

Joaquã-n Santander

List of Publications by Year in descending order

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110
papers

3,050
citations

331670

21
h-index

161849

54
g-index

110
all docs

110
docs citations

110
times ranked

5381
citing authors

#	ARTICLE	IF	CITATIONS
1	The ATLAS Experiment at the CERN Large Hadron Collider. <i>Journal of Instrumentation</i> , 2008, 3, S08003-S08003.	1.2	1,752
2	Multi-range silicon micromachined flow sensor. <i>Sensors and Actuators A: Physical</i> , 2004, 110, 282-288.	4.1	112
3	Non-selective NDIR array for gas detection. <i>Sensors and Actuators B: Chemical</i> , 2007, 127, 69-73.	7.8	67
4	Tolerant Chalcogenide Cathodes of Membraneless Micro Fuel Cells. <i>ChemSusChem</i> , 2012, 5, 1488-1494.	6.8	50
5	Sub-ppm gas sensor detection via spiral $\frac{1}{4}$ -preconcentrator. <i>Sensors and Actuators B: Chemical</i> , 2008, 132, 149-154.	7.8	49
6	Influence of current collectors design on the performance of a silicon-based passive micro direct methanol fuel cell. <i>Journal of Power Sources</i> , 2009, 194, 391-396.	7.8	44
7	Combined performance tests before installation of the ATLAS Semiconductor and Transition Radiation Tracking Detectors. <i>Journal of Instrumentation</i> , 2008, 3, P08003-P08003.	1.2	42
8	Fabrication and characterization of a passive silicon-based direct methanol fuel cell. <i>Microsystem Technologies</i> , 2008, 14, 535-541.	2.0	41
9	Sensitivity improvement of a microcantilever based mass sensor. <i>Microelectronic Engineering</i> , 2009, 86, 1187-1189.	2.4	40
10	Towards a compact SU-8 micro-direct methanol fuel cell. <i>Journal of Power Sources</i> , 2010, 195, 8110-8115.	7.8	37
11	A micromachined thermoelectric sensor for natural gas analysis: Thermal model and experimental results. <i>Sensors and Actuators B: Chemical</i> , 2008, 134, 551-558.	7.8	36
12	Ethylene optical spectrometer for apple ripening monitoring in controlled atmosphere store-houses. <i>Sensors and Actuators B: Chemical</i> , 2009, 136, 546-554.	7.8	36
13	Performance optimization of a passive silicon-based micro-direct methanol fuel cell. <i>Sensors and Actuators B: Chemical</i> , 2008, 132, 540-544.	7.8	35
14	Optimized technology for the fabrication of piezoresistive pressure sensors. <i>Journal of Micromechanics and Microengineering</i> , 2000, 10, 204-208.	2.6	32
15	Localized growth and in situ integration of nanowires for device applications. <i>Chemical Communications</i> , 2012, 48, 4734.	4.1	32
16	Results on the reliability of silicon micromachined structures for semiconductor gas sensors. <i>Sensors and Actuators B: Chemical</i> , 2001, 77, 409-415.	7.8	29
17	Fabrication and evaluation of a passive alkaline membrane micro direct methanol fuel cell. <i>International Journal of Hydrogen Energy</i> , 2014, 39, 5406-5413.	7.1	25
18	Planar Thermoelectric Microgenerators Based on Silicon Nanowires. <i>Journal of Electronic Materials</i> , 2011, 40, 851-855.	2.2	24

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19	Transitioning from Si to SiGe Nanowires as Thermoelectric Material in Silicon-Based Microgenerators. <i>Nanomaterials</i> , 2021, 11, 517.	4.1	24
20	Improvement of the gas sensor response via silicon $\sqrt{4}$ -preconcentrator. <i>Sensors and Actuators B: Chemical</i> , 2007, 127, 288-294.	7.8	23
21	Low temperature humidity sensor based on Ge nanowires selectively grown on suspended microhotplates. <i>Sensors and Actuators B: Chemical</i> , 2017, 243, 669-677.	7.8	23
22	A micromachined thermoelectric sensor for natural gas analysis: Multivariate calibration results. <i>Sensors and Actuators B: Chemical</i> , 2012, 166-167, 338-348.	7.8	21
23	A compact optical multichannel system for ethylene monitoring. <i>Microsystem Technologies</i> , 2008, 14, 637-644.	2.0	19
24	Design and fabrication of silicon-based mid infrared multi-lenses for gas sensing applications. <i>Sensors and Actuators B: Chemical</i> , 2008, 132, 498-507.	7.8	19
25	Accurate contact resistivity extraction on Kelvin structures with upper and lower resistive layers. <i>IEEE Transactions on Electron Devices</i> , 2000, 47, 1431-1439.	3.0	18
26	Exploration of the metrological performance of a gas detector based on an array of unspecific infrared filters. <i>Sensors and Actuators B: Chemical</i> , 2006, 116, 183-191.	7.8	18
27	Limits to the integration of filters and lenses on thermoelectric IR detectors by flip-chip techniques. <i>Sensors and Actuators A: Physical</i> , 2009, 149, 65-73.	4.1	18
28	Selective CoSe ₂ /C cathode catalyst for passive air-breathing alkaline anion exchange membrane $\sqrt{4}$ -direct methanol fuel cell (AEM- $\sqrt{4}$ DMFC). <i>International Journal of Hydrogen Energy</i> , 2016, 41, 19595-19600.	7.1	17
29	Bump bonding of pixel systems. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2001, 473, 95-101.	1.6	16
30	Qualitative and quantitative substance discrimination using a CMOS compatible non-specific NDIR microarray. <i>Sensors and Actuators B: Chemical</i> , 2009, 141, 396-403.	7.8	15
31	New approach for batch microfabrication of silicon-based micro fuel cells. <i>Microsystem Technologies</i> , 2014, 20, 341-348.	2.0	15
32	AFM thermal imaging as an optimization tool for a bulk micromachined thermopile. <i>Sensors and Actuators A: Physical</i> , 2004, 115, 440-446.	4.1	14
33	Finite-element analysis of a miniaturized ion mobility spectrometer for security applications. <i>Sensors and Actuators B: Chemical</i> , 2012, 170, 13-20.	7.8	14
34	A micro alkaline direct ethanol fuel cell with platinum-free catalysts. <i>Journal of Micromechanics and Microengineering</i> , 2013, 23, 115006.	2.6	14
35	Comprehensive characterization and understanding of micro-fuel cells operating at high methanol concentrations. <i>Beilstein Journal of Nanotechnology</i> , 2015, 6, 2000-2006.	2.8	14
36	Feasibility of a flip-chip approach to integrate an IR filter and an IR detector in a future gas detection cell. <i>Microsystem Technologies</i> , 2004, 10, 382-386.	2.0	13

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37	Characterization of thermal conductivity in thin film multilayered membranes. Thin Solid Films, 2005, 484, 328-333.	1.8	13
38	The integration and engineering of the ATLAS SemiConductor Tracker Barrel. Journal of Instrumentation, 2008, 3, P10006-P10006.	1.2	13
39	Accurate extraction of contact resistivity on Kelvin D-resistor structures using universal curves from simulation. IEEE Transactions on Electron Devices, 1993, 40, 944-950.	3.0	12
40	Use of boron heavily doped silicon slabs for gas sensors based on free-standing membranes. Sensors and Actuators B: Chemical, 2008, 130, 538-545.	7.8	11
41	Mirror electrostatic actuation of a medium-infrared tuneable Fabry-Perot interferometer based on a surface micromachining process. Sensors and Actuators A: Physical, 2005, 123-124, 584-589.	4.1	10
42	Mechanical characterization of thermal flow sensors membranes. Sensors and Actuators A: Physical, 2006, 125, 260-266.	4.1	10
43	Hybrid polymer electrolyte membrane for silicon-based micro fuel cells integration. Journal of Micromechanics and Microengineering, 2009, 19, 065006.	2.6	10
44	A technology for the monolithic fabrication of a pressure sensor and related circuitry. Sensors and Actuators A: Physical, 1995, 46, 133-136.	4.1	9
45	Protection of MOS capacitors during anodic bonding. Journal of Micromechanics and Microengineering, 2002, 12, 361-367.	2.6	9
46	<title>A highly sensitive IR-optical sensor for ethylene-monitoring</title>. , 2005, 5836, 452.		9
47	Test structures for MCM-D technology characterization. IEEE Transactions on Semiconductor Manufacturing, 1999, 12, 184-192.	1.7	8
48	Multisensor chip for gas concentration monitoring in a flowing gas mixture. Sensors and Actuators B: Chemical, 2005, 107, 688-694.	7.8	8
49	Progress on monolithic integration of cheap IR FPAs of polycrystalline PbSe. , 2005, , .		8
50	A MEMS-based thermal infrared emitter for an integrated NDIR spectrometer. Microsystem Technologies, 2012, 18, 1147-1154.	2.0	8
51	Novel results on fluence dependence and annealing behavior of oxygenated and non-oxygenated silicon detectors. IEEE Transactions on Nuclear Science, 2002, 49, 1377-1382.	2.0	7
52	Influence of the internal gas flow distribution on the efficiency of a $\hat{1}/4$ -preconcentrator. Sensors and Actuators B: Chemical, 2008, 135, 52-56.	7.8	7
53	Feasibility of a flip-chip approach to integrate an IR filter and an IR detector in a future gas detection cell. Microsystem Technologies, 2004, 10, 382-386.	2.0	7
54	A methodology to extract dynamic compact thermal models under time-varying boundary conditions: application to a thermopile based IR sensor. Microsystem Technologies, 2005, 12, 21-29.	2.0	6

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55	A high sensitivity silicon microcantilever based mass sensor. , 2008, , .		6
56	A monolithic micro fuel cell based on a functionalized porous silicon membrane. , 2010, , .		6
57	A test structure for the design of thermal flow sensors. , 0, , .		5
58	Fresnel lenses: study and fabrication in silicon technology for medium-IR applications. , 2006, 6186, 233.		5
59	Universal surfaces for the accurate contact resistivity extraction on Kelvin structures with upper and lower resistive layers. , 0, , .		4
60	New evidence of dominant processing effects in standard and oxygenated silicon diodes after neutron irradiation. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2003, 512, 52-59.	1.6	4
61	Monolithic micro fuel cells as integrated power sources in MEMS. , 2009, , .		4
62	Extraction of contact resistivity on Kelvin L-resistor structures. IEEE Transactions on Electron Devices, 1994, 41, 1073-1074.	3.0	3
63	CMOS integrated pressure sensor optimization using electrical network simulator-FEM tool coupling. Journal of Micromechanics and Microengineering, 1999, 9, 109-112.	2.6	3
64	Reliability evaluation of a silicon-on-silicon MCM-D package. Microelectronics Reliability, 2001, 41, 887-899.	1.7	3
65	Thermal AFM: a thermopile case study. Ultramicroscopy, 2004, 101, 153-159.	1.9	3
66	Micro-cantilevers for gas sensing. , 0, , .		3
67	Thermopile sensor array for an electronic nose integrated non-selective NDIR gas detection system. , 0, , .		3
68	A compact optical ethylene monitoring system. , 2007, , .		3
69	Modelling a P-FAIMS with multiphysics FEM. Journal of Mathematical Chemistry, 2012, 50, 359-373.	1.5	3
70	Managing Heat Transfer Issues in Thermoelectric Microgenerators. , 0, , .		3
71	Microsystems for the agrofood field. Journal of Physics: Conference Series, 2005, 10, 267-272.	0.4	2
72	Comparison of model order reduction methodologies for thermal problems. , 0, , .		2

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73	Thermal conductivity determination of micromachined membranes. , 0, , .		2
74	Design and Fabrication of Micromachined Silicon Based Mid Infrared Multilenses for Gas Sensing Applications. , 2007, , .		2
75	A micromachined thermoelectric sensor for natural gas analysis: Thermal model and experimental results. , 2007, , .		2
76	Micro and nanotechnologies for the development of an integrated chromatographic system. , 2007, , .		2
77	Modeling vapor detection in a micro ion mobility spectrometer for security applications. Procedia Engineering, 2010, 5, 1236-1239.	1.2	2
78	Overview of Direct Liquid Oxidation Fuel Cells and its Application as Micro-Fuel Cells. , 2018, , 129-174.		2
79	An easy technique for determining diffusion and generation-recombination components of the current of pn junctions for better modelling. , 0, , .		1
80	Test structures for MCM-D technology characterization. , 0, , .		1
81	Extensive electrical and thermal characterization of an MCM-D technology. IEEE Transactions on Components and Packaging Technologies, 2002, 25, 112-119.	1.3	1
82	Modelling of charging effects caused by anodic bonding in packaged MOS devices. Electronics Letters, 2002, 38, 1596.	1.0	1
83	Semiconductor gas sensor compatibility with CMOS technologies. , 2003, , .		1
84	Optical simulation of a MOEMS based tuneable Fabry-Perot interferometer. , 0, , .		1
85	Influence of the doping material on the benzene detection. , 2006, , .		1
86	Performance and Design Issues of a Silicon Microfabricated Fuel Cell. , 2007, , .		1
87	Dimension-Scaling of Microcantilevers Resonators. , 2007, , .		1
88	Planar Micro Ion Mobility Spectrometer modelling for explosives detection. , 2011, , .		1
89	A moveable shielding box adaptable to commercial automatic wafer probers. , 0, , .		0
90	A digital test structure for simultaneous bird's beak length and misalignment measurement in polysilicon emitter bipolar technologies. , 0, , .		0

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91	Novel results on fluence dependence and annealing behaviour of oxygenated and non-oxygenated silicon detectors. , 0, , .		0
92	Optimization of a 0.6 μ m, single polysilicon emitter bipolar technology versus narrow emitter effects. Microelectronics Journal, 2002, 33, 659-665.	2.0	0
93	Feasibility of a flip chip approach to integrate an IR filter and an IR detector in a future gas detection cell. , 0, , .		0
94	FEM simulations to estimate the polymer thickness deposited over mechanical resonators. , 0, , .		0
95	<title>Non-selective NDIR array for gas detection</title>. , 2005, , .		0
96	Mechanical characterisation of micro-resonator structures. , 0, , .		0
97	Towards a Microtechnology based 4-channel infrared detector unit for a miniaturised NDIR system. , 2006, , .		0
98	Fabrication and characterization of a passive silicon-based direct methanol fuel cell. , 2007, , .		0
99	A Silicon-Based Direct Methanol Micro Fuel Cell. , 2007, , .		0
100	Silicon μ-preconcentrator for improved gas detection. , 2007, , .		0
101	Towards a monolithic micro direct methanol fuel cell. , 2008, , .		0
102	Thermoelectric MEMS sensors for natural gas analysis. , 2008, , .		0
103	Preconcentrator-based sensor Å-system for low-level benzene detection. Proceedings of SPIE, 2008, , .	0.8	0
104	Simulation of a planar micro Ion Mobility Spectrometer for security applications. , 2010, , .		0
105	Methods and Techniques for the Fabrication of Gas Sensing Devices from Nanowires. Procedia Engineering, 2011, 25, 1409-1412.	1.2	0
106	A MEMS-based thermal infrared emitter for an integrated NDIR spectrometer. , 2011, , .		0
107	Contact end resistance test structure applied for nanocontact measurements. Microelectronic Engineering, 2012, 99, 18-22.	2.4	0
108	Sensors and Micro and Nano Technologies for the Food Sector. , 2013, , .		0

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109	Site-selectively Grown p-type Ge NWs as a Gas Sensor. Procedia Engineering, 2016, 168, 1056-1060.	1.2	0
110	Harvesting performance of a planar thermoelectric microgenerator with a compact design. , 2021, , .		0