Behraad Bahreyni

List of Publications by Year
in descending order

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69 papers	1,175 citations	516710 16 h-index	395702 33 g-index
69 all docs	69 docs citations	69 times ranked	1308 citing authors

#	Article	IF	Citations
1	Micromachined Resonators: A Review. Micromachines, 2016, 7, 160.	2.9	155
2	A Resonant Micromachined Magnetic Field Sensor. IEEE Sensors Journal, 2007, 7, 1326-1334.	4.7	106
3	Micromachined Electric-Field Sensor to Measure AC and DC Fields in Power Systems. IEEE Transactions on Power Delivery, 2009, 24, 988-995.	4.3	102
4	A Stretchable RF Antenna With Silver Nanowires. IEEE Electron Device Letters, 2013, 34, 544-546.	3.9	97
5	Application of metal organic framework crystals for sensing of volatile organic gases. Sensors and Actuators B: Chemical, 2012, 162, 114-119.	7.8	69
6	Analysis and Design of a Micromachined Electric-Field Sensor. Journal of Microelectromechanical Systems, 2008, 17, 31-36.	2.5	65
7	An axial strain modulated double-ended tuning fork electrometer. Sensors and Actuators A: Physical, 2008, 148, 395-400.	4.1	64
8	A Single-Crystal-Silicon Bulk-Acoustic-Mode Microresonator Oscillator. IEEE Electron Device Letters, 2008, 29, 701-703.	3.9	54
9	Tri-Mode Capacitive Proximity Detection Towards Improved Safety in Industrial Robotics. IEEE Sensors Journal, 2018, 18, 5058-5066.	4.7	32
10	A Nonlinear Rate Microsensor utilising Internal Resonance. Scientific Reports, 2019, 9, 8648.	3.3	32
11	A High-Performance Piezoelectric Vibration Sensor. IEEE Sensors Journal, 2017, 17, 4005-4012.	4.7	29
12	A micromechanical bandpass filter with adjustable bandwidth and bidirectional control of centre frequency. Sensors and Actuators A: Physical, 2012, 187, 10-15.	4.1	26
13	Development and Characterization of an H-Shaped Microresonator Exhibiting 2:1 Internal Resonance. Journal of Microelectromechanical Systems, 2017, 26, 993-1001.	2.5	26
14	Highly sensitive supra-molecular thin films for gravimetric detection of methane. Sensors and Actuators B: Chemical, 2012, 161, 954-960.	7.8	24
15	Piezoresistive sensing with twin-beam structures in standard MEMS foundry processes. Sensors and Actuators A: Physical, 2006, 127, 325-331.	4.1	20
16	Three dimensional touchless tracking of objects using integrated capacitive sensors. IEEE Transactions on Consumer Electronics, 2012, 58, 886-890.	3.6	20
17	Characterization of Disturbances in Systems of Coupled Micro-Resonator Arrays. IEEE Sensors Journal, 2012, 12, 2510-2516.	4.7	16
18	An Interface Circuit With Wide Dynamic Range for Differential Capacitive Sensing Applications. IEEE Transactions on Circuits and Systems II: Express Briefs, 2013, 60, 766-770.	3.0	16

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19	Multi-functional capacitive proximity sensing system for industrial safety applications. , 2016, , .		15
20	A Wideband, Low-Noise Accelerometer for Sonar Wave Detection. IEEE Sensors Journal, 2018, 18, 508-516.	4.7	15
21	Behavioral model for electrical response and strain sensitivity of nanotube-based nanocomposite materials. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2012, 30, 022001.	1.2	14
22	Analytical Modeling and Experimental Verification of Nonlinear Mode Coupling in a Decoupled Tuning Fork Microresonator. Journal of Microelectromechanical Systems, 2018, 27, 398-406.	2.5	14
23	Oscillator and frequency-shift measurement circuit topologies for micromachined resonant devices. Sensors and Actuators A: Physical, 2007, 137, 74-80.	4.1	13
24	Touchless capacitive sensor for hand gesture detection. , 2011, , .		13
25	Sol-gel deposition and characterization of vanadium pentoxide thin films with high TCR. Sensors and Actuators A: Physical, 2018, 279, 630-637.	4.1	13
26	Utilization of 2:1 Internal Resonance in Microsystems. Micromachines, 2018, 9, 448.	2.9	12
27	Performance optimization of high order RF microresonators in the presence of squeezed film damping. Sensors and Actuators A: Physical, 2014, 216, 266-276.	4.1	10
28	Independent tuning of frequency and quality factor of microresonators. Applied Physics Letters, 2011, 98, .	3.3	8
29	Development of a micromachined accelerometer for particle acceleration detection. Sensors and Actuators A: Physical, 2018, 280, 359-367.	4.1	7
30	Localized Mechanical Actuation using pn Junctions. Scientific Reports, 2019, 9, 14885.	3.3	6
31	Electrostatic Twisting of Coreâ€“Shell Nanofibers for Strain Sensing Applications. ACS Applied Polymer Materials, 2020, 2, 4472-4480.	4.4	6
32	Machine Learning for Sensing Applications: A Tutorial. IEEE Sensors Journal, 2022, 22, 10183-10195.	4.7	6
33	Employing piezojunction effect for ultra-low power resonant microdevice applications. , 2015, , .		5
34	A sensitive interface circuit with wide dynamic range for capacitive sensors. , 2012, , .		4
35	Simulation and modelling of pn junction actuators. Simulation Modelling Practice and Theory, 2012, 21, 146-154.	3.8	4
36	A readout circuit with wide dynamic range for differential capacitive sensing applications. , 2013, , .		4

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37	A vector light detector for proximity sensing applications. , 2016, , .		4
38	Viability of Piezojunction Effect for Microresonator Applications. IEEE Transactions on Electron Devices, 2016, 63, 4452-4458.	3.0	4
39	Lowâ€power, parasiticâ€insensitive interface circuit for capacitive microsensors. IET Circuits, Devices and Systems, 2016, 10, 104-110.	1.4	4
40	Design and characterization of microresonators simultaneously exhibiting 1/2 subharmonic and 2:1 internal resonances. , 2017, , .		4
41	Self-powered integrated opto-electro-mechanical nano-actuators. Nano Energy, 2021, 88, 106280.	16.0	4
42	A capacitive relative humidity sensor using polymer nanoparticles. , 2012, , .		3
43	A differential electrometer based on coupled microresonators. , 2012, , .		3
44	A low power CMOS integrated circuit for differential capacitive measurement. , 2013, , .		3
45	A silicon vector light sensor for proximity sensing applications. , 2017, , .		3
46	A micromachined vector light sensor. Sensors and Actuators A: Physical, 2020, 311, 112045.	4.1	3
47	Improved Capacitive Proximity Detection for Conductive Objects through Target Profile Estimation. Journal of Sensors, 2019, 2019, 1-11.	1.1	2
48	Measurement of mechanical strain based on piezo-avalanche effect. Applied Physics Letters, 2019, 114, .	3.3	2
49	Design and Characterization of a Tuning Fork Microresonator Based on Nonlinear 2:1 Internal Resonance. , 2019, , .		2
50	Passive Proximity Detection Based on a Miniaturized Pyramidal Optical Sensor. , 2019, , .		2
51	Demonstration of a Nonlinear Angular Rate Sensor based on Internal Resonance. , 2020, , .		2
52	Fabrication of optically patternable nanocomposite layers for smart polymer structure applications. , 2011, , .		1
53	A portable system for estimation of chemical oxygen demand in wastewater using ultraviolet-visible spectroscopy. , 2015, , .		1
54	Application of carbon nanotube and graphene nanocomposites for fabrication of micro-bolometers. , 2015, , .		1

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55	Electrospun Coaxial Nanofibers for Flexible Strain Sensing in Smart Textile. , 2019, , .		1
56	Effect of Oscillator Phase Noise on Synchronous Demodulation Measurement Systems for Sensing Applications. , 2020, , .		1
57	A Piezo-Avalanche Accelerometer. Journal of Microelectromechanical Systems, 2020, 29, 144-147.	2.5	1
58	Design and Fabrication Considerations for Thermo-Resistive Pixel Detectors for Room Temperature Directional Long Wavelength IR Sensing. IEEE Sensors Journal, 2021, 21, 4257-4266.	4.7	1
59	Zero-Power Opto-Electro-Mechanical Actuators. , 2021, , .		1
60	Transduction Mechanisms. , 2009, , 47-68.		0
61	Development of a simulator for modelling of electrical and mechanical properties of nanocomposite materials and sensors. , 2011, , .		0
62	A low-power, low-cost switched-capacitor circuit for differential capacitive microsensors. , 2013, , .		0
63	A low-power readout circuit design for capacitive microsensors. , 2015, , .		0
64	Measurement of In-Package Pressure Using Bondwires. , 2018, , .		0
65	Electric Field as a Tool for In-situ Twisting Nanofibers During the Electrospinning Process. , 2019, , .		0
66	A Robust Autoparametrically Excited Angular Rate Sensor. , 2021, , .		0
67	Interfacing. , 2009, , 143-156.		0
68	Survey of Applications. , 2009, , 163-176.		0
69	Junctions and Micromachines. , 2021, , .		0