

Guoliang Huang

List of Publications by Year in descending order

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69
papers

3,539
citations

109321

35
h-index

138484

58
g-index

69
all docs

69
docs citations

69
times ranked

2434
citing authors

#	ARTICLE	IF	CITATIONS
1	Nonreciprocity in acoustic and elastic materials. <i>Nature Reviews Materials</i> , 2020, 5, 667-685.	48.7	243
2	A hybrid elastic metamaterial with negative mass density and tunable bending stiffness. <i>Journal of the Mechanics and Physics of Solids</i> , 2017, 105, 179-198.	4.8	185
3	Observation of Nonreciprocal Wave Propagation in a Dynamic Phononic Lattice. <i>Physical Review Letters</i> , 2018, 121, 194301.	7.8	155
4	Magnetoactive Acoustic Metamaterials. <i>Advanced Materials</i> , 2018, 30, e1706348.	21.0	142
5	Focusing guided waves using surface bonded elastic metamaterials. <i>Applied Physics Letters</i> , 2013, 103, .	3.3	139
6	Multiscale porous elastomer substrates for multifunctional on-skin electronics with passive-cooling capabilities. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 205-213.	7.1	131
7	Analytical coupled vibroacoustic modeling of membrane-type acoustic metamaterials: Membrane model. <i>Journal of the Acoustical Society of America</i> , 2014, 136, 969-979.	1.1	118
8	Pencilâ€paper on-skin electronics. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 18292-18301.	7.1	118
9	Laserâ€induced Graphene for Electrothermally Controlled, Mechanically Guided, 3D Assembly and Humanâ€Soft Actuators Interaction. <i>Advanced Materials</i> , 2020, 32, e1908475.	21.0	118
10	Tailoring vibration suppression bands with hierarchical metamaterials containing local resonators. <i>Journal of Sound and Vibration</i> , 2019, 442, 237-248.	3.9	100
11	Non-reciprocal wave propagation in modulated elastic metamaterials. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2017, 473, 20170188.	2.1	99
12	Nonreciprocal Wave Propagation in a Continuum-Based Metamaterial with Space-Time Modulated Resonators. <i>Physical Review Applied</i> , 2019, 11, .	3.8	97
13	A programmable metasurface for real time control of broadband elastic rays. <i>Smart Materials and Structures</i> , 2018, 27, 115011.	3.5	93
14	Analytical coupled vibroacoustic modeling of membrane-type acoustic metamaterials: Plate model. <i>Journal of the Acoustical Society of America</i> , 2014, 136, 2926-2934.	1.1	92
15	Experimental demonstration of a dissipative multi-resonator metamaterial for broadband elastic wave attenuation. <i>Journal of Sound and Vibration</i> , 2019, 438, 1-12.	3.9	90
16	Bistable Structures for Advanced Functional Systems. <i>Advanced Functional Materials</i> , 2021, 31, 2106231.	14.9	79
17	A self-adaptive metamaterial beam with digitally controlled resonators for subwavelength broadband flexural wave attenuation. <i>Smart Materials and Structures</i> , 2018, 27, 045015.	3.5	74
18	Acoustic metamaterials capable of both sound insulation and energy harvesting. <i>Smart Materials and Structures</i> , 2016, 25, 045013.	3.5	70

#	ARTICLE	IF	CITATIONS
19	A design of active elastic metamaterials for control of flexural waves using the transformation method. <i>Journal of Intelligent Material Systems and Structures</i> , 2016, 27, 1337-1347.	2.5	61
20	Quantitative Modeling of Coupled Piezo-Elastodynamic Behavior of Piezoelectric Actuators Bonded to an Elastic Medium for Structural Health Monitoring: A Review. <i>Sensors</i> , 2010, 10, 3681-3702.	3.8	60
21	A nonlinear dissipative elastic metamaterial for broadband wave mitigation. <i>International Journal of Mechanical Sciences</i> , 2019, 164, 105159.	6.7	59
22	An active mechanical Willis meta-layer with asymmetric polarizabilities. <i>Nature Communications</i> , 2020, 11, 3681.	12.8	56
23	Optimal quantum valley Hall insulators by rationally engineering Berry curvature and band structure. <i>Journal of the Mechanics and Physics of Solids</i> , 2020, 135, 103784.	4.8	52
24	Effective medium theory of thin-plate acoustic metamaterials. <i>Journal of the Acoustical Society of America</i> , 2014, 135, 1844-1852.	1.1	51
25	Physical Realization of Elastic Cloaking with a Polar Material. <i>Physical Review Letters</i> , 2020, 124, 114301.	7.8	51
26	Super-resolution imaging by resonant tunneling in anisotropic acoustic metamaterials. <i>Journal of the Acoustical Society of America</i> , 2012, 132, 2800-2806.	1.1	50
27	Actively tunable transverse waves in soft membrane-type acoustic metamaterials. <i>Journal of Applied Physics</i> , 2018, 123, .	2.5	50
28	Realization of active metamaterials with odd micropolar elasticity. <i>Nature Communications</i> , 2021, 12, 5935.	12.8	50
29	Broadband acoustic silencer with ventilation based on slit-type Helmholtz resonators. <i>Applied Physics Letters</i> , 2020, 117, .	3.3	49
30	Elastic metamaterial-based seismic shield for both Lamb and surface waves. <i>AIP Advances</i> , 2017, 7, .	1.3	48
31	Physical Observation of a Robust Acoustic Pumping in Waveguides with Dynamic Boundary. <i>Physical Review Letters</i> , 2020, 125, 253901.	7.8	47
32	In-Plane Second-Order Topologically Protected States in Elastic Kagome Lattices. <i>Physical Review Applied</i> , 2020, 14, .	3.8	46
33	Asymmetric scattering of flexural waves in a parity-time symmetric metamaterial beam. <i>Journal of the Acoustical Society of America</i> , 2019, 146, 850-862.	1.1	42
34	An active meta-layer for optimal flexural wave absorption and cloaking. <i>Mechanical Systems and Signal Processing</i> , 2021, 149, 107324.	8.0	42
35	Polar Metamaterials: A New Outlook on Resonance for Cloaking Applications. <i>Physical Review Letters</i> , 2020, 124, 084301.	7.8	37
36	Elastic wave manipulation by using a phase-controlling meta-layer. <i>Journal of Applied Physics</i> , 2018, 123, .	2.5	35

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37	Non-reciprocal Rayleigh wave propagation in space-time modulated surface. <i>Journal of the Mechanics and Physics of Solids</i> , 2021, 146, 104196.	4.8	31
38	Creating synthetic spaces for higher-order topological sound transport. <i>Nature Communications</i> , 2021, 12, 5028.	12.8	31
39	A flapping vortex generator for heat transfer enhancement in a rectangular airside fin. <i>International Journal of Heat and Mass Transfer</i> , 2018, 118, 1340-1356.	4.8	30
40	Shaping elastic wave mode conversion with a piezoelectric-based programmable meta-boundary. <i>Extreme Mechanics Letters</i> , 2020, 39, 100837.	4.1	29
41	Core-skin debonding detection in honeycomb sandwich structures through guided wave wavefield analysis. <i>Journal of Intelligent Material Systems and Structures</i> , 2019, 30, 1306-1317.	2.5	28
42	Multifunctional Metamaterials for Energy Harvesting and Vibration Control. <i>Advanced Functional Materials</i> , 2022, 32, 2107896.	14.9	28
43	A metamaterial beam with inverse nonlinearity for broadband micro-vibration attenuation. <i>Mechanical Systems and Signal Processing</i> , 2021, 159, 107826.	8.0	27
44	Topology optimization of phononic crystals with uncertainties. <i>Structural and Multidisciplinary Optimization</i> , 2017, 56, 1319-1339.	3.5	26
45	Broadband low-frequency sound isolation by lightweight adaptive metamaterials. <i>Journal of Applied Physics</i> , 2018, 123, .	2.5	25
46	A polynomial-based method for topology optimization of phononic crystals with unknown but bounded parameters. <i>International Journal for Numerical Methods in Engineering</i> , 2018, 114, 777-800.	2.8	23
47	Deterministic Self-Morphing of Soft-Stiff Hybridized Polymeric Films for Acoustic Metamaterials. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 13378-13385.	8.0	23
48	A broadband acoustic panel based on double-layer membrane-type metamaterials. <i>Applied Physics Letters</i> , 2021, 118, .	3.3	22
49	Healable, memorizable, and transformable lattice structures made of stiff polymers. <i>NPG Asia Materials</i> , 2020, 12, .	7.9	18
50	A modified smoothed finite element method (M-SFEM) for analyzing the band gap in phononic crystals. <i>Acta Mechanica</i> , 2019, 230, 2279-2293.	2.1	17
51	Airfoil-shaped self-agitator for convective heat transfer enhancement. <i>International Journal of Thermal Sciences</i> , 2018, 133, 284-298.	4.9	16
52	Air-side heat transfer enhancement in plate-fin channel with an airfoil-based self-agitator. <i>International Journal of Heat and Mass Transfer</i> , 2019, 128, 715-727.	4.8	13
53	Discrete transformation elasticity: An approach to design lattice-based polar metamaterials. <i>International Journal of Engineering Science</i> , 2021, 168, 103562.	5.0	13
54	Independent Flexural Wave Frequency Conversion by a Linear Active Metalayer. <i>Physical Review Letters</i> , 2022, 128, .	7.8	13

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55	A novel non-linear cumulative fatigue damage model based on the degradation of material memory. International Journal of Damage Mechanics, 2020, 29, 610-625.	4.2	11
56	Microtwist elasticity: A continuum approach to zero modes and topological polarization in Kagome lattices. Journal of the Mechanics and Physics of Solids, 2020, 144, 104107.	4.8	11
57	A physics-guided machine learning for multifunctional wave control in active metabeams. Extreme Mechanics Letters, 2022, 55, 101827.	4.1	11
58	High-Efficiency Elastic Wave Rectifier in One-Dimensional Linear Magnetoelastic Phononic Crystal Slabs by an External Magnetostatic Field. Physical Review Applied, 2020, 13, .	3.8	9
59	Tuning characteristics of a metamaterial beam with lateral-electric-field piezoelectric shuntings. Journal of Sound and Vibration, 2021, 491, 115738.	3.9	9
60	Introduction to the special issue on non-reciprocal and topological wave phenomena in acoustics. Journal of the Acoustical Society of America, 2019, 146, 719-720.	1.1	8
61	Solitary waves in a granular chain of elastic spheres: Multiple solitary solutions and their stabilities. Physical Review E, 2019, 99, 062904.	2.1	8
62	Reprogrammable 3D Shaping from Phase Change Microstructures in Elastic Composites. ACS Applied Materials & Interfaces, 2020, 12, 4014-4021.	8.0	6
63	Omnidirectional wave polarization manipulation in isotropic polar solids. International Journal of Solids and Structures, 2022, 241, 111481.	2.7	6
64	Photonic Nanostructures Design and Optimization for Solar Cell Application. Photonics, 2015, 2, 893-905.	2.0	5
65	Bio-inspired self-agitator for convective heat transfer enhancement. Applied Physics Letters, 2018, 113, .	3.3	5
66	Analytical solutions of solitary waves and their collision stability in a pre-compressed one-dimensional granular crystal. Nonlinear Dynamics, 2021, 104, 4293-4309.	5.2	4
67	Microtwist homogenization of three-dimensional Pyrochlore lattices on zero modes and mechanical polarization. Journal of the Mechanics and Physics of Solids, 2021, 155, 104564.	4.8	3
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69	10.1063/1.5046502.1. , 2018, , .		0