

# Arantxa Uranga

## List of Publications by Year in descending order

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120  
papers

1,483  
citations

394421

19  
h-index

377865

34  
g-index

120  
all docs

120  
docs citations

120  
times ranked

981  
citing authors

#	ARTICLE	IF	CITATIONS
1	Fluid compressional properties sensing at microscale using a longitudinal bulk acoustic wave transducer operated in a pulse-echo scheme. <i>Sensors and Actuators A: Physical</i> , 2022, 334, 113334.	4.1	4
2	Phased Array Based on AlScN Piezoelectric Micromachined Ultrasound Transducers Monolithically Integrated on CMOS. <i>IEEE Electron Device Letters</i> , 2022, 43, 1113-1116.	3.9	9
3	Single-cell system using monolithic PMUTs-on-CMOS to monitor fluid hydrodynamic properties. <i>Microsystems and Nanoengineering</i> , 2022, 8, .	7.0	10
4	Monolithic PMUT-on-CMOS Ultrasound System for Single Pixel Acoustic Imaging. , 2021, , .		11
5	9.5 % Scandium Doped ALN PMUT Compatible with Pre-Processed CMOS Substrates. , 2021, , .		13
6	Multi-Frequency Thin Film HBAR Microsensor for Acoustic Impedance Sensing Over the GHz Range. , 2021, , .		3
7	Multielement Ring Array Based on Minute Size PMUTs for High Acoustic Pressure and Tunable Focus Depth. <i>Sensors</i> , 2021, 21, 4786.	3.8	4
8	High Accuracy Ultrasound Micro-Distance Measurements with PMUTs under Liquid Operation. <i>Sensors</i> , 2021, 21, 4524.	3.8	3
9	ALN-based HBAR ultrasonic sensor for fluid detection in microchannels with multi-frequency operation capability over the GHz range. , 2021, , .		4
10	Enhancing ALN PMUTsâ€™ Acoustic Responsivity within a MEMS-on-CMOS Process. <i>Sensors</i> , 2021, 21, 8447.	3.8	8
11	Monolithic Single PMUT-on-CMOS Ultrasound System With +17 dB SNR for Imaging Applications. <i>IEEE Access</i> , 2020, 8, 142785-142794.	4.2	30
12	Tent-Plate ALN PMUT With a Piston-Like Shape Under Liquid Operation. <i>IEEE Sensors Journal</i> , 2020, 20, 11128-11137.	4.7	20
13	Miniaturized 0.13- $\mu$ m CMOS Front-End Analog for ALN PMUT Arrays. <i>Sensors</i> , 2020, 20, 1205.	3.8	30
14	Improved Electromechanical Transduction for PiezoMUMPS HBAR Impedance Sensors. , 2020, , .		3
15	A feasibility study of ALN ultrasonic transducers fabrication using the multi-user PiezoMUMPs process for fingerprint scanning at GHz range. , 2019, , .		2
16	ALN Piezoelectric Micromachined Ultrasonic Transducer Array Monolithically Fabricated on Top of Pre-Processed CMOS Substrates. , 2019, , .		9
17	ALN Pmut with Crossed-Cavity for Better Acoustic Pressure Outputs in Liquid at High Frequency. , 2019, , .		4
18	Liquid operable ALN PMUT with high output pressure capabilities. , 2019, , .		2

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19	Fabrication and characterization of a hammer-shaped CMOS/BEOL-embedded nanoelectromechanical (NEM) relay. <i>Microelectronic Engineering</i> , 2018, 192, 44-51.	2.4	9
20	Fully Integrated CMOS-PMUT Transceiver. , 2018, , .		2
21	Squared PMUT with Enhanced Pressure Sensitivities. <i>Proceedings (mdpi)</i> , 2018, 2, 925.	0.2	9
22	Monolithical AlN PMUT on Pre-Processed CMOS Substrate. , 2018, , .		3
23	DESIGN OF A FULLY INTEGRATED CMOS-PMUT SYSTEM. , 2018, , .		0
24	High Performance Seesaw Torsional CMOS-MEMS Relay Using Tungsten VIA Layer. <i>Micromachines</i> , 2018, 9, 579.	2.9	2
25	Reliability study on thin film capped monolithic CMOS-MEMS resonator with standard plastic packaging. , 2018, , .		2
26	Suppression of the A-f-mediated noise at the top bifurcation point in a MEMS resonator with both hardening and softening hysteretic cycles. <i>Sensors and Actuators A: Physical</i> , 2017, 256, 59-65.	4.1	16
27	Single-Resonator Dual-Frequency BEOL-Embedded CMOS-MEMS Oscillator With Low-Power and Ultra-Compact TIA Core. <i>IEEE Electron Device Letters</i> , 2017, 38, 273-276.	3.9	19
28	Optimization of the Close-to-Carrier Phase Noise in a CMOS MEMS Oscillator Using a Phase Tunable Sustaining-Amplifier. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2017, 64, 888-897.	3.0	7
29	Nonlinear behavior of the capacitively coupled NEMS resonator operating close to the nonlinear regime cancellation. , 2017, , .		0
30	Ultra compact CMOS-MEMS oscillator based on a reliable metal-via MEMS resonators with noise-matched high-gain transimpedance CMOS amplifier. , 2017, , .		3
31	Above-IC 300 Mhz AlN SAW oscillator. , 2017, , .		5
32	Phase-Noise Reduction in a CMOS-MEMS Oscillator Under Nonlinear MEMS Operation. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2017, 64, 3047-3055.	5.4	8
33	A reliable fast miniaturized RF MEMS-on-CMOS switched capacitor with zero-level vacuum package. , 2017, , .		6
34	CMOS-NEMS Copper Switches Monolithically Integrated Using a 65 nm CMOS Technology. <i>Micromachines</i> , 2016, 7, 30.	2.9	12
35	Enhancement of Frequency Stability Using Synchronization of a Cantilever Array for MEMS-Based Sensors. <i>Sensors</i> , 2016, 16, 1690.	3.8	10
36	Design of self-sustained CMOS amplifiers for all-CMOS MEMS based oscillators. , 2016, , .		1

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37	Passive temperature compensation method in nonlinear NEMS resonators based on the nonlinear duffing effect. , 2016, , .		0
38	A monolithically integrated torsional CMOS-MEMS relay. Journal of Micromechanics and Microengineering, 2016, 26, 115012.	2.6	9
39	Thin film piezoelectric devices integrated on CMOS. , 2016, , .		6
40	Dynamic Properties of Three-Terminal Tungsten CMOS-NEM Relays Under Nonlinear Tapping Mode. IEEE Sensors Journal, 2016, 16, 5283-5291.	4.7	17
41	Intrinsic feedthrough current cancellation in a seesaw CMOS-MEMS resonator for integrated oscillators. , 2016, , .		2
42	Temperature-drift rejection and sensitivity to mismatch of synchronized strongly-coupled M/NEMS resonators. , 2016, , .		10
43	Top-Down CMOS-NEMS Polysilicon Nanowire with Piezoresistive Transduction. Sensors, 2015, 15, 17036-17047.	3.8	2
44	Dual-clock with single and monolithical 0-level vacuum packaged MEMS-on-CMOS resonator. , 2015, , .		9
45	CMOSâ€™MEMS resonators: From devices to applications. Microelectronic Engineering, 2015, 132, 58-73.	2.4	79
46	Noise effects on resonator bias polarization in CMOS-MEMS oscillators. , 2014, , .		1
47	Enhancement of higher harmonics detectability in a nonlinear nanoresonator. , 2014, , .		0
48	NEMS Switches Monolithically Fabricated on CMOS MIM Capacitors. Procedia Engineering, 2014, 87, 943-946.	1.2	1
49	Nanomechanical switches based on metal-insulator-metal capacitors from a standard complementary-metal-oxide semiconductor technology. Applied Physics Letters, 2014, 104, 243105.	3.3	15
50	CMOS-MEMS switches based on back-end metal layers. Microelectronic Engineering, 2014, 119, 127-130.	2.4	12
51	Tunable transimpedance sustaining-amplifier for high impedance CMOS-MEMS resonators. , 2014, , .		1
52	Multi-cantilever Oscillator. Procedia Engineering, 2014, 87, 32-35.	1.2	2
53	A Novel Architecture for Differential Resonant Sensing. Procedia Engineering, 2014, 87, 1573-1576.	1.2	6
54	Exploitation of non-linearities in CMOS-NEMS electrostatic resonators for mechanical memories. Sensors and Actuators A: Physical, 2013, 197, 88-95.	4.1	55

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55	Integration of NEMS resonators in a 65nm CMOS technology. Microelectronic Engineering, 2013, 110, 246-249.	2.4	29
56	Towards a fully-integrated CMOS microcalorimeter with on-chip quasi-digital output signal. , 2013, , .		2
57	A 3V CMOS-MEMS oscillator in 0.35&#amp;#x03BC;m CMOS technology. , 2013, , .		10
58	Packaged CMOS&#amp;#x201c;MEMS free&#amp;#x201c;free beam oscillator. Journal of Micromechanics and Microengineering, 2013, 23, 115018.	2.6	10
59	VHF monolithically integrated CMOS-MEMS longitudinal bulk acoustic resonator. Electronics Letters, 2012, 48, 514.	1.0	3
60	A fully integrated programmable dual-band RF filter based on electrically and mechanically coupled CMOS-MEMS resonators. Journal of Micromechanics and Microengineering, 2012, 22, 055020.	2.6	14
61	A 230MHz CMOS-MEMS bulk acoustic wave resonator. Microelectronic Engineering, 2012, 98, 458-462.	2.4	4
62	Cancellation of the parasitic feedthrough current in an integrated CMOS&#amp;#x201c;MEMS clamped-clamped beam resonator. Microelectronic Engineering, 2012, 98, 599-602.	2.4	7
63	Metal microelectromechanical oscillator exhibiting ultra-high water vapor resolution. Lab on A Chip, 2011, 11, 2670.	6.0	20
64	UHF CMOS-MEMS bulk acoustic wave resonator. , 2011, , .		1
65	Cross coupled beams CMOS&#amp;#x201c;MEMS resonator for VHF range with enhanced electrostatic detection. Microelectronic Engineering, 2011, 88, 2325-2329.	2.4	5
66	Third-mode 48MHz free&#amp;#x201c;free beam resonator used as a RF balun. Microelectronic Engineering, 2010, 87, 1256-1258.	2.4	2
67	A CMOS-MEMS filter using a V-coupler and electrical phase inversion. , 2010, , .		4
68	Characterization of CMOS-MEMS resonator by pulsed mode electrostatic actuation. , 2010, , .		2
69	CMOS-MEMS free-free beam resonators. , 2010, , .		0
70	Linear operation of a 11MHz CMOS-MEMS resonator. , 2010, , .		2
71	Zero-level packaging of MEMS in standard CMOS technology. Journal of Micromechanics and Microengineering, 2010, 20, 064009.	2.6	16
72	Fully CMOS integrated bandpass filter based on mechanical coupling of two RF MEMS resonators. Electronics Letters, 2010, 46, 640.	1.0	13

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73	Nanomechanical Mass Sensor for Spatially Resolved Ultrasensitive Monitoring of Deposition Rates in Stencil Lithography. Small, 2009, 5, 176-180.	10.0	28
74	Electrically Enhanced Readout System for a High-Frequency CMOS-MEMS Resonator. ETRI Journal, 2009, 31, 478-480.	2.0	8
75	Nanomechanical mass sensor for monitoring deposition rates through confined apertures. , 2009, , .		0
76	Mass Sensors: Small 2/2009. Small, 2009, 5, n/a-n/a.	10.0	0
77	High-frequency sensor technologies for inertial force detection based on thin-film bulk acoustic wave resonators (FBAR). Microelectronic Engineering, 2009, 86, 1254-1257.	2.4	16
78	Harvester-on-chip: Design of a proof of concept prototype. Microelectronic Engineering, 2009, 86, 1183-1186.	2.4	12
79	NEMS/CMOS sensor for monitoring deposition rates in stencil lithography. Procedia Chemistry, 2009, 1, 425-428.	0.7	0
80	Monolithically Integrated Double-Ended Tuning Fork- Based Oscillator with Low Bias Voltage in Air Conditions. Procedia Chemistry, 2009, 1, 614-617.	0.7	11
81	VHF band-pass filter based on a single CMOS-MEMS doubleended tuning fork resonator. Procedia Chemistry, 2009, 1, 1131-1134.	0.7	10
82	A CMOSâ€MEMS RF-Tunable Bandpass Filter Based on Two High- \$Q\$ 22-MHz Polysilicon Clamped-Clamped Beam Resonators. IEEE Electron Device Letters, 2009, 30, 718-720.	3.9	64
83	Monolithic CMOS-MEMS oscillators with micro-degree temperature resolution in air conditions. , 2009, , .		6
84	Integration of RF-MEMS resonators on submicrometric commercial CMOS technologies. Journal of Micromechanics and Microengineering, 2009, 19, 015002.	2.6	77
85	Analytical and Finite-Element Modeling of Localized-Mass Sensitivity of Thin-Film Bulk Acoustic-Wave Resonators (FBAR). IEEE Sensors Journal, 2009, 9, 892-901.	4.7	12
86	High Q CMOS-MEMS resonators and its applications as RF tunable band-pass filters. , 2009, , .		5
87	Nanomechanical test structure for optimal alignment in stencil-based lithography. , 2009, , .		0
88	Automated onâ€wafer extraction of equivalentâ€circuit parameters in thinâ€film bulk acoustic wave resonators and substrate. Microwave and Optical Technology Letters, 2008, 50, 4-7.	1.4	3
89	Localized-mass detection based on thin-film bulk acoustic wave resonators (FBAR): Area and mass location aspects. Sensors and Actuators A: Physical, 2008, 142, 322-328.	4.1	22
90	Analytical and finite-element modeling of a localized-mass sensor. , 2008, , .		0

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91	Double-ended tuning fork resonator in 0.35um CMOS technology for RF applications. , 2008, , .		1
92	Monolithic CMOS MEMS Oscillator Circuit for Sensing in the Attogram Range. IEEE Electron Device Letters, 2008, 29, 146-148.	3.9	117
93	Thin-Film Bulk Acoustic Wave Resonator Floating Above CMOS Substrate. IEEE Electron Device Letters, 2008, 29, 28-30.	3.9	9
94	From VHF to UHF CMOS-MEMS monolithically integrated resonators. , 2008, , .		15
95	12E-1 Accelerometer Based on Thin-Film Bulk Acoustic Wave Resonators. Proceedings IEEE Ultrasonics Symposium, 2007, , .	0.0	2
96	Fully integrated MIXLER based on VHF CMOS-MEMS clamped-clamped beam resonator. Electronics Letters, 2007, 43, 452.	1.0	24
97	High-sensitivity capacitive sensing interfacing circuit for monolithic CMOS M/NEMS resonators. Electronics Letters, 2007, 43, 1274.	1.0	6
98	Instantaneous de-embedding of the on-wafer equivalent-circuit parameters of acoustic resonator (FBAR) for integrated circuit applications. , 2007, , .		1
99	Monolithic mass sensor fabricated using a conventional technology with attogram resolution in air conditions. Applied Physics Letters, 2007, 91, .	3.3	58
100	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
101	Coupling Resonant Micro and Nanocantilevers to Improve Mass Responsivity by Detectability Product. , 2007, , .		4
102	Monolithic 0.35- $\mu\text{m}$ CMOS Cantilever for Mass Sensing in the Attogram Range with Self-Excitation. , 2007, , .		1
103	Automated on-wafer characterization in micro-machined resonators: towards an integrated test vehicle for bulk acoustic wave resonators (FBAR). , 2007, , .		0
104	Focused-ion-beam-assisted tuning of thin-film bulk acoustic wave resonators (FBARs). Journal of Micromechanics and Microengineering, 2007, 17, 2380-2389.	2.6	9
105	Nanometer scale gaps for capacitive transduction improvement on RF-MEMS resonators. Microelectronic Engineering, 2007, 84, 1384-1387.	2.4	7
106	Electrical detection of multiple resonant modes in a CMOS-MEMS cantilever. Microelectronic Engineering, 2007, 84, 1374-1378.	2.4	4
107	Electrode-Tissue Impedance Measurement CMOS ASIC for Functional Electrical Stimulation Neuroprostheses. IEEE Transactions on Instrumentation and Measurement, 2007, 56, 2043-2050.	4.7	14
108	P2K-2 Sensitivity Considerations in Localized Mass Detection Based on Thin-Film Bulk Acoustic Wave Resonators. , 2006, , .		2

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109	Localized and distributed mass detectors with high sensitivity based on thin-film bulk acoustic resonators. Applied Physics Letters, 2006, 89, 033507.	3.3	45
110	Integrated CMOS-MEMS with on-chip readout electronics for high-frequency applications. IEEE Electron Device Letters, 2006, 27, 495-497.	3.9	74
111	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
112	CMOS-SOI platform for monolithic integration of crystalline silicon MEMS. Electronics Letters, 2006, 42, 800.	1.0	1
113	<title>Band-pass transimpedance read-out circuit for UHF MEMS resonator applications</title>. , 2005, , .		0
114	Design, fabrication, and characterization of a submicroelectromechanical resonator with monolithically integrated CMOS readout circuit. Journal of Microelectromechanical Systems, 2005, 14, 508-519.	2.5	59
115	Fully CMOS integrated low voltage 100 MHz MEMS resonator. Electronics Letters, 2005, 41, 1327.	1.0	17
116	Integrated CMOS Amplifier for ENG Signal Recording. IEEE Transactions on Biomedical Engineering, 2004, 51, 2188-2194.	4.2	28
117	An Integrated Implantable Electrical Sacral Root Stimulator for Bladder Control. Neuromodulation, 2002, 5, 238-247.	0.8	4
118	High-sensitivity capacitive readout system for resonant submicrometer-scale cantilevers based sensors. , 0, , .		4
119	A read-out strategy and circuit design for high frequency MEMS resonators. , 0, , .		2
120	Frequency synthesis using on-chip micromechanical resonator. , 0, , .		0