Bin Liang

List of Publications by Year
in descending order

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93 papers	6,298 citations	94381 37 h-index	66879 78 g-index
94 all docs	94 docs citations	94 times ranked	2353 citing authors

#	Article	IF	Citations
1	Acoustic metasurfaces. Nature Reviews Materials, 2018, 3, 460-472.	23.3	539
2	Acoustic Diode: Rectification of Acoustic Energy Flux in One-Dimensional Systems. Physical Review Letters, 2009, 103, 104301.	2.9	503
3	Reflected wavefront manipulation based on ultrathin planar acoustic metasurfaces. Scientific Reports, 2013, 3, 2546.	1.6	472
4	Experimental Realization of Full Control of Reflected Waves with Subwavelength Acoustic Metasurfaces. Physical Review Applied, 2014, 2, .	1.5	361
5	Metascreen-Based Acoustic Passive Phased Array. Physical Review Applied, 2015, 4, .	1.5	298
6	Acoustic focusing by coiling up space. Applied Physics Letters, 2012, 101, .	1.5	297
7	Convert Acoustic Resonances to Orbital Angular Momentum. Physical Review Letters, 2016, 117, 034301.	2.9	268
8	Experimental Demonstration of Acoustic Chern Insulators. Physical Review Letters, 2019, 122, 014302.	2.9	205
9	Acoustic Cloaking by a Superlens with Single-Negative Materials. Physical Review Letters, 2011, 106, 014301.	2.9	181
10	Unidirectional acoustic transmission through a prism with near-zero refractive index. Applied Physics Letters, 2013, 103, .	1.5	155
11	Fine manipulation of sound via lossy metamaterials with independent and arbitrary reflection amplitude and phase. Nature Communications, 2018, 9, 1632.	5.8	150
12	Three-dimensional Ultrathin Planar Lenses by Acoustic Metamaterials. Scientific Reports, 2014, 4, 6830.	1.6	139
13	Twisted Acoustics: Metasurfaceâ€Enabled Multiplexing and Demultiplexing. Advanced Materials, 2018, 30, e1800257.	11.1	134
14	Extraordinary acoustic transmission through ultrathin acoustic metamaterials by coiling up space. Applied Physics Letters, 2013, 103, .	1.5	131
15	Ultra-broadband absorption by acoustic metamaterials. Applied Physics Letters, 2014, 105, .	1.5	124
16	Dispersionless Manipulation of Reflected Acoustic Wavefront by Subwavelength Corrugated Surface. Scientific Reports, 2015, 5, 10966.	1.6	124
17	One-way mode transmission in one-dimensional phononic crystal plates. Journal of Applied Physics, 2010, 108, .	1.1	123
18	Acoustic one-way open tunnel by using metasurface. Applied Physics Letters, 2015, 107, .	1.5	107

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19	Broadband and stable acoustic vortex emitter with multi-arm coiling slits. Applied Physics Letters, 2016, 108, .	1.5	105
20	Ultrathin Acoustic Metasurface-Based Schroeder Diffuser. Physical Review X, 2017, 7, .	2.8	96
21	Omnidirectional ventilated acoustic barrier. Applied Physics Letters, 2017, 111, .	1.5	79
22	A broadband acoustic omnidirectional absorber comprising positive-index materials. Applied Physics Letters, 2011, 99, .	1.5	72
23	Broadband directional acoustic waveguide with high efficiency. Applied Physics Letters, 2012, 101, 043503.	1.5	72
24	Broadband asymmetric acoustic transmission in a gradient-index structure. Applied Physics Letters, 2012, 101, .	1.5	72
25	Acoustic one-way metasurfaces: Asymmetric Phase Modulation of Sound by Subwavelength Layer. Scientific Reports, 2016, 6, 28023.	1.6	71
26	Acoustic focusing by symmetrical self-bending beams with phase modulations. Applied Physics Letters, 2016, 108, .	1.5	63
27	Frequency-dependence of the acoustic rectifying efficiency of an acoustic diode model. Applied Physics Letters, 2010, 96, .	1.5	58
28	Broadband compact acoustic absorber with high-efficiency ventilation performance. Applied Physics Letters, 2018, 113, .	1.5	57
29	Deep-Subwavelength-Scale Directional Sensing Based on Highly Localized Dipolar Mie Resonances. Physical Review Applied, 2016, 5, .	1.5	55
30	Acoustic Illusion near Boundaries of Arbitrary Curved Geometry. Scientific Reports, 2013, 3, 1427.	1.6	52
31	Broadband non-reciprocal transmission of sound with invariant frequency. Scientific Reports, 2016, 6, 19824.	1.6	52
32	Meta-neural-network for real-time and passive deep-learning-based object recognition. Nature Communications, 2020, 11, 6309.	5.8	49
33	Broadband convergence of acoustic energy with binary reflected phases on planar surface. Applied Physics Letters, 2016, 109, .	1.5	44
34	Wavefront manipulation by acoustic metasurfaces: from physics and applications. Nanophotonics, 2018, 7, 1191-1205.	2.9	42
35	Broadband field rotator based on acoustic metamaterials. Applied Physics Letters, 2014, 104, .	1.5	41
36	Efficient nonreciprocal mode transitions in spatiotemporally modulated acoustic metamaterials. Science Advances, 2021, 7, eabj1198.	4.7	40

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37	Multi-frequency acoustic metasurface for extraordinary reflection and sound focusing. AIP Advances, 2016, 6, .	0.6	39
38	Tunable low-frequency and broadband acoustic metamaterial absorber. Journal of Applied Physics, 2021, 129, .	1.1	38
39	Inverse design of acoustic metamaterials based on machine learning using a Gaussâ€“Bayesian model. Journal of Applied Physics, 2020, 128, .	1.1	37
40	Ultrathin Acoustic Parity-Time Symmetric Metasurface Cloak. Research, 2019, 2019, 8345683.	2.8	37
41	Broadband Acoustic Cloaking within an Arbitrary Hard Cavity. Physical Review Applied, 2015, 3, .	1.5	31
42	Topology-Optimized Omnidirectional Broadband Acoustic Ventilation Barrier. Physical Review Applied, 2020, 14, .	1.5	27
43	Sound Insulation in a Hollow Pipe with Subwavelength Thickness. Scientific Reports, 2017, 7, 44106.	1.6	26
44	Experimental realization of broadband acoustic omnidirectional absorber by homogeneous anisotropic metamaterials. Journal of Applied Physics, 2015, 117, 074502.	1.1	25
45	Three-dimensional broadband acoustic illusion cloak for sound-hard boundaries of curved geometry. Scientific Reports, 2016, 6, 36936.	1.6	23
46	Broadband transmission-type coding metamaterial for wavefront manipulation for airborne sound. Applied Physics Express, 2018, 11, 077301.	1.1	22
47	Scattering reduction for an acoustic sensor using a multilayered shell comprising a pair of homogeneous isotropic single-negative media. Applied Physics Letters, 2012, 101, .	1.5	21
48	Voltage-controlled membrane-type active acoustic metasurfaces with ultrathin thickness. Applied Physics Express, 2019, 12, 064501.	1.1	21
49	One-way acoustic mirror based on anisotropic zero-index media. Applied Physics Letters, 2015, 107, .	1.5	20
50	Ultrathin Planar Metasurface-based Acoustic Energy Harvester with Deep Subwavelength Thickness and Mechanical Rigidity. Scientific Reports, 2019, 9, 11152.	1.6	20
51	Effective medium method for sound propagation in a soft medium containing air bubbles. Journal of the Acoustical Society of America, 2008, 124, 1419-1429.	0.5	19
52	Controllable acoustic rectification in one-dimensional piezoelectric composite plates. Journal of Applied Physics, 2013, 114, .	1.1	19
53	Topological Interface States in the Low-Frequency Band Gap of One-Dimensional Phononic Crystals. Physical Review Applied, 2020, 14, .	1.5	19
54	Acoustic localization in weakly compressible elastic media containing random air bubbles. Physical Review E, 2007, 75, 016605.	0.8	18

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55	Ultra-broadband and planar sound diffuser with high uniformity of reflected intensity. Applied Physics Letters, 2017, 111, .	1.5	17
56	Tunable annular acoustic metasurface for transmitted wavefront modulation. Applied Physics Express, 2020, 13, 014002.	1.1	17
57	Broadband thin sound absorber based on hybrid labyrinthine metastructures with optimally designed parameters. Scientific Reports, 2020, 10, 10705.	1.6	17
58	Acoustic one-way frequency up-converter with high transmission efficiency. Journal of Applied Physics, 2013, 114, 134508.	1.1	16
59	Illusion for Airborne Sound Source by a Closed Layer with Subwavelength Thickness. Scientific Reports, 2019, 9, 1750.	1.6	16
60	Experimental demonstration of a three-dimensional omnidirectional and broadband acoustic concentrator using an anisotropic metamaterial. Science China: Physics, Mechanics and Astronomy, 2021, 64, 1.	2.0	16
61	Tunable asymmetric acoustic transmission via binary metasurface and zero-index metamaterials. Applied Physics Letters, 2021, 118, .	1.5	16
62	Converting a Monopole Emission into a Dipole Using a Subwavelength Structure. Physical Review Applied, 2018, 9, .	1.5	15
63	Machine-Learning-Assisted Acoustic Consecutive Fano Resonances: Application to a Tunable Broadband Low-Frequency Metasilencer. Physical Review Applied, 2021, 16, .	1.5	15
64	Three-dimensional ultra-broadband focusing flat mirror for airborne sound. Applied Physics Letters, 2016, 109, .	1.5	14
65	Acoustic broadband metacouplers. Applied Physics Letters, 2017, 110, .	1.5	14
66	Acoustic skin meta-muffler. Science China: Physics, Mechanics and Astronomy, 2021, 64, 1.	2.0	14
67	Machine learning-assisted low-frequency and broadband sound absorber with coherently coupled weak resonances. Applied Physics Letters, 2022, 120, .	1.5	14
68	Low-frequency and broadband muffler via cascaded labyrinthine metasurfaces. Applied Physics Letters, 2022, 120, .	1.5	14
69	Non-blind acoustic invisibility by dual layers of homogeneous single-negative media. Scientific Reports, 2017, 7, 42533.	1.6	13
70	A broadband low-reflection bending waveguide for airborne sound. Applied Physics Letters, 2017, 110, .	1.5	13
71	Focusing a Two-Dimensional Acoustic Vortex Beyond Diffraction Limit on an Ultrathin Structured Surface. Physical Review Applied, 2021, 15, .	1.5	13
72	Compact acoustic monolayered metadecoder for efficient and flexible orbital angular momentum demultiplexing. Applied Physics Letters, 2021, 119, 213502.	1.5	13

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73	Acoustic planar antireflective focusing lens with sub-diffraction-limit resolution based on metamaterials. Journal of Applied Physics, 2018, 123, .	1.1	12
74	Generation of Non-aliased Two-dimensional Acoustic Vortex with Enclosed Metasurface. Scientific Reports, 2020, 10, 3827.	1.6	12
75	Experimental demonstration of a three-dimensional acoustic hyperlens for super-resolution imaging. Applied Physics Letters, 2021, 118, .	1.5	12
76	Acoustic band pinning in the phononic crystal plates of anti-symmetric structure. Chinese Physics B, 2011, 20, 116301.	0.7	10
77	Radiation directivity rotation by acoustic metamaterials. Applied Physics Letters, 2015, 107, .	1.5	10
78	Omnidirectional broadband acoustic deflector based on metamaterials. Applied Physics Express, 2017, 10, 027201.	1.1	10
79	Improving sound absorption via coupling modulation of resonance energy leakage and loss in ventilated metamaterials. Applied Physics Letters, 2022, 120, .	1.5	10
80	Topological pumping in acoustic waveguide arrays with hopping modulation. New Journal of Physics, 2022, 24, 013004.	1.2	8
81	Concealing a Passive Sensing System with Single-Negative Layers. Chinese Physics Letters, 2012, 29, 014102.	1.3	7
82	One-way Acoustic Beam Splitter. Scientific Reports, 2018, 8, 13573.	1.6	7
83	Wavelength-dependent multi-functional wavefront manipulation for reflected acoustic waves. Applied Physics Express, 2020, 13, 094003.	1.1	7
84	Twisting Linear to Orbital Angular Momentum in an Ultrasonic Motor. Advanced Materials, 2022, 34, e2201575.	11.1	7
85	An ultrathin planar acoustic metasurface diffuser with narrowband uniform reflection. AIP Advances, 2020, 10, 085122.	0.6	5
86	Generalized momentum conservation and Fedorov-Imbert linear shift of acoustic vortex beams at a metasurface. Physical Review B, 2021, 104, .	1.1	5
87	Controlling an acoustic wave with a cylindrically-symmetric gradient-index system. Chinese Physics B, 2015, 24, 024301.	0.7	4
88	Effective medium method of slightly compressible elastic media permeated with air-filled bubbles. Frontiers of Physics in China, 2006, 1, 500-505.	1.0	3
89	Two-way collinear mixing of a longitudinal and a transverse plane wave in materials with cubic nonlinearity. Waves in Random and Complex Media, 2022, 32, 2138-2157.	1.6	3
90	Cloaking an acoustic sensor with single-negative materials. Annals of Physics, 2015, 358, 83-91.	1.0	2

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91	High-efficiency collimation of airborne sound through a single deep-subwavelength aperture in an ultra-thin planar plate. Applied Physics Express, 2019, 12, 027002.	1.1	2
92	Acoustic Nonlinearity of Porous Viscoelastic Medium. AIP Conference Proceedings, 2006, , .	0.3	0
93	A new mechanism of waves-matter interaction. Science China: Physics, Mechanics and Astronomy, 2020, 63, 1.	2.0	0