Junyi Cao

List of Publications by Year
in descending order

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110 papers	4,474 citations	94381 37 h-index	106281 65 g-index
116 all docs	116 docs citations	116 times ranked	2427 citing authors

#	Article	IF	Citations
1	Extended Dynamic Stiffness Model for Analyzing Flexure-Hinge Mechanisms With Lumped Compliance. Journal of Mechanical Design, Transactions of the ASME, 2022, 144, .	1.7	15
2	Enhanced Modeling Method of Asymmetric Nonlinear Magnetic Force for Multi-stable Energy Harvesters. Lecture Notes in Electrical Engineering, 2022, , 554-566.	0.3	0
3	Nonlinear Restoring Force Identification of Strongly Nonlinear Structures by Displacement Measurement. Journal of Vibration and Acoustics, Transactions of the ASME, 2022, 144, .	1.0	6
4	Severity level diagnosis of Parkinsonâ€™s disease by ensemble K-nearest neighbor under imbalanced data. Expert Systems With Applications, 2022, 189, 116113.	4.4	23
5	Design of a high-performance piecewise bi-stable piezoelectric energy harvester. Energy, 2022, 241, 122514.	4.5	8
6	Equivalent Linearization Analysis of Electromagnetic Energy Harvesters Subjected to Gaussian White Noise. Lecture Notes in Electrical Engineering, 2022, , 409-420.	0.3	0
7	Design of a quad-stable piezoelectric energy harvester capable of programming the coordinates of equilibrium points. Nonlinear Dynamics, 2022, 108, 857-871.	2.7	10
8	Possible strategies for performance enhancement of asymmetric potential bistable energy harvesters by orbit jumps. European Physical Journal B, 2022, 95, 1.	0.6	3
9	Enhancing power output of piezoelectric energy harvesting by gradient auxetic structures. Applied Physics Letters, 2022, 120, .	1.5	15
10	Bistable energy harvesting backpack: Design, modeling, and experiments. Energy Conversion and Management, 2022, 259, 115441.	4.4	30
11	Three-phase variable reluctance energy harvesting. Energy Conversion and Management: X, 2022, 14, 100211.	0.9	1
12	An enhanced nonlinear piezoelectric energy harvester with multiple rotating square unit cells. Mechanical Systems and Signal Processing, 2022, 173, 109065.	4.4	25
13	Enhanced variable reluctance energy harvesting for self-powered monitoring. Applied Energy, 2022, 321, 119402.	5.1	9
14	Stochastic analysis of asymmetric monostable harvesters driven by Gaussian white noise with moment differential equations. European Physical Journal Plus, 2021, 136, 1.	1.2	3
15	Approximate Fokkerâ€“Planckâ€“Kolmo-gorov equation analysis for asymmetric multistable energy harvesters excited by white noise. Journal of Statistical Mechanics: Theory and Experiment, 2021, 2021, 023407.	0.9	7
16	Enhanced modeling of nonlinear restoring force in multi-stable energy harvesters. Journal of Sound and Vibration, 2021, 494, 115890.	2.1	31
17	Theoretical modeling and experimental verification of rotational variable reluctance energy harvesters. Energy Conversion and Management, 2021, 233, 113906.	4.4	9
18	Power enhancement of a monostable energy harvester by orbit jumps. Journal of Intelligent Material Systems and Structures, 2021, 32, 2601-2614.	1.4	7

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19	Multi-parameter theoretical analysis of wearable energy harvesting backpacks for performance enhancement. Mechanical Systems and Signal Processing, 2021, 155, 107621.	4.4	18
20	High-energy orbit sliding mode control for nonlinear energy harvesting. Nonlinear Dynamics, 2021, 105, 191-211.	2.7	13
21	Parameter identification of nonlinear bistable piezoelectric structures by two-stage subspace method. Nonlinear Dynamics, 2021, 105, 2157-2172.	2.7	11
22	Accurate identification of Parkinsonâ€™s disease by distinctive features and ensemble decision trees. Biomedical Signal Processing and Control, 2021, 69, 102860.	3.5	9
23	Enhanced swing electromagnetic energy harvesting from human motion. Energy, 2021, 228, 120591.	4.5	54
24	An improved SOC estimation method based on noise-adaptive particle filter for intelligent connected vehicle battery. , 2021, , .		0
25	A Study on Torsional Stiffness of RV Reducer Considering Variable Loads and Tooth Modification. , 2021, , .		0
26	A stacked electromagnetic energy harvester with frequency up-conversion for swing motion. Applied Physics Letters, 2020, 117, .	1.5	36
27	Recent Advances in Human Motion Excited Energy Harvesting Systems for Wearables. Energy Technology, 2020, 8, 2000533.	1.8	61
28	Kinetostatic and Dynamic Modeling of Flexure-Based Compliant Mechanisms: A Survey. Applied Mechanics Reviews, 2020, 72, .	4.5	127
29	Nonlinear Response Identification of an Asymmetric Bistable Harvester Excited at Different Bias Angles by Multiscale Entropy and Recurrence Plot. Journal of Computational and Nonlinear Dynamics, 2020, 15, .	0.7	2
30	Refined Weighted-Permutation Entropy: A Complexity Measure for Human Gait and Physiologic Signals with Outliers and Noise. , 2020, , 223-231.		1
31	Optimal design of a piezo-actuated 2-DOF millimeter-range monolithic flexure mechanism with a pseudo-static model. Mechanical Systems and Signal Processing, 2019, 115, 120-131.	4.4	68
32	Fractional-order model and experimental verification for broadband hysteresis in piezoelectric actuators. Nonlinear Dynamics, 2019, 98, 3143-3153.	2.7	32
33	Probability and output analysis of asymmetric bistable energy harvesters subjected to Gaussian white noise. European Physical Journal Plus, 2019, 134, 1.	1.2	10
34	Damping Characteristic Analysis of an Airflow Energy Harvesting System. Energy Procedia, 2019, 158, 744-748.	1.8	0
35	Kinetostatic and dynamic analyses of planar compliant mechanisms via a two-port dynamic stiffness model. Precision Engineering, 2019, 57, 149-161.	1.8	36
36	Self-Powered Smart Insole for Monitoring Human Gait Signals. Sensors, 2019, 19, 5336.	2.1	24

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37	Design, modeling and experimental verification of circular Halbach electromagnetic energy harvesting from bearing motion. Energy Conversion and Management, 2019, 180, 811-821.	4.4	110
38	A smart harvester for capturing energy from human ankle dorsiflexion with reduced user effort. Smart Materials and Structures, 2019, 28, 015026.	1.8	41
39	Multi-Parameter Coupling Effect of Wearable Energy Harvesting Backpack From Human Motion. , 2019, , .		1
40	Nonlinear Response Identification of an Asymmetric Bistable Harvester Excited at Different Bias Angles by Multiscale Entropy and Recurrence Plot. , 2019, , .		0
41	Kinetostatic modeling of complex compliant mechanisms with serial-parallel substructures: A semi-analytical matrix displacement method. Mechanism and Machine Theory, 2018, 125, 169-184.	2.7	47
42	Development of a multistage compliant mechanism with new boundary constraint. Review of Scientific Instruments, 2018, 89, 015009.	0.6	28
43	Numerical analysis and experimental verification of broadband tristable energy harvesters. TM Technisches Messen, 2018, 85, 521-532.	0.3	35
44	Comparison of harmonic balance and multi-scale method in characterizing the response of monostable energy harvesters. Mechanical Systems and Signal Processing, 2018, 108, 252-261.	4.4	27
45	A semi-analytical modeling method for the static and dynamic analysis of complex compliant mechanism. Precision Engineering, 2018, 52, 64-72.	1.8	39
46	Influence of Bias Angle on Output Performance of Nonlinear Asymmetric Energy Harvesters: Experimental Investigation. , 2018, , .		0
47	Development of self-powered smart bearing for health condition monitoring. , 2018, , .		3
48	Bifurcation, chaotic and hysteresis phenomena of broadband tristable energy harvesters. MATEC Web of Conferences, 2018, 241, 01025.	0.1	1
49	Design, Pseudostatic Model, and PVDF-Based Motion Sensing of a Piezo-Actuated <italic>XYZ</italic> Flexure Manipulator. IEEE/ASME Transactions on Mechatronics, 2018, 23, 2837-2848.	3.7	40
50	Multiple solutions of asymmetric potential bistable energy harvesters: numerical simulation and experimental validation. European Physical Journal B, 2018, 91, 1.	0.6	21
51	Performance of broadband tristable energy harvesters. MATEC Web of Conferences, 2018, 211, 05007.	0.1	0
52	Performance enhancement of nonlinear asymmetric bistable energy harvesting from harmonic, random and human motion excitations. Applied Physics Letters, 2018, 112, .	1.5	63
53	Nonlinear dynamics and performance enhancement of asymmetric potential bistable energy harvesters. Nonlinear Dynamics, 2018, 94, 1183-1194.	2.7	46
54	A Pseudo-Static Model for Dynamic Analysis on Frequency Domain of Distributed Compliant Mechanisms. Journal of Mechanisms and Robotics, 2018, 10, .	1.5	33

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55	Theoretical modeling and experimental verification of circular Halbach electromagnetic energy harvesters for performance enhancement. Smart Materials and Structures, 2018, 27, 095019.	1.8	18
56	A rotational energy harvester for wireless health condition monitoring by utilizing intrinsic structure of bearing. , 2018, , .		0
57	Design and modeling of a flexible longitudinal zigzag structure for enhanced vibration energy harvesting. Journal of Intelligent Material Systems and Structures, 2017, 28, 367-380.	1.4	48
58	Analytical and experimental investigation of flexible longitudinal zigzag structures for enhanced multi-directional energy harvesting. Smart Materials and Structures, 2017, 26, 035008.	1.8	53
59	A new hybrid piezo-actuated compliant mechanism with self-tuned flexure arm. Proceedings of SPIE, 2017, , .	0.8	0
60	Optimum resistance analysis and experimental verification of nonlinear piezoelectric energy harvesting from human motions. Energy, 2017, 118, 221-230.	4.5	92
61	An improved comprehensive SOC prediction method based on adaptive particle filter. , 2017, , .		1
62	Modular kinematics and statics modeling for precision positioning stage. Mechanism and Machine Theory, 2017, 107, 274-282.	2.7	53
63	Magnetic-spring based energy harvesting from human motions: Design, modeling and experiments. Energy Conversion and Management, 2017, 132, 189-197.	4.4	226
64	Multivariate Multiscale Symbolic Entropy Analysis of Human Gait Signals. Entropy, 2017, 19, 557.	1.1	18
65	Power Generation From Human Motion Through Magnetic Spring System. , 2016, , .		0
66	Harmonic balance analysis of nonlinear tristable energy harvesters for performance enhancement. Journal of Sound and Vibration, 2016, 373, 223-235.	2.1	128
67	Two degrees of freedom piezoelectric vibration energy harvester. , 2016, , .		2
68	Theoretical analysis and experimental verification for improving energy harvesting performance of nonlinear monostable energy harvesters. Nonlinear Dynamics, 2016, 86, 1599-1611.	2.7	63
69	Generalized constitutive equations for piezo-actuated compliant mechanism. Smart Materials and Structures, 2016, 25, 095005.	1.8	24
70	Theoretical modeling of attenuated displacement amplification for multistage compliant mechanism and its application. Sensors and Actuators A: Physical, 2016, 249, 15-22.	2.0	58
71	Design and kinematic modeling of a planar piezo-actuated multistage compliant mechanism. , 2016, , .		1
72	Enhanced mathematical modeling of the displacement amplification ratio for piezoelectric compliant mechanisms. Smart Materials and Structures, 2016, 25, 075022.	1.8	132

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73	Nonlinear time-varying potential bistable energy harvesting from human motion. Applied Physics Letters, 2015, 107, .	1.5	124
74	Bistable Energy Harvesting From Human Motion. , 2015, , .		0
75	Nonlinear Dynamic Characteristics of Variable Inclination Magnetically Coupled Piezoelectric Energy Harvesters. Journal of Vibration and Acoustics, Transactions of the ASME, 2015, 137, .	1.0	37
76	Regular and chaotic vibration in a piezoelectric energy harvester with fractional damping. European Physical Journal Plus, 2015, 130, 1.	1.2	35
77	Fractional Order Model of Broadband Piezoelectric Energy Harvesters. , 2015, , .		3
78	Efficient energy harvesting from human motion by tristable piezoelectric cantilever. , 2015, , .		3
79	A Linear-Element Coupled Nonlinear Energy Harvesting System. , 2015, , .		2
80	Modeling and experimental verification of doubly nonlinear magnet-coupled piezoelectric energy harvesting from ambient vibration. Smart Materials and Structures, 2015, 24, 055008.	1.8	62
81	Impact-induced high-energy orbits of nonlinear energy harvesters. Applied Physics Letters, 2015, 106, .	1.5	156
82	Influence of potential well depth on nonlinear tristable energy harvesting. Applied Physics Letters, 2015, 106, .	1.5	158
83	Evaluation strategy of regenerative braking energy for supercapacitor vehicle. ISA Transactions, 2015, 55, 234-240.	3.1	63
84	Chaos in the fractionally damped broadband piezoelectric energy generator. Nonlinear Dynamics, 2015, 80, 1705-1719.	2.7	56
85	Nonlinear Characteristics for Rotatable Magnetically Coupling Piezoelectric Energy Harvesters. , 2014, , .		0
86	Transient Response Control of Two-Mass System via Polynomial Approach. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2014, 136, .	0.9	2
87	Broadband tristable energy harvester: Modeling and experiment verification. Applied Energy, 2014, 133, 33-39.	5.1	474
88	Exploitation of a tristable nonlinear oscillator for improving broadband vibration energy harvesting. EPJ Applied Physics, 2014, 67, 30902.	0.3	61
89	Genetic Algorithm-Based Identification of Fractional-Order Systems. Entropy, 2013, 15, 1624-1642.	1.1	57
90	A Comparison Study of the Model Based SOC Estimation Methods for Lithium-Ion Batteries. , 2013, , .		24

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91	Polynomial-Method-Based Design of Low-Order Controllers for Two-Mass Systems. IEEE Transactions on Industrial Electronics, 2013, 60, 969-978.	5.2	49
92	A new method to estimate the state of charge of lithium-ion batteries based on the battery impedance model. Journal of Power Sources, 2013, 233, 277-284.	4.0	254
93	Enhanced broadband piezoelectric energy harvesting using rotatable magnets. Applied Physics Letters, 2013, 102, .	1.5	297
94	A tacho-less order tracking technique for large speed variations. Mechanical Systems and Signal Processing, 2013, 40, 76-90.	4.4	130
95	Nonlinear Dynamic Analysis of a Cracked Rotor-Bearing System With Fractional Order Damping. Journal of Computational and Nonlinear Dynamics, 2013, 8, .	0.7	16
96	Control of Transient Response via Polynomial Method. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 332-339.	0.4	0
97	Polynomial Control for Air-to-Air Missiles Based on Coefficient Diagram Methods. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 355-361.	0.4	0
98	Piezoelectric cantilevers optimization for vibration energy harvesting. Proceedings of SPIE, 2012, , .	0.8	2
99	Modelling of Broadband Piezoelectric Energy Harvesters. , 2012, , .		0
100	Nonlinear dynamic analysis of fractional order rub-impact rotor system. Communications in Nonlinear Science and Numerical Simulation, 2011, 16, 1443-1463.	1.7	83
101	Nonlinear Dynamic Analysis of a Cracked Rotor-Bearing System With Fractional Order Damping. , 2011, , .		1
102	A Measurement System for Electric Vehicle Powered by Supercapacitors. , 2011, , .		0
103	Fault diagnosis approach based on Volterra models. Mechanical Systems and Signal Processing, 2010, 24, 1099-1113.	4.4	54
104	Robust ESO Two-Degree-of-Freedom Control Design for Permanent Magnet Synchronous Motor. Mathematical Problems in Engineering, 2010, 2010, 1-10.	0.6	4
105	Nonlinear Dynamics of Duffing System With Fractional Order Damping. Journal of Computational and Nonlinear Dynamics, 2010, 5, .	0.7	51
106	Nonlinear Dynamics of Duffing System With Fractional Order Damping. , 2009, , .		0
107	Study on Kinematics Analysis and Mechanism Realization. , 2007, , .		4
108	Nonlinear Feature Fusion Scheme Based on Kernel PCA for Machine Condition Monitoring. , 2007, , .		2

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109	Lithology Recognition During Oil Well Drilling Based on Fuzzy-adaptive Hamming Network. , 2006, , .		2
110	Artificial neural network maximum power point tracker for solar electric vehicle. Tsinghua Science and Technology, 2005, 10, 204-208.	4.1	49