Lionel Buchaillot

List of Publications by Year
in descending order

127	1,893	304701	289230
papers	citations	22 h-index	40 g-index

127	127	127	1783
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Gallium nitride MEMS resonators: how residual stress impacts design and performances. Microsystem Technologies, 2018, 24, 371-377.	2.0	8
2	Improved analytical modelling and finite element verification of stressed GaN microbeam resonators by piezoelectric actuation. Journal of Micromechanics and Microengineering, 2017, 27, 095001.	2.6	2
3	Sputtered Titanium Carbide Thick Film for High Areal Energy on Chip Carbonâ€Based Microâ€Supercapacitors. Advanced Functional Materials, 2017, 27, 1606813.	14.9	45
4	MEMS-based RF probes for on-wafer microwave characterization of micro/nanoelectronics. , 2015, , .		2
5	Erratum to â€œGallium Nitride as an Electromechanical Materialâ€•[Dec 14 1252-1271]. Journal of Microelectromechanical Systems, 2015, 24, 249-249.	2.5	0
6	Gallium Nitride as an Electromechanical Material. Journal of Microelectromechanical Systems, 2014, 23, 1252-1271.	2.5	173
7	A Novel Dog-Bone Oscillating AFM Probe with Thermal Actuation and Piezoresistive Detection. Sensors, 2014, 14, 20667-20686.	3.8	6
8	Near-field microscopy: Is there an alternative to micro and nano resonating cantilevers?. , 2014, , .		2
9	AlGaN/GaN HEMTs with very thin buffer on Si (111) for nanosystems applications. Semiconductor Science and Technology, 2014, 29, 115018.	2.0	9
10	5.4 MHz dog-bone oscillating AFM probe with thermal actuation and piezoresistive detection. , 2013, , .		1
11	MEMS piezoresistive ring resonator for AFM imaging with pico-Newton force resolution. Journal of Micromechanics and Microengineering, 2013, 23, 035016.	2.6	14
12	Piezoresistive Ring-Shaped AFM Sensors with Pico-Newton Force Resolution. International Journal of Intelligent Mechatronics and Robotics, 2013, 3, 38-52.	0.4	0
13	A snapshot of electrified nanodroplets undergoing Coulomb fission. Applied Physics Letters, 2012, 100, 074103.	3.3	4
14	Piezo-resistive ring-shaped AFM sensors with piconewton force resolution. , 2012, , .		3
15	Bias Dependence of Gallium Nitride Micro-Electro-Mechanical Systems Actuation Using a Two-Dimensional Electron Gas. Applied Physics Express, 2012, 5, 067201.	2.4	7
16	DNA origami imaging with 10.9 MHz AFM MEMS probes. , 2012, , .		3
17	Conception and fabrication of piezo-resistive ring-shaped AFM probes. , 2012, , .		0
18	Electromechanical Transconductance Properties of a GaN MEMS Resonator With Fully Integrated HEMT Transducers. Journal of Microelectromechanical Systems, 2012, 21, 370-378.	2.5	82

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19	MEMS Ring Resonators for Laserless AFM With Sub-nanoNewton Force Resolution. Journal of Microelectromechanical Systems, 2012, 21, 385-397.	2.5	23
20	Digital image correlation of metal nanofilms onSU-8 for flexible electronics and MEMS. Journal of Micromechanics and Microengineering, 2011, 21, 125005.	2.6	13
21	Gallium nitride approach for MEMS resonators with highly tunable piezo-amplified transducers. , 2011, , .		1
22	4.8 MHz AFM nanoprobes with capacitive transducers and batch-fabricated nanotips. , 2011, , .		4
23	Optimization of ohmic contact and adhesion on polysilicon in MEMSâ€“NEMS wet etching process. Microelectronic Engineering, 2011, 88, 724-728.	2.4	15
24	Mechanical characterization of aluminium nanofilms. Microelectronic Engineering, 2011, 88, 844-847.	2.4	6
25	Optimal design of non intuitive compliant microgripper with high resolution. , 2011, , .		0
26	Conception and Fabrication of Silicon Ring Resonator With Piezo-Resistive Detection for Force Sensing Applications. , 2011, , .		0
27	GaN: A multifunctional material enabling MEMS resonators based on amplified piezoelectric detection. , 2011, , .		5
28	Guided acoustic wave resonators using an acoustic Bragg mirror. Applied Physics Letters, 2010, 96, 223504.	3.3	11
29	Materials selection procedure for RF-MEMS. Microelectronic Engineering, 2010, 87, 1792-1795.	2.4	21
30	Electron beam nanolithography in AZnLOF 2020. Microelectronic Engineering, 2010, 87, 2057-2060.	2.4	5
31	Optimization of SiNX:H films deposited by PECVD for reliability of electronic, microsystems and optical applications. Microelectronics Reliability, 2010, 50, 1103-1106.	1.7	20
32	Fracture toughness, hardness, and Youngâ€™s modulus of tantalum nanocrystalline films. Applied Physics Letters, 2010, 97, .	3.3	31
33	Fabrication of 24-MHz-Disk Resonators With Silicon Passive Integration Technology. IEEE Electron Device Letters, 2010, 31, 23-25.	3.9	6
34	Development of a new generation of active AFM tools for applications in liquids. Journal of Micromechanics and Microengineering, 2010, 20, 085010.	2.6	8
35	Surface microscopy with laserless MEMS based AFM probes. , 2010, , .		10
36	Theoretical predictions of wurtzite III-nitride nano-materials properties. Physical Chemistry Chemical Physics, 2010, 12, 7203.	2.8	20

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37	Electrode sizing for guided wave resonator above a Bragg mirror. , 2009, , .		0
38	Amplified piezoelectric transduction of nanoscale motion in gallium nitride electromechanical resonators. Applied Physics Letters, 2009, 94, .	3.3	110
39	High-Q and low-R<inf>m</inf> 24-MHz radial-contour mode disk resonators fabricated with silicon passive integration technology. , 2009, , .		2
40	Tip-matter interaction measurements using mems ring resonators. , 2009, , .		3
41	Design and operation of a silicon ring resonator for force sensing applications above 1 MHz. Journal of Micromechanics and Microengineering, 2009, 19, 115009.	2.6	24
42	Comparison of intrinsic residual stress models in metallic thin films. Scripta Materialia, 2009, 60, 419-422.	5.2	8
43	Universal size/shape-dependent law for characteristic temperatures. Physics Letters, Section A: General, Atomic and Solid State Physics, 2009, 374, 305-308.	2.1	64
44	Investigation of the carbon nanotube AFM tip contacts: free sliding versus pinned contact. Nanotechnology, 2009, 20, 475701.	2.6	18
45	Low Actuation Voltage SPDT RF MEMS K Band Switch using a Single Gold Membrane. , 2009, , .		5
46	Phase diagrams and optical properties of phosphide, arsenide, and antimonide binary and ternary III-V nanoalloys. Physical Review B, 2009, 79, .	3.2	28
47	Thermoelastic FEM-BEM Model for MEMS Resonator Simulation. , 2009, , .		1
48	Design, Fabrication, and Operation of Two-Dimensional Conveyance System With Ciliary Actuator Arrays. IEEE/ASME Transactions on Mechatronics, 2009, 14, 119-125.	5.8	29
49	Ultra-Sensitive Capacitive Detection Based on SGMOSFET Compatible With Front-End CMOS Process. IEEE Journal of Solid-State Circuits, 2009, 44, 247-257.	5.4	31
50	Modeling the Melting Enthalpy of Nanomaterials. Journal of Physical Chemistry C, 2009, 113, 3566-3568.	3.1	69
51	Silicon on nothing MEMS electromechanical resonator. Microsystem Technologies, 2008, 14, 1027-1033.	2.0	19
52	Resonator using Guided waves in a piezoelectric layer above a Bragg mirror. , 2008, , .		1
53	In-Plane Silicon-On-Nothing Nanometer-Scale Resonant Suspended Gate MOSFET for In-IC Integration Perspectives. IEEE Electron Device Letters, 2008, 29, 494-496.	3.9	48
54	Characterization of IN-IC integrable in-plane nanometer scale resonators fabricated by a silicon on nothing advanced CMOS technology. , 2008, , .		8

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55	A new four states high deflection low actuation voltage electrostatic MEMS switch for RF applications. , 2008, , .		6
56	Size, Shape, Composition, and Segregation Tuning of InGaAs Thermo-optical Properties. Journal of Physical Chemistry C, 2008, 112, 17889-17892.	3.1	15
57	Size and shape effects on creep and diffusion at the nanoscale. Nanotechnology, 2008, 19, 435701.	2.6	57
58	Electromechanical resonator detection enhancement by the use of a movable electrode. , 2008, , .		0
59	Measurement of Nano-Displacement Based on In-Plane Suspended-Gate MOSFET Detection Compatible with a Front-End CMOS Process. , 2008, , .		3
60	Thermo-opto-mechanical properties of AlN nanostructures: a promising material for NEMS applications. Journal Physics D: Applied Physics, 2008, 41, 172001.	2.8	13
61	Compact Multilayer Piezoresistive Gauge for In-Plane Strain Measurment in Liquids. , 2007, , .		0
62	SOI-based nanoelectrospray emitter tips for mass spectrometry: a coupled MEMS and microfluidic design. Journal of Micromechanics and Microengineering, 2007, 17, 509-514.	2.6	20
63	Totally free-flexible membrane for low voltage MEMS metal contact switch. , 2007, , .		5
64	Silicon NANO-ESI Emitters for Mass Spectrometry: A Mixed Micromechanical and Microfluidic Design. , 2007, , .		0
65	Proposition of Atomic Force Probes Based on Silicon Ring-Resonators. , 2007, , .		7
66	Complete System for Wireless Powering and Remote Control of Electrostatic Actuators by Inductive Coupling. IEEE/ASME Transactions on Mechatronics, 2007, 12, 23-31.	5.8	32
67	Totally free-flexible membrane for low voltage MEMS metal contact switch. , 2007, , .		1
68	A Totally Free Flexible Membrane: A Design for Low Electrostatic Actuation MEMS. , 2007, , .		4
69	Sub-attolitre nanodroplet deposition using a silicon-based nanoelectrospray emitter tip. Materials Science and Engineering C, 2007, 27, 1491-1495.	7.3	2
70	A silicon beam-based microcantilever nanoelectrosprayer. Sensors and Actuators B: Chemical, 2007, 125, 72-78.	7.8	4
71	CVD growth of carbon nanotubes at very low pressure of acetylene. Applied Physics A: Materials Science and Processing, 2007, 88, 687-691.	2.3	38
72	Post-buckling dynamic behavior of self-assembled 3D microstructures. Microsystem Technologies, 2007, 14, 69-78.	2.0	27

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73	The stability and pull-in voltage of electrostatic parallel-plate actuators in liquid solutions. Journal of Micromechanics and Microengineering, 2006, 16, 794-801.	2.6	50
74	Suppression of the pull-in instability for parallel-plate electrostatic actuators operated in dielectric liquids. Applied Physics Letters, 2006, 88, 034105.	3.3	21
75	Coupled-resonator micromechanical filters with voltage tuneable bandpass characteristic in thick-film polysilicon technology. Sensors and Actuators A: Physical, 2006, 126, 227-240.	4.1	18
76	Variation of absorption coefficient and determination of critical dose of SU-8 at 365 nm. Applied Physics Letters, 2006, 88, 024107.	3.3	61
77	Alteration of superconductivity and radial breathing modes in suspended ropes of carbon nanotubes by organic polymer coatings. Physical Review B, 2006, 74, .	3.2	10
78	Remote Actuation of Independent Electrostatic Distributed Micromechanical Systems (DMMS) for a Wireless Microrobot. Industrial Electronics Society (IECON), Annual Conference of IEEE, 2006, , .	0.0	0
79	Close infrared thermography using an intensified CCD camera: application in nondestructive high resolution evaluation of electrothermally actuated MEMS. , 2005, , .		5
80	Tunable passband T-filter with electrostatically-driven polysilicon micromechanical resonators. Sensors and Actuators A: Physical, 2005, 117, 115-120.	4.1	10
81	Thermal and electrostatic reliability characterization in RF MEMS switches. Microelectronics Reliability, 2005, 45, 1790-1793.	1.7	10
82	Fabrication and optimization of bimorph micro probes for the measurement of individual biocells. Microsystem Technologies, 2005, 12, 30-37.	2.0	1
83	Fabrication and characterization of 1.1GHz blade nanoelectromechanical resonator. Applied Physics Letters, 2005, 86, 213104.	3.3	11
84	Modeling and Experimental Validation of Sharpening Mechanism Based on Thermal Oxidation for Fabrication of Ultra-Sharp Silicon Nanotips. IEEE Nanotechnology Magazine, 2005, 4, 548-556.	2.0	10
85	From the mechanical analysis of a polyarticulated microgripper to the design of a compliant microgripper. , 2004, 5383, 469.		4
86	Electrostatic actuated micro gripper using an amplification mechanism. Sensors and Actuators A: Physical, 2004, 114, 371-378.	4.1	81
87	Remote Powering and Control of Intelligent Microsystems. , 2004, , 253-268.		0
88	Feedback of MEMS reliability study on the design stage: a step toward Reliability Aided Design (RAD). Microelectronics Reliability, 2003, 43, 1919-1928.	1.7	2
89	Fabrication and characterization of an SU-8 gripper actuated by a shape memory alloy thin film. Journal of Micromechanics and Microengineering, 2003, 13, 330-336.	2.6	137
90	Design, realization and testing of micro-mechanical resonators in thick-film silicon technology with postprocess electrode-to-resonator gap reduction. Journal of Micromechanics and Microengineering, 2003, 13, 134-140.	2.6	32

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91	Adhesive forces investigation on a silicon tip by contact-mode atomic force microscope. Applied Physics Letters, 2002, 81, 2623-2625.	3.3	7
92	Vacuum and cryogenic station for microelectromechanical systems probing and testing. Review of Scientific Instruments, 2002, 73, 4393-4395.	1.3	1
93	Clamped-Clamped Beam Micro-Mechanical Resonators in Thick-Film Epitaxial Polysilicon Technology. , 2002, , .		6
94	Process and realization of a three-dimensional gold electroplated antenna on a flexible epoxy film for wireless micromotion system. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2002, 20, 1465.	1.6	9
95	Characterization of micromachining processes during KrF excimer laser ablation of TiNi shape memory alloy thin sheets and films. Smart Materials and Structures, 2002, 11, 708-714.	3.5	11
96	Influence of the Step Covering on Fatigue Phenomenon for Polycrystalline Silicon Micro-Electro-Mechanical-Systems (MEMS). Japanese Journal of Applied Physics, 2002, 41, L1339-L1341.	1.5	7
97	<title>Reliability of packaged MEMS in shock environment: crack and striction modeling</title>. , 2002, , .		9
98	<title>Study of adhesive forces on a silicon nanotip by atomic force microscope in contact mode</title>. , 2002, , .		0
99	A modified Bosch-type process for precise surface micromachining of polysilicon. Journal of Micromechanics and Microengineering, 2002, 12, 328-333.	2.6	12
100	Large stroke actuation of continuous membrane for adaptive optics by 3D self-assembled microplates. Sensors and Actuators A: Physical, 2002, 95, 183-195.	4.1	14
101	Reliability of polysilicon microstructures: in situ test benches. Microelectronics Reliability, 2002, 42, 1795-1800.	1.7	3
102	<title>Reliability of self-assembled 3D microstructures: dynamic snap-through modeling and experimental validation</title>. , 2001, 4558, 97.		0
103	<title>Finite element modeling of smart materials: application to an adaptive structure using SMA</title>. , 2001, 4326, 143.		1
104	<title>Reliability of self-assembled 3D microstructures: snap-through modeling and experimental validation</title>. , 2001, , .		0
105	<title>Stiction-controlled locking system for three-dimensional self-assembled microstructures: theory and experimental validation</title>. , 2001, , .		1
106	<title>New actuation structure for the deformation of continuous mirrors for adaptive optics</title>. , 2001, , .		0
107	3-D self-assembling and actuation of electrostatic microstructures. IEEE Transactions on Electron Devices, 2001, 48, 1833-1839.	3.0	5
108	Silicon nitride as an effective protection against oxidation of a TiNi thin film in high temperature oxidizing air environment at atmospheric pressure. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2001, 19, 305.	1.6	2

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109	Stiction-controlled locking system for three-dimensional self-assembled microstructures: Theory and experimental validation. Applied Physics Letters, 2001, 79, 3869-3871.	3.3	14
110	3D self-assembling and actuation of electrostatic micro-mirrors. , 2000, , .		2
111	Silicon Nitride Thin Films Young's Modulus Determination by an Optical Non Destructive Method. Japanese Journal of Applied Physics, 1997, 36, L794-L797.	1.5	29
112	Two thin film shape memory alloy microactuators. IEEJ Transactions on Sensors and Micromachines, 1997, 117, 554-559.	0.1	5
113	Characterization of vertical vibration of electrostatically actuated resonators using atomic force microscope in noncontact mode. , 0, , .		4
114	Modeling and experimental validation of silicon nanotip oxidation: towards a nanoelectromechanical filter application. , 0, , .		1
115	Thermally actuated probe arrays for manipulation and characterization of individual bio-cell. , 0, , .		3
116	Study and realisation of a micromechanical relay for use in a harsh environment. , 0, , .		0
117	A 100 V-IC for the remote powering and control of a microrobot using an electrostatic ciliary motion system. , 0, , .		2
118	Modeling of failure mechanisms for optimized MEMS CAD: design, fabrication and characterization of in situ test benches. , 0, , .		3
119	Micro gripper driven by SDAs coupled to an amplification mechanism. , 0, , .		7
120	Tapping-mode HF nanometric lateral gap resonators: experimental and theory. , 0, , .		2
121	Reliability of non-released microstructures: failure analysis and innovative solution process. , 0, , .		0
122	The 2D feedback conveyance with ciliary actuator arrays. , 0, , .		3
123	Tensile stress determination in silicon nitride membrane by AFM characterization. , 0, , .		2
124	3D self-assembling of sua microstructures on silicon by plasma induced compressive stress. , 0, , .		2
125	Stiction drive operation of micromotors: direct and reverse rotation control. , 0, , .		0
126	MEMS reliability: metrologyset-up for investigation of fatigue causes. , 0, , .		1

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127	Microtechnologies and Micromanipulation. , 0, , 335-368.		0