

SÃ©bastien Hentz

List of Publications by Year in descending order

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67
papers

3,025
citations

279487

23
h-index

315357

38
g-index

67
all docs

67
docs citations

67
times ranked

2563
citing authors

#	ARTICLE	IF	CITATIONS
1	Single-protein nanomechanical mass spectrometry in real time. <i>Nature Nanotechnology</i> , 2012, 7, 602-608.	15.6	434
2	Discrete element modelling of concrete submitted to dynamic loading at high strain rates. <i>Computers and Structures</i> , 2004, 82, 2509-2524.	2.4	219
3	The emerging landscape of single-molecule protein sequencing technologies. <i>Nature Methods</i> , 2021, 18, 604-617.	9.0	198
4	Frequency fluctuations in silicon nanoresonators. <i>Nature Nanotechnology</i> , 2016, 11, 552-558.	15.6	183
5	Nonlinear dynamics of nanomechanical beam resonators: improving the performance of NEMS-based sensors. <i>Nanotechnology</i> , 2009, 20, 275501.	1.3	178
6	Gas sensors based on gravimetric detectionâ€”A review. <i>Sensors and Actuators B: Chemical</i> , 2011, 160, 804-821.	4.0	162
7	Identification and Validation of a Discrete Element Model for Concrete. <i>Journal of Engineering Mechanics - ASCE</i> , 2004, 130, 709-719.	1.6	157
8	Piezoelectric nanoelectromechanical resonators based on aluminum nitride thin films. <i>Applied Physics Letters</i> , 2009, 95, .	1.5	148
9	Large-Scale Integration of Nanoelectromechanical Systems for Gas Sensing Applications. <i>Nano Letters</i> , 2012, 12, 1269-1274.	4.5	133
10	Neutral particle mass spectrometry with nanomechanical systems. <i>Nature Communications</i> , 2015, 6, 6482.	5.8	120
11	Dynamic range enhancement of nonlinear nanomechanical resonant cantilevers for highly sensitive NEMS gas/mass sensor applications. <i>Journal of Micromechanics and Microengineering</i> , 2010, 20, 045023.	1.5	116
12	In-plane nanoelectromechanical resonators based on silicon nanowire piezoresistive detection. <i>Nanotechnology</i> , 2010, 21, 165504.	1.3	113
13	Neutral mass spectrometry of virus capsids above 100 megadaltons with nanomechanical resonators. <i>Science</i> , 2018, 362, 918-922.	6.0	92
14	Bifurcation topology tuning of a mixed behavior in nonlinear micromechanical resonators. <i>Applied Physics Letters</i> , 2009, 95, 183104.	1.5	79
15	Single-particle mass spectrometry with arrays of frequency-addressed nanomechanical resonators. <i>Nature Communications</i> , 2018, 9, 3283.	5.8	79
16	Computational and quasi-analytical models for non-linear vibrations of resonant MEMS and NEMS sensors. <i>International Journal of Non-Linear Mechanics</i> , 2011, 46, 532-542.	1.4	72
17	M&NEMS: A new approach for ultra-low cost 3D inertial sensor. , 2009, , .		62
18	50 nm thick AlN film-based piezoelectric cantilevers for gravimetric detection. <i>Journal of Micromechanics and Microengineering</i> , 2011, 21, 085023.	1.5	58

#	ARTICLE	IF	CITATIONS
19	Optomechanical mass spectrometry. Nature Communications, 2020, 11, 3781.	5.8	56
20	Stability control of nonlinear micromechanical resonators under simultaneous primary and superharmonic resonances. Applied Physics Letters, 2011, 98, 193507.	1.5	32
21	Forced large amplitude periodic vibrations of non-linear Mathieu resonators for microgyroscope applications. International Journal of Non-Linear Mechanics, 2011, 46, 1347-1355.	1.4	30
22	Optomechanical resonating probe for very high frequency sensing of atomic forces. Nanoscale, 2020, 12, 2939-2945.	2.8	28
23	A Small and High Sensitivity Resonant Accelerometer. Procedia Chemistry, 2009, 1, 536-539.	0.7	27
24	Pull-In Retarding in Nonlinear Nanoelectromechanical Resonators Under Superharmonic Excitation. Journal of Computational and Nonlinear Dynamics, 2012, 7, .	0.7	24
25	Self-oscillation conditions of a resonant nanoelectromechanical mass sensor. Journal of Applied Physics, 2009, 105, .	1.1	20
26	Nonlinear phenomena in nanomechanical resonators: mechanical behaviors and physical limitations. Mecanique Et Industries, 2010, 11, 521-529.	0.2	20
27	VLSI silicon multi-gas analyzer coupling gas chromatography and NEMS detectors. , 2011, , .		17
28	High frequency top-down junction-less silicon nanowire resonators. Nanotechnology, 2013, 24, 435203.	1.3	17
29	Compact and explicit physical model for lateral metal-oxide-semiconductor field-effect transistor with nanoelectromechanical system based resonant gate. Applied Physics Letters, 2008, 92, .	1.5	15
30	Large amplitude dynamics of micro-/nanomechanical resonators actuated with electrostatic pulses. Journal of Applied Physics, 2010, 107, 014907.	1.1	14
31	From MEMS to NEMS: Closed-loop actuation of resonant beams beyond the critical Duffing amplitude. , 2008, , .		13
32	VHF NEMS-CMOS piezoresistive resonators for advanced sensing applications. Nanotechnology, 2014, 25, 435501.	1.3	13
33	Ultra-scaled high-frequency single-crystal Si NEMS resonators and their front-end co-integration with CMOS for high sensitivity applications. , 2012, , .		12
34	Frequency-addressed NEMS arrays for mass and gas sensing applications. , 2013, , .		10
35	Modal control of mechanically coupled NEMS arrays for tunable RF filters. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2010, 57, 1285-1295.	1.7	9
36	Loss mechanisms in TiN high impedance superconducting microwave circuits. Applied Physics Letters, 2022, 120, .	1.5	9

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37	Nanosystems monolithically integrated with CMOS: emerging applications and technologies. , 2014, , .		5
38	Amplitude stabilization in a synchronized nonlinear nanomechanical oscillator. Communications Physics, 2022, 5, .	2.0	5
39	100 MHz oscillator based on a low polarization voltage capacitive Lamé-mode MEMS resonator. , 2010, , .		4
40	Compact heterodyne NEMS oscillator for sensing applications. Solid-State Electronics, 2016, 125, 214-219.	0.8	4
41	Real time sensing in the non linear regime of nems resonators. , 2016, , .		4
42	15.6 A 30-to-80MHz simultaneous dual-mode heterodyne oscillator targeting NEMS array gravimetric sensing applications with a 300zg mass resolution. , 2017, , .		4
43	NEMS based on top-down technologies: from stand-alone NEMS to VLSI NEMS & NEMS-CMOS integration. , 2008, , .		3
44	50 nm thick AlN resonant micro-cantilever for gas sensing application. , 2010, , .		3
45	A nanowire gauge factor extraction method for material comparison and in-line monitoring. , 2015, , .		3
46	Ultra sensitive optomechanical microdisk resonators with very large scale integration process. , 2018, , .		3
47	Analytical Compact Model for Opto-Mechanical Sensor. , 2020, , .		3
48	Real-Time Sensing with Multiplexed Optomechanical Resonators. Nano Letters, 2022, 22, 1866-1873.	4.5	3
49	An Etch Stop and Sacrificial Materials Study for 3D NEMS-CMOS Co-Integration. ECS Transactions, 2014, 61, 395-400.	0.3	2
50	Compact Modeling and Behavioral Simulation of an Optomechanical Sensor in Verilog A. IEEE Transactions on Electron Devices, 2020, 67, 4677-4681.	1.6	2
51	Requirements and attributes of nano-resonator mass spectrometry for the analysis of intact viral particles. Analytical and Bioanalytical Chemistry, 2021, 413, 7147-7156.	1.9	2
52	Hysteresis Suppression in Nonlinear Mathieu M/NEMS Resonators. , 2009, , .		1
53	DMMP vapor detection with 50NM thick AlN films based microcantilevers. , 2011, , .		1
54	Dual-mode NEMS self-oscillator for mass sensing. , 2015, , .		1

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55	Emerging nano-devices for IOT applications. , 2016, , .		1
56	Frequency fluctuations in mono- and polysilicon resonators: A new limit of detection. , 2017, , .		1
57	A Nonlinear Model for Nano-Electro Mechanical Mass Sensing Signals Processing. IEEE Sensors Journal, 2021, 21, 21852-21861.	2.4	1
58	Modeling and Test of Nanostructure Fabricated on 160 nm Thin SOI Wafer for In-Ic Integration. , 2007, , .		0
59	Nonlinear dynamics of nanoelectromechanical cantilevers based on nanowire piezoresistive detection. MATEC Web of Conferences, 2012, 1, 04007.	0.1	0
60	Impact of process variability on a frequency-addressed NEMS array sensor used for gravimetric detection. , 2013, , .		0
61	MCMC-based inversion algorithm dedicated to NEMS mass Spectrometry. , 2013, , .		0
62	Compact heterodyne NEMS oscillator for sensing applications. , 2015, , .		0
63	Simultaneous mode tracking for sensing applications with dual-mode heterodyne NEMS oscillator. , 2016, , .		0
64	Optomechanical nanoresonator readout with optical downmixing. , 2016, , .		0
65	Very Large Scale Integration Optomechanics: a cure for loneliness of NEMS resonators?. , 2018, , .		0
66	High Order Nonlinearities and Mixed Behavior in Micromechanical Resonators. Springer Proceedings in Physics, 2011, , 167-172.	0.1	0
67	1 million-Q optomechanical microdisk resonators for sensing with very large scale integration. , 2018, , .		0