

Matthias Imboden

List of Publications by Year in descending order

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Version: 2024-02-01

40
papers

1,478
citations

361413

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315739

38
g-index

43
all docs

43
docs citations

43
times ranked

2374
citing authors

#	ARTICLE	IF	CITATIONS
1	Zeptometer Metrology Using the Casimir Effect. Journal of Low Temperature Physics, 2022, 208, 147-159.	1.4	5
2	Feedforward Control Algorithms for MEMS Galvos and Scanners. Journal of Microelectromechanical Systems, 2021, 30, 612-621.	2.5	4
3	Analysis of a Casimir-driven parametric amplifier with resilience to Casimir pull-in for MEMS single-point magnetic gradiometry. Microsystems and Nanoengineering, 2021, 7, 73.	7.0	10
4	A system for probing Casimir energy corrections to the condensation energy. Microsystems and Nanoengineering, 2020, 6, 115.	7.0	6
5	Building a Casimir metrology platform with a commercial MEMS sensor. Microsystems and Nanoengineering, 2019, 5, 14.	7.0	25
6	High-speed mechano-active multielectrode array for investigating rapid stretch effects on cardiac tissue. Nature Communications, 2019, 10, 834.	12.8	45
7	An autonomous untethered fast soft robotic insect driven by low-voltage dielectric elastomer actuators. Science Robotics, 2019, 4, .	17.6	295
8	A Large Range of Motion 3D MEMS Scanner With Five Degrees of Freedom. Journal of Microelectromechanical Systems, 2019, 28, 170-179.	2.5	12
9	Single ended capacitive self-sensing system for comb drives driven XY nanopositioners. Sensors and Actuators A: Physical, 2018, 271, 409-417.	4.1	4
10	Engineered PWM Drives for Achieving Rapid Step and Settle Times for MEMS Actuation. Journal of Microelectromechanical Systems, 2018, 27, 513-520.	2.5	9
11	High Performance, Continuously Tunable Microwave Filters Using MEMS Devices With Very Large, Controlled, Out-of-Plane Actuation. Journal of Microelectromechanical Systems, 2018, 27, 1135-1147.	2.5	6
12	An ultra-fast mechanically active cell culture substrate. Scientific Reports, 2018, 8, 9895.	3.3	39
13	Cryogenic Fab-on-a-Chip Sticks the Landing. ACS Nano, 2017, 11, 8707-8716.	14.6	4
14	Tuning the resonance frequencies and mode shapes in a large range multi-degree of freedom micromirror. Optics Express, 2017, 25, 7895.	3.4	11
15	Beam shaping with tip-tilt varifocal mirror for indoor optical wireless communication. Optics Express, 2017, 25, 20274.	3.4	11
16	Optimization of thin-film highly-compliant elastomer sensors for contractility measurement of muscle cells. Extreme Mechanics Letters, 2016, 9, 1-10.	4.1	8
17	High-Speed Control of Electromechanical Transduction: Advanced Drive Techniques for Optimized Step-and-Settle Response of MEMS Micromirrors. IEEE Control Systems, 2016, 36, 48-76.	0.8	23
18	Directional visible light communication signal enhancement using a varifocal micromirror with four degrees of freedom. , 2016, , .		2

#	ARTICLE	IF	CITATIONS
19	Comb Drive Designs With Minimized Levitation. Journal of Microelectromechanical Systems, 2016, 25, 1025-1032.	2.5	5
20	MEMS Tunable Mid-Infrared Plasmonic Spectrometer. ACS Photonics, 2016, 3, 14-19.	6.6	29
21	Programmable solid state atom sources for nanofabrication. Nanoscale, 2015, 7, 10735-10744.	5.6	6
22	Electrothermally actuated tip-tilt-piston micromirror with integrated varifocal capability. Optics Express, 2015, 23, 9555.	3.4	48
23	Dissipation in nanoelectromechanical systems. Physics Reports, 2014, 534, 89-146.	25.6	198
24	Design of a Casimir-driven parametric amplifier. Journal of Applied Physics, 2014, 116, .	2.5	20
25	Building a Fab on a Chip. Nanoscale, 2014, 6, 5049-5062.	5.6	17
26	Controlling Levitation and Enhancing Displacement in Electrostatic Comb Drives of MEMS Actuators. Journal of Microelectromechanical Systems, 2014, 23, 1063-1072.	2.5	13
27	CHAPTER 17. Diamond Nano-electromechanical Systems. RSC Nanoscience and Nanotechnology, 2014, , 411-447.	0.2	2
28	Top-down nanomanufacturing. Physics Today, 2014, 67, 45-50.	0.3	30
29	Observation of Nonlinear Dissipation in Piezoresistive Diamond Nanomechanical Resonators by Heterodyne Down-Mixing. Nano Letters, 2013, 13, 4014-4019.	9.1	34
30	Nonlinear dissipation in diamond nanoelectromechanical resonators. Applied Physics Letters, 2013, 102, .	3.3	43
31	Atomic Calligraphy: The Direct Writing of Nanoscale Structures Using a Microelectromechanical System. Nano Letters, 2013, 13, 3379-3384.	9.1	24
32	Energy measurement in nonlinearly coupled nanomechanical modes. Applied Physics Letters, 2011, 98, 264106.	3.3	12
33	Evidence of universality in the dynamical response of micromechanical diamond resonators at millikelvin temperatures. Physical Review B, 2009, 79, .	3.2	31
34	Design, performance, and calibration of CMS hadron-barrel calorimeter wedges. European Physical Journal C, 2008, 55, 159-171.	3.9	30
35	Electrostatically actuated silicon-based nanomechanical switch at room temperature. Applied Physics Letters, 2008, 93, .	3.3	47
36	Scaling of dissipation in megahertz-range micromechanical diamond oscillators. Applied Physics Letters, 2007, 90, 173502.	3.3	42

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37	Synchronized Oscillation in Coupled Nanomechanical Oscillators. Science, 2007, 316, 95-99.	12.6	222
38	High quality factor gigahertz frequencies in nanomechanical diamond resonators. Applied Physics Letters, 2007, 91, .	3.3	79
39	Pions versus magnons: from QCD to antiferromagnets and quantum Hall ferromagnets. Nuclear Physics B, 2004, 686, 347-376.	2.5	26
40	The Integration of Optical Stimulation in a Mechanically Dynamic Cell Culture Substrate. Frontiers in Bioengineering and Biotechnology, 0, 10, .	4.1	1