

# Najib Kacem

## List of Publications by Year in descending order

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71  
papers

1,278  
citations

361296

20  
h-index

360920

35  
g-index

72  
all docs

72  
docs citations

72  
times ranked

912  
citing authors

#	ARTICLE	IF	CITATIONS
1	Nonlinear dynamics of nanomechanical beam resonators: improving the performance of NEMS-based sensors. <i>Nanotechnology</i> , 2009, 20, 275501.	1.3	178
2	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
3	Enhancement of the performance of a hybrid nonlinear vibration energy harvester based on piezoelectric and electromagnetic transductions. <i>Smart Materials and Structures</i> , 2014, 23, 075024.	1.8	84
4	Bifurcation topology tuning of a mixed behavior in nonlinear micromechanical resonators. <i>Applied Physics Letters</i> , 2009, 95, 183104.	1.5	79
5	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
6	Multi-modal vibration energy harvesting approach based on nonlinear oscillator arrays under magnetic levitation. <i>Smart Materials and Structures</i> , 2016, 25, 025018.	1.8	61
7	Mass sensor using mode localization in two weakly coupled MEMS cantilevers with different lengths: Design and experimental model validation. <i>Sensors and Actuators A: Physical</i> , 2019, 295, 643-652.	2.0	55
8	Computational models for large amplitude nonlinear vibrations of electrostatically actuated carbon nanotube-based mass sensors. <i>Sensors and Actuators A: Physical</i> , 2014, 208, 10-20.	2.0	47
9	Design of a nonlinear energy harvester based on high static low dynamic stiffness for low frequency random vibrations. <i>Sensors and Actuators A: Physical</i> , 2018, 283, 54-64.	2.0	38
10	Overcoming limitations of nanomechanical resonators with simultaneous resonances. <i>Applied Physics Letters</i> , 2015, 107, 073105.	1.5	33
11	Pull-in instability tuning in imperfect nonlinear circular microplates under electrostatic actuation. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2016, 380, 3886-3890.	0.9	33
12	Stability control of nonlinear micromechanical resonators under simultaneous primary and superharmonic resonances. <i>Applied Physics Letters</i> , 2011, 98, 193507.	1.5	32
13	Exploiting nonlinearity to enhance the sensitivity of mode-localized mass sensor based on electrostatically coupled MEMS resonators. <i>International Journal of Non-Linear Mechanics</i> , 2020, 121, 103455.	1.4	32
14	Electrochemical Deposition of Metals Inside High Aspect Ratio Nanoelectrode Array: Analytical Current Expression and Multidimensional Kinetic Model for Cobalt Nanostructure Synthesis. <i>Journal of Physical Chemistry C</i> , 2007, 111, 5229-5235.	1.5	31
15	Forced large amplitude periodic vibrations of non-linear Mathieu resonators for microgyroscope applications. <i>International Journal of Non-Linear Mechanics</i> , 2011, 46, 1347-1355.	1.4	30
16	Functionalization of electrostatic nonlinearities to overcome mode aliasing limitations in the sensitivity of mass microsensors based on energy localization. <i>Applied Physics Letters</i> , 2020, 117, .	1.5	30
17	On the energy localization in weakly coupled oscillators for electromagnetic vibration energy harvesting. <i>Smart Materials and Structures</i> , 2019, 28, 07LT02.	1.8	27
18	Pull-In Retarding in Nonlinear Nanoelectromechanical Resonators Under Superharmonic Excitation. <i>Journal of Computational and Nonlinear Dynamics</i> , 2012, 7, .	0.7	24

#	ARTICLE	IF	CITATIONS
19	Stabilization of solitons in coupled nonlinear pendulums with simultaneous external and parametric excitations. <i>Communications in Nonlinear Science and Numerical Simulation</i> , 2017, 42, 1-11.	1.7	24
20	Efficient broadband vibration energy harvesting based on tuned non-linearity and energy localization. <i>Smart Materials and Structures</i> , 2020, 29, 10LT01.	1.8	23
21	Collective dynamics of periodic nonlinear oscillators under simultaneous parametric and external excitations. <i>Nonlinear Dynamics</i> , 2015, 82, 749-766.	2.7	21
22	Nonlinear phenomena in nanomechanical resonators: mechanical behaviors and physical limitations. <i>Mecanique Et Industries</i> , 2010, 11, 521-529.	0.2	20
23	Investigation of modal interactions and their effects on the nonlinear dynamics of a periodic coupled pendulums chain. <i>International Journal of Mechanical Sciences</i> , 2017, 127, 130-141.	3.6	20
24	Electrostatic Actuation to Counterbalance the Manufacturing Defects in a MEMS Mass Detection Sensor Using Mode Localization. <i>Procedia Engineering</i> , 2016, 168, 1488-1491.	1.2	14
25	A nonlinear resonant mass sensor with enhanced sensitivity and resolution incorporating compressed bistable beam. <i>Journal of Applied Physics</i> , 2018, 124, 164503.	1.1	14
26	Modeling and experimental characterization of squeeze film effects in nonlinear capacitive circular microplates. <i>Mechanical Systems and Signal Processing</i> , 2019, 127, 68-88.	4.4	13
27	Computational investigation of high-order mode localization in electrostatically coupled microbeams with distributed electrodes for high sensitivity mass sensing. <i>Mechanical Systems and Signal Processing</i> , 2021, 158, 107781.	4.4	13
28	Design and modeling of a MEMS accelerometer based on coupled mode-localized nonlinear resonators under electrostatic actuation. <i>Communications in Nonlinear Science and Numerical Simulation</i> , 2021, 103, 105960.	1.7	13
29	Robustness Analysis of the Collective Nonlinear Dynamics of a Periodic Coupled Pendulums Chain. <i>Applied Sciences (Switzerland)</i> , 2017, 7, 684.	1.3	9
30	Pendulum-based embedded energy harvester for rotating systems. <i>Mechanical Systems and Signal Processing</i> , 2022, 180, 109415.	4.4	9
31	Investigations of the Effects of Geometric Imperfections on the Nonlinear Static and Dynamic Behavior of Capacitive Micromachined Ultrasonic Transducers. <i>Micromachines</i> , 2018, 9, 575.	1.4	8
32	Implementation of a tunable hybrid system with coupled high $Q$ -factor resonators based on mode localization for sensing purposes. <i>Smart Materials and Structures</i> , 2020, 29, 02LT01.	1.8	8
33	Nonlinear 2-DOFs Vibration Energy Harvester Based on Magnetic Levitation. <i>Conference Proceedings of the Society for Experimental Mechanics</i> , 2015, , 39-45.	0.3	5
34	Mode Veering and Internal Resonance in Mechanically Coupled Nanocantilevers under Electrostatic Actuation. <i>Procedia Engineering</i> , 2016, 168, 924-928.	1.2	5
35	Uncertainty quantification/propagation in nonlinear models. <i>Engineering Computations</i> , 2017, 34, 1082-1106.	0.7	5
36	On the Optimization of a Multimodal Electromagnetic Vibration Energy Harvester Using Mode Localization and Nonlinear Dynamics. <i>Actuators</i> , 2021, 10, 25.	1.2	5

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37	Piezoelectric Actuated Nonlinear Energy Sink With Tunable Attenuation Efficiency. Journal of Applied Mechanics, Transactions ASME, 2020, 87, .	1.1	5
38	On the equivalence between mass perturbation and DC voltage bias in coupled MEMS resonators: Theoretical and experimental investigation. Journal of Applied Physics, 2022, 132, 024502.	1.1	5
39	Nonlinear dynamics of magnetically coupled beams for multi-modal vibration energy harvesting. , 2016, , .		4
40	Towards an Ultra Sensitive Hybrid Mass Sensor Based on Mode Localization without Resonance Tracking. Sensors, 2020, 20, 5295.	2.1	4
41	An asymmetric mode-localized mass sensor based on the electrostatic coupling of different structural modes with distributed electrodes. Nonlinear Dynamics, 2022, 108, 61-79.	2.7	4
42	NONLINEAR DYNAMICS OF A 2D ARRAY OF COUPLED PENDULUMS UNDER PARAMETRIC EXCITATION. , 2015, , .		3
43	Nonlinear dynamics of circular capacitive micromachined ultrasonic transducers. , 2015, , .		2
44	Estimation and correction of the modal damping error involving linear and nonlinear localized dissipation. European Journal of Mechanics, A/Solids, 2017, 66, 296-308.	2.1	2
45	Modal parameter identification of a CMUT membrane using response data only. Mechanics and Industry, 2017, 18, 702.	0.5	2
46	On the Implementation of Mode Localization Between Physical and Digital Resonators. , 2018, , .		2
47	The Effect of the Bending Beam Width Variations on the Discrepancy of the Resulting Quadrature Errors in MEMS Gyroscopes. Micromachines, 2022, 13, 655.	1.4	2
48	Hysteresis Suppression in Nonlinear Mathieu M/NEMS Resonators. , 2009, , .		1
49	Bifurcation topology transfer in nonlinear nanocantilever arrays subject to parametric and internal resonances. MATEC Web of Conferences, 2014, 16, 04004.	0.1	1
50	Multistability and Modal Interactions in Periodic 2D Coupled Pendulums Array. , 2016, , .		1
51	Low cost metamodel for robust design of periodic nonlinear coupled micro-systems. MATEC Web of Conferences, 2016, 83, 05004.	0.1	1
52	Multistability and Bifurcation Topology in Electrostatically Coupled Nanobeams Under Parametric Resonance. , 2017, , .		1
53	Effect of the localization on the response of a quasi-periodic electromagnetic oscillator array for vibration energy harvesting. MATEC Web of Conferences, 2018, 241, 01003.	0.1	1
54	Vibration Energy Localization from Nonlinear Quasi-Periodic Coupled Magnets. Applied Condition Monitoring, 2019, , 121-128.	0.4	1

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55	Experimental characterization of nonlinear static and dynamic behaviors of circular capacitive microplates with initial deflection. <i>Nonlinear Dynamics</i> , 2021, 103, 2329-2343.	2.7	1
56	Nonlinear Dynamics and Its Applications in Nanocantilevers. , 2016, , 81-136.		1
57	Mode Localization in Two Coupled Nearly Identical MEMS Cantilevers for Mass Sensing. , 2019, , .		1
58	Exploiting Nonlinear Dynamics and Energy Localization to Enhance the Performances of an Electromagnetic Vibration Energy Harvester. , 2019, , .		1
59	Optimal design for vibration energy harvesters based on quasi-periodic structures. <i>Physica Scripta</i> , 0, , .	1.2	1
60	Nonlinear dynamics of nanoelectromechanical cantilevers based on nanowire piezoresistive detection. <i>MATEC Web of Conferences</i> , 2012, 1, 04007.	0.1	0
61	Design and modelling of an energy harvester for tire pressure monitoring systems. <i>MATEC Web of Conferences</i> , 2014, 16, 01009.	0.1	0
62	Uncertainties Propagation through Robust Reduced Model. <i>Lecture Notes in Mechanical Engineering</i> , 2015, , 537-544.	0.3	0
63	Robustness Analysis of the Collective Dynamics of Nonlinear Periodic Structures Under Parametric Uncertainty. , 2016, , .		0
64	Nonlinear Static and Dynamic Behavior of an Imperfect Circular Microplate Under Electrostatic Actuation. , 2017, , .		0
65	Optimization of vibration energy localization in quasi-periodic structures. <i>MATEC Web of Conferences</i> , 2018, 241, 01013.	0.1	0
66	Robustness of Nonlinear Electromagnetic Vibration Energy Harvester Subjected to Random Excitation. , 2018, , .		0
67	Effects of Squeeze Film and Initial Deflection on the Resonance Frequencies and Modal Damping of Circular Microplates. , 2018, , .		0
68	Design of a quasi-periodic vibration energy harvester based on an electromagnetic technique. <i>MATEC Web of Conferences</i> , 2018, 241, 01024.	0.1	0
69	High performances low frequency vibration energy harvester with HSLD stiffness. <i>Journal of Physics: Conference Series</i> , 2018, 1052, 012088.	0.3	0
70	High Order Nonlinearities and Mixed Behavior in Micromechanical Resonators. <i>Springer Proceedings in Physics</i> , 2011, , 167-172.	0.1	0
71	Investigating the effects of Silicon etching imperfections on the quadrature error in MEMS gyroscopes. , 2022, , .		0