Junyi Cao

List of Publications by Year
in descending order

110 papers	4,474 citations	94269 37 h-index	106150 65 g-index
116 all docs	116 docs citations	116 times ranked	2427 citing authors

#	Article	IF	Citations
1	Broadband tristable energy harvester: Modeling and experiment verification. Applied Energy, 2014, 133, 33-39.	5.1	474
2	Enhanced broadband piezoelectric energy harvesting using rotatable magnets. Applied Physics Letters, 2013, 102, .	1.5	297
3	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
4	Magnetic-spring based energy harvesting from human motions: Design, modeling and experiments. Energy Conversion and Management, 2017, 132, 189-197.	4.4	226
5	Influence of potential well depth on nonlinear tristable energy harvesting. Applied Physics Letters, 2015, 106, .	1.5	158
6	Impact-induced high-energy orbits of nonlinear energy harvesters. Applied Physics Letters, 2015, 106, .	1.5	156
7	Enhanced mathematical modeling of the displacement amplification ratio for piezoelectric compliant mechanisms. Smart Materials and Structures, 2016, 25, 075022.	1.8	132
8	A tacho-less order tracking technique for large speed variations. Mechanical Systems and Signal Processing, 2013, 40, 76-90.	4.4	130
9	Harmonic balance analysis of nonlinear tristable energy harvesters for performance enhancement. Journal of Sound and Vibration, 2016, 373, 223-235.	2.1	128
10	Kinetostatic and Dynamic Modeling of Flexure-Based Compliant Mechanisms: A Survey. Applied Mechanics Reviews, 2020, 72, .	4.5	127
11	Nonlinear time-varying potential bistable energy harvesting from human motion. Applied Physics Letters, 2015, 107, .	1.5	124
12	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
13	Optimum resistance analysis and experimental verification of nonlinear piezoelectric energy harvesting from human motions. Energy, 2017, 118, 221-230.	4.5	92
14	Nonlinear dynamic analysis of fractional order rub-impact rotor system. Communications in Nonlinear Science and Numerical Simulation, 2011, 16, 1443-1463.	1.7	83
15	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
16	Evaluation strategy of regenerative braking energy for supercapacitor vehicle. ISA Transactions, 2015, 55, 234-240.	3.1	63
17	Theoretical analysis and experimental verification for improving energy harvesting performance of nonlinear monostable energy harvesters. Nonlinear Dynamics, 2016, 86, 1599-1611.	2.7	63
18	Performance enhancement of nonlinear asymmetric bistable energy harvesting from harmonic, random and human motion excitations. Applied Physics Letters, 2018, 112, .	1.5	63

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19	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
20	Exploitation of a tristable nonlinear oscillator for improving broadband vibration energy harvesting. EPJ Applied Physics, 2014, 67, 30902.	0.3	61
21	Recent Advances in Human Motion Excited Energy Harvesting Systems for Wearables. Energy Technology, 2020, 8, 2000533.	1.8	61
22	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
23	Genetic Algorithm-Based Identification of Fractional-Order Systems. Entropy, 2013, 15, 1624-1642.	1.1	57
24	Chaos in the fractionally damped broadband piezoelectric energy generator. Nonlinear Dynamics, 2015, 80, 1705-1719.	2.7	56
25	Fault diagnosis approach based on Volterra models. Mechanical Systems and Signal Processing, 2010, 24, 1099-1113.	4.4	54
26	Enhanced swing electromagnetic energy harvesting from human motion. Energy, 2021, 228, 120591.	4.5	54
27	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
28	Modular kinematics and statics modeling for precision positioning stage. Mechanism and Machine Theory, 2017, 107, 274-282.	2.7	53
29	Nonlinear Dynamics of Duffing System With Fractional Order Damping. Journal of Computational and Nonlinear Dynamics, 2010, 5, .	0.7	51
30	Artificial neural network maximum power point tracker for solar electric vehicle. Tsinghua Science and Technology, 2005, 10, 204-208.	4.1	49
31	Polynomial-Method-Based Design of Low-Order Controllers for Two-Mass Systems. IEEE Transactions on Industrial Electronics, 2013, 60, 969-978.	5.2	49
32	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
33	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
34	Nonlinear dynamics and performance enhancement of asymmetric potential bistable energy harvesters. Nonlinear Dynamics, 2018, 94, 1183-1194.	2.7	46
35	A smart harvester for capturing energy from human ankle dorsiflexion with reduced user effort. Smart Materials and Structures, 2019, 28, 015026.	1.8	41
36	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

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37	A semi-analytical modeling method for the static and dynamic analysis of complex compliant mechanism. Precision Engineering, 2018, 52, 64-72.	1.8	39
38	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
39	Kinetostatic and dynamic analyses of planar compliant mechanisms via a two-port dynamic stiffness model. Precision Engineering, 2019, 57, 149-161.	1.8	36
40	A stacked electromagnetic energy harvester with frequency up-conversion for swing motion. Applied Physics Letters, 2020, 117, .	1.5	36
41	Regular and chaotic vibration in a piezoelectric energy harvester with fractional damping. European Physical Journal Plus, 2015, 130, 1.	1.2	35
42	Numerical analysis and experimental verification of broadband tristable energy harvesters. TM Technisches Messen, 2018, 85, 521-532.	0.3	35
43	A Pseudo-Static Model for Dynamic Analysis on Frequency Domain of Distributed Compliant Mechanisms. Journal of Mechanisms and Robotics, 2018, 10, .	1.5	33
44	Fractional-order model and experimental verification for broadband hysteresis in piezoelectric actuators. Nonlinear Dynamics, 2019, 98, 3143-3153.	2.7	32
45	Enhanced modeling of nonlinear restoring force in multi-stable energy harvesters. Journal of Sound and Vibration, 2021, 494, 115890.	2.1	31
46	Bistable energy harvesting backpack: Design, modeling, and experiments. Energy Conversion and Management, 2022, 259, 115441.	4.4	30
47	Development of a multistage compliant mechanism with new boundary constraint. Review of Scientific Instruments, 2018, 89, 015009.	0.6	28
48	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
49	An enhanced nonlinear piezoelectric energy harvester with multiple rotating square unit cells. Mechanical Systems and Signal Processing, 2022, 173, 109065.	4.4	25
50	A Comparison Study of the Model Based SOC Estimation Methods for Lithium-Ion Batteries. , 2013, , .		24
51	Generalized constitutive equations for piezo-actuated compliant mechanism. Smart Materials and Structures, 2016, 25, 095005.	1.8	24
52	Self-Powered Smart Insole for Monitoring Human Gait Signals. Sensors, 2019, 19, 5336.	2.1	24
53	Severity level diagnosis of Parkinson's disease by ensemble K-nearest neighbor under imbalanced data. Expert Systems With Applications, 2022, 189, 116113.	4.4	23
54	Multiple solutions of asymmetric potential bistable energy harvesters: numerical simulation and experimental validation. European Physical Journal B, 2018, 91, 1.	0.6	21

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55	Multivariate Multiscale Symbolic Entropy Analysis of Human Gait Signals. Entropy, 2017, 19, 557.	1.1	18
56	Theoretical modeling and experimental verification of circular Halbach electromagnetic energy harvesters for performance enhancement. Smart Materials and Structures, 2018, 27, 095019.	1.8	18
57	Multi-parameter theoretical analysis of wearable energy harvesting backpacks for performance enhancement. Mechanical Systems and Signal Processing, 2021, 155, 107621.	4.4	18
58	Nonlinear Dynamic Analysis of a Cracked Rotor-Bearing System With Fractional Order Damping. Journal of Computational and Nonlinear Dynamics, 2013, 8, .	0.7	16
59	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
60	Enhancing power output of piezoelectric energy harvesting by gradient auxetic structures. Applied Physics Letters, 2022, 120, .	1.5	15
61	High-energy orbit sliding mode control for nonlinear energy harvesting. Nonlinear Dynamics, 2021, 105, 191-211.	2.7	13
62	Parameter identification of nonlinear bistable piezoelectric structures by two-stage subspace method. Nonlinear Dynamics, 2021, 105, 2157-2172.	2.7	11
63	Probability and output analysis of asymmetric bistable energy harvesters subjected to Gaussian white noise. European Physical Journal Plus, 2019, 134, 1.	1.2	10
64	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
65	Theoretical modeling and experimental verification of rotational variable reluctance energy harvesters. Energy Conversion and Management, 2021, 233, 113906.	4.4	9
66	Accurate identification of Parkinson's disease by distinctive features and ensemble decision trees. Biomedical Signal Processing and Control, 2021, 69, 102860.	3.5	9
67	Enhanced variable reluctance energy harvesting for self-powered monitoring. Applied Energy, 2022, 321, 119402.	5.1	9
68	Design of a high-performance piecewise bi-stable piezoelectric energy harvester. Energy, 2022, 241, 122514.	4.5	8
69	Approximate Fokker–Planck–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
70	Power enhancement of a monostable energy harvester by orbit jumps. Journal of Intelligent Material Systems and Structures, 2021, 32, 2601-2614.	1.4	7
71	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
72	Study on Kinematics Analysis and Mechanism Realization. , 2007, , .		4

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73	Robust ESO Two-Degree-of-Freedom Control Design for Permanent Magnet Synchronous Motor. Mathematical Problems in Engineering, 2010, 2010, 1-10.	0.6	4
74	Fractional Order Model of Broadband Piezoelectric Energy Harvesters. , 2015, , .		3
75	Efficient energy harvesting from human motion by tristable piezoelectric cantilever. , 2015, , .		3
76	Development of self-powered smart bearing for health condition monitoring. , 2018, , .		3
77	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
78	Possible strategies for performance enhancement of asymmetric potential bistable energy harvesters by orbit jumps. European Physical Journal B, 2022, 95, 1.	0.6	3
79	Lithology Recognition During Oil Well Drilling Based on Fuzzy-adaptive Hamming Network. , 2006, , .		2
80	Nonlinear Feature Fusion Scheme Based on Kernel PCA for Machine Condition Monitoring. , 2007, , .		2
81	Piezoelectric cantilevers optimization for vibration energy harvesting. Proceedings of SPIE, 2012, , .	0.8	2
82	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
83	A Linear-Element Coupled Nonlinear Energy Harvesting System. , 2015, , .		2
84	Two degrees of freedom piezoelectric vibration energy harvester. , 2016, , .		2
85	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
86	Nonlinear Dynamic Analysis of a Cracked Rotor-Bearing System With Fractional Order Damping. , 2011, , .		1
87	Design and kinematic modeling of a planar piezo-actuated multistage compliant mechanism. , 2016, , .		1
88	An improved comprehensive SOC prediction method based on adaptive particle filter. , 2017, , .		1
89	Bifurcation, chaotic and hysteresis phenomena of broadband tristable energy harvesters. MATEC Web of Conferences, 2018, 241, 01025.	0.1	1
90	Multi-Parameter Coupling Effect of Wearable Energy Harvesting Backpack From Human Motion. , 2019, , .		1

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91	Refined Weighted-Permutation Entropy: A Complexity Measure for Human Gait and Physiologic Signals with Outliers and Noise. , 2020, , 223-231.		1
92	Three-phase variable reluctance energy harvesting. Energy Conversion and Management: X, 2022, 14, 100211.	0.9	1
93	Nonlinear Dynamics of Duffing System With Fractional Order Damping. , 2009, , .		0
94	Modelling of Broadband Piezoelectric Energy Harvesters. , 2012, , .		0
95	Control of Transient Response via Polynomial Method. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 332-339.	0.4	0
96	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
97	Nonlinear Characteristics for Rotatable Magnetically Coupling Piezoelectric Energy Harvesters. , 2014, , .		0
98	Bistable Energy Harvesting From Human Motion. , 2015, , .		0
99	Power Generation From Human Motion Through Magnetic Spring System. , 2016, , .		0
100	A new hybrid piezo-actuated compliant mechanism with self-tuned flexure arm. Proceedings of SPIE, 2017, , .	0.8	0
101	Influence of Bias Angle on Output Performance of Nonlinear Asymmetric Energy Harvesters: Experimental Investigation. , 2018, , .		0
102	Performance of broadband tristable energy harvesters. MATEC Web of Conferences, 2018, 211, 05007.	0.1	0
103	Damping Characteristic Analysis of an Airflow Energy Harvesting System. Energy Procedia, 2019, 158, 744-748.	1.8	0
104	Enhanced Modeling Method of Asymmetric Nonlinear Magnetic Force for Multi-stable Energy Harvesters. Lecture Notes in Electrical Engineering, 2022, , 554-566.	0.3	0
105	A Measurement System for Electric Vehicle Powered by Supercapacitors. , 2011, , .		0
106	A rotational energy harvester for wireless health condition monitoring by utilizing intrinsic structure of bearing. , 2018, , .		0
107	Nonlinear Response Identification of an Asymmetric Bistable Harvester Excited at Different Bias Angles by Multiscale Entropy and Recurrence Plot. , 2019, , .		0
108	An improved SOC estimation method based on noise-adaptive particle filter for intelligent connected vehicle battery. , 2021, , .		0

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109	A Study on Torsional Stiffness of RV Reducer Considering Variable Loads and Tooth Modification. , 2021, , .		0
110	Equivalent Linearization Analysis of Electromagnetic Energy Harvesters Subjected to Gaussian White Noise. Lecture Notes in Electrical Engineering, 2022, , 409-420.	0.3	0