

Junrui Liang

List of Publications by Year in descending order

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87
papers

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279798

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docs citations

87
times ranked

1237
citing authors

#	ARTICLE	IF	CITATIONS
1	Multiple Harmonics Extended Impedance Model of Piezoelectric Energy Harvesting Systems. IEEE/ASME Transactions on Mechatronics, 2022, 27, 1185-1195.	5.8	12
2	Improved theoretical analysis and design guidelines of a two-degree-of-freedom galloping piezoelectric energy harvester. Journal of Intelligent Material Systems and Structures, 2022, 33, 210-230.	2.5	10
3	ViPSN-Pluck: A Transient-Motion-Powered Motion Detector. IEEE Internet of Things Journal, 2022, 9, 3372-3382.	8.7	16
4	Triboelectric energy harvesting using an origami-inspired structure. Applied Energy, 2022, 306, 118037.	10.1	27
5	Three-Port Power Electronic Interface With Decoupled Voltage Regulation and MPPT in Electromagnetic Energy Harvesting Systems. IEEE Transactions on Industry Applications, 2022, 58, 2144-2154.	4.9	10
6	Theoretical Study of a Two-Degree-of-Freedom Piezoelectric Energy Harvester under Concurrent Aeroelastic and Base Excitation. Journal of Intelligent Material Systems and Structures, 2022, 33, 2000-2016.	2.5	9
7	Frequency Up-Conversion for Vibration Energy Harvesting: A Review. Symmetry, 2022, 14, 631.	2.2	23
8	A piezoelectric smart backing ring for high-performance power generation subject to train induced steel-spring fulcrum forces. Energy Conversion and Management, 2022, 257, 115442.	9.2	18
9	A Multistep Charge Extractions and Voltage Bias-Flip (MCEBF) Interface Circuit for Piezoelectric Energy Harvesting Enhancement. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2022, 10, 6293-6303.	5.4	1
10	Piezoelectric Energy Harvesters: An Overview on Design Strategies and Topologies. IEEE Transactions on Circuits and Systems II: Express Briefs, 2022, 69, 3057-3063.	3.0	6
11	High-Order Compensated Capacitive Power Transfer Systems With Misalignment Insensitive Resonance. IEEE Transactions on Circuits and Systems I: Regular Papers, 2022, 69, 3450-3460.	5.4	2
12	Simulation of Switched-Mode Power Conversion Circuits With Extended Impedance Method. IEEE Transactions on Circuits and Systems I: Regular Papers, 2022, 69, 3851-3860.	5.4	2
13	A Self-powered Extensible SECE Rectifier For Piezoelectric Energy Harvesting. , 2022, , .		0
14	Phase-Shift Modulated Interleaved <i>LLC</i> Converter With Ultrawide Output Voltage Range. IEEE Transactions on Power Electronics, 2021, 36, 493-503.	7.9	35
15	A Wind-Driven Poly(tetrafluoroethylene) Electret and Polylactide Polymer-Based Hybrid Nanogenerator for Self-Powered Temperature Detection System. Advanced Sustainable Systems, 2021, 5, .	5.3	10
16	Series Synchronized Triple Bias-Flip Circuit: Maximizing the Usage of a Single Storage Capacitor for Piezoelectric Energy Harvesting Enhancement. IEEE Transactions on Power Electronics, 2021, 36, 6787-6796.	7.9	24
17	ViPSN: A Vibration-Powered IoT Platform. IEEE Internet of Things Journal, 2021, 8, 1728-1739.	8.7	34
18	On the use of metasurface for Vortex-Induced vibration suppression or energy harvesting. Energy Conversion and Management, 2021, 235, 113991.	9.2	101

#	ARTICLE	IF	CITATIONS
19	Live Demo of a Transient-Motion-Powered Human Motion Detector. , 2021, , .		1
20	Theoretical and Experimental Study of the Vibration Dynamics of a 3D-Printed Sandwich Beam With an Hourglass Lattice Truss Core. Frontiers in Mechanical Engineering, 2021, 7, .	1.8	8
21	A Switched-Mode Time-Sharing Solution for Piezoelectric Energy Harvesting and Vibration Sensing. , 2021, , .		0
22	Equivalent Impedance Analysis and Compensation of Full-Wave Bridge Rectifier under High-Frequency Operation with Extended Impedance Method. , 2021, , .		2
23	Coupling Coefficient and Load Estimation for Wireless Power Transfer Systems with Transmitter Side Input Current. , 2021, , .		6
24	A Fully ZVS Dual-Active-Bridge Based Three-Port Converter with High Integration. , 2021, , .		1
25	Reduced-Order Model for Inductive Power Transfer Systems. , 2021, , .		1
26	A Self-Sensing Synchronous Electric Charge Extraction (SECE) Solution for Piezoelectric Energy Harvesting Enhancement. , 2021, , .		2
27	Synchronized switch piezoelectric energy harvesting using rotating magnetic ball and reed switches. Smart Materials and Structures, 2021, 30, 105023.	3.5	1
28	A Bidirectional Energy Conversion Circuit Toward Multifunctional Piezoelectric Energy Harvesting and Vibration Excitation Purposes. IEEE Transactions on Power Electronics, 2021, 36, 12889-12897.	7.9	16
29	Editorial: Miniaturized Bioenergy and Energy Harvesting Systems. Frontiers in Mechanical Engineering, 2021, 7, .	1.8	0
30	Multiple Charge Extractions with Bias-Flip Interface Circuit for Piezoelectric Energy Harvesting. , 2020, , .		11
31	An Induced Voltage Source Model for Capacitive Power Transfer. , 2020, , .		3
32	AlN MEMS filters with extremely high bandwidth widening capability. Microsystems and Nanoengineering, 2020, 6, 74.	7.0	54
33	Analysis and Design of Capacitive Power Transfer Systems Based on Induced Voltage Source Model. IEEE Transactions on Power Electronics, 2020, 35, 10532-10541.	7.9	33
34	A dual-effect solution for broadband piezoelectric energy harvesting. Applied Physics Letters, 2020, 116, .	3.3	15
35	New insight into piezoelectric energy harvesting with mechanical and electrical nonlinearities. Smart Materials and Structures, 2020, 29, 04LT01.	3.5	12
36	A twist piezoelectric beam for multi-directional energy harvesting. Smart Materials and Structures, 2020, 29, 11LT01.	3.5	23

#	ARTICLE	IF	CITATIONS
37	A tapered beam piezoelectric energy harvester shunted to P-SSHI interface. , 2020, , .		3
38	AlN Hybrid-Coupled Resonators With High Acoustic Velocity Layer. , 2020, , .		3
39	Power Solutions of A Vibration-Powered Sensor Node. , 2020, , .		4
40	Decomposition and Synthesis of High-Order Compensated Inductive Power Transfer Systems for Improved Output Controllability. IEEE Transactions on Microwave Theory and Techniques, 2019, 67, 4514-4523.	4.6	30
41	Revisit of synchronized electric charge extraction (SECE) in piezoelectric energy harvesting by using impedance modeling. Smart Materials and Structures, 2019, 28, 105053.	3.5	27
42	A string-suspended and driven rotor for efficient ultra-low frequency mechanical energy harvesting. Energy Conversion and Management, 2019, 198, 111820.	9.2	111
43	Unified modeling, analysis and comparison of piezoelectric vibration energy harvesters. Mechanical Systems and Signal Processing, 2019, 123, 403-425.	8.0	36
44	Series Synchronized Triple Bias-Flip (S-S3BF) Interface Circuit for Piezoelectric Energy Harvesting. , 2019, , .		7
45	Modelling of a cantilevered energy harvester with partial piezoelectric coverage and shunted to practical interface circuits. Journal of Intelligent Material Systems and Structures, 2019, 30, 1896-1912.	2.5	14
46	Boosting the efficiency of a footstep piezoelectric-stack energy harvester using the synchronized switch technology. Journal of Intelligent Material Systems and Structures, 2019, 30, 813-822.	2.5	28
47	Harmonic modeling of vibration energy harvesting systems using extended impedance method. IOP Conference Series: Materials Science and Engineering, 2019, 531, 012083.	0.6	0
48	Synchronized Triple Bias-Flip Interface Circuit for Piezoelectric Energy Harvesting Enhancement. IEEE Transactions on Power Electronics, 2019, 34, 275-286.	7.9	71
49	Orbit Jumps of Monostable Energy Harvesters by a Bidirectional Energy Conversion Circuit. , 2019, , .		6
50	A bidirectional energy conversion circuit for piezoelectric energy harvesting and vibration exciting purposes. , 2019, , .		3
51	Improvement on impedance model of electromagnetic energy harvesting systems. , 2019, , .		0
52	Generalized modeling and analysis of piezoelectric vibration energy harvesters. , 2019, , .		1
53	An Improvement on Extended Impedance Method towards Efficient Steady-State Analysis of High-Frequency Class-E Resonant Inverters. , 2018, , .		2
54	Phase-Variable Control of Parallel Synchronized Triple Bias-Flips Interface Circuit towards Broadband Piezoelectric Energy Harvesting. , 2018, , .		9

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55	Phase-Separation-Induced PVDF/Graphene Coating on Fabrics toward Flexible Piezoelectric Sensors. ACS Applied Materials & Interfaces, 2018, 10, 30732-30740.	8.0	138
56	Maximum power, optimal load, and impedance analysis of piezoelectric vibration energy harvesters. Smart Materials and Structures, 2018, 27, 075053.	3.5	40
57	On the circuit solutions towards broadband and high-capability piezoelectric energy harvesting systems. , 2018, , .		0
58	Synchronized bias-flip interface circuits for piezoelectric energy harvesting enhancement: A general model and prospects. Journal of Intelligent Material Systems and Structures, 2017, 28, 339-356.	2.5	28
59	Impedance modeling of electromagnetic energy harvesting system using full-wave bridge rectifier. Proceedings of SPIE, 2017, , .	0.8	2
60	An efficient steady-state simulation of class-E resonant inverter considering MOSFET parasitic components by using extended impedance method. , 2017, , .		2
61	Impedance analysis of piezoelectric energy harvesting system using synchronized charge extraction interface circuit. , 2017, , .		1
62	Synergy of Wind Energy Harvesting and Synchronized Switch Harvesting Interface Circuit. IEEE/ASME Transactions on Mechatronics, 2017, 22, 1093-1103.	5.8	52
63	Live demo of a vibration-powered Bluetooth sensor with running PFC power conditioning. , 2017, , .		3
64	Parallel synchronized septuple bias-flip circuit for piezoelectric energy harvesting enhancement. , 2017, , .		9
65	A vibration-powered Bluetooth wireless sensor node with running PFC power conditioning. , 2017, , .		6
66	Synchronized triple bias-flip circuit for piezoelectric energy harvesting enhancement: Operation principle and experimental validation. , 2016, , .		7
67	A comparative study on the mechatronic and electronic self-powered synchronized switch interfaces for piezoelectric energy harvesting systems. Proceedings of SPIE, 2016, , .	0.8	1
68	Design of class-E power amplifier with nonlinear components by using extended impedance method. , 2016, , .		8
69	A mechatronic power boosting design for piezoelectric generators. Applied Physics Letters, 2015, 107, .	3.3	20
70	Enhancement of galloping-based wind energy harvesting by synchronized switching interface circuits. , 2015, , .		4
71	A mechanical solution of self-powered SSHI interface for piezoelectric energy harvesting systems. , 2015, , .		0
72	Dielectric loss against piezoelectric power harvesting. Smart Materials and Structures, 2014, 23, 092001.	3.5	28

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73	On the counteractive effect of dielectric loss in piezoelectric energy harvesting. , 2014, , .		0
74	Best voltage bias-flipping strategy towards maximum piezoelectric power generation. Journal of Physics: Conference Series, 2013, 476, 012025.	0.4	7
75	Impedance Modeling and Analysis for Piezoelectric Energy Harvesting Systems. IEEE/ASME Transactions on Mechatronics, 2012, 17, 1145-1157.	5.8	189
76	Improved Design and Analysis of Self-Powered Synchronized Switch Interface Circuit for Piezoelectric Energy Harvesting Systems. IEEE Transactions on Industrial Electronics, 2012, 59, 1950-1960.	7.9	252
77	Energy flow in piezoelectric energy harvesting systems. Smart Materials and Structures, 2011, 20, 015005.	3.5	104
78	Steady-State Simulation and Optimization of Class-E Power Amplifiers With Extended Impedance Method. IEEE Transactions on Circuits and Systems I: Regular Papers, 2011, 58, 1433-1445.	5.4	28
79	On the Influence of Transducer Internal Loss in Piezoelectric Energy Harvesting with SSHI Interface. Journal of Intelligent Material Systems and Structures, 2011, 22, 503-512.	2.5	37
80	Analysis and design of Class-E power amplifiers at any duty ratio in frequency domain. Analog Integrated Circuits and Signal Processing, 2011, 67, 149-156.	1.4	7
81	Impedance matching for improving piezoelectric energy harvesting systems. Proceedings of SPIE, 2010, , .	0.8	19
82	Impedance analysis for piezoelectric energy harvesting devices under displacement and force excitations. , 2010, , .		3
83	An improved self-powered switching interface for piezoelectric energy harvesting. , 2009, , .		20
84	Simulation and optimization of class-E power amplifiers with extended impedance method. , 2009, , .		1
85	Piezoelectric Energy Harvesting and Dissipation on Structural Damping. Journal of Intelligent Material Systems and Structures, 2009, 20, 515-527.	2.5	92
86	Energy harvesting and dissipation with piezoelectric materials. , 2008, , .		2
87	Acoustic-Elastic Metamaterials and Phononic Crystals for Energy Harvesting: A Review. Smart Materials and Structures, 0, , .	3.5	67