Ashwin A Seshia

List of Publications by Year
in descending order

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256 papers	4,686 citations	87888 38 h-index	149698 56 g-index
261 all docs	261 docs citations	261 times ranked	2901 citing authors

#	Article	IF	Citations
1	Individual and combined static stabilities in electrostatically actuated initially curved coupled micro beams. European Journal of Mechanics, A/Solids, 2022, 92, 104460.	3.7	3
2	A Navigation-Grade Mems Vibrating Beam Accelerometer. , 2022, , .		11
3	Mode-localized accelerometer in the nonlinear Duffing regime with 75â€‰ng bias instability and 95â€‰ng/âˆšHz noise floor. Microsystems and Nanoengineering, 2022, 8, 17.	7.0	14
4	Parametric Amplifiers Based on Quantum Dots. Physical Review Letters, 2022, 128, .	7.8	7
5	Frequency Modulated Operation in a Silicon MEMS Gyroscope with Quatrefoil Suspension System. , 2022, , .		2
6	On Weakly Coupled Resonant MEMS Transducers Operating in the Modal Overlap Regime. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2021, 68, 1448-1457.	3.0	13
7	On The Sensitivity of Mode-Localized Accelerometers Operating in the Nonlinear Duffing Regime. , 2021, , .		5
8	Enhancement of Frequency Stability in Injection Locked Bulk Mode MEMS Oscillators. , 2021, , .		3
9	A Mems Vibrating Beam Accelerometer for High Resolution Seismometry and Gravimetry. , 2021, , .		13
10	Sub-Deg-per-Hour Edge-Anchored Bulk Acoustic Wave Micromachined Disk Gyroscope. Journal of Microelectromechanical Systems, 2021, 30, 836-842.	2.5	7
11	A 10 NANO-G/RT-HZ RESONANT MEMS ACCELEROMETER EMPLOYING ANTI-ALIASING CONTROL. , 2021, , .		4
12	A Low-Noise High-Order Mode-Localized MEMS Accelerometer. Journal of Microelectromechanical Systems, 2021, 30, 178-180.	2.5	13
13	A Mode-Localized Mems Accelerometer in the Modal Overlap Regime Employing Parametric Pump. , 2021, , .		3
14	Frequency Combs: A New Mechanism for MEMS Vibration Energy Harvesters. , 2021, , .		8
15	A Silicon MEMS Disk Resonator Oscillator Demonstrating 36 ppt Frequency Stability. , 2021, , .		1
16	Tristable properties and limit point behaviour in electrostatically actuated initially curved coupled micro beams. International Journal of Mechanical Sciences, 2021, 204, 106543.	6.7	8
17	Experimental Observation of Temperature and Pressure Induced Frequency Fluctuations in Silicon MEMS Resonators. Journal of Microelectromechanical Systems, 2021, 30, 500-505.	2.5	15
18	Active Temperature Compensation for MEMS Capacitive Sensor. IEEE Sensors Journal, 2021, 21, 18588-18592.	4.7	4

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19	Resonant Coupling of Piezoelectric Micromachined Ultrasound Transducers with Polymer Specimens in Different Media. , 2021, , .		3
20	Phononic frequency combs in microelectromechanical systems. , 2021, , .		0
21	A Nail-Size Piezoelectric Energy Harvesting System Integrating a MEMS Transducer and a CMOS SSHI Circuit. IEEE Sensors Journal, 2020, 20, 277-285.	4.7	43
22	Practical Limits to Common Mode Rejection in Mode Localized Weakly Coupled Resonators. IEEE Sensors Journal, 2020, 20, 6818-6825.	4.7	25
23	Bistability and simultaneous mode actuation in electrostatically actuated initially curved coupled micro beams. International Journal of Non-Linear Mechanics, 2020, 126, 103549.	2.6	10
24	Amplitude-modulated resonant accelerometer employing parametric pump. Applied Physics Letters, 2020, 117, .	3.3	11
25	A High-Performance Mode-Localized Accelerometer Employing a Quasi-Rigid Coupler. IEEE Electron Device Letters, 2020, 41, 1560-1563.	3.9	25
26	Feedthrough parasitic nonlinear resonance in micromechanical oscillators. Applied Physics Letters, 2020, 117, .	3.3	8
27	Frequency Estimation for Resonant MEMS Sensors. , 2020, , .		0
28	Mass Tuning in Weakly Coupled Low-Q Piezoelectric MEMS Resonator Arrays for Particulate Sensing. , 2020, , .		3
29	On Quantized Analog Compressive Sensing Methods for Efficient Resonator Frequency Estimation. IEEE Transactions on Circuits and Systems I: Regular Papers, 2020, 67, 4556-4565.	5.4	6
30	A Micro Resonant Electrometer with Single-Electron Charge Resolution at Room Temperature. , 2020, , .		0
31	Phase-Controlled Oscillation in a Capacitive Nonlinear Ring Resonator with On-Chip Feedthrough De-Embedding. , 2020, , .		1
32	Weakly Coupled Piezoelectric MEMS Resonators for Aerosol Sensing. Sensors, 2020, 20, 3162.	3.8	18
33	A Portable System With 0.1-ppm RMSE Resolution for 1â€“10 MHz Resonant MEMS Frequency Measurement. IEEE Transactions on Instrumentation and Measurement, 2020, 69, 7146-7157.	4.7	8
34	Ultrasensitive Resonant Electrometry Utilizing Micromechanical Oscillators. Physical Review Applied, 2020, 14, .	3.8	11
35	A vibrating beam MEMS accelerometer for gravity and seismic measurements. Scientific Reports, 2020, 10, 10415.	3.3	89
36	Ultra-Sensitive Force Transduction in Weakly Coupled Resonators. , 2020, , .		2

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37	Nonlinear Modal Interactions and Internal Resonance in a Micromachined Disk Resonator. , 2020, , .		2
38	Electrostatic Frequency Tuning of Bulk Acoustic Wave Disk Gyroscopes. , 2020, , .		6
39	MEMS Based Gravimetric Sensor for the Detection of Ultra-Fine Aerosol Particles. , 2020, , .		3
40	A High Resolution Differential Mode-Localized MEMS Accelerometer. Journal of Microelectromechanical Systems, 2019, 28, 782-789.	2.5	34
41	Resonance tracking in a micromechanical device using phononic frequency combs. Scientific Reports, 2019, 9, 9452.	3.3	17
42	Evidence for Simultaneous Growth and Saturation Mechanisms in Phononic Frequency Combs. , 2019, , .		0
43	Dynamic modulation of modal coupling in microelectromechanical gyroscopic ring resonators. Nature Communications, 2019, 10, 4980.	12.8	57
44	An Ultra-High Resolution Resonant MEMS Accelerometer. , 2019, , .		18
45	Toward High-Resolution Inertial Sensors Employing Parametric Modulation in Coupled Micromechanical Resonators. Physical Review Applied, 2019, 12, .	3.8	18
46	An Ultra-High-Quality Factor Silicon Disk Resonator. , 2019, , .		9
47	MEMS Piezoelectric Energy Harvester Powered Wireless Sensor Module Driven by Noisy Base Excitation. , 2019, , .		6
48	Seismic Recording Using A Mode Localized MEMS Accelerometer. , 2019, , .		0
49	Elastic Mode Semicircular Beams Resonator Oscillator with Weakened Nonlinearities. , 2019, , .		3
50	A Resonant MEMS Accelerometer With 56ng Bias Stability and 98ng/Hz^{1/2} Noise Floor. Journal of Microelectromechanical Systems, 2019, 28, 324-326.	2.5	49
51	Three-Axis Borehole Gravity Logging for Reservoir Surveillance. , 2019, , .		7
52	A Fully Integrated Split-Electrode SSHC Rectifier for Piezoelectric Energy Harvesting. IEEE Journal of Solid-State Circuits, 2019, 54, 1733-1743.	5.4	55
53	Utilizing Energy Localization in Weakly Coupled Nonlinear Resonators for Sensing Applications. Journal of Microelectromechanical Systems, 2019, 28, 182-188.	2.5	25
54	Drive Dependence of Output Amplitude Stabilities in Weakly Coupled MEMS Resonators. , 2019, , .		0

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55	Phononic Frequency Combs For Engineering MEMS/NEMS Devices With Tunable Sensitivity. , 2019, , .		3
56	Ultra-fine Particulate Detection using Mode-localized MEMS Resonators. , 2019, , .		7
57	An Umbrella-Shaped Topology for Broadband MEMS Piezoelectric Vibration Energy Harvesting. Journal of Physics: Conference Series, 2019, 1407, 012119.	0.4	1
58	Acoustic mode confinement using coupled cavity structures in UHF unreleased MEMS resonators. Microsystem Technologies, 2019, 25, 777-787.	2.0	4
59	Closed-Loop Characterization of Noise and Stability in a Mode-Localized Resonant MEMS Sensor. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2019, 66, 170-180.	3.0	30
60	A Cold-Startup SSHI Rectifier for Piezoelectric Energy Harvesters With Increased Open-Circuit Voltage. IEEE Transactions on Power Electronics, 2019, 34, 263-274.	7.9	39
61	Coexistence of multiple multimode nonlinear mixing regimes in a microelectromechanical device. Applied Physics Letters, 2018, 112, .	3.3	9
62	A Passive Design Scheme to Increase the Rectified Power of Piezoelectric Energy Harvesters. IEEE Transactions on Industrial Electronics, 2018, 65, 7095-7105.	7.9	34
63	Phononic frequency comb via three-mode parametric resonance. Applied Physics Letters, 2018, 112, .	3.3	33
64	Excitation of coupled phononic frequency combs via two-mode parametric three-wave mixing. Physical Review B, 2018, 97, .	3.2	20
65	A micromachined device describing over a hundred orders of parametric resonance. Applied Physics Letters, 2018, 112, .	3.3	6
66	A fully integrated split-electrode synchronized-switch-harvesting-on-capacitors (SE-SSHC) rectifier for piezoelectric energy harvesting with between 358% and 821% power-extraction enhancement. , 2018, , .		24
67	Real world assessment of an auto-parametric electromagnetic vibration energy harvester. Journal of Intelligent Material Systems and Structures, 2018, 29, 1481-1499.	2.5	12
68	Experimental Mapping of the Operational Regimes of Phononic Frequency Combs. , 2018, , .		1
69	A Direct Feedback Oscillator Topology Employing Weakly Coupled Resonators for Gain Control. , 2018, , .		1
70	Compositional Analysis of Adsorbed Organic Aerosol on a Microresonator Mass Sensor. Aerosol Science and Engineering, 2018, 2, 118-129.	1.9	3
71	A Resonant MEMS Accelerometer Utilizing AC Polarization. , 2018, , .		2
72	Coupled Nonlinear MEMS Resonators for Sensing. , 2018, , .		8

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73	Immunity to Temperature Fluctuations in Weakly Coupled MEMS Resonators. , 2018, , .		11
74	Anharmonic Sensing of Granular Mechanics Using Micromechanical Resonators. , 2018, , .		0
75	A Proposal for Absolute Inertial Imaging Using Two Mechanical Modes. , 2018, , .		0
76	Compact High-Precision Analog Temperature Controller for MEMS Inertial Sensors. , 2018, , .		5
77	Interdigitated cantilever array topology for low frequency MEMS vibration energy harvesting. Journal of Physics: Conference Series, 2018, 1052, 012097.	0.4	1
78	On the noise optimization of resonant MEMS sensors utilizing vibration mode localization. Applied Physics Letters, 2018, 112, .	3.3	30
79	Editorial Introduction to the Special Issue on the IEEE International Frequency Control Symposium (IFCS) and European Frequency and Time Forum (EFTF). IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2018, 65, 897-897.	3.0	0
80	Rectified Output Power Analysis of Piezoelectric Energy Harvester Arrays under Noisy Excitation. Journal of Physics: Conference Series, 2018, 1052, 012108.	0.4	2
81	Measuring Aerosol Phase Changes and Hygroscopicity with a Microresonator Mass Sensor. Analytical Chemistry, 2018, 90, 9716-9724.	6.5	8
82	Investigation on the Quality Factor Limit of the (111) Silicon Based Disk Resonator. Micromachines, 2018, 9, 25.	2.9	12
83	Hysteresis in phononic frequency combs. , 2018, , .		2
84	A mode-localized MEMS accelerometer with 7Î¼g bias stability. , 2018, , .		8
85	Autoparametric resonance in a piezoelectric MEMS vibration energy harvester. , 2018, , .		9
86	Piezoelectric vibration energy harvesting: A connection configuration scheme to increase operational range and output power. Journal of Intelligent Material Systems and Structures, 2017, 28, 1905-1915.	2.5	13
87	Enhanced frequency stability in a non-linear MEMS oscillator employing phase feedback. , 2017, , .		4
88	Phononic Frequency Comb via Intrinsic Three-Wave Mixing. Physical Review Letters, 2017, 118, 033903.	7.8	105
89	A Closed-Loop Readout Configuration for Mode-Localized Resonant MEMS Sensors. Journal of Microelectromechanical Systems, 2017, 26, 501-503.	2.5	35
90	Non-Linear Frequency Noise Modulation in a Resonant MEMS Accelerometer. IEEE Sensors Journal, 2017, 17, 4122-4127.	4.7	22

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91	Detection of phase transition in polyethylene glycol using a multimodal micromechanical acoustic resonator. Applied Physics Letters, 2017, 110, 134101.	3.3	4
92	Parametric Noise Reduction in a High-Order Nonlinear MEMS Resonator Utilizing Its Bifurcation Points. Journal of Microelectromechanical Systems, 2017, 26, 1189-1195.	2.5	35
93	Extending the Lifetime of Resonant Atmospheric Particulate Mass Sensors With Solvent Rinses. , 2017, 1, 1-4.		2
94	A new electrode design method in piezoelectric vibration energy harvesters to maximize output power. Sensors and Actuators A: Physical, 2017, 263, 693-701.	4.1	36
95	Experimental and Theoretical Study of a Piezoelectric Vibration Energy Harvester Under High Temperature. Journal of Microelectromechanical Systems, 2017, 26, 1216-1225.	2.5	7
96	An Inductorless Bias-Flip Rectifier for Piezoelectric Energy Harvesting. IEEE Journal of Solid-State Circuits, 2017, 52, 2746-2757.	5.4	111
97	Shock reliability enhancement for MEMS vibration energy harvesters with nonlinear air damping as a soft stopper. Journal of Micromechanics and Microengineering, 2017, 27, 104003.	2.6	12
98	Real-world evaluation of a self-startup SSHI rectifier for piezoelectric vibration energy harvesting. Sensors and Actuators A: Physical, 2017, 264, 180-187.	4.1	11
99	Edge-anchored mode-matched micromachined gyroscopic disk resonator. , 2017, , .		8
100	Reducing dissipation in piezoelectric flexural microplate resonators in liquid environments. Sensors and Actuators A: Physical, 2017, 267, 464-473.	4.1	12
101	An Efficient Inductorless Dynamically Configured Interface Circuit for Piezoelectric Vibration Energy Harvesting. IEEE Transactions on Power Electronics, 2017, 32, 3595-3609.	7.9	36
102	Characterization of metallic glasses using ultrasound broadband spectroscopy. , 2017, , .		0
103	Frequency transitions in phononic four-wave mixing. Applied Physics Letters, 2017, 111, .	3.3	12
104	Excitation of multiple 2-mode parametric resonances by a single driven mode. Europhysics Letters, 2017, 119, 10002.	2.0	7
105	Experimental Observation of Noise Reduction in Weakly Coupled Nonlinear MEMS Resonators. Journal of Microelectromechanical Systems, 2017, 26, 1196-1203.	2.5	39
106	Low power sub-milligram resonant MEMS load sensor. , 2017, , .		0
107	Nonlinear cancellation in weakly coupled MEMS resonators. , 2017, , .		7
108	Closed-loop tracking of amplitude and frequency in a mode-localized resonant MEMS sensor. , 2017, , .		6

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109	Observation of phononic frequency combs in a micromechanical resonator. , 2017, , .		7
110	Reduction of amplitude ratio dependence on drive level in mode localized resonant MEMS sensors. , 2017, , .		5
111	Characterization of metallic glasses using ultrasound broadband spectroscopy. , 2017, , .		0
112	Utilising Nonlinear Air Damping as a Soft Mechanical Stopper for MEMS Vibration Energy Harvesting. Journal of Physics: Conference Series, 2016, 773, 012098.	0.4	2
113	Multifrequency acoustics as a probe of mesoscopic blood coagulation dynamics. Applied Physics Letters, 2016, 109, 063701.	3.3	5
114	Particulate mass sensing with piezoelectric bulk acoustic mode resonators. , 2016, , .		11
115	Low power frequency subtractor for temperature-compensated resonant sensors. , 2016, , .		0
116	Observation of three-mode parametric instability in a micromechanical resonator. Applied Physics Letters, 2016, 109, .	3.3	16
117	Observation of intrinsic mode splitting in a standalone micromechanical resonator. , 2016, , .		0
118	Mode-localized sensing in micro- and nano-mechanical resonator arrays. , 2016, , .		13
119	Bridge structural monitoring through a vibration energy harvesting wireless sensor network. , 2016, , .		0
120	A microfluidic platform for trapping, releasing and super-resolution imaging of single cells. Sensors and Actuators B: Chemical, 2016, 232, 680-691.	7.8	54
121	Vacuum Packaged Low-Power Resonant MEMS Strain Sensor. Journal of Microelectromechanical Systems, 2016, 25, 851-858.	2.5	26
122	An Efficient SSHI Interface With Increased Input Range for Piezoelectric Energy Harvesting Under Variable Conditions. IEEE Journal of Solid-State Circuits, 2016, 51, 2729-2742.	5.4	59
123	Comparison of the specificity and affinity of surface immobilised Affimer binders using the quartz crystal microbalance. Analyst, The, 2016, 141, 6278-6286.	3.5	5
124	Design and implementation of a low-power hybrid capacitive MEMS oscillator. Microelectronics Journal, 2016, 56, 1-9.	2.0	10
125	A review on coupled MEMS resonators for sensing applications utilizing mode localization. Sensors and Actuators A: Physical, 2016, 249, 93-111.	4.1	176
126	Acoustic biosensors. Essays in Biochemistry, 2016, 60, 101-110.	4.7	76

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127	Quantifying Measurement Fluctuations from Stochastic Surface Processes on Sensors with Heterogeneous Sensitivity. Physical Review Applied, 2016, 5, .	3.8	4
128	A microfluidic platform for glucose sensing using broadband ultrasound spectroscopy. , 2016, , .		3
129	Micromachined cantilevers-on-membrane topology for broadband vibration energy harvesting. Journal of Micromechanics and Microengineering, 2016, 26, 124007.	2.6	8
130	Twenty-Eight Orders of Parametric Resonance in a Microelectromechanical Device for Multi-band Vibration Energy Harvesting. Scientific Reports, 2016, 6, 30167.	3.3	39
131	Connection Configurations to Increase Operational Range and Output Power of Piezoelectric MEMS Vibration Energy Harvesters. Journal of Physics: Conference Series, 2016, 773, 012063.	0.4	0
132	Dynamic monitoring of single cell lysis in an impedance-based microfluidic device. Biomedical Microdevices, 2016, 18, 56.	2.8	11
133	Numerical Verification of an Analytical Model for Phase Noise in MEMS Oscillators. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2016, 63, 1204-1207.	3.0	4
134	Power Optimization by Mass Tuning for MEMS Piezoelectric Cantilever Vibration Energy Harvesting. Journal of Microelectromechanical Systems, 2016, 25, 108-117.	2.5	90
135	Fabrication of high-resolution strain sensors based on wafer-level vacuum packaged MEMS resonators. Sensors and Actuators A: Physical, 2016, 239, 90-101.	4.1	25
136	A Hybrid Vibration Powered Microelectromechanical Strain Gauge. IEEE Sensors Journal, 2016, 16, 235-241.	4.7	10
137	Eight parametric resonances in a multi-frequency wideband MEMS piezoelectric vibration energy harvester. , 2016, , .		0
138	Single cell studies of mouse embryonic stem cell (mESC) differentiation by electrical impedance measurements in a microfluidic device. Biosensors and Bioelectronics, 2016, 81, 249-258.	10.1	80
139	Simultaneous interrogation of high-Q modes in a piezoelectric-on-silicon micromechanical resonator. Sensors and Actuators A: Physical, 2016, 238, 207-214.	4.1	18
140	Five topologies of cantilever-based MEMS piezoelectric vibration energy harvesters: a numerical and experimental comparison. Microsystem Technologies, 2016, 22, 2841-2852.	2.0	40
141	Characterization of mechanical properties of materials using ultrasound broadband spectroscopy. Ultrasonics, 2016, 64, 186-195.	3.9	14
142	Micromachined Piezoelectric-on-Silicon Thickness Extensional Mode Resonators. Procedia Engineering, 2015, 120, 1007-1010.	1.2	1
143	Micromachined Piezoelectric Acoustic Sensor with Multiple Addressable Flexural Modes Demonstrating Improved Q in Liquid. Procedia Engineering, 2015, 120, 1003-1006.	1.2	4
144	Micromechanical piezoelectric-on-silicon BAW resonators for sensing in liquid environments. , 2015, , .		3

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145	The effect of mass loading on spurious modes in micro-resonators. Applied Physics Letters, 2015, 107, .	3.3	2
146	Cantilevers-on-membrane design for broadband MEMS piezoelectric vibration energy harvesting. Journal of Physics: Conference Series, 2015, 660, 012030.	0.4	5
147	Maximizing Output Power in a Cantilevered Piezoelectric Vibration Energy Harvester by Electrode Design. Journal of Physics: Conference Series, 2015, 660, 012114.	0.4	22
148	A vibration powered wireless mote on the Forth Road Bridge. Journal of Physics: Conference Series, 2015, 660, 012094.	0.4	5
149	Investigating the impact of stuctural symmetry in coupled resonator arrays on the frequency stability of A CMOS-MEMS oscillator. , 2015, , .		1
150	Effects of spatial sensitivity on mass sensing with bulk acoustic mode resonators. Sensors and Actuators A: Physical, 2015, 236, 369-379.	4.1	13
151	The Impact of Damping on the Frequency Stability of Nonlinear MEMS Oscillators. Journal of Microelectromechanical Systems, 2015, 24, 537-544.	2.5	15
152	A high-resolution resonant MEMS accelerometer. , 2015, , .		44
153	<italic>In-Situ</italic> Hydrothermal Synthesis of Zinc Oxide Nanostructures Using Microheaters. IEEE Nanotechnology Magazine, 2015, 14, 1046-1053.	2.0	4
154	Numerical Study of the Impact of Vibration Localization on the Motional Resistance of Weakly Coupled MEMS Resonators. Journal of Microelectromechanical Systems, 2015, 24, 997-1005.	2.5	18
155	Investigating biomechanical noise in neuroblastoma cells using the quartz crystal microbalance. Journal of the Royal Society Interface, 2015, 12, 20141389.	3.4	1
156	Analytical formulation of modal frequency split in the elliptical mode of SCS micromechanical disk resonators. Journal of Micromechanics and Microengineering, 2014, 24, 025011.	2.6	11
157	Comparison of Five Topologies of Cantilever-based MEMS Piezoelectric Vibration Energy Harvesters. Journal of Physics: Conference Series, 2014, 557, 012086.	0.4	4
158	Synchronization in a coupled architecture of microelectromechanical oscillators. Journal of Applied Physics, 2014, 115, .	2.5	27
159	An analytical formulation for phase noise in MEMS oscillators. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2014, 61, 1938-1952.	3.0	32
160	An auto-parametrically excited vibration energy harvester. Sensors and Actuators A: Physical, 2014, 220, 69-75.	4.1	56
161	A microfluidic device for the hydrodynamic immobilisation of living fission yeast cells for super-resolution imaging. Sensors and Actuators B: Chemical, 2014, 192, 36-41.	7.8	34
162	A parametrically excited vibration energy harvester. Journal of Intelligent Material Systems and Structures, 2014, 25, 278-289.	2.5	54

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163	A high-resolution micro-electro-mechanical resonant tilt sensor. Sensors and Actuators A: Physical, 2014, 220, 168-177.	4.1	48
164	A Seismic-Grade Resonant MEMS Accelerometer. Journal of Microelectromechanical Systems, 2014, 23, 768-770.	2.5	107
165	Monitoring sessile droplet evaporation on a micromechanical device. Analyst, The, 2014, 139, 5538-5546.	3.5	22
166	Parametric resonance for vibration energy harvesting with design techniques to passively reduce the initiation threshold amplitude. Smart Materials and Structures, 2014, 23, 065011.	3.5	45
167	High-frequency piezoelectric-on-Si MEMS resonator and numerical method for parameter extraction. , 2014, , .		1
168	Observations of modal interaction in lateral bulk acoustic resonators. Applied Physics Letters, 2014, 105, .	3.3	9
169	Studying particulate adsorption by drying droplets on a microfabricated electro-acoustic resonator. , 2014, , .		3
170	Low power MEMS oscillators for sensor applications. , 2014, , .		4
171	White Noise Responsiveness of an AlN Piezoelectric MEMS Cantilever Vibration Energy Harvester. Journal of Physics: Conference Series, 2014, 557, 012037.	0.4	6
172	Modeling nonlinearities in MEMS oscillators. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2013, 60, 1646-1659.	3.0	45
173	Characterization and fabrication of zinc oxide nanowire devices. , 2013, , .		0
174	Synthesis of Zinc Oxide Nanostructures by Microheaters in the Ambient Environment. IEEE Nanotechnology Magazine, 2013, 12, 21-28.	2.0	8
175	Numerical study of the impact of process variations on the motional resistance of weakly coupled MEMS resonators. , 2013, , .		1
176	Design and modeling of an integrated device for acoustic resonance spectroscopy. , 2013, , .		6
177	Studying adsorbent dynamics on a quartz crystal resonator using its nonlinear electrical response. Sensors and Actuators B: Chemical, 2013, 176, 577-584.	7.8	1
178	Microfluidics-based acoustic microbubble biosensor. , 2013, , .		3
179	Micro-electro-mechanical resonant tilt sensor with 250 nano-radian resolution. , 2013, , .		11
180	Directly and parametrically excited bi-stable vibration energy harvester for broadband operation. , 2013, , .		12

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181	Parametrically excited MEMS vibration energy harvesters with design approaches to overcome the initiation threshold amplitude. Journal of Micromechanics and Microengineering, 2013, 23, 114007.	2.6	42
182	Multi-frequency Operation of a MEMS Vibration Energy Harvester by Accessing Five Orders of Parametric Resonance. Journal of Physics: Conference Series, 2013, 476, 012126.	0.4	21
183	Differential piezoresistive sensing in a bulkâ€mode micromechanical resonator. Micro and Nano Letters, 2013, 8, 107-110.	1.3	16
184	High-resolution strain sensing on steel by Silicon-On-Insulator flexural resonators fabricated with chip-level vacuum packaging. , 2013, , .		13
185	MEMS-based mechanical AGC for oscillator circuits. , 2013, , .		2
186	Observation of Locked Phase Dynamics and Enhanced Frequency Stability in Synchronized Micromechanical Oscillators. Physical Review Letters, 2013, 111, 084101.	7.8	82
187	Investigating vibration dyanmics of cross-coupled MEMS resonators for reduced motional resistance. , 2013, , .		1
188	Electrical actuation and readout in a nanoelectromechanical resonator based on a laterally suspended zinc oxide nanowire. Nanotechnology, 2012, 23, 025501.	2.6	20
189	Micro-electro-mechanical resonant tilt sensor. , 2012, , .		5
190	Mode-Localized Displacement Sensing. Journal of Microelectromechanical Systems, 2012, 21, 1016-1018.	2.5	50
191	Impact of mode localization on the motional resistance of coupled MEMS resonators. , 2012, , .		10
192	Modelling non-linearities in a MEMS square wave oscillator. , 2012, , .		0
193	Local synthesis and alignment of zinc oxide nanowires in aqueous solution using microheaters. , 2012, , .		2
194	Electrically Addressed Dual Resonator Sensing Platform for Biochemical Detection. Journal of Microelectromechanical Systems, 2012, 21, 34-43.	2.5	28
195	Anharmonic Surface Interactions for Biomolecular Screening and Characterization. Analytical Chemistry, 2011, 83, 549-554.	6.5	10
196	A microfluidic device for high density hydrodynamic cell trapping, growth and Super-Resolution imaging. , 2011, , .		1
197	Manipulating Vibration Energy Confinement in Electrically Coupled Microelectromechanical Resonator Arrays. Journal of Microelectromechanical Systems, 2011, 20, 157-164.	2.5	33
198	Study of lateral mode SOI-MEMS resonators for reduced anchor loss. Journal of Micromechanics and Microengineering, 2011, 21, 045010.	2.6	72

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199	Voltage programmable dual-band bandpass/bandstop filter response in a single micro-electro-mechanical device. , 2011, , .		1
200	Biomolecular and electrochemical charge detection by a micromechanical electrometer. Sensors and Actuators B: Chemical, 2011, 160, 301-305.	7.8	15
201	Probing biomolecular interaction forces using an anharmonic acoustic technique for selective detection of bacterial spores. Biosensors and Bioelectronics, 2011, 29, 145-150.	10.1	7
202	Electrically coupled MEMS oscillators. , 2011, , .		7
203	Direct parameter extraction in feedthrough-embedded capacitive MEMS resonators. Sensors and Actuators A: Physical, 2011, 167, 237-244.	4.1	47
204	Catalyst-free synthesis of zinc oxide nanostructures by microheaters in the ambient environment. , 2011, , .		3
205	Fabrication and testing of a high resolution extensometer based on resonant MEMS strain sensors. , 2011, , .		5
206	Limits to mode-localized sensing using micro- and nanomechanical resonator arrays. Journal of Applied Physics, 2011, 109, .	2.5	71
207	Transduction Dependent Optimization of Electromechanical Parameters for Electrostatically Actuated MEMS/NEMS Resonators. Journal of Nanoscience and Nanotechnology, 2010, 10, 7533-7536.	0.9	0
208	Anharmonic Interaction Signals for Acoustic Detection of Analyte. Analytical Chemistry, 2010, 82, 3929-3935.	6.5	10
209	Integration of holographic sensors into microfluidics for the real-time pH sensing of L. casei metabolism. Procedia Engineering, 2010, 5, 1352-1355.	1.2	9
210	Mechanically coupled bulk-mode dual resonator mass sensor. Procedia Engineering, 2010, 5, 1454-1457.	1.2	4
211	2.2 MHz piezoresistive MEMS oscillator operating in air. Procedia Engineering, 2010, 5, 1498-1501.	1.2	1
212	Internal electrical and mechanical phase inversion for coupled resonator-array MEMS filters. Sensors and Actuators A: Physical, 2010, 158, 18-29.	4.1	13
213	Methods for enhanced electrical transduction and characterization of micromechanical resonators. Sensors and Actuators A: Physical, 2010, 158, 263-272.	4.1	49
214	Direct parameter extraction in capacitively transduced micromechanical resonators using the anti-resonance. , 2010, , .		3
215	Electrostatically transduced face-shear mode silicon MEMS microresonator. , 2010, , .		6
216	Ultrasensitive mode-localized micromechanical electrometer. , 2010, , .		26

#	Article	IF	Citations
217	Ultrasensitive mode-localized mass sensor with electrically tunable parametric sensitivity. Applied Physics Letters, 2010, 96, .	3.3	95
218	Topology dependence of mass sensitivities in mode-localized sensors. , 2010, , .		0
219	Differential amplification of structural perturbations in weakly coupled MEMS resonators. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2010, 57, 690-697.	3.0	42
220	Fabrication and packaging techniques for the application of MEMS strain sensors to wireless crack monitoring in ageing civil infrastructures. Smart Structures and Systems, 2010, 6, 225-238.	1.9	12
221	Enhancing Parametric Sensitivity in Electrically Coupled MEMS Resonators. Journal of Microelectromechanical Systems, 2009, 18, 1077-1086.	2.5	116
222	Design and prototyping of a MEMS-based crackmeter for structural monitoring. , 2009, , .		2
223	Effects of mechanical and electrical coupling on the parametric sensitivity of mode localized sensors. , 2009, , .		4
224	Common mode rejection in electrically coupled MEMS resonators utilizing mode localization for sensor applications. , 2009, , .		30
225	Dynamic response of water droplet coated silicon MEMS resonators. , 2009, , .		5
226	Low loss HF band SOI wine glass bulk mode capacitive square-plate resonator. Journal of Micromechanics and Microengineering, 2009, 19, 074003.	2.6	49
227	Enhanced transduction methods for electrostatically driven MEMS resonators. , 2009, , .		12
228	Optimisation of a piezoelectric system for energy harvesting from traffic vibrations. , 2009, , .		1
229	Suppression of parasitic resonance in piezoresistively transduced longitudinal mode MEMS resonators. , 2009, , .		0
230	Thermoelastic Dissipation in MEMS/NEMS Flexural Mode Resonators. Journal of Nanoscience and Nanotechnology, 2009, 9, 1011-1014.	0.9	1
231	Highly specific label-free protein detection from lysed cells using internally referenced microcantilever sensors. Biosensors and Bioelectronics, 2008, 24, 233-237.	10.1	48
232	An axial strain modulated double-ended tuning fork electrometer. Sensors and Actuators A: Physical, 2008, 148, 395-400.	4.1	64
233	A Resonant Micromachined Electrostatic Charge Sensor. IEEE Sensors Journal, 2008, 8, 1499-1505.	4.7	26
234	Mechanical phase inversion for coupled lamé mode resonator array filters. Proceedings of the IEEE International Conference on Micro Electro Mechanical Systems (MEMS), 2008, , .	0.0	4

#	Article	IF	Citations
235	A Single-Crystal-Silicon Bulk-Acoustic-Mode Microresonator Oscillator. IEEE Electron Device Letters, 2008, 29, 701-703.	3.9	54
236	Square wine glass mode resonator with quality factor of 4 million. , 2008, , .		13
237	Binary Excitation of a High-Q Bulk Acoustic Microresonator by Actuation Polarity Inversion. , 2008, , .		0
238	Anchor limited Q in flexural mode resonators. , 2008, , .		8
239	Thin film monitoring with silicon bulk acoustic resonators. , 2008, , .		1
240	A bulk acoustic mode single-crystal silicon microresonator with a high-quality factor. Journal of Micromechanics and Microengineering, 2008, 18, 064001.	2.6	71
241	Room temperature electrometry with SUB-10 electron charge resolution. Journal of Micromechanics and Microengineering, 2008, 18, 025033.	2.6	36
242	Internal electrical phase inversion for FF-beam resonator arrays and tuning fork filters. Proceedings of the IEEE International Conference on Micro Electro Mechanical Systems (MEMS), 2008, , .	0.0	6
243	Silicon depletion layer actuators. Applied Physics Letters, 2008, 92, .	3.3	22
244	Fabrication of DETF sensors in SOI technology with submicron air gaps using a maskless line narrowing technique. , 2008, , .		3
245	Internal phase inversion narrow bandwidth MEMS filter. , 2008, , .		4
246	A Depletion Layer Actuator. , 2007, , .		13
247	System-level simulation of a micromachined electrometer using a time-domain variable capacitor circuit model. Journal of Micromechanics and Microengineering, 2007, 17, 1059-1065.	2.6	24
248	Rapid Prototyping of PDMS Devices With Applications to Protein Crystallization. , 2007, , 519.		0
249	Sub-10e Charge Resolution for Room Temperature Electrometry. , 2007, , .		3
250	Narrow Bandwidth Single-Resonator MEMS Tuning Fork Filter. Frequency Control Symposium and Exhibition, Proceedings of the IEEE International, 2007, , .	0.0	11
251	Ultrasensitive mass balance based on a bulk acoustic mode single-crystal silicon resonator. Applied Physics Letters, 2007, 91, .	3.3	53
252	MEMS Electrometer System Simulation using a Time-Domain Variable Capacitor Model. , 2007, , .		4

#	Article	IF	Citations
253	Investigation of biotinâ€“streptavidin binding interactions using microcantilever sensors. Biosensors and Bioelectronics, 2007, 22, 2003-2009.	10.1	59
254	A Multicriteria System-Based Method for Simulation-Driven Design Synthesis. , 2006, , 651.		6
255	On the optimization of compliant force amplifier mechanisms for surface micromachined resonant accelerometers. Journal of Micromechanics and Microengineering, 2004, 14, 1281-1293.	2.6	45
256	CO2 storage monitoring using 3-axis borehole gravity. SSRN Electronic Journal, 0, , .	0.4	0