Zhengbao Yang

List of Publications by Year
in descending order

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Version: 2024-02-01

85 papers	5,020 citations	109264 35 h-index	91828 69 g-index
86 all docs	86 docs citations	86 times ranked	3451 citing authors

#	Article	IF	Citations
1	A droplet-based electricity generator with high instantaneous power density. Nature, 2020, 578, 392-396.	13.7	871
2	High-Performance Piezoelectric Energy Harvesters and Their Applications. Joule, 2018, 2, 642-697.	11.7	803
3	Soft magnetic skin for super-resolution tactile sensing with force self-decoupling. Science Robotics, 2021, 6, .	9.9	205
4	Free vibration analysis of rotating cylindrical shells coupled with moderately thick annular plates. International Journal of Mechanical Sciences, 2018, 142-143, 127-139.	3.6	169
5	Skinâ€Inspired Piezoelectric Tactile Sensor Array with Crosstalkâ€Free Row+Column Electrodes for Spatiotemporally Distinguishing Diverse Stimuli. Advanced Science, 2021, 8, 2002817.	5.6	161
6	Comparison of PZN-PT, PMN-PT single crystals and PZT ceramic for vibration energy harvesting. Energy Conversion and Management, 2016, 122, 321-329.	4.4	144
7	On the efficiency of piezoelectric energy harvesters. Extreme Mechanics Letters, 2017, 15, 26-37.	2.0	141
8	SLIPS-TENG: robust triboelectric nanogenerator with optical and charge transparency using a slippery interface. National Science Review, 2019, 6, 540-550.	4.6	110
9	A hybrid piezoelectric-triboelectric generator for low-frequency and broad-bandwidth energy harvesting. Energy Conversion and Management, 2018, 174, 188-197.	4.4	104
10	Investigation of frequency-up conversion effect on the performance improvement of stack-based piezoelectric generators. Renewable Energy, 2021, 172, 551-563.	4.3	101
11	High-efficiency compressive-mode energy harvester enhanced by a multi-stage force amplification mechanism. Energy Conversion and Management, 2014, 88, 829-833.	4.4	99
12	Highly anisotropic and flexible piezoceramic kirigami for preventing joint disorders. Science Advances, 2021, 7, .	4.7	88
13	Introducing arc-shaped piezoelectric elements into energy harvesters. Energy Conversion and Management, 2017, 148, 260-266.	4.4	86
14	Batteryâ€Less Soft Millirobot That Can Move, Sense, and Communicate Remotely by Coupling the Magnetic and Piezoelectric Effects. Advanced Science, 2020, 7, 2000069.	5.6	73
15	Performance comparison of electromagnetic energy harvesters based on magnet arrays of alternating polarity and configuration. Energy Conversion and Management, 2019, 179, 132-140.	4.4	72
16	Coâ€assembled Monolayers as Holeâ€Selective Contact for Highâ€Performance Inverted Perovskite Solar Cells with Optimized Recombination Loss and Longâ€Term Stability. Angewandte Chemie - International Edition, 2022, 61, .	7.2	66
17	An auxetic nonlinear piezoelectric energy harvester for enhancing efficiency and bandwidth. Applied Energy, 2021, 298, 117274.	5.1	65
18	Nonlinear vibrations of moving functionally graded plates containing porosities and contacting with liquid: internal resonance. Nonlinear Dynamics, 2017, 90, 1461-1480.	2.7	62

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19	Energy harvesting for jet engine monitoring. Nano Energy, 2020, 75, 104853.	8.2	62
20	Theoretical and experimental investigation of a nonlinear compressive-mode energy harvester with high power output under weak excitations. Smart Materials and Structures, 2015, 24, 025028.	1.8	60
21	Toward Harvesting Vibration Energy from Multiple Directions by a Nonlinear Compressive-Mode Piezoelectric Transducer. IEEE/ASME Transactions on Mechatronics, 2016, 21, 1787-1791.	3.7	59
22	A multi-impact frequency up-converted magnetostrictive transducer for harvesting energy from finger tapping. International Journal of Mechanical Sciences, 2017, 126, 235-241.	3.6	58
23	Recent Advances towards Ocean Energy Harvesting and Selfâ€Powered Applications Based on Triboelectric Nanogenerators. Advanced Electronic Materials, 2021, 7, 2100277.	2.6	58
24	RF Energy Harvesting for Batteryless and Maintenance-Free Condition Monitoring of Railway Tracks. IEEE Internet of Things Journal, 2021, 8, 3512-3523.	5.5	50
25	Hierarchically Interconnected Piezoceramic Textile with a Balanced Performance in Piezoelectricity, Flexibility, Toughness, and Air Permeability. Advanced Functional Materials, 2021, 31, 2104737.	7.8	49
26	Droplet energy harvesting panel. Energy and Environmental Science, 2022, 15, 2916-2926.	15.6	47
27	Toward a 0.33â€W piezoelectric and electromagnetic hybrid energy harvester: Design, experimental studies and self-powered applications. Applied Energy, 2019, 255, 113805.	5.1	45
28	Bubble energy generator. Science Advances, 2022, 8, .	4.7	44
29	A distributed-parameter electromechanical coupling model for a segmented arc-shaped piezoelectric energy harvester. Mechanical Systems and Signal Processing, 2021, 146, 107005.	4.4	43
30	Capturing Flow Energy from Ocean and Wind. Energies, 2019, 12, 2184.	1.6	41
31	Surface acoustic wave NO2 sensors utilizing colloidal SnS quantum dot thin films. Surface and Coatings Technology, 2019, 362, 78-83.	2.2	41
32	Instantaneous peak 2.1 W-level hybrid energy harvesting from human motions for self-charging battery-powered electronics. Nano Energy, 2021, 81, 105629.	8.2	41
33	A leaf-mimic rain energy harvester by liquid-solid contact electrification and piezoelectricity. Nano Energy, 2021, 90, 106573.	8.2	40
34	Woodpecker-mimic two-layer band energy harvester with a piezoelectric array for powering wrist-worn wearables. Nano Energy, 2021, 89, 106385.	8.2	38
35	Modeling and experimental validation of a buckled compressive-mode piezoelectric energy harvester. Nonlinear Dynamics, 2018, 92, 1761-1780.	2.7	37
36	Reversible Nonlinear Energy Harvester Tuned by Tilting and Enhanced by Nonlinear Circuits. IEEE/ASME Transactions on Mechatronics, 2016, 21, 2174-2184.	3.7	36

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37	Breakdown in the directional transport of droplets on the peristome of pitcher plants. Communications Physics, 2018, 1, .	2.0	36
38	Modeling and experimental parametric study of a tri-leg compliant orthoplanar spring based multi-mode piezoelectric energy harvester. Mechanical Systems and Signal Processing, 2018, 98, 268-280.	4.4	34
39	Enhanced broadband multi-mode compliant orthoplanar spring piezoelectric vibration energy harvester using magnetic force. International Journal of Mechanical Sciences, 2018, 135, 63-71.	3.6	34
40	Direction-adaptive energy harvesting with a guide wing under flow-induced oscillations. Energy, 2019, 187, 115983.	4.5	34
41	Transfer-Free PZT Thin Films for Flexible Nanogenerators Derived from a Single-Step Modified Solâ€“Gel Process on 2D Mica. ACS Applied Materials & Interfaces, 2020, 12, 54991-54999.	4.0	34
42	Thickness-variable composite beams for vibration energy harvesting. Composite Structures, 2020, 244, 112232.	3.1	33
43	Electronic Skin from High-Throughput Fabrication of Intrinsically Stretchable Lead Zirconate Titanate Elastomer. Research, 2020, 2020, 1085417.	2.8	33
44	Design and Modeling of a Magnetic-Coupling Monostable Piezoelectric Energy Harvester Under Vortex-Induced Vibration. IEEE Access, 2020, 8, 108913-108927.	2.6	32
45	Flexible and translucent PZT films enhanced by the compositionally graded heterostructure for human body monitoring. Nano Energy, 2021, 85, 105984.	8.2	32
46	Growth of Tellurium Nanobelts on h-BN for p-type Transistors with Ultrahigh Hole Mobility. Nano-Micro Letters, 2022, 14, 109.	14.4	31
47	A wood-templated unidirectional piezoceramic composite for transmuscular ultrasonic wireless power transfer. Energy and Environmental Science, 2021, 14, 6574-6585.	15.6	30
48	Modeling and parametric study of a force-amplified compressive-mode piezoelectric energy harvester. Journal of Intelligent Material Systems and Structures, 2017, 28, 357-366.	1.4	28
49	Multi-Band Multi-Functional Metasurface-Based Reflective Polarization Converter for Linear and Circular Polarizations. IEEE Access, 2021, 9, 152738-152748.	2.6	26
50	Design and Studies on a Low-Frequency Truss-Based Compressive-Mode Piezoelectric Energy Harvester. IEEE/ASME Transactions on Mechatronics, 2018, 23, 2849-2858.	3.7	24
51	Defect-enhanced selective ion transport in an ionic nanocomposite for efficient energy harvesting from moisture. Energy and Environmental Science, 2022, 15, 2601-2609.	15.6	22
52	Multi-frequency responses of compliant orthoplanar spring designs for widening the bandwidth of piezoelectric energy harvesters. International Journal of Mechanical Sciences, 2019, 157-158, 684-691.	3.6	20
53	Thermal energy harvesting performance in 0.94Bi0.5Na0.5TiO3-0.06BaZr0.2Ti0.8O3: AlN composite ceramics based on the Olsen cycle. Journal of the European Ceramic Society, 2019, 39, 5243-5251.	2.8	17
54	Charging capacitors using single crystal PMN-PT and PZN-PT energy harvesters coupled with the SSHI circuit. Sensors and Actuators A: Physical, 2017, 266, 76-84.	2.0	15

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55	Introducing hinge mechanisms to one compressive-mode piezoelectric energy harvester. Journal of Renewable and Sustainable Energy, 2018, 10, .	0.8	15
56	Self-Powered SSDCI Array Interface for Multiple Piezoelectric Energy Harvesters. IEEE Transactions on Power Electronics, 2021, 36, 9093-9104.	5.4	15
57	Vortex-induced swing (VIS) motion for energy harvesters and flowmeters. Applied Physics Letters, 2020, 117, .	1.5	14
58	Metamaterial beam for flexural wave resonance rainbow trapping and piezoelectric energy harvesting. Journal of Applied Physics, 2021, 129, .	1.1	14
59	A flexible and lead-free BCZT thin film nanogenerator for biocompatible energy harvesting. Materials Chemistry Frontiers, 2021, 5, 4682-4689.	3.2	14
60	Numerical and experimental study of a compressive-mode energy harvester under random excitations. Smart Materials and Structures, 2017, 26, 035064.	1.8	13
61	On the offset distance of rotational piezoelectric energy harvesters. Energy, 2021, 220, 119676.	4.5	13
62	A Self-Powered P-SSHI Array Interface for Piezoelectric Energy Harvesters With Arbitrary Phase Difference. IEEE Transactions on Industrial Electronics, 2022, 69, 9155-9164.	5.2	12
63	Van der Waals Exfoliation Processed Biopiezoelectric Submucosa Ultrathin Films. Advanced Materials, 2022, 34, e2200864.	11.1	12
64	Introducing revolute joints into piezoelectric energy harvesters. Energy, 2020, 192, 116604.	4.5	10
65	A gravity-driven sintering method to fabricate geometrically complex compact piezoceramics. Nature Communications, 2021, 12, 6066.	5.8	10
66	3D Conformal Fabrication of Piezoceramic Films. Advanced Science, 2022, 9, e2106030.	5.6	10
67	Whisk-Inspired Motion Converter for Ocean Wave Energy Harvesting. IEEE/ASME Transactions on Mechatronics, 2022, 27, 1808-1811.	3.7	9
68	Self-Powered Single-Inductor Rectifier-Less SSHI Array Interface With the MPPT Technique for Piezoelectric Energy Harvesting. IEEE Transactions on Industrial Electronics, 2022, 69, 10172-10181.	5.2	9
69	Distributed parameter model and experimental validation of a compressive-mode energy harvester under harmonic excitations. AIP Advances, 2016, 6, 085310.	0.6	8
70	Influence of effective electrode coverage on the energy harvesting performance of piezoelectric cantilevers. Energy Conversion and Management, 2021, 248, 114758.	4.4	8
71	A distributed-parameter electromechanical coupling model for a piezoelectric energy harvester with variable curvature. Smart Materials and Structures, 2020, 29, 115015.	1.8	8
72	Characterization of Wrist Motions and Bionic Energy Harvesting for Wrist Wearables. IEEE Internet of Things Journal, 2022, 9, 21147-21156.	5.5	8

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73	Misalignment-induced bending-torsional coupling vibrations of doubly-clamped nonlinear piezoelectric energy harvesters. Mechanical Systems and Signal Processing, 2022, 169, 108776.	4.4	5
74	Impedance matching circuit for synchronous switch harvesting on inductor interface. , 2015, , .		4
75	Nonlinear vibration analysis of the high-efficiency compressive-mode piezoelectric energy harvester. Proceedings of SPIE, 2015, , .	0.8	4
76	Distributed-parameter modeling and dynamic analysis of rotational compressive-mode energy harvesters. Nonlinear Dynamics, 2021, 103, 157-182.	2.7	4
77	Coâ€assembled Monolayers as Holeâ€Selective Contact for Highâ€Performance Inverted Perovskite Solar Cells with Optimized Recombination Loss and Longâ€Term Stability. Angewandte Chemie, 2022, 134, .	1.6	4
78	Study on the hydrodynamics and kinematics of a biomimetic fin propulsor actuated by SMA wires. , 2011, , .		3
79	270-degree arc-shaped piezoelectric energy converter in uniflow fluid environment. IOP Conference Series: Materials Science and Engineering, 2019, 531, 012026.	0.3	3
80	Direct Adaptive SSDV Circuit for Piezoelectric Shunt Damping. IEEE Transactions on Industrial Electronics, 2023, 70, 4098-4107.	5.2	3
81	Charge Redistribution in Flextensional Piezoelectric Energy Harvesters. Applied Mechanics and Materials, 2014, 598, 322-326.	0.2	2
82	A Novel Multi-Directional Nonlinear Piezoelectric Energy Harvester Coupled With Nonlinear Conditioning Circuits. , 2015, , .		1
83	Compressive-mode Piezoelectric Energy Harvesting in Translational and Rotational Systems. , 2019, , .		1
84	A frequency up-converted magnetostrictive transducer for harvesting energy from finger tapping. , 2015, , .		0
85	Effect of the Guiding Wing Height on Energy Harvesters. , 2019, , .		0