Eduardo Figueras

List of Publications by Year
in descending order

74 papers	1,070 citations	430874 18 h-index	454955 30 g-index
74 all docs	74 docs citations	74 times ranked	1157 citing authors

#	Article	IF	Citations
1	Electromechanical model of a resonating nano-cantilever-based sensor for high-resolution and high-sensitivity mass detection. Nanotechnology, 2001, 12, 100-104.	2.6	106
2	Ultrasensitive mass sensor fully integrated with complementary metal-oxide-semiconductor circuitry. Applied Physics Letters, 2005, 87, 043507.	3.3	105
3	Nanoscale Heterostructures Based on Fe₂O₃@WO_{3-x} Nanoneedles and Their Direct Integration into Flexible Transducing Platforms for Toluene Sensing. ACS Applied Materials & Interfaces, 2015, 7, 18638-18649.	8.0	79
4	Sub-ppm gas sensor detection via spiral Î¼-preconcentrator. Sensors and Actuators B: Chemical, 2008, 132, 149-154.	7.8	49
5	Monolithic integration of mass sensing nano-cantilevers with CMOS circuitry. Sensors and Actuators A: Physical, 2003, 105, 311-319.	4.1	43
6	Sensitivity improvement of a microcantilever based mass sensor. Microelectronic Engineering, 2009, 86, 1187-1189.	2.4	40
7	System on chip mass sensor based on polysilicon cantilevers arrays for multiple detection. Sensors and Actuators A: Physical, 2006, 132, 154-164.	4.1	38
8	Performance optimization of a passive silicon-based micro-direct methanol fuel cell. Sensors and Actuators B: Chemical, 2008, 132, 540-544.	7.8	35
9	Mechanical design and characterization of a resonant magnetic field microsensor with linear response and high resolution. Sensors and Actuators A: Physical, 2011, 165, 399-409.	4.1	31
10	Microsensors based on Ptâ€“nanoparticle functionalised tungsten oxide nanoneedles for monitoring hydrogen sulfide. RSC Advances, 2014, 4, 1489-1495.	3.6	30
11	Fabrication of cantilever based mass sensors integrated with CMOS using direct write laser lithography on resist. Nanotechnology, 2004, 15, S628-S633.	2.6	27
12	Planar Thermoelectric Microgenerators Based on Silicon Nanowires. Journal of Electronic Materials, 2011, 40, 851-855.	2.2	24
13	Improvement of the gas sensor response via silicon Î¼-preconcentrator. Sensors and Actuators B: Chemical, 2007, 127, 288-294.	7.8	23
14	A platform for monolithic CMOS-MEMS integration on SOI wafers. Journal of Micromechanics and Microengineering, 2006, 16, 2203-2210.	2.6	22
15	AFM lithography for the definition of nanometre scale gaps: application to the fabrication of a cantilever-based sensor with electrochemical current detection. Nanotechnology, 2004, 15, 771-776.	2.6	21
16	Sensing magnetic flux density of artificial neurons with a MEMS device. Biomedical Microdevices, 2011, 13, 303-313.	2.8	20
17	Love Wave Sensors with Silver Modified Polypyrrole Nanoparticles for VOCs Monitoring. Sensors, 2020, 20, 1432.	3.8	20
18	Analytical Modeling for the Bending Resonant Frequency of Sensors Based on Micro and Nanoresonators With Complex Structural Geometry. IEEE Sensors Journal, 2011, 11, 1361-1374.	4.7	19

#	Article	IF	Citations
19	Application of pulsed digital oscillators to volatile organic compounds sensing. Sensors and Actuators B: Chemical, 2008, 134, 773-779.	7.8	18
20	Monolithic integration of Giant Magnetoresistance (GMR) devices onto standard processed CMOS dies. Microelectronics Journal, 2014, 45, 702-707.	2.0	18
21	Microfabrication of flexible gas sensing devices based on nanostructured semiconducting metal oxides. Sensors and Actuators A: Physical, 2014, 219, 88-93.	4.1	16
22	Fine-tuning of the resonant frequency using a hybrid coupler and fixed components in SAW oscillators for gas detection. Sensors and Actuators B: Chemical, 2004, 103, 139-144.	7.8	15
23	Qualitative and quantitative substance discrimination using a CMOS compatible non-specific NDIR microarray. Sensors and Actuators B: Chemical, 2009, 141, 396-403.	7.8	15
24	New approach for batch microfabrication of silicon-based micro fuel cells. Microsystem Technologies, 2014, 20, 341-348.	2.0	15
25	AFM thermal imaging as an optimization tool for a bulk micromachined thermopile. Sensors and Actuators A: Physical, 2004, 115, 440-446.	4.1	14
26	Finite-element analysis of a miniaturized ion mobility spectrometer for security applications. Sensors and Actuators B: Chemical, 2012, 170, 13-20.	7.8	14
27	Digital Signal Processing by Virtual Instrumentation of a MEMS Magnetic Field Sensor for Biomedical Applications. Sensors, 2013, 13, 15068-15084.	3.8	14
28	Cerium Oxide-Tungsten Oxide Core-Shell Nanowire-Based Microsensors Sensitive to Acetone. Biosensors, 2018, 8, 116.	4.7	14
29	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	13
30	Characterization of thermal conductivity in thin film multilayered membranes. Thin Solid Films, 2005, 484, 328-333.	1.8	13
31	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
32	Stability and alignment of MCC/IMS devices. International Journal for Ion Mobility Spectrometry, 2012, 15, 41-46.	1.4	11
33	Respiratory Magnetogram Detected with a MEMS Device. International Journal of Medical Sciences, 2013, 10, 1445-1450.	2.5	11
34	Catalyst-Free Vapor-Phase Method for Direct Integration of Gas Sensing Nanostructures with Polymeric Transducing Platforms. Journal of Nanomaterials, 2014, 2014, 1-9.	2.7	11
35	Mechanical characterization of thermal flow sensors membranes. Sensors and Actuators A: Physical, 2006, 125, 260-266.	4.1	10
36	The MEMS pulsed digital oscillator (PDO) below the Nyquist limit. Sensors and Actuators A: Physical, 2007, 136, 690-696.	4.1	10

#	Article	IF	Citations
37	ZnO Structures with Surface Nanoscale Interfaces Formed by Au, Fe2O3, or Cu2O Modifier Nanoparticles: Characterization and Gas Sensing Properties. Sensors, 2021, 21, 4509.	3.8	10
38	Time-Resolved Evaporation Rate of Attoliter Glycerine Drops Using On-Chip CMOS Mass Sensors Based on Resonant Silicon Micro Cantilevers. IEEE Nanotechnology Magazine, 2007, 6, 509-512.	2.0	9
39	Analysis of the quasi-saturation region of high voltage VDMOS devices. Solid-State Electronics, 1987, 30, 177-180.	1.4	8
40	Influence of the internal gas flow distribution on the efficiency of a Î¼-preconcentrator. Sensors and Actuators B: Chemical, 2008, 135, 52-56.	7.8	7
41	A high sensitivity silicon microcantilever based mass sensor. , 2008, , .		6
42	<title>CMOS degradation effects due to electron beam lithography in smart NEMS fabrication</title>. , 2005, 5836, 667.		5
43	Design, Fabrication, and Characterization of a Resonant Magnetic Field Sensor Based on MEMS Technology. Integrated Ferroelectrics, 2011, 126, 94-105.	0.7	5
44	Improved Detection of Magnetic Signals by a MEMS Sensor Using Stochastic Resonance. PLoS ONE, 2014, 9, e109534.	2.5	5
45	SOI-silicon as structural layer for NEMS applications. , 2003, , .		4
46	Magnetic micro-transformers realized with a flip-chip process. Journal of Micromechanics and Microengineering, 2004, 14, S55-S58.	2.6	3
47	Thermal AFM: a thermopile case study. Ultramicroscopy, 2004, 101, 153-159.	1.9	3
48	Micro-cantilevers for gas sensing. , 0, , .		3
49	Development of Resonant Magnetic Field Microsensors: Challenges and Future Applications. , 0, , .		3
50	Modelling a P-FAIMS with multiphysics FEM. Journal of Mathematical Chemistry, 2012, 50, 359-373.	1.5	3
51	Localized heating to tungsten oxide nanostructures deposition on gas microsensor arrays via aerosol assisted CVD. , 2013, , .		3
52	Microsystems for the agrofood field. Journal of Physics: Conference Series, 2005, 10, 267-272.	0.4	2
53	Sensor based on arrays of sub-micrometer scale resonant silicon cantilevers integrated monolithically with CMOS circuitry. , 0, , .		2
54	Micro and nanotechnologies for the development of an integrated chromatographic system. , 2007, , .		2

#	Article	IF	Citations
55	Modeling vapor detection in a micro ion mobility spectrometer for security applications. Procedia Engineering, 2010, 5, 1236-1239.	1.2	2
56	Influence of operational background emissions on breath analysis using MCC/IMS devices. International Journal for Ion Mobility Spectrometry, 2012, 15, 69-78.	1.4	2
57	What is a good control group?. International Journal for Ion Mobility Spectrometry, 2013, 16, 191-198.	1.4	2
58	Nanocantilevers with integrated CMOS: effects of electron beam lithography on NMOS transistors. , 0, , .		1
59	Influence of the doping material on the benzene detection. , 2006, , .		1
60	CMOS-SOI platform for monolithic integration of crystalline silicon MEMS. Electronics Letters, 2006, 42, 800.	1.0	1
61	Dimension-Scaling of Microcantilevers Resonators. , 2007, , .		1
62	Planar Micro Ion Mobility Spectrometer modelling for explosives detection. , 2011, , .		1
63	Thermoelectrical characterization and comparative analysis of three finite element models of a MEMS thermal sensor. Superficies Y Vacio, 2018, 31, 33-38.	0.2	1
64	Characterisation of surface micromachined beams with floating gate transistor. , 0, , .		0
65	<title>MEMS with integrated CMOS read-out circuit based on sub-micrometric cantilevers array for multiple sensing (Invited Paper)</title>. , 2005, , .		0
66	FEM simulations to estimate the polymer thickness deposited over mechanical resonators. , 0, , .		0
67	Mechanical characterisation of micro-resonator structures. , 0, , .		0
68	FEM Simulation and Characterization of Microcantilevers Resonators. , 2006, , .		0
69	Towards a Microtechnology based 4-channel infrared detector unit for a miniaturised NDIR system. , 2006, , .		0
70	Spiral μ-preconcentrator for gas sensor detection in the ppb range. Proceedings of IEEE Sensors, 2007, , .	1.0	0
71	Silicon μ-preconcentrator for improved gas detection. , 2007, , .		0
72	Preconcentrator-based sensor Ã‚Âµ-system for low-level benzene detection. Proceedings of SPIE, 2008, , .	0.8	0

#	Article	IF	Citations
73	Simulation of a planar micro Ion Mobility Spectrometer for security applications. , 2010, , .		0
74	Sensors and Micro and Nano Technologies for the Food Sector. , 2013, , .		0