

Junrui Liang

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/8466842/publications.pdf>

Version: 2024-02-01

87
papers

2,061
citations

279798

23
h-index

254184

43
g-index

87
all docs

87
docs citations

87
times ranked

1237
citing authors

#	ARTICLE	IF	CITATIONS
1	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
2	Impedance Modeling and Analysis for Piezoelectric Energy Harvesting Systems. IEEE/ASME Transactions on Mechatronics, 2012, 17, 1145-1157.	5.8	189
3	Phase-Separation-Induced PVDF/Graphene Coating on Fabrics toward Flexible Piezoelectric Sensors. ACS Applied Materials & Interfaces, 2018, 10, 30732-30740.	8.0	138
4	A string-suspended and driven rotor for efficient ultra-low frequency mechanical energy harvesting. Energy Conversion and Management, 2019, 198, 111820.	9.2	111
5	Energy flow in piezoelectric energy harvesting systems. Smart Materials and Structures, 2011, 20, 015005.	3.5	104
6	On the use of metasurface for Vortex-Induced vibration suppression or energy harvesting. Energy Conversion and Management, 2021, 235, 113991.	9.2	101
7	Piezoelectric Energy Harvesting and Dissipation on Structural Damping. Journal of Intelligent Material Systems and Structures, 2009, 20, 515-527.	2.5	92
8	Synchronized Triple Bias-Flip Interface Circuit for Piezoelectric Energy Harvesting Enhancement. IEEE Transactions on Power Electronics, 2019, 34, 275-286.	7.9	71
9	Acoustic-Elastic Metamaterials and Phononic Crystals for Energy Harvesting: A Review. Smart Materials and Structures, 0, , .	3.5	67
10	AlN MEMS filters with extremely high bandwidth widening capability. Microsystems and Nanoengineering, 2020, 6, 74.	7.0	54
11	Synergy of Wind Energy Harvesting and Synchronized Switch Harvesting Interface Circuit. IEEE/ASME Transactions on Mechatronics, 2017, 22, 1093-1103.	5.8	52
12	Maximum power, optimal load, and impedance analysis of piezoelectric vibration energy harvesters. Smart Materials and Structures, 2018, 27, 075053.	3.5	40
13	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
14	Unified modeling, analysis and comparison of piezoelectric vibration energy harvesters. Mechanical Systems and Signal Processing, 2019, 123, 403-425.	8.0	36
15	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
16	ViPSN: A Vibration-Powered IoT Platform. IEEE Internet of Things Journal, 2021, 8, 1728-1739.	8.7	34
17	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
18	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

#	ARTICLE	IF	CITATIONS
19	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
20	Dielectric loss against piezoelectric power harvesting. Smart Materials and Structures, 2014, 23, 092001.	3.5	28
21	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
22	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
23	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
24	Triboelectric energy harvesting using an origami-inspired structure. Applied Energy, 2022, 306, 118037.	10.1	27
25	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
26	A twist piezoelectric beam for multi-directional energy harvesting. Smart Materials and Structures, 2020, 29, 111T01.	3.5	23
27	Frequency Up-Conversion for Vibration Energy Harvesting: A Review. Symmetry, 2022, 14, 631.	2.2	23
28	An improved self-powered switching interface for piezoelectric energy harvesting. , 2009, , .		20
29	A mechatronic power boosting design for piezoelectric generators. Applied Physics Letters, 2015, 107, .	3.3	20
30	Impedance matching for improving piezoelectric energy harvesting systems. Proceedings of SPIE, 2010, , .	0.8	19
31	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
32	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
33	ViPSN-Pluck: A Transient-Motion-Powered Motion Detector. IEEE Internet of Things Journal, 2022, 9, 3372-3382.	8.7	16
34	A dual-effect solution for broadband piezoelectric energy harvesting. Applied Physics Letters, 2020, 116, .	3.3	15
35	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
36	New insight into piezoelectric energy harvesting with mechanical and electrical nonlinearities. Smart Materials and Structures, 2020, 29, 04LT01.	3.5	12

#	ARTICLE	IF	CITATIONS
37	Multiple Harmonics Extended Impedance Model of Piezoelectric Energy Harvesting Systems. IEEE/ASME Transactions on Mechatronics, 2022, 27, 1185-1195.	5.8	12
38	Multiple Charge Extractions with Bias-Flip Interface Circuit for Piezoelectric Energy Harvesting. , 2020, , .		11
39	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
40	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
41	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
42	Parallel synchronized septuple bias-flip circuit for piezoelectric energy harvesting enhancement. , 2017, , .		9
43	Phase-Variable Control of Parallel Synchronized Triple Bias-Flips Interface Circuit towards Broadband Piezoelectric Energy Harvesting. , 2018, , .		9
44	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
45	Design of class-E power amplifier with nonlinear components by using extended impedance method. , 2016, , .		8
46	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
47	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
48	Best voltage bias-flipping strategy towards maximum piezoelectric power generation. Journal of Physics: Conference Series, 2013, 476, 012025.	0.4	7
49	Synchronized triple bias-flip circuit for piezoelectric energy harvesting enhancement: Operation principle and experimental validation. , 2016, , .		7
50	Series Synchronized Triple Bias-Flip (S-S3BF) Interface Circuit for Piezoelectric Energy Harvesting. , 2019, , .		7
51	A vibration-powered Bluetooth wireless sensor node with running PFC power conditioning. , 2017, , .		6
52	Coupling Coefficient and Load Estimation for Wireless Power Transfer Systems with Transmitter Side Input Current. , 2021, , .		6
53	Orbit Jumps of Monostable Energy Harvesters by a Bidirectional Energy Conversion Circuit. , 2019, , .		6
54	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

#	ARTICLE	IF	CITATIONS
55	Enhancement of galloping-based wind energy harvesting by synchronized switching interface circuits. , 2015, , .		4
56	Power Solutions of A Vibration-Powered Sensor Node. , 2020, , .		4
57	Impedance analysis for piezoelectric energy harvesting devices under displacement and force excitations. , 2010, , .		3
58	Live demo of a vibration-powered Bluetooth sensor with running PFC power conditioning. , 2017, , .		3
59	An Induced Voltage Source Model for Capacitive Power Transfer. , 2020, , .		3
60	A tapered beam piezoelectric energy harvester shunted to P-SSHI interface. , 2020, , .		3
61	A bidirectional energy conversion circuit for piezoelectric energy harvesting and vibration exciting purposes. , 2019, , .		3
62	AlN Hybrid-Coupled Resonators With High Acoustic Velocity Layer. , 2020, , .		3
63	Energy harvesting and dissipation with piezoelectric materials. , 2008, , .		2
64	Impedance modeling of electromagnetic energy harvesting system using full-wave bridge rectifier. Proceedings of SPIE, 2017, , .	0.8	2
65	An efficient steady-state simulation of class-E resonant inverter considering MOSFET parasitic components by using extended impedance method. , 2017, , .		2
66	An Improvement on Extended Impedance Method towards Efficient Steady-State Analysis of High-Frequency Class-E Resonant Inverters. , 2018, , .		2
67	Equivalent Impedance Analysis and Compensation of Full-Wave Bridge Rectifier under High-Frequency Operation with Extended Impedance Method. , 2021, , .		2
68	A Self-Sensing Synchronous Electric Charge Extraction (SECE) Solution for Piezoelectric Energy Harvesting Enhancement. , 2021, , .		2
69	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
70	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
71	Simulation and optimization of class-E power amplifiers with extended impedance method. , 2009, , .		1
72	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

#	ARTICLE	IF	CITATIONS
73	Impedance analysis of piezoelectric energy harvesting system using synchronized charge extraction interface circuit. , 2017, , .		1
74	Live Demo of a Transient-Motion-Powered Human Motion Detector. , 2021, , .		1
75	A Fully ZVS Dual-Active-Bridge Based Three-Port Converter with High Integration. , 2021, , .		1
76	Reduced-Order Model for Inductive Power Transfer Systems. , 2021, , .		1
77	Synchronized switch piezoelectric energy harvesting using rotating magnetic ball and reed switches. Smart Materials and Structures, 2021, 30, 105023.	3.5	1
78	Generalized modeling and analysis of piezoelectric vibration energy harvesters. , 2019, , .		1
79	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
80	On the counteractive effect of dielectric loss in piezoelectric energy harvesting. , 2014, , .		0
81	A mechanical solution of self-powered SSHI interface for piezoelectric energy harvesting systems. , 2015, , .		0
82	Harmonic modeling of vibration energy harvesting systems using extended impedance method. IOP Conference Series: Materials Science and Engineering, 2019, 531, 012083.	0.6	0
83	A Switched-Mode Time-Sharing Solution for Piezoelectric Energy Harvesting and Vibration Sensing. , 2021, , .		0
84	Editorial: Miniaturized Bioenergy and Energy Harvesting Systems. Frontiers in Mechanical Engineering, 2021, 7, .	1.8	0
85	On the circuit solutions towards broadband and high-capability piezoelectric energy harvesting systems. , 2018, , .		0
86	Improvement on impedance model of electromagnetic energy harvesting systems. , 2019, , .		0
87	A Self-powered Extensible SECE Rectifier For Piezoelectric Energy Harvesting. , 2022, , .		0