Alper Erturk

List of Publications by Year
in descending order

268 papers	15,374 citations	24809 57 h-index	20777 116 g-index
273 all docs	273 docs citations	273 times ranked	6538 citing authors

#	Article	IF	Citations
1	Programmable hardening and softening cubic inductive shunts for piezoelectric structures: Harmonic balance analysis and experiments. Journal of Sound and Vibration, 2024, 571, 118029.	4.1	8
2	Ultrasound-Powered Wireless Underwater Acoustic Identification Tags for Backscatter Communication. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2024, 71, 304-313.	3.2	3
3	The effects of shear deformation and rotary inertia on the electrical analogs of beams and plates for multimodal piezoelectric damping. International Journal of Circuit Theory and Applications, 2024, 52, 2985-2998.	2.1	1
4	Subwavelength negative refraction and flexural wave lens design via resonant double-negative piezoelectric metamaterial. Smart Materials and Structures, 2024, 33, 025005.	3.5	1
5	Experimental realization of tunable exceptional points in a resonant non-Hermitian piezoelectrically coupled waveguide. Applied Physics Letters, 2024, 124, .	3.2	0
6	Broadening the frequency response of a Duffing-type piezoelectric shunt by means of negative capacitance. Journal of Sound and Vibration, 2024, 578, 118344.	4.1	0
7	Multimodal vibration damping of a three-dimensional circular ring coupled to analogous piezoelectric networks. Journal of Sound and Vibration, 2024, 581, 118385.	4.1	0
8	Portable through-metal ultrasonic power transfer using a dry-coupled detachable transmitter. Ultrasonics, 2024, 141, 107339.	4.0	0
9	System-Level DC-to-DC Analysis and Experiments of Ultrasonic Power Transfer Through Metallic Barriers. IEEE/ASME Transactions on Mechatronics, 2023, 28, 15-25.	6.1	5
10	Extreme parametric resonance oscillations of a cantilever: An exact theory and experimental validation. Mechanical Systems and Signal Processing, 2023, 196, 110342.	8.2	6
11	Programmable Moving Defect for Spatiotemporal Wave Localization in Piezoelectric Metamaterials. Physical Review Applied, 2023, 19, .	3.8	3
12	Digital programming of reciprocity breaking in resonant piezoelectric metamaterials. Physical Review Research, 2023, 5, .	3.6	2
13	Analogous piezoelectric network for multimodal vibration attenuation of a thin circular ring. Smart Materials and Structures, 2023, 32, 115024.	3.5	1
14	Large-scale simulation of high-intensity focused ultrasound with Sierra/SD. Proceedings of Meetings on Acoustics, 2023, , .	0.0	0
15	Experimentally validated geometrically exact model for extreme nonlinear motions of cantilevers. Nonlinear Dynamics, 2022, 107, 457-475.	5.3	18
16	Concurrent vibration attenuation and low-power electricity generation in a locally resonant metastructure. Journal of Intelligent Material Systems and Structures, 2022, 33, 1990-1999.	2.6	5
17	Programmable Rainbow Trapping and Band-Gap Enhancement via Spatial Group-Velocity Tailoring in Elastic Metamaterials. Physical Review Applied, 2022, 17, .	3.8	30
18	Multistable vibration energy harvesters: Principle, progress, and perspectives. Journal of Sound and Vibration, 2022, 528, 116886.	4.1	119

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19	Programmable spatial and spatiotemporal modulation of piezoelectric metamaterials with synthetic impedance circuits. , 2022, , .		0
20	Nonlinear synthetic impedance circuits for piezoelectric structures. , 2022, , .		1
21	Aspect ratio-dependent hysteresis response of a heavy inverted flag. Journal of Fluid Mechanics, 2022, 942, .	3.5	4
22	Machined phononic crystals to block high-order Lamb waves and crosstalk in through-metal ultrasonic communication systems. Applied Physics Letters, 2022, 120, .	3.2	3
23	Piezoelectric transducer design for simultaneous ultrasonic power transfer and backscatter communication. Smart Materials and Structures, 2022, 31, 095003.	3.5	8
24	Hydrodynamic performance of oscillating elastic propulsors with tapered thickness. Journal of Fluid Mechanics, 2022, 944, .	3.5	9
25	Harnessing rainbow trapping via hybrid electromechanical metastructures for enhanced energy harvesting and vibration attenuation. Journal of Applied Physics, 2022, 132, .	2.3	5
26	Duffing-type digitally programmable nonlinear synthetic inductance for piezoelectric structures. Smart Materials and Structures, 2022, 31, 095044.	3.5	9
27	Flapping dynamics of an inverted flag behind a cylinder. Bioinspiration and Biomimetics, 2022, 17, 065011.	2.9	1
28	Spatially programmable wave compression and signal enhancement in a piezoelectric metamaterial waveguide. Physical Review B, 2022, 106, .	3.3	11
29	Experimentally validated broadband self-collimation of elastic waves. International Journal of Mechanical Sciences, 2021, 192, 106131.	6.9	17
30	Leveraging size effects in flexoelectric-piezoelectric vibration energy harvesting. , 2021, , 107-146.		0
31	Effect of actuation method on hydrodynamics of elastic plates oscillating at resonance. Journal of Fluid Mechanics, 2021, 910, .	3.5	14
32	Numerical and Experimental Investigations of Energy Harvesting From Piezoelectric Inverted Flags. , 2021, , .		2
33	Experimental Observation of Temporal Pumping in Electromechanical Waveguides. Physical Review Letters, 2021, 126, 095501.	8.0	68
34	Experimental and Computational Investigation of Guided Waves in a Human Skull. Ultrasound in Medicine and Biology, 2021, 47, 787-798.	1.6	10
35	Sound energy harvesting by leveraging a 3D-printed phononic crystal lens. Applied Physics Letters, 2021, 118, .	3.2	19
36	Experimental identification of high order Lamb waves and estimation of the mechanical properties of a dry human skull. Ultrasonics, 2021, 113, 106343.	4.0	22

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37	Phased Array Ultrasonic Testing of Inconel 625 Produced by Selective Laser Melting. Journal of Nondestructive Evaluation, Diagnostics and Prognostics of Engineering Systems, 2021, 4, .	1.1	1
38	Radiation Characteristics of Cranial Leaky Lamb Waves. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2021, 68, 2129-2140.	3.2	10
39	Trout-like multifunctional piezoelectric robotic fish and energy harvester. Bioinspiration and Biomimetics, 2021, 16, 046024.	2.9	25
40	Three-dimensional nonlinear extreme vibrations of cantilevers based on a geometrically exact model. Journal of Sound and Vibration, 2021, 510, 116295.	4.1	11
41	Vibration-based elastic parameter identification of the diploÃ« and cortical tables in dry cranial bones. Journal of the Mechanical Behavior of Biomedical Materials, 2021, 123, 104747.	3.1	6
42	Vibration Stimulation as a Non-Invasive Approach to Monitor the Severity of Meniscus Tears. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2021, 29, 350-359.	5.0	2
43	Graded multifunctional piezoelectric metastructures for wideband vibration attenuation and energy harvesting. Smart Materials and Structures, 2021, 30, 015029.	3.5	58
44	Wideband Acoustic Data Transmission Through Staircase Piezoelectric Transducers. , 2021, , .		0
45	Experimental Validation of Crosstalk Minimization in Metallic Barriers with Simultaneous Ultrasonic Power and Data Transfer. , 2021, , .		0
46	Radiation Characterization of Leaky Guided Waves in Monolithic and Sutured Cranial Bones. , 2021, , .		0
47	Mechanical Characterization of Cranial Sutures Using Guided Ultrasonic Waves. , 2021, , .		0
48	Mechanically and electrically nonlinear non-ideal piezoelectric energy harvesting framework with experimental validations. Nonlinear Dynamics, 2020, 99, 625-641.	5.3	21
49	An analytical framework for locally resonant piezoelectric metamaterial plates. International Journal of Solids and Structures, 2020, 182-183, 281-294.	2.7	65
50	Aspect Ratio-Dependent Dynamics of Piezoelectric Transducers in Wireless Acoustic Power Transfer. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2020, 67, 984-996.	3.2	9
51	Bistable attachments for wideband nonlinear vibration attenuation in a metamaterial beam. Nonlinear Dynamics, 2020, 102, 1285-1296.	5.3	67
52	Vibration Sensing Systems Based on Poly(Vinylidene Fluoride) and Microwave-Assisted Synthesized ZnO Star-Like Particles with Controllable Structural and Physical Properties. Nanomaterials, 2020, 10, 2345.	4.2	11
53	Vibration Characterization of the Human Knee Joint in Audible Frequencies. Sensors, 2020, 20, 4138.	4.0	9
54	Nonlinear piezoelectric plate framework for aeroelastic energy harvesting and actuation applications. Smart Materials and Structures, 2020, 29, 105006.	3.5	10

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55	Characterization of hydrogel structural damping. Extreme Mechanics Letters, 2020, 40, 100841.	4.2	13
56	Digitally Programmable Resonant Elastic Metamaterials. Physical Review Applied, 2020, 13, .	3.8	44
57	3D-Printed Gradient-Index Phononic Crystal Lens for Underwater Acoustic Wave Focusing. Physical Review Applied, 2020, 13, .	3.8	57
58	Topological Edge States in Quasiperiodic Locally Resonant Metastructures. Physical Review Applied, 2020, 13, .	3.8	49
59	Nonreciprocal piezoelectric metamaterial framework and circuit strategies. Physical Review B, 2020, 102, .	3.3	38
60	Characterization of a Multifunctional Bioinspired Piezoelectric Swimmer and Energy Harvester. , 2020, , .		1
61	Ultrasonic Communication through a Metallic Barrier: Transmission Modeling and Crosstalk Minimization. , 2020, , .		0
62	Matrix Pencil Estimation of Guided Waves Dispersion in a Human Skull. , 2020, , .		2
63	Tunable elastic metamaterials using rotatable coupled dual-beam resonators. Journal of Applied Physics, 2019, 126, .	2.3	11
64	3D-printed phononic crystal lens for elastic wave focusing and energy harvesting. Additive Manufacturing, 2019, 29, 100780.	3.1	46
65	Programmable mode conversion and bandgap formation for surface acoustic waves using piezoelectric metamaterials. Applied Physics Letters, 2019, 115, .	3.2	29
66	Vibration attenuation in a nonlinear flexible structure via nonlinear switching circuits and energy harvesting implications. Journal of Intelligent Material Systems and Structures, 2019, 30, 965-976.	2.6	11
67	Time-Periodic Stiffness Modulation in Elastic Metamaterials for Selective Wave Filtering: Theory and Experiment. Physical Review Letters, 2019, 122, 124301.	8.0	139
68	Dramatic bandwidth enhancement in nonlinear metastructures via bistable attachments. Applied Physics Letters, 2019, 114, .	3.2	56
69	An analytical framework for Kirchhoff plate-type locally resonant piezoelectric metastructures. , 2019, , .		1
70	Aspect ratio effects in wind energy harvesting using piezoelectric inverted flags. , 2019, , .		4
71	Comparison of various models for piezoelectric receivers in wireless acoustic power transfer. , 2019, , .		2
72	Nonlinearities in resonant dynamics of piezoelectric macro-fiber composite cantilevers. , 2019, , .		1

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73	Characterization of a bio-inspired piezoelectric swimmer in a quiescent water and under imposed flow. , 2019, , .		0
74	Merging mechanical and electromechanical bandgaps in locally resonant metamaterials and metastructures. Journal of the Mechanics and Physics of Solids, 2018, 116, 323-333.	4.9	86
75	Soft and Hard Piezoelectric Ceramics and Single Crystals for Random Vibration Energy Harvesting. Energy Technology, 2018, 6, 935-942.	3.8	28
76	Nonlinear elastodynamics of piezoelectric macro-fiber composites with interdigitated electrodes for resonant actuation. Composite Structures, 2018, 187, 137-143.	5.9	33
77	Analysis of multifunctional piezoelectric metastructures for low-frequency bandgap formation and energy harvesting. Journal Physics D: Applied Physics, 2018, 51, 215103.	2.9	80
78	Resonant nonlinearities of piezoelectric macro-fiber composite cantilevers with interdigitated electrodes in energy harvesting. Nonlinear Dynamics, 2018, 92, 1935-1945.	5.3	25
79	An experimentally validated model for geometrically nonlinear plucking-based frequency up-conversion in energy harvesting. Smart Materials and Structures, 2018, 27, 015024.	3.5	47
80	Selective Wave Filtering in Time-Modulated Elastic Metamaterials. , 2018, , .		0
81	Tunable metamaterial beam with shape memory alloy resonators: Theory and experiment. Applied Physics Letters, 2018, 113, .	3.2	61
82	Combined piezoelectric and flexoelectric effects in resonant dynamics of nanocantilevers. Journal of Intelligent Material Systems and Structures, 2018, 29, 3949-3959.	2.6	9
83	An experimentally validated piezoelectric nonlinear energy sink for wideband vibration attenuation. Journal of Sound and Vibration, 2018, 437, 68-78.	4.1	43
84	On the electrode segmentation for piezoelectric energy harvesting from nonlinear limit cycle oscillations in axial flow. Journal of Fluids and Structures, 2018, 82, 492-504.	3.4	22
85	Equivalent electrical circuit framework for nonlinear and high quality factor piezoelectric structures. Mechatronics, 2018, 54, 133-143.	3.4	20
86	Adaptive locally resonant metamaterials leveraging shape memory alloys. Journal of Applied Physics, 2018, 124, .	2.3	39
87	Stretchable quaternary phasic PVDF-HFP nanocomposite films containing graphene-titania-SrTiO3 for mechanical energy harvesting. Emergent Materials, 2018, 1, 55-65.	5.7	108
88	Design and Analysis of Piezoelectric Metamaterial Beams With Synthetic Impedance Shunt Circuits. IEEE/ASME Transactions on Mechatronics, 2018, 23, 2144-2155.	6.1	67
89	On the coupling of nonlinear macro-fiber composite piezoelectric cantilever dynamics with hydrodynamic loads. , 2018, , .		4
90	Varying cross-section and axial strain-gradient effects in flexoelectric cantilevers at submicron thickness levels. , 2018, , .		0

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91	Dispersion tailoring in varying-inductance piezoelectric metamaterials. , 2018, , .		0
92	Effects of a piezoelectric based nonlinear energy sink on the behavior of an electromechanically coupled beam. , 2018, , .		0
93	Locally resonant metamaterials with shape-memory alloy springs. , 2018, , .		0
94	Electroelastodynamics of flexoelectric energy conversion and harvesting in elastic dielectrics. Journal of Applied Physics, 2017, 121, .	2.3	40
95	Ceramic-Based Polymer Nanocomposites as Piezoelectric Materials. Springer Series on Polymer and Composite Materials, 2017, , 77-93.	0.0	17
96	Self-bending elastic waves and obstacle circumventing in wireless power transfer. Applied Physics Letters, 2017, 110, .	3.2	16
97	Energy harvesting from acoustic fields for self-powered sensors in pumped fluid systems. Proceedings of SPIE, 2017, , .	1.0	4
98	Evaluation of human-scale motion energy harvesting for wearable electronics. Proceedings of SPIE, 2017, , .	1.0	0
99	Metamaterial piezoelectric beam with synthetic impedance shunts. Proceedings of SPIE, 2017, , .	1.0	1
100	Size effects in piezoelectric cantilevers at submicron thickness levels due to flexoelectricity. Proceedings of SPIE, 2017, , .	1.0	1
101	Toward structurally integrated locally resonant metamaterials for vibration attenuation. Proceedings of SPIE, 2017, , .	1.0	2
102	On the efficiency of piezoelectric energy harvesters. Extreme Mechanics Letters, 2017, 15, 26-37.	4.2	151
103	Omni-directional lens for structure-borne wave focusing and energy harvesting. Proceedings of SPIE, 2017, , .	1.0	1
104	A general theory for bandgap estimation in locally resonant metastructures. Journal of Sound and Vibration, 2017, 406, 104-123.	4.1	193
105	3D-printed lens for structure-borne wave focusing and energy harvesting. Proceedings of SPIE, 2017, , .	1.0	1
106	Modeling and Characterization of a Curved Piezoelectric Energy Harvester for Smart Paver Tiles. Procedia Computer Science, 2017, 109, 1060-1066.	2.1	10
107	Low-Frequency Elastic Wave Focusing and Harvesting via Locally Resonant Metamaterials. , 2017, , .		3
108	Multifunctional Energy Harvesting Locally Resonant Metastructures. , 2017, , .		3

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109	Nonlinear Structural Dynamics of Macro-Fiber Composite Cantilevers for Resonant Actuation. , 2017, , .		2
110	Dynamics of Hybrid Mechanical-Electromechanical Locally Resonant Piezoelectric Metastructures. , 2017, , .		3
111	Resonant Nonlinearities of Macro-Fiber Composite Cantilevers in Energy Harvesting. , 2017, , .		1
112	On the Origin of the Nonclassical Softening Nonlinearity in MEMS/NEMS Cantilevers. , 2017, , .		2
113	Structurally embedded reflectors and mirrors for elastic wave focusing and energy harvesting. Journal of Applied Physics, 2017, 122, .	2.3	22
114	Phononic crystal Luneburg lens for omnidirectional elastic wave focusing and energy harvesting. Applied Physics Letters, 2017, 111, .	3.2	139
115	Coupling of experimentally validated electroelastic dynamics and mixing rules formulation for macro-fiber composite piezoelectric structures. Journal of Intelligent Material Systems and Structures, 2017, 28, 1575-1588.	2.6	36
116	An investigation of electroelastic bandgap formation in locally resonant piezoelectric metastructures. Smart Materials and Structures, 2017, 26, 055029.	3.5	104
117	Embedded elastic wave mirrors for enhanced energy harvesting. , 2016, , .		2
118	Electroelastic Bandgap Formation in Locally Resonant Metamaterial Beams With Piezoelectric Shunts: A Modal Analysis Approach. , 2016, , .		0
119	Dramatic Enhancement of Elastic Wave Energy Harvesting Using a Gradient-Index Phononic Crystal Lens. , 2016, , .		2
120	Gradient-index phononic crystal lens-based enhancement of elastic wave energy harvesting. Applied Physics Letters, 2016, 109, .	3.2	135
121	On the mechanism of bandgap formation in locally resonant finite elastic metamaterials. Journal of Applied Physics, 2016, 120, .	2.3	197
122	A Distributed-Parameter Flexoelectric Energy Harvester Model Accounting for Two-Way Coupling and Size Effects. , 2016, , .		2
123	On the Optimal Piezoelectric Material Distribution in Energy Harvesting From a Nonlinear Beam Under Axial Flow. , 2016, , .		0
124	Suppression of Nonlinear Bifurcations in Flexible Structures Using Nonlinear Switching Shunt Damping Circuits. , 2016, , .		0
125	Dramatic effect of fluid damping on the performance of a nonlinear M-shaped broadband energy harvester. Proceedings of SPIE, 2016, , .	1.0	0
126	Multiple piezo-patch energy harvesters integrated to a thin plate with AC-DC conversion: analytical modeling and numerical validation. Proceedings of SPIE, 2016, , .	1.0	1

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127	Equivalent circuit modeling of a piezo-patch energy harvester on a thin plate with ACâ€“DC conversion. Smart Materials and Structures, 2016, 25, 055015.	3.5	34
128	Exploiting material softening in hard PZTs for resonant bandwidth enhancement. Proceedings of SPIE, 2016, , .	1.0	1
129	Power conditioning for low-voltage piezoelectric stack energy harvesters. Proceedings of SPIE, 2016, , .	1.0	3
130	In vacuo elastodynamics of a flexible cantilever for wideband energy harvesting. Proceedings of SPIE, 2016, , .	1.0	0
131	Electrohydroelastic Eulerâ€“Bernoulliâ€“Morison model for underwater resonant actuation of macro-fiber composite piezoelectric cantilevers. Smart Materials and Structures, 2016, 25, 105007.	3.5	37
132	Figure of merit comparison of PP-based electret and PVDF-based piezoelectric polymer energy harvesters. Proceedings of SPIE, 2016, , .	1.0	7
133	Random vibration energy harvesting on thin plates using multiple piezopatches. Journal of Intelligent Material Systems and Structures, 2016, 27, 2744-2756.	2.6	28
134	Piezoelectric power extraction from bending waves: Electroelastic modeling, experimental validation, and performance enhancement. Wave Motion, 2016, 60, 20-34.	2.1	7
135	Hydrodynamic Thrust Generation and Power Consumption Investigations for Piezoelectric Fins With Different Aspect Ratios. , 2015, , .		1
136	Nonlinear Two-to-One Internal Resonance for Broadband Energy Harvesting. , 2015, , .		0
137	Hydrodynamic thrust generation and power consumption investigations for piezoelectric fins with different aspect ratios. European Physical Journal: Special Topics, 2015, 224, 3419-3434.	2.6	16
138	Experimentally Validated Nonlinear Electrohydroelastic Euler-Bernoulli-Morison Model for Macro-Fiber Composites With Different Aspect Ratios. , 2015, , .		5
139	Macro-Fiber Composite Actuated Piezoelectric Robotic Fish. Springer Tracts in Mechanical Engineering, 2015, , 255-283.	0.0	13
140	Hydraulic pressure energy harvester enhanced by Helmholtz resonator. Proceedings of SPIE, 2015, , .	1.0	3
141	Harmonic Balance Analysis and Experimental Validation of a Nonlinear Broadband Piezoelectric Energy Harvester for Low Ambient Vibrations. , 2015, , .		1
142	Equivalent Circuit Modeling of Patch-Based Piezoelectric Energy Harvesting on Plate-Like Structures With AC-DC Conversion. , 2015, , .		1
143	Fourier transform-based design of a patterned piezoelectric energy harvester integrated with an elastoacoustic mirror. Applied Physics Letters, 2015, 106, .	3.2	34
144	Nonlinear M-shaped broadband piezoelectric energy harvester for very low base accelerations: primary and secondary resonances. Smart Materials and Structures, 2015, 24, 055021.	3.5	100

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145	Modeling and identification of nonlinear electroelastic and dissipative parameters for PZT-5A and PZT-5H bimorphs: a dynamical systems approach. Proceedings of SPIE, 2015, , .	1.0	4
146	An experimentally validated contactless acoustic energy transfer model with resistive-reactive electrical loading. Proceedings of SPIE, 2015, , .	1.0	4
147	Unified electrohydroelastic investigation of underwater energy harvesting and dynamic actuation by incorporating Morison's equation. Proceedings of SPIE, 2015, , .	1.0	2
148	Bimorph disk piezoelectric energy harvester under base excitation: electroelastic modeling and experimental validation. Proceedings of SPIE, 2015, , .	1.0	4
149	Broadband performance of a patterned piezoelectric energy harvester integrated with a continuous elastoacoustic mirror. Proceedings of SPIE, 2015, , .	1.0	0
150	Ultrasonic power transfer from a spherical acoustic wave source to a free-free piezoelectric receiver: Modeling and experiment. Journal of Applied Physics, 2015, 117, .	2.3	50
151	Internal resonance for nonlinear vibration energy harvesting. European Physical Journal: Special Topics, 2015, 224, 2867-2880.	2.6	107
152	Three-Degree-of-Freedom Hybrid Piezoelectric-Inductive Aeroelastic Energy Harvester Exploiting a Control Surface. AIAA Journal, 2015, 53, 394-404.	2.6	49
153	Unified nonlinear electroelastic dynamics of a bimorph piezoelectric cantilever for energy harvesting, sensing, and actuation. Nonlinear Dynamics, 2015, 79, 1727-1743.	5.3	159
154	Electrohydroelastic dynamics of macro-fiber composites for underwater energy harvesting from base excitation. Proceedings of SPIE, 2014, , .	1.0	4
155	Contactless Ultrasonic Energy Transfer: Acoustic-Piezoelectric Structure Interaction Modeling and Performance Enhancement. , 2014, , .		0
156	Design and Modeling of Hydraulic Pressure Energy Harvesters for Low Dynamic Pressure Environments. , 2014, , .		1
157	Closure to â€œDiscussion of â€˜On the Role of Nonlinearities in Energy Harvesting: A Critical Review and Discussionâ€™â€•(Daqaq, M., Masana, R., Erturk, A., and Quinn, D. D., 2014, ASME Appl. Mech. Rev., 66(4), p.) Tj ET Q q 1 1 0.784314 rg		
158	Modeling and Characterization of Elastic, Coupling, and Dissipative Nonlinearities in PZT Bimorphs for Vibration Energy Harvesting. , 2014, , .		2
159	Underwater Dynamic Actuation of Macro-Fiber Composite Flaps With Different Aspect Ratios: Electrohydroelastic Modeling, Testing, and Characterization. , 2014, , .		6
160	Nonlinear Dissipative Electroelastic Dynamics of an M-Shaped Broadband Piezoelectric Energy Harvester. , 2014, , .		0
161	On the Role of Nonlinearities in Vibratory Energy Harvesting: A Critical Review and Discussion. Applied Mechanics Reviews, 2014, 66, .	10.3	664
162	Contactless ultrasonic energy transfer for wireless systems: acoustic-piezoelectric structure interaction modeling and performance enhancement. Smart Materials and Structures, 2014, 23, 125032.	3.5	51

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163	Analytical modeling and experimental validation of a structurally integrated piezoelectric energy harvester on a thin plate. Smart Materials and Structures, 2014, 23, 045039.	3.5	71
164	Optimal piezoelectric energy harvesting using elastoacoustic mirrors by frequency-wavenumber domain investigation. Proceedings of SPIE, 2014, , .	1.0	1
165	Modeling and enhancement of piezoelectric power extraction from one-dimensional bending waves. Proceedings of SPIE, 2014, , .	1.0	0
166	Nonlinear modeling, strength-based design, and testing of flexible piezoelectric energy harvesters under large dynamic loads for rotorcraft applications. Proceedings of SPIE, 2014, , .	1.0	0
167	Global nonlinear electroelastic dynamics of a bimorph piezoelectric cantilever for energy harvesting, sensing, and actuation. Proceedings of SPIE, 2014, , .	1.0	0
168	Broadband and band-limited random vibration energy harvesting using a piezoelectric patch on a thin plate. Proceedings of SPIE, 2014, , .	1.0	1
169	Ultrasound acoustic wave energy transfer and harvesting. Proceedings of SPIE, 2014, , .	1.0	1
170	Deterministic and band-limited stochastic energy harvesting from uniaxial excitation of a multilayer piezoelectric stack. Sensors and Actuators A: Physical, 2014, 214, 58-65.	4.2	78
171	Power performance improvements for high pressure ripple energy harvesting. Smart Materials and Structures, 2014, 23, 104011.	3.5	30
172	Piezoelectret foamâ€“based vibration energy harvesting. Journal of Intelligent Material Systems and Structures, 2014, 25, 1681-1692.	2.6	91
173	Multiple patchâ€“based broadband piezoelectric energy harvesting on plate-based structures. Journal of Intelligent Material Systems and Structures, 2014, 25, 1664-1680.	2.6	33
174	M-shaped asymmetric nonlinear oscillator for broadband vibration energy harvesting: Harmonic balance analysis and experimental validation. Journal of Sound and Vibration, 2014, 333, 6209-6223.	4.1	118
175	Nanoscale flexoelectric energy harvesting. International Journal of Solids and Structures, 2014, 51, 3218-3225.	2.7	304
176	Bio-inspired aquatic robotics by untethered piezohydroelastic actuation. Bioinspiration and Biomimetics, 2013, 8, 016006.	2.9	91
177	Transduction as energy conversion; harvesting of acoustic energy in hydraulic systems. Proceedings of Meetings on Acoustics, 2013, , .	0.0	6
178	Numerical and experimental comparison of bistable and monostable vibration energy harvesters under broadband random excitation. , 2013, , .		1
179	Electroaeroelastic analysis of airfoil-based wind energy harvesting using piezoelectric transduction and electromagnetic induction. Journal of Intelligent Material Systems and Structures, 2013, 24, 846-854.	2.6	79
180	Introduction and Methods of Mechanical Energy Harvesting. , 2013, , 3-14.		10

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181	Airfoil-Based Linear and Nonlinear Electroaeroelastic Energy Harvesting. , 2013, , 269-294.		1
182	Design and performance enhancement of hydraulic pressure energy harvesting systems. Proceedings of SPIE, 2013, , .	1.0	4
183	Energy harvesting from hydraulic pressure fluctuations. Smart Materials and Structures, 2013, 22, 025036.	3.5	78
184	Hybrid piezoelectric-inductive flow energy harvesting and dimensionless electroaeroelastic analysis for scaling. Applied Physics Letters, 2013, 102, .	3.2	79
185	Enhanced broadband piezoelectric energy harvesting using rotatable magnets. Applied Physics Letters, 2013, 102, .	3.2	315
186	Electroaeroelastic modeling and analysis of a hybrid piezoelectric-inductive flow energy harvester. Proceedings of SPIE, 2013, , .	1.0	3
187	Electroelastic modeling and experimental validations of piezoelectric energy harvesting from broadband random vibrations of cantilevered bimorphs. Smart Materials and Structures, 2013, 22, 015002.	3.5	85
188	Metamaterial-inspired structures and concepts for elastoacoustic wave energy harvesting. Smart Materials and Structures, 2013, 22, 065004.	3.5	187
189	Energy harvesting from harmonic and noise excitation of multilayer piezoelectric stacks: modeling and experiment. Proceedings of SPIE, 2013, , .	1.0	9
190	Harvesting of Bending Waves in One-Dimensional Infinite Beams Using Resistive-Reactive Circuits. , 2013, , .		2
191	An Experimental Investigation Into the Performance of a T-Shaped Piezoelectric Flow Energy Harvester. , 2013, , .		0
192	Power Density Performance Improvements for High Pressure Ripple Energy Harvesting. , 2013, , .		1
193	Electroelastic Finite Element Modeling and Experimental Validation of Structurally-Integrated Piezoelectric Energy Harvester. , 2013, , .		0
194	Adaptive and active materials: selected papers from the ASME 2012 Conference on Smart Materials, Adaptive Structures and Intelligent Systems (SMASIS 12) (Stone Mountain, GA, USA, 19â€“21 September) Tj ETQq1 1 0.5 0 rgBT /Overlock		
195	On the stochastic excitation of monostable and bistable electroelastic power generators: Relative advantages and tradeoffs in a physical system. Applied Physics Letters, 2013, 102, .	3.2	103
196	Multifunctional double-bimorph piezoelectric composite for bending-twisting actuation, adaptive stiffness change, and energy harvesting. , 2013, , .		1
197	Dimensionless analysis and scaling of a hybrid 3DOF airfoil-based piezoelectric-inductive aeroelastic energy harvester. , 2013, , .		0
198	Multiple Patch-Based Piezoelectric Energy Harvesting From Multiple Vibration Modes of Thin Plates. , 2013, , .		0

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199	Dramatic enhancement of structure-borne wave energy harvesting using an elliptical acoustic mirror. Applied Physics Letters, 2012, 100, .	3.2	77
200	Multifunctional Unmanned Aerial Vehicle Wing Spar for Low-Power Generation and Storage. Journal of Aircraft, 2012, 49, 292-301.	2.3	58
201	Energy Harvesting From Broadband Random Vibrations: Comparison of Single-Mode and Multi-Mode Electroelastic Solutions. , 2012, , .		0
202	Comparative Investigation of the Electroelastic Dynamics of Piezoceramics With Interdigitated and Uniform Electrodes. , 2012, , .		2
203	Electroelastic Modeling and Experimental Validation of Piezoelectric Energy Harvesting From Broadband Random Vibrations. , 2012, , .		1
204	Metamaterial Concepts for Structure-Borne Wave Energy Harvesting: Focusing, Funneling, and Localization. , 2012, , .		1
205	Energy Harvesting From Hydraulic Pressure Fluctuations. , 2012, , .		4
206	Fish-Like Self Propulsion Using Flexible Piezoelectric Composites. , 2012, , .		2
207	Bending strength of piezoelectric ceramics and single crystals for multifunctional load-bearing applications. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2012, 59, 1085-1092.	3.2	45
208	Nonlinear nonconservative behavior and modeling of piezoelectric energy harvesters including proof mass effects. Journal of Intelligent Material Systems and Structures, 2012, 23, 183-199.	2.6	116
209	Piezoelectric, solar and thermal energy harvesting for hybrid low-power generator systems with thin-film batteries. Measurement Science and Technology, 2012, 23, 015101.	2.7	55
210	Assumed-modes modeling of piezoelectric energy harvesters: Eulerâ€“Bernoulli, Rayleigh, and Timoshenko models with axial deformations. Computers and Structures, 2012, 106-107, 214-227.	4.5	98
211	Two Architectures for Bending-Twisting Flapping Using Macro-Fiber Composites. , 2012, , .		0
212	Parameter identification and optimization in piezoelectric energy harvesting: analytical relations, asymptotic analyses, and experimental validations. Proceedings of the Institution of Mechanical Engineers Part I: Journal of Systems and Control Engineering, 2011, 225, 485-496.	1.1	16
213	Appendix D: Strain Nodes of a Uniform Thin Beam for Cantilevered and Other Boundary Conditions. , 2011, , 367-372.		0
214	Enhanced aeroelastic energy harvesting by exploiting combined nonlinearities: theory and experiment. Smart Materials and Structures, 2011, 20, 094007.	3.5	115
215	Introduction to Piezoelectric Energy Harvesting. , 2011, , 1-18.		18
216	Base Excitation Problem for Cantilevered Structures and Correction of the Lumpedâ€Parameter Electromechanical Model. , 2011, , 19-48.		3

#	Article	IF	Citations
217	Analytical Distributedâ€Parameter Electromechanical Modeling of Cantilevered Piezoelectric Energy Harvesters. , 2011, , 49-96.		1
218	Approximate Analytical Distributedâ€Parameter Electromechanical Modeling of Cantilevered Piezoelectric Energy Harvesters. , 2011, , 151-197.		0
219	Modeling of Piezoelectric Energy Harvesting for Various Forms of Dynamic Loading. , 2011, , 199-232.		1
220	Modeling and Exploiting Mechanical Nonlinearities in Piezoelectric Energy Harvesting. , 2011, , 233-271.		1
221	Effects of Material Constants and Mechanical Damping on Power Generation. , 2011, , 301-324.		2
222	A Brief Review of the Literature of Piezoelectric Energy Harvesting Circuits. , 2011, , 325-342.		1
223	Modeling and Analysis of Piezoelectric Energy Harvesting From Aeroelastic Vibrations Using the Doublet-Lattice Method. Journal of Vibration and Acoustics, Transactions of the ASME, 2011, 133, .	1.7	86
224	Frequency Domain Solution of a Piezo-aero-elastic Wing for Energy Harvesting. Conference Proceedings of the Society for Experimental Mechanics, 2011, , 247-259.	0.0	0
225	Piezoelectric energy harvesting for civil infrastructure system applications: Moving loads and surface strain fluctuations. Journal of Intelligent Material Systems and Structures, 2011, 22, 1959-1973.	2.6	121
226	Hydroelastic Power and Thrust Generation Using Macro-Fiber Composite Piezoelectrics. , 2011, , .		1
227	Piezoelectric Energy Harvesting from Aeroelastic Vibrations. , 2011, , 273-300.		0
228	Broadband piezoelectric power generation on high-energy orbits of the bistable Duffing oscillator with electromechanical coupling. Journal of Sound and Vibration, 2011, 330, 2339-2353.	4.1	712
229	Experimental Validation of the Analytical Solution for Bimorph Configurations. , 2011, , 97-130.		3
230	Piezoelectric power generation for civil infrastructure systems. Proceedings of SPIE, 2011, , .	1.0	9
231	Linear and Nonlinear Aeroelastic Energy Harvesting Using Electromagnetic Induction. , 2011, , .		2
232	Underwater thrust and power generation using flexible piezoelectric composites: an experimental investigation toward self-powered swimmer-sensor platforms. Smart Materials and Structures, 2011, 20, 125013.	3.5	134
233	Limit Cycle Oscillations of a Nonlinear Piezo-magneto-elastic Structure for Broadband Vibration Energy Harvesting. Conference Proceedings of the Society for Experimental Mechanics, 2011, , 305-316.	0.0	0
234	Analytical and Experimental Characterization of Macro-Fiber Composite Actuated Thin Clamped-Free Unimorph Benders. Journal of Vibration and Acoustics, Transactions of the ASME, 2010, 132, .	1.7	54

#	Article	IF	Citations
235	Investigation of Soft and Hard Ceramics and Single Crystals for Resonant and Off-Resonant Piezoelectric Energy Harvesting. , 2010, , .		3
236	Multifunctional self-charging structures using piezoceramics and thin-film batteries. Smart Materials and Structures, 2010, 19, 115021.	3.5	86
237	Electromechanical Modelling and Experiments of a Bistable Plate for Nonlinear Energy Harvesting. , 2010, , .		5
238	On the Manifestation and Influence of Material Nonlinearity in Electroelastic Power Generators. , 2010, , .		0
239	Assumed-Modes Formulation of Piezoelectric Energy Harvesters: Euler-Bernoulli, Rayleigh and Timoshenko Models With Axial Deformations. , 2010, , .		9
240	Strength analysis of piezoceramic materials for structural considerations in energy harvesting for UAVs. Proceedings of SPIE, 2010, , .	1.0	10
241	On the energy harvesting potential of piezoaeroelastic systems. Applied Physics Letters, 2010, 96, .	3.2	325
242	A piezoelectric bistable plate for nonlinear broadband energy harvesting. Applied Physics Letters, 2010, 97, .	3.2	419
243	Resonant manifestation of intrinsic nonlinearity within electroelastic micropower generators. Applied Physics Letters, 2010, 97, .	3.2	55
244	Nonlinear piezoelectricity in electroelastic energy harvesters: Modeling and experimental identification. Journal of Applied Physics, 2010, 108, .	2.3	207
245	Resistive Impedance Matching Circuit for Piezoelectric Energy Harvesting. Journal of Intelligent Material Systems and Structures, 2010, 21, 1293-1302.	2.6	302
246	Piezoaeroelastic Modeling and Analysis of a Generator Wing with Continuous and Segmented Electrodes. Journal of Intelligent Material Systems and Structures, 2010, 21, 983-993.	2.6	131
247	Frequency Domain Piezo-Aero-Elastic Analysis and Optimization of an Energy Harvester Wing. , 2010, , .		0
248	Effect of Segmented Electrodes on Piezo-Elastic and Piezo-Aero-Elastic Responses of Generator Plates. , 2009, , .		4
249	Effect of Strain Nodes and Electrode Configuration on Piezoelectric Energy Harvesting From Cantilevered Beams. Journal of Vibration and Acoustics, Transactions of the ASME, 2009, 131, .	1.7	163
250	Effect of Material Constants and Mechanical Damping on Piezoelectric Power Generation. , 2009, , .		5
251	An electromechanical finite element model for piezoelectric energy harvester plates. Journal of Sound and Vibration, 2009, 327, 9-25.	4.1	276
252	An experimentally validated bimorph cantilever model for piezoelectric energy harvesting from base excitations. Smart Materials and Structures, 2009, 18, 025009.	3.5	1,113

#	Article	IF	Citations
253	Piezoelectric energy harvesting from multifunctional wing spars for UAVs: Part 1. Coupled modeling and preliminary analysis. , 2009, , .		10
254	Electromechanical Modeling of Cantilevered Piezoelectric Energy Harvesters for Persistent Base Motions. , 2009, , 41-77.		10
255	Modeling of Piezoelectric Energy Harvesting from an L-shaped Beam-mass Structure with an Application to UAVs. Journal of Intelligent Material Systems and Structures, 2009, 20, 529-544.	2.6	363
256	Finite Element Analysis of a UAV Wing Spar with Piezoceramics for Vibration Energy Harvesting. , 2009, , .		0
257	A piezomagnetoelastic structure for broadband vibration energy harvesting. Applied Physics Letters, 2009, 94, .	3.2	844
258	Self-Charging Structures Using Piezoceramics and Thin-Film Batteries. , 2009, , .		8
259	Issues in mathematical modeling of piezoelectric energy harvesters. Smart Materials and Structures, 2008, 17, 065016.	3.5	347
260	A Distributed Parameter Electromechanical Model for Cantilevered Piezoelectric Energy Harvesters. Journal of Vibration and Acoustics, Transactions of the ASME, 2008, 130, .	1.7	953
261	Power generation and shunt damping performance of a single crystal lead magnesium niobate-lead zirconate titanate unimorph: Analysis and experiment. Applied Physics Letters, 2008, 93, .	3.2	65
262	On Mechanical Modeling of Cantilevered Piezoelectric Vibration Energy Harvesters. Journal of Intelligent Material Systems and Structures, 2008, 19, 1311-1325.	2.6	548
263	Comment on â€˜Modeling and analysis of a bimorph piezoelectric cantilever beam for voltage generationâ€™. Smart Materials and Structures, 2008, 17, 058001.	3.5	8
264	Piezoelectric energy harvesting from an L-shaped beam-mass structure. Proceedings of SPIE, 2008, , .	1.0	14
265	Energy harvesting from small unmmaned air vehicles. , 2008, , .		2
266	Performance Analysis of Single Crystal PMN-PZT Unimorphs for Piezoelectric Energy Harvesting. , 2008, , .		2
267	On the Fundamental Transverse Vibration Frequency of a Free-Free Thin Beam With Identical End Masses. Journal of Vibration and Acoustics, Transactions of the ASME, 2007, 129, 656-662.	1.7	7
268	Mechanical Considerations for Modeling of Vibration-Based Energy Harvesters. , 2007, , .		28