Shengxi Zhou

List of Publications by Year
in descending order

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114 papers	6,642 citations	71102 41 h-index	64796 79 g-index
115 all docs	115 docs citations	115 times ranked	2505 citing authors

#	Article	IF	Citations
1	High-Performance Piezoelectric Energy Harvesters and Their Applications. Joule, 2018, 2, 642-697.	24.0	803
2	Broadband tristable energy harvester: Modeling and experiment verification. Applied Energy, 2014, 133, 33-39.	10.1	474
3	High-performance piezoelectric wind energy harvester with Y-shaped attachments. Energy Conversion and Management, 2019, 181, 645-652.	9.2	388
4	Nonlinear dynamic analysis of asymmetric tristable energy harvesters for enhanced energy harvesting. Communications in Nonlinear Science and Numerical Simulation, 2018, 61, 271-284.	3.3	356
5	Enhanced broadband piezoelectric energy harvesting using rotatable magnets. Applied Physics Letters, 2013, 102, .	3.3	297
6	Damage detection techniques for wind turbine blades: A review. Mechanical Systems and Signal Processing, 2020, 141, 106445.	8.0	198
7	Rotational energy harvesting for self-powered sensing. Joule, 2021, 5, 1074-1118.	24.0	172
8	Influence of potential well depth on nonlinear tristable energy harvesting. Applied Physics Letters, 2015, 106, .	3.3	158
9	Impact-induced high-energy orbits of nonlinear energy harvesters. Applied Physics Letters, 2015, 106, .	3.3	156
10	Multistability phenomenon in signal processing, energy harvesting, composite structures, and metamaterials: A review. Mechanical Systems and Signal Processing, 2022, 166, 108419.	8.0	136
11	Harmonic balance analysis of nonlinear tristable energy harvesters for performance enhancement. Journal of Sound and Vibration, 2016, 373, 223-235.	3.9	128
12	Nonlinear time-varying potential bistable energy harvesting from human motion. Applied Physics Letters, 2015, 107, .	3.3	124
13	Theoretical analysis of multi-stable energy harvesters with high-order stiffness terms. Communications in Nonlinear Science and Numerical Simulation, 2019, 69, 270-286.	3.3	111
14	Design, modeling and experiments of broadband tristable galloping piezoelectric energy harvester. Acta Mechanica Sinica/Lixue Xuebao, 2020, 36, 592-605.	3.4	110
15	A review of flow-induced vibration energy harvesters. Energy Conversion and Management, 2022, 254, 115223.	9.2	106
16	A low-frequency rotational electromagnetic energy harvester using a magnetic plucking mechanism. Applied Energy, 2022, 305, 117838.	10.1	103
17	Nonlinear vibration energy harvesting and vibration suppression technologies: Designs, analysis, and applications. Applied Physics Reviews, 2021, 8, .	11.3	95
18	Optimum resistance analysis and experimental verification of nonlinear piezoelectric energy harvesting from human motions. Energy, 2017, 118, 221-230.	8.8	92

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19	Multistable vibration energy harvesters: Principle, progress, and perspectives. Journal of Sound and Vibration, 2022, 528, 116886.	3.9	92
20	Dual serial vortex-induced energy harvesting system for enhanced energy harvesting. AIP Advances, 2018, 8, .	1.3	89
21	Analytical analysis of the vibrational tristable energy harvester with a RL resonant circuit. Nonlinear Dynamics, 2019, 97, 663-677.	5.2	82
22	Exploiting the advantages of the centrifugal softening effect in rotational impact energy harvesting. Applied Physics Letters, 2020, 116, .	3.3	82
23	A tri-stable energy harvester in rotational motion: Modeling, theoretical analyses and experiments. Journal of Sound and Vibration, 2020, 469, 115142.	3.9	80
24	Enhancing energy harvesting in low-frequency rotational motion by a quad-stable energy harvester with time-varying potential wells. Mechanical Systems and Signal Processing, 2021, 148, 107167.	8.0	80
25	Design, simulation and experiment of a novel high efficiency energy harvesting paver. Applied Energy, 2018, 212, 966-975.	10.1	79
26	Comprehensive theoretical and experimental investigation of the rotational impact energy harvester with the centrifugal softening effect. Nonlinear Dynamics, 2020, 101, 123-152.	5.2	68
27	Characterizing nonlinear characteristics of asymmetric tristable energy harvesters. Mechanical Systems and Signal Processing, 2022, 168, 108612.	8.0	67
28	Scavenging vibrational energy with a novel bistable electromagnetic energy harvester. Smart Materials and Structures, 2020, 29, 025022.	3.5	64
29	Theoretical analysis and experimental verification for improving energy harvesting performance of nonlinear monostable energy harvesters. Nonlinear Dynamics, 2016, 86, 1599-1611.	5.2	63
30	Modeling and experimental verification of doubly nonlinear magnet-coupled piezoelectric energy harvesting from ambient vibration. Smart Materials and Structures, 2015, 24, 055008.	3.5	62
31	Tuned bistable nonlinear energy sink for simultaneously improved vibration suppression and energy harvesting. International Journal of Mechanical Sciences, 2021, 212, 106838.	6.7	62
32	Exploitation of a tristable nonlinear oscillator for improving broadband vibration energy harvesting. EPJ Applied Physics, 2014, 67, 30902.	0.7	61
33	Genetic Algorithm-Based Identification of Fractional-Order Systems. Entropy, 2013, 15, 1624-1642.	2.2	57
34	Analytical and experimental investigation of the centrifugal softening and stiffening effects in rotational energy harvesting. Journal of Sound and Vibration, 2020, 488, 115643.	3.9	57
35	Chaos in the fractionally damped broadband piezoelectric energy generator. Nonlinear Dynamics, 2015, 80, 1705-1719.	5.2	56
36	Analytical and experimental investigation of flexible longitudinal zigzag structures for enhanced multi-directional energy harvesting. Smart Materials and Structures, 2017, 26, 035008.	3.5	53

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37	Nonlinear Analysis of the Tristable Energy Harvester with a Resonant Circuit for Performance Enhancement. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2018, 28, 1850092.	1.7	52
38	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.	2.5	48
39	Approximate solutions and their stability of a broadband piezoelectric energy harvester with a tunable potential function. Communications in Nonlinear Science and Numerical Simulation, 2020, 80, 104984.	3.3	46
40	High-performance low-frequency bistable vibration energy harvesting plate with tip mass blocks. Energy, 2019, 180, 737-750.	8.8	44
41	Coupling mechanical and electrical nonlinearities: The effect of synchronized discharging on tristable energy harvesters. Applied Energy, 2020, 266, 114516.	10.1	44
42	The benefits of an asymmetric tri-stable energy harvester in low-frequency rotational motion. Applied Physics Express, 2019, 12, 057002.	2.4	39
43	Resonance Mechanism of Nonlinear Vibrational Multistable Energy Harvesters under Narrow-Band Stochastic Parametric Excitations. Complexity, 2019, 2019, 1-20.	1.6	39
44	A passively self-tuning nonlinear energy harvester in rotational motion: theoretical and experimental investigation. Smart Materials and Structures, 2020, 29, 045033.	3.5	39
45	Response regimes of nonlinear energy harvesters with a resistor-inductor resonant circuit by complexification-averaging method. Science China Technological Sciences, 2021, 64, 1212-1227.	4.0	39
46	Nonlinear Dynamic Characteristics of Variable Inclination Magnetically Coupled Piezoelectric Energy Harvesters. Journal of Vibration and Acoustics, Transactions of the ASME, 2015, 137, .	1.6	37
47	Regular and chaotic vibration in a piezoelectric energy harvester with fractional damping. European Physical Journal Plus, 2015, 130, 1.	2.6	35
48	Numerical analysis and experimental verification of broadband tristable energy harvesters. TM Technisches Messen, 2018, 85, 521-532.	0.7	35
49	Online wear characterisation of rolling element bearing using wear particle morphological features. Wear, 2019, 430-431, 369-375.	3.1	35
50	Performance enhancement for a magnetic-coupled bi-stable flutter-based energy harvester. Smart Materials and Structures, 2020, 29, 085045.	3.5	35
51	A Novel Nonlinear Piezoelectric Energy Harvesting System Based on Linear-Element Coupling: Design, Modeling and Dynamic Analysis. Sensors, 2018, 18, 1492.	3.8	34
52	Compact Acoustic Rainbow Trapping in a Bioinspired Spiral Array of Graded Locally Resonant Metamaterials. Sensors, 2019, 19, 788.	3.8	34
53	Nonlinear magnetic-coupled flutter-based aeroelastic energy harvester: modeling, simulation and experimental verification. Smart Materials and Structures, 2019, 28, 015020.	3.5	32
54	Modeling and analysis of a three-degree-of-freedom piezoelectric vibration energy harvester for broadening bandwidth. Mechanical Systems and Signal Processing, 2022, 176, 109169.	8.0	32

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55	Multiple Solutions of the Tristable Energy Harvester. Energies, 2021, 14, 1284.	3.1	29
56	On the analysis of the tristable vibration isolation system with delayed feedback control under parametric excitation. Mechanical Systems and Signal Processing, 2022, 164, 108207.	8.0	29
57	A novel electromagnetic energy harvester based on the bending of the sole. Applied Energy, 2022, 314, 119000.	10.1	27
58	Recent progress on flutterâ€based wind energy harvesting. International Journal of Mechanical System Dynamics, 2022, 2, 82-98.	2.8	25
59	Theoretical modeling and experimental validation of the centrifugal softening effect for high-efficiency energy harvesting in ultralow-frequency rotational motion. Mechanical Systems and Signal Processing, 2021, 152, 107424.	8.0	24
60	A piezoelectricâ€“electromagnetic hybrid flutter-based wind energy harvester: Modeling and nonlinear analysis. International Journal of Non-Linear Mechanics, 2022, 144, 104051.	2.6	23
61	A cantilever-driven rotor for efficient vibration energy harvesting. Energy, 2021, 235, 121326.	8.8	21
62	Stochastic and deterministic responses of an asymmetric quad-stable energy harvester. Mechanical Systems and Signal Processing, 2022, 168, 108672.	8.0	21
63	Multistage oscillators for ultra-low frequency vibration isolation and energy harvesting. Science China Technological Sciences, 2022, 65, 631-645.	4.0	21
64	Response analysis of the nonlinear vibration energy harvester with an uncertain parameter. Proceedings of the Institution of Mechanical Engineers, Part K: Journal of Multi-body Dynamics, 2020, 234, 393-407.	0.8	20
65	Broadband energy harvester for low-frequency rotations utilizing centrifugal softening piezoelectric beam array. Energy, 2022, 241, 122833.	8.8	20
66	Wideband energy harvesting using nonlinear energy sink with bio-inspired hexagonal skeleton structure. Communications in Nonlinear Science and Numerical Simulation, 2022, 111, 106465.	3.3	20
67	A review of nonlinear piezoelectric energy harvesting interface circuits in discrete components. Applied Mathematics and Mechanics (English Edition), 2022, 43, 1001-1026.	3.6	20
68	Stochastic resonance energy harvesting for a rotating shaft subject to random and periodic vibrations: influence of potential function asymmetry and frequency sweep. Smart Materials and Structures, 2017, 26, 115011.	3.5	19
69	Combining magnet-induced nonlinearity and centrifugal softening effect to realize high-efficiency energy harvesting in ultralow-frequency rotation. Journal of Sound and Vibration, 2021, 505, 116146.	3.9	19
70	An ultralight phononic beam with a broad low-frequency band gap using the complex lattice of acoustic black holes. Applied Physics Express, 2019, 12, 077002.	2.4	18
71	Nonlinear vibration mitigation of a craneâ€™s payload using pendulum absorber. Mechanical Systems and Signal Processing, 2021, 156, 107558.	8.0	18
72	A magnetically coupled nonlinear T-shaped piezoelectric energy harvester with internal resonance. Smart Materials and Structures, 2019, 28, 11LT01.	3.5	17

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73	Tailoring multistable vibrational energy harvesters for enhanced performance: theory and numerical investigation. Nonlinear Dynamics, 2019, 96, 1283-1301.	5.2	17
74	Electromagnetic Energy Harvester for Vibration Control of Space Rack: Modeling, Optimization, and Analysis. Journal of Aerospace Engineering, 2019, 32, .	1.4	17
75	Remaining useful life prediction of lubricating oil with dynamic principal component analysis and proportional hazards model. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2020, 234, 964-971.	1.8	17
76	Exploring coupled electromechanical nonlinearities for broadband energy harvesting from low-frequency rotational sources. Smart Materials and Structures, 2019, 28, 075001.	3.5	16
77	Automated Product Boundary Defect Detection Based on Image Moment Feature Anomaly. IEEE Access, 2019, 7, 52731-52742.	4.2	15
78	Dynamic response mechanism of the galloping energy harvester under fluctuating wind conditions. Mechanical Systems and Signal Processing, 2022, 166, 108410.	8.0	15
79	Hybrid hysteresis modeling and inverse model compensation of piezoelectric actuators. Smart Materials and Structures, 2019, 28, 115038.	3.5	14
80	Uncertainty Analysis of Bistable Vibration Energy Harvesters Based on the Improved Interval Extension. Journal of Vibration Engineering and Technologies, 2020, 8, 297-306.	2.2	14
81	Achieving high-speed rotations with a semi-flexible rotor driven by ultralow-frequency vibrations. Applied Physics Letters, 2020, 117, .	3.3	14
82	On the stochastic response regimes of a tristable viscoelastic isolation system under delayed feedback control. Science China Technological Sciences, 2021, 64, 858-868.	4.0	13
83	Enhancing Wind Energy Harvesting Using Passive Turbulence Control Devices. Applied Sciences (Switzerland), 2019, 9, 998.	2.5	12
84	Hybridizing piezoelectric and electromagnetic mechanisms with dynamic bistability for enhancing low-frequency rotational energy harvesting. Applied Physics Letters, 2021, 119, .	3.3	12
85	A centrifugal softening impact energy harvester with the bistability using flextensional transducers for low rotational speeds. Smart Materials and Structures, 2020, 29, 115024.	3.5	11
86	Uncertainty Analysis of Excitation Conditions on Performance of Nonlinear Monostable Energy Harvesters. International Journal of Structural Stability and Dynamics, 2019, 19, 1950052.	2.4	10
87	Improving the off-resonance energy harvesting performance using dynamic magnetic preloading. Acta Mechanica Sinica/Lixue Xuebao, 2020, 36, 624-634.	3.4	10
88	Non-uniform illumination image enhancement for surface damage detection of wind turbine blades. Mechanical Systems and Signal Processing, 2022, 170, 108797.	8.0	10
89	The benefits of a magnetically coupled asymmetric monostable dual-cantilever energy harvester under random excitation. Journal of Intelligent Material Systems and Structures, 2019, 30, 3136-3145.	2.5	9
90	Robust design optimization of a nonlinear monostable energy harvester with uncertainties. Meccanica, 2020, 55, 1753-1762.	2.0	8

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91	Probability analysis of asymmetric tristable energy harvesters. AIP Advances, 2018, 8, .	1.3	7
92	Theoretical analysis of vibration energy harvesters with nonlinear damping and nonlinear stiffness. European Physical Journal Plus, 2018, 133, 1.	2.6	6
93	Design, modeling, and experiment of a multi-bifurcated cantilever piezoelectric energy harvester. Journal of Intelligent Material Systems and Structures, 2021, 32, 2403-2419.	2.5	4
94	Parameter estimation for a damped real-valued sinusoid in noise. Review of Scientific Instruments, 2021, 92, 085103.	1.3	4
95	Energy harvesting efficiency of a quasi-zero stiffness energy harvester. European Physical Journal: Special Topics, 2022, 231, 1557-1565.	2.6	4
96	The effect of centrifugal force on the dynamic performance of beam-type rotational energy harvesters. European Physical Journal: Special Topics, 2022, 231, 1383-1392.	2.6	4
97	Wide Bandwidth Wind-Induced Vibration Energy Harvester with an Angle Section Head. International Journal of Applied Mechanics, 2022, 14, .	2.2	4
98	Disturbance rejection and performance enhancement of perturbed tri-stable energy harvesters by adaptive finite-time disturbance observer. Acta Mechanica Sinica/Lixue Xuebao, 2022, 38, .	3.4	4
99	Tunable multi-source energy harvesting via frequency selective structures. Engineering Research Express, 2019, 1, 015001.	1.6	3
100	Vibration suppression of a viscoelastic isolation system by nonlinear integral resonant controller. JVC/Journal of Vibration and Control, 2019, 25, 1599-1613.	2.6	3
101	Piezoelectric cantilevers optimization for vibration energy harvesting. Proceedings of SPIE, 2012, , .	0.8	2
102	A Linear-Element Coupled Nonlinear Energy Harvesting System. , 2015, , .		2
103	Two degrees of freedom piezoelectric vibration energy harvester. , 2016, , .		2
104	Tristable Energy Harvesters With Asymmetric Potential Wells: Analytical Study. , 2017, , .		2
105	Bifurcation, chaotic and hysteresis phenomena of broadband tristable energy harvesters. MATEC Web of Conferences, 2018, 241, 01025.	0.2	1
106	A quad-stable piezoelectric energy harvester for enhancing energy harvesting from rotational motion: Theoretical model and experiments. IOP Conference Series: Materials Science and Engineering, 2019, 531, 012010.	0.6	1
107	The Centrifugal Softening Effect of an Inverse Nonlinear Energy Harvester in Low-frequency Rotational Motion for Enhancing Performance. , 2019, , .		1
108	Transient and Harmonic Unipolar Hysteresis Model of Piezoelectric Actuators Using a System-Level Approach. Applied Sciences (Switzerland), 2020, 10, 7268.	2.5	1

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109	Energy harvesting efficiency of a quasi-zero stiffness system. AIP Conference Proceedings, 2022, , .	0.4	1
110	Theoretical and experimental investigations of multibifurcated piezoelectric energy harvesters with coupled bending and torsional vibrations. Acta Mechanica Sinica/Lixue Xuebao, 2022, 38, .	3.4	1
111	Bistable Energy Harvesting From Human Motion. , 2015, , .		0
112	Performance of broadband tristable energy harvesters. MATEC Web of Conferences, 2018, 211, 05007.	0.2	0
113	Theoretical and Experimental Investigation of a Multi-stable Energy Harvester for Rotation Motion. Journal of Physics: Conference Series, 2019, 1407, 012130.	0.4	0
114	Exploiting dynamic interaction of magnets to enhance off-resonance energy harvesting performance. , 2018, , .		0