journal of Circuit Theory and Applications, 2013, 41, 1-13.	2.0	25
66	Analog Wheatstone bridge-based automatic interface for grounded and floating wide-range resistive sensors. Sensors and Actuators B: Chemical, 2013, 187, 371-378.	7.8	30
67	A new single-chip analog lock-in amplifier with automatic phase and frequency tuning for physical/chemical noisy phenomena detection. , 2013, , .		14
68	$\{m\text{ WO}}_{3}\}$ Hydrogen Resistive Gas Sensor and Its Wide-Range Current-Mode Electronic Read-Out Circuit. IEEE Sensors Journal, 2013, 13, 2792-2798.	4.7	17
69	A CMOS integrated low-voltage low-power time-controlled interface for chemical resistive sensors. Sensors and Actuators B: Chemical, 2013, 179, 313-318.	7.8	20
70	High sensitivity, high resolution, uncalibrated phase read-out circuit for optoelectronic detection of chemical substances. Sensors and Actuators B: Chemical, 2013, 179, 328-335.	7.8	8
71	A novel 6-decades fully-analog uncalibrated Wheatstone bridge-based resistive sensor interface. Sensors and Actuators B: Chemical, 2013, 189, 130-140.	7.8	21
72	Preparation of nitrogen doped TiO ₂ nanofibers by near field electrospinning (NFES) technique for NO ₂ sensing. Sensors and Actuators B: Chemical, 2013, 179, 107-113.	7.8	31

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73	Magnetic Tunnel Junction (MTJ) sensors for integrated circuits (IC) electric current measurement. , 2013, , .		5
74	Resistive Sensor Interfacing. Smart Sensors, Measurement and Instrumentation, 2013, , 71-102.	0.6	4
75	Quasi-digital conversion for resistive devices: Application in GMR-based IC current sensors. , 2013, , .		2
76	A Fully-Analog Lock-In Amplifier With Automatic Phase Alignment for Accurate Measurements of ppb Gas Concentrations. IEEE Sensors Journal, 2012, 12, 1377-1383.	4.7	49
77	On The Sensitivity Characteristics in Novel Automatic Wheatstone Bridge-Based Interfaces. Procedia Engineering, 2012, 47, 261-264.	1.2	3
78	Uncalibrated Analog Bridge-Based Interface for Wide-Range Resistive Sensor Estimation. IEEE Sensors Journal, 2012, 12, 1413-1414.	4.7	41
79	A Novel Uncalibrated Read-Out Circuit for Floating Capacitive and Grounded/Floating Resistive Sensors Measurement. Procedia Engineering, 2012, 47, 253-256.	1.2	4
80	A CCII-Based Oscillating Circuit as Resistive/Capacitive Humidity Sensor Interface. Lecture Notes in Electrical Engineering, 2012, , 293-299.	0.4	0
81	An Analog Automatic Lock-In Amplifier for the Accurate Detection of Very Low Gas Concentrations. Lecture Notes in Electrical Engineering, 2012, , 285-291.	0.4	0
82	P2.9.6 Analog Wheatstone Bridge-Based Automatic Interface for Grounded and Floating Wide-Range Resistive Sensors. , 2012, , .		1
83	A Novel Analog Autocalibrating Phase-Voltage Converter for Signal Phase-Shifting Detection. IEEE Sensors Journal, 2011, 11, 259-266.	4.7	19
84	A novel time-controlled interface circuit for resistive sensors. , 2011, , .		7
85	CCII-based interface for capacitive/resistive sensors. , 2011, , .		6
86	Analog Circuits and Systems for Voltage-Mode and Current-Mode Sensor Interfacing Applications. Analog Circuits and Signal Processing Series, 2011, , .	0.3	68
87	A complementary metal oxide semiconductorâ€™integrable conditioning circuit for resistive chemical sensor management. Measurement Science and Technology, 2011, 22, 124001.	2.6	9
88	The Current-Mode Approach in Sensor Interfaces Design. Analog Circuits and Signal Processing Series, 2011, , 155-179.	0.3	1
89	The Voltage-Mode Approach in Sensor Interfaces Design. , 2011, , 75-153.		0
90	Detection of Small and Noisy Signals in Sensor Interfacing: The Analog Lock-in Amplifier. , 2011, , 181-204.		0

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91	A New and Fast-Readout Interface for Resistive Chemical Sensors. IEEE Transactions on Instrumentation and Measurement, 2010, 59, 1276-1283.	4.7	43
92	Analog automatic lock-in amplifier for very low gas concentration detection. Procedia Engineering, 2010, 5, 200-203.	1.2	10
93	Low-voltage low-power integrated analog lock-in amplifier for gas sensor applications. Sensors and Actuators B: Chemical, 2010, 144, 400-406.	7.8	72
94	A novel LV LP CMOS internal topology of CCII+ and its application in current-mode integrated circuits. , 2009, , .		5
95	Integrated CMOS resistance-to-period converter with parasitic capacitance evaluation. , 2009, , .		4
96	A CMOS Integrable DDCCII-Based Readout System For Portable Potentiometric Sensors Array. , 2009, , .		1
97	A New, Fast Readout, Interface For High-value Resistive Chemical Sensors. , 2009, , .		0
98	Uncalibrated Current-Mode Oscillator For Resistive Gas Sensor Integrable Applications. , 2009, , .		1
99	The VCG-CCII: a novel building block and its application to capacitance multiplication. Analog Integrated Circuits and Signal Processing, 2009, 58, 55-59.	1.4	52
100	A single-chip integrated interfacing circuit for wide-range resistive gas sensor arrays. Sensors and Actuators B: Chemical, 2009, 143, 218-225.	7.8	46
101	A novel low-voltage low-power fully differential voltage and current gained CCII for floating impedance simulations. Microelectronics Journal, 2009, 40, 20-25.	2.0	40
102	A CCII-Based Low-Voltage Low-Power Read-Out Circuit for DC-Excited Resistive Gas Sensors. IEEE Sensors Journal, 2009, 9, 2035-2041.	4.7	51
103	A novel general purpose current mode oscillating circuit for the read-out of capacitive sensors. , 2009, , .		7
104	A new interface for resistive chemical sensors with low measuring time. , 2009, , .		2
105	Uncalibrated integrable wide-range single-supply portable interface for resistance and parasitic capacitance determination. Sensors and Actuators B: Chemical, 2008, 132, 477-484.	7.8	29
106	Novel CMOS fully integrable interface for wide-range resistive sensor arrays with parasitic capacitance estimation. Sensors and Actuators B: Chemical, 2008, 130, 207-215.	7.8	29
107	A CMOS Integrable Oscillator-Based Front End for High-Dynamic-Range Resistive Sensors. IEEE Transactions on Instrumentation and Measurement, 2008, 57, 1596-1604.	4.7	51
108	Current-Mode High-Accuracy High-Precision CMOS Amplifiers. IEEE Transactions on Circuits and Systems II: Express Briefs, 2008, 55, 394-398.	3.0	22

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109	A novel low-voltage low-power Second Generation Current Conveyor-based front-end for high-valued DC-excitated resistive sensors. , 2008, , .		2
110	CCII-BASED OSCILLATOR FOR SENSOR INTERFACE. , 2008, , .		1
111	UNCALIBRATED HIGH-DYNAMIC RANGE RESISTIVE SENSOR FRONT-END WITH PARALLEL CAPACITANCE ESTIMATION. , 2008, , .		0
112	A 77 HZ LOCK-IN AMPLIFIER FOR SENSOR APPLICATIONS. , 2008, , .		0
113	An Uncalibrated Wide-Range Single-Supply Integrable Front-End for Resistance and Capacitance Estimation. , 2007, , .		3
114	High-Accuracy, High-Precision DEM-CCII Amplifiers. , 2007, , .		2
115	Low Voltage Integrated Astable Multivibrator Based on a Single CCII. , 2007, , .		21
116	A rail-to-rail DC-enhanced adaptive biased fully differential OTA. , 2007, , .		11
117	A New CMOS Integrable Oscillating Circuit for High-Value Wide-Range Resistive Sensors. , 2007, , .		4
118	NIC-based capacitance multipliers for low-frequency integrated active filter applications. , 2007, , .		16
119	An Integrated Analog Lock-In Amplifier for Low-Voltage Low-Frequency Sensor Interface. , 2007, , .		16
120	A fully-differential Symmetrical OTA-based rail-to-rail Switched Buffer. , 2007, , .		4