David Elata

List of Publications by Year
in descending order

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64 papers	1,280 citations	471509 17 h-index	377865 34 g-index
64 all docs	64 docs citations	64 times ranked	1013 citing authors

#	Article	IF	Citations
1	Implementing the Project-Based Learning Approach in an Academic Engineering Course. International Journal of Technology and Design Education, 2003, 13, 273-288.	2.6	249
2	The mechanical behavior of a wire rope with an independent wire rope core. International Journal of Solids and Structures, 2004, 41, 1157-1172.	2.7	113
3	On the Dynamic Pull-In of Electrostatic Actuators With Multiple Degrees of Freedom and Multiple Voltage Sources. Journal of Microelectromechanical Systems, 2006, 15, 131-140.	2.5	89
4	On the Dynamic Response of Electrostatic MEMS Switches. Journal of Microelectromechanical Systems, 2008, 17, 236-243.	2.5	79
5	An efficient DIPIE algorithm for CAD of electrostatically actuated MEMS devices. Journal of Microelectromechanical Systems, 2002, 11, 612-620.	2.5	77
6	Contact force-displacement laws and the mechanical behavior of random packs of identical spheres. Mechanics of Materials, 1996, 24, 229-240.	3.2	67
7	Analysis of a novel method for measuring residual stress in micro-systems. Journal of Micromechanics and Microengineering, 2005, 15, 921-927.	2.6	43
8	Model and Observations of Dielectric Charge in Thermally Oxidized Silicon Resonators. Journal of Microelectromechanical Systems, 2010, 19, 162-174.	2.5	37
9	The Electromechanical Response of Multilayered Piezoelectric Structures. Journal of Microelectromechanical Systems, 2004, 13, 332-341.	2.5	36
10	Experimental Validation of Electromechanical Buckling. Journal of Microelectromechanical Systems, 2006, 15, 1656-1662.	2.5	36
11	Analytical approach and numerical Î±-lines method for pull-in hyper-surface extraction of electrostatic actuators with multiple uncoupled voltage sources. Journal of Microelectromechanical Systems, 2003, 12, 681-691.	2.5	34
12	How slender can comb-drive fingers be?. Journal of Micromechanics and Microengineering, 2005, 15, 1055-1059.	2.6	32
13	A general relation between the ranges of stability of electrostatic actuators under charge or voltage control. Applied Physics Letters, 2003, 82, 302-304.	3.3	25
14	Developing the capacity for engineering systems thinking (CEST) of freshman engineering students. Systems Engineering, 2005, 8, 187-195.	2.7	24
15	Pressure sensitivity of cemented granular materials. Mechanics of Materials, 1996, 23, 147-154.	3.2	23
16	An efficientL2 Galerkin finite element method for multi-dimensional non-linear hyperbolic systems. International Journal for Numerical Methods in Engineering, 1990, 29, 1229-1245.	2.8	22
17	Design of nonlinear springs for attaining a linear response in gap-closing electrostatic actuators. International Journal of Solids and Structures, 2012, 49, 3816-3822.	2.7	20
18	Floating electrode dielectrophoresis. Electrophoresis, 2006, 27, 4919-4926.	2.4	16

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19	A MEMS Implementation of a Classic Parametric Resonator. Journal of Microelectromechanical Systems, 2015, 24, 1285-1292.	2.5	16
20	Modeling the Electromechanical Response of Electrostatic Actuators. , 2006, , 1085-1111.		15
21	A Gap-Closing Electrostatic Actuator With a Linear Extended Range. Journal of Microelectromechanical Systems, 2013, 22, 1109-1114.	2.5	15
22	Hybrid dielectrophoresis devices that employ electrically floating electrodes. Sensors and Actuators A: Physical, 2008, 142, 138-146.	4.1	14
23	A Piezoelectric Twisting Beam Actuator. Journal of Microelectromechanical Systems, 2017, 26, 1279-1286.	2.5	14
24	Two-dimensional analysis of temperature-gradient actuation of cantilever beam resonators. Journal of Micromechanics and Microengineering, 2005, 15, 1414-1424.	2.6	12
25	Dynamically Balanced Folded-Beam Suspensions for Resonators. Journal of Microelectromechanical Systems, 2015, 24, 1965-1972.	2.5	12
26	Electromechanical Sensing of Charge Retention on Floating Electrodes. Journal of Microelectromechanical Systems, 2011, 20, 150-156.	2.5	11
27	A MEMS Implementation of the Classic Meissner Parametric Resonator: Exploring High-Order Windows of Unbounded Response. Journal of Microelectromechanical Systems, 2017, 26, 325-332.	2.5	11
28	Analytic postbuckling solution of a pre-stressed infinite beam bonded to a linear elastic foundation. International Journal of Solids and Structures, 2005, 42, 6048-6058.	2.7	9
29	Analysis of electromechanical buckling of a prestressed microbeam that is bonded to an elastic foundation. Journal of Mechanics of Materials and Structures, 2006, 1, 911-923.	0.6	8
30	On the quality-factor of micro-resonators. Procedia Engineering, 2010, 5, 95-98.	1.2	8
31	Mass-fabrication compatible mechanism for converting in-plane to out-of-plane motion. , 2015, , .		7
32	Energy-Reversible Complementary NEM Logic Gates. , 2008, , .		6
33	On the quality of quality-factor in gap-closing electrostatic resonators. Journal of Micromechanics and Microengineering, 2013, 23, 115010.	2.6	6
34	Selective Stiffening for Producing Motion Conversion Mechanisms. Procedia Engineering, 2014, 87, 1589-1592.	1.2	6
35	Are Folded-beam Suspensions Really Linear?. Procedia Engineering, 2014, 87, 624-627.	1.2	6
36	Selective Stiffening for Producing a Mass-Fabrication Compatible Motion Conversion Mechanism. Journal of Microelectromechanical Systems, 2015, 24, 2101-2108.	2.5	6

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37	Frequency Matching of Orthogonal Wineglass Modes in Disk and Ring Resonators Made From (100) Silicon. , 2019, 3, 1-4.		6
38	Shield-layers for reducing thermoelastic damping in resonating Silicon bars. Microsystem Technologies, 2009, 15, 323-331.	2.0	5
39	A gap-closing electrostatic actuator with a linear extended range. , 2013, , .		5
40	The electromechanical response of a self-excited MEMS Franklin oscillator. , 2015, , .		5
41	A Double-Sided Comb-Drive Actuator With a Floating Rotor: Achieving a Strong Response While Eliminating the DC Bias. Journal of Microelectromechanical Systems, 2020, 29, 1173-1179.	2.5	5
42	A perfect electrostatic anti-spring. , 2013, , .		4
43	Tuning the first instability window of a MEMS Meissner parametric resonator using a linear electrostatic anti-spring. , 2015, , .		4
44	The Effect of Laser Beam Intensity and Microscope Illumination Intensity, on the Response of Electrostatic Resonators. IEEE Sensors Journal, 2021, 21, 412-420.	4.7	4
45	On the generalizedL2 Galerkin finite element method for linear hyperbolic equations. International Journal for Numerical Methods in Engineering, 1993, 36, 679-694.	2.8	3
46	Optimizing the Dynamic Response of RF MEMS Switches using Tailored Voltage Pulses. , 2007, , .		3
47	An Ideal MEMS Parametric Resonator Using a Tapered Comb-drive. Procedia Engineering, 2014, 87, 1481-1484.	1.2	3
48	On the Notion of a Mechanical Battery. Journal of Microelectromechanical Systems, 2015, 24, 1085-1091.	2.5	3
49	Electromagnetic interaction force between two noncoaxial circular coils. Mechatronics, 2015, 30, 244-253.	3.3	3
50	Nonlinear mechanical springs for counteracting nonlinearities in gap-closing electrostatic actuators. , 2015, , .		3
51	A piezoelectric beam actuator with a pure twisting response. , 2017, , .		3
52	Ambiguous definitions of the piezoelectric coupling factor. Journal of Intelligent Material Systems and Structures, 2020, 31, 1689-1696.	2.5	3
53	Parametric Resonators With a Floating Rotor: Sensing Strategy for Devices With an Increased Stiffness and Compact Design. Journal of Microelectromechanical Systems, 2021, 30, 411-418.	2.5	3
54	Electromechanical modelling of electrostatic actuators. , 0, , 23-40.		2

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55	The electromechanical response of a symmetric electret parallel-plates actuator. Sensors and Actuators A: Physical, 2012, 173, 197-201.	4.1	2
56	Dynamically-balanced folded-beam suspensions. , 2015, , .		2
57	Harmonic biasing in a double-sided comb-drive resonator, for resolving feed-through issues in low-power driving. Sensors and Actuators A: Physical, 2021, 332, 113031.	4.1	2
58	Geometrical aspects of dielectric charging. Procedia Engineering, 2010, 5, 1308-1311.	1.2	1
59	A simple excitation model of parametric resonators: Simulating and explaining the response at cross-over points. , 2016, , .		1
60	Two axes actuators (x-z or x-$\hat{\imath}$) driven by in-line electrostatic comb-drives. , 2016, , .		1
61	Corrections to The Electromechanical Response of Multilayered Piezoelectric Structures. Journal of Microelectromechanical Systems, 2008, 17, 1557-1557.	2.5	0
62	Electromechanical sensing of charge retention on floating electrodes. , 2010, , .		0
63	A simple constitutive model for dielectric charging based on Frenkel-Poole mechanism. , 2015, , .		0
64	Selective Stiffening for Enhancing and/or Reversing the Action of Thermoelastic Actuators. Journal of Microelectromechanical Systems, 2016, 25, 999-1004.	2.5	0