Bin Liang

List of Publications by Citations

88 papers	4,464 citations	32 h-index	66 g-index
94 ext. papers	5,357 ext. citations	5.2 avg, IF	5.83 L-index

#	Paper	IF	Citations
88	Acoustic diode: rectification of acoustic energy flux in one-dimensional systems. *Physical Review Letters*, **2009**, 103, 104301	7.4	426
87	Reflected wavefront manipulation based on ultrathin planar acoustic metasurfaces. *Scientific Reports*, **2013**, 3, 2546	4.9	364
86	Acoustic metasurfaces. *Nature Reviews Materials*, **2018**, 3, 460-472	73.3	290
85	Experimental Realization of Full Control of Reflected Waves with Subwavelength Acoustic Metasurfaces. *Physical Review Applied*, **2014**, 2,	4.3	284
84	Acoustic focusing by coiling up space. *Applied Physics Letters*, **2012**, 101, 233508	3.4	232
83	Metascreen-Based Acoustic Passive Phased Array. *Physical Review Applied*, **2015**, 4,	4.3	227
82	Convert Acoustic Resonances to Orbital Angular Momentum. *Physical Review Letters*, **2016**, 117, 034301	7.4	183
81	Acoustic cloaking by a superlens with single-negative materials. *Physical Review Letters*, **2011**, 106, 014301	7.4	148
80	Unidirectional acoustic transmission through a prism with near-zero refractive index. *Applied Physics Letters*, **2013**, 103, 053505	3.4	134
79	Experimental Demonstration of Acoustic Chern Insulators. *Physical Review Letters*, **2019**, 122, 014302	7.4	113
78	Three-dimensional ultrathin planar lenses by acoustic metamaterials. *Scientific Reports*, **2014**, 4, 6830	4.9	110
77	Fine manipulation of sound via lossy metamaterials with independent and arbitrary reflection amplitude and phase. *Nature Communications*, **2018**, 9, 1632	17.4	101
76	Extraordinary acoustic transmission through ultrathin acoustic metamaterials by coiling up space. *Applied Physics Letters*, **2013**, 103, 063509	3.4	99
75	Dispersionless Manipulation of Reflected Acoustic Wavefront by Subwavelength Corrugated Surface. *Scientific Reports*, **2015**, 5, 10966	4.9	98
74	Ultra-broadband absorption by acoustic metamaterials. *Applied Physics Letters*, **2014**, 105, 243505	3.4	96
73	One-way mode transmission in one-dimensional phononic crystal plates. *Journal of Applied Physics*, **2010**, 108, 124909	2.5	91
72	Twisted Acoustics: Metasurface-Enabled Multiplexing and Demultiplexing. *Advanced Materials*, **2018**, 30, e1800257	24	84

71	Acoustic one-way open tunnel by using metasurface. *Applied Physics Letters*, **2015**, 107, 113501	3.4	83
70	Broadband and stable acoustic vortex emitter with multi-arm coiling slits. *Applied Physics Letters*, **2016**, 108, 203501	3.4	75
69	Ultrathin Acoustic Metasurface-Based Schroeder Diffuser. *Physical Review X*, **2017**, 7,	9.1	69
68	A broadband acoustic omnidirectional absorber comprising positive-index materials. *Applied Physics Letters*, **2011**, 99, 193507	3.4	67
67	Broadband asymmetric acoustic transmission in a gradient-index structure. *Applied Physics Letters*, **2012**, 101, 263502	3.4	66
66	Broadband directional acoustic waveguide with high efficiency. *Applied Physics Letters*, **2012**, 101, 043503	3.4	63
65	Acoustic one-way metasurfaces: Asymmetric Phase Modulation of Sound by Subwavelength Layer. *Scientific Reports*, **2016**, 6, 28023	4.9	56
64	Frequency-dependence of the acoustic rectifying efficiency of an acoustic diode model. *Applied Physics Letters*, **2010**, 96, 233511	3.4	53
63	Omnidirectional ventilated acoustic barrier. *Applied Physics Letters*, **2017**, 111, 203502	3.4	50
62	Broadband non-reciprocal transmission of sound with invariant frequency. *Scientific Reports*, **2016**, 6, 19824	4.9	43
61	Acoustic illusion near boundaries of arbitrary curved geometry. *Scientific Reports*, **2013**, 3, 1427	4.9	42
60	Deep-Subwavelength-Scale Directional Sensing Based on Highly Localized Dipolar Mie Resonances. *Physical Review Applied*, **2016**, 5,	4.3	41
59	Acoustic focusing by symmetrical self-bending beams with phase modulations. *Applied Physics Letters*, **2016**, 108, 073501	3.4	41
58	Broadband field rotator based on acoustic metamaterials. *Applied Physics Letters*, **2014**, 104, 083510	3.4	35
57	Broadband compact acoustic absorber with high-efficiency ventilation performance. *Applied Physics Letters*, **2018**, 113, 103501	3.4	35
56	Broadband convergence of acoustic energy with binary reflected phases on planar surface. *Applied Physics Letters*, **2016**, 109, 243501	3.4	32
55	Multi-frequency acoustic metasurface for extraordinary reflection and sound focusing. *AIP Advances*, **2016**, 6, 121702	1.5	28
54	Broadband Acoustic Cloaking within an Arbitrary Hard Cavity. *Physical Review Applied*, **2015**, 3,	4.3	27

53	Wavefront manipulation by acoustic metasurfaces: from physics and applications. *Nanophotonics*, **2018**, 7, 1191-1205	6.3	24
52	Meta-neural-network for real-time and passive deep-learning-based object recognition. *Nature Communications*, **2020**, 11, 6309	17.4	23
51	Experimental realization of broadband acoustic omnidirectional absorber by homogeneous anisotropic metamaterials. *Journal of Applied Physics*, **2015**, 117, 074502	2.5	22
50	Ultrathin Acoustic Parity-Time Symmetric Metasurface Cloak. *Research*, **2019**, 2019, 8345683	7.8	21
49	Scattering reduction for an acoustic sensor using a multilayered shell comprising a pair of homogeneous isotropic single-negative media. *Applied Physics Letters*, **2012**, 101, 033509	3.4	19
48	Sound Insulation in a Hollow Pipe with Subwavelength Thickness. *Scientific Reports*, **2017**, 7, 44106	4.9	18
47	One-way acoustic mirror based on anisotropic zero-index media. *Applied Physics Letters*, **2015**, 107, 213503	3.4	17
46	Ultrathin Planar Metasurface-based Acoustic Energy Harvester with Deep Subwavelength Thickness and Mechanical Rigidity. *Scientific Reports*, **2019**, 9, 11152	4.9	16
45	Acoustic localization in weakly compressible elastic media containing random air bubbles. *Physical Review E*, **2007**, 75, 016605	2.4	16
44	Acoustic one-way frequency up-converter with high transmission efficiency. *Journal of Applied Physics*, **2013**, 114, 134508	2.5	15
43	Controllable acoustic rectification in one-dimensional piezoelectric composite plates. *Journal of Applied Physics*, **2013**, 114, 164504	2.5	15
42	Acoustic broadband metacouplers. *Applied Physics Letters*, **2017**, 110, 203504	3.4	14
41	Three-dimensional broadband acoustic illusion cloak for sound-hard boundaries of curved geometry. *Scientific Reports*, **2016**, 6, 36936	4.9	14
40	Effective medium method for sound propagation in a soft medium containing air bubbles. *Journal of the Acoustical Society of America*, **2008**, 124, 1419-29	2.2	14
39	Inverse design of acoustic metamaterials based on machine learning using a Gauss-Bayesian model. *Journal of Applied Physics*, **2020**, 128, 134902	2.5	13
38	Broadband transmission-type coding metamaterial for wavefront manipulation for airborne sound. *Applied Physics Express*, **2018**, 11, 077301	2.4	13
37	Non-blind acoustic invisibility by dual layers of homogeneous single-negative media. *Scientific Reports*, **2017**, 7, 42533	4.9	12
36	Ultra-broadband and planar sound diffuser with high uniformity of reflected intensity. *Applied Physics Letters*, **2017**, 111, 103502	3.4	12

35	Three-dimensional ultra-broadband focusing flat mirror for airborne sound. *Applied Physics Letters*, **2016**, 109, 153501	3.4	12
34	Topology-Optimized Omnidirectional Broadband Acoustic Ventilation Barrier. *Physical Review Applied*, **2020**, 14,	4.3	11
33	Converting a Monopole Emission into a Dipole Using a Subwavelength Structure. *Physical Review Applied*, **2018**, 9,	4.3	10
32	Tunable low-frequency and broadband acoustic metamaterial absorber. *Journal of Applied Physics*, **2021**, 129, 094502	2.5	10
31	Voltage-controlled membrane-type active acoustic metasurfaces with ultrathin thickness. *Applied Physics Express*, **2019**, 12, 064501	2.4	9
30	Acoustic planar antireflective focusing lens with sub-diffraction-limit resolution based on metamaterials. *Journal of Applied Physics*, **2018**, 123, 091717	2.5	9
29	Acoustic band pinning in the phononic crystal plates of anti-symmetric structure. *Chinese Physics B*, **2011**, 20, 116301	1.2	9
28	Illusion for Airborne Sound Source by a Closed Layer with Subwavelength Thickness. *Scientific Reports*, **2019**, 9, 1750	4.9	8
27	Omnidirectional broadband acoustic deflector based on metamaterials. *Applied Physics Express*, **2017**, 10, 027201	2.4	7
26	Radiation directivity rotation by acoustic metamaterials. *Applied Physics Letters*, **2015**, 107, 093506	3.4	7
25	A broadband low-reflection bending waveguide for airborne sound. *Applied Physics Letters*, **2017**, 110, 253502	3.4	7
24	Generation of Non-aliased Two-dimensional Acoustic Vortex with Enclosed Metasurface. *Scientific Reports*, **2020**, 10, 3827	4.9	6
23	Concealing a Passive Sensing System with Single-Negative Layers. *Chinese Physics Letters*, **2012**, 29, 014102	2.2	6
22	Efficient nonreciprocal mode transitions in spatiotemporally modulated acoustic metamaterials. *Science Advances*, **2021**, 7, eabj1198	14.3	6
21	Topological Interface States in the Low-Frequency Band Gap of One-Dimensional Phononic Crystals. *Physical Review Applied*, **2020**, 14,	4.3	6
20	Experimental demonstration of a three-dimensional omnidirectional and broadband acoustic concentrator using an anisotropic metamaterial. *Science China: Physics, Mechanics and Astronomy*, **2021**, 64, 1	3.6	6
19	Broadband thin sound absorber based on hybrid labyrinthine metastructures with optimally designed parameters. *Scientific Reports*, **2020**, 10, 10705	4.9	5
18	Tunable annular acoustic metasurface for transmitted wavefront modulation. *Applied Physics Express*, **2020**, 13, 014002	2.4	5

17	Tunable asymmetric acoustic transmission via binary metasurface and zero-index metamaterials. *Applied Physics Letters*, **2021**, 118, 113501	3.4	5
16	One-way Acoustic Beam Splitter. *Scientific Reports*, **2018**, 8, 13573	4.9	4
15	Acoustic skin meta-muffler. *Science China: Physics, Mechanics and Astronomy*, **2021**, 64, 1	3.6	4
14	Compact acoustic monolayered metadecoder for efficient and flexible orbital angular momentum demultiplexing. *Applied Physics Letters*, **2021**, 119, 213502	3.4	3
13	Machine-Learning-Assisted Acoustic Consecutive Fano Resonances: Application to a Tunable Broadband Low-Frequency Metasilencer. *Physical Review Applied*, **2021**, 16,	4.3	3
12	Experimental demonstration of a three-dimensional acoustic hyperlens for super-resolution imaging. *Applied Physics Letters*, **2021**, 118, 203504	3.4	3
11	Focusing a Two-Dimensional Acoustic Vortex Beyond Diffraction Limit on an Ultrathin Structured Surface. *Physical Review Applied*, **2021**, 15,	4.3	3
10	Cloaking an acoustic sensor with single-negative materials. *Annals of Physics*, **2015**, 358, 83-91	2.5	2
9	Effective medium method of slightly compressible elastic media permeated with air-filled bubbles. *Frontiers of Physics in China*, **2006**, 1, 500-505		2
8	Wavelength-dependent multi-functional wavefront manipulation for reflected acoustic waves. *Applied Physics Express*, **2020**, 13, 094003	2.4	2
7	High-efficiency collimation of airborne sound through a single deep-subwavelength aperture in an ultra-thin planar plate. *Applied Physics Express*, **2019**, 12, 027002	2.4	1
6	Controlling an acoustic wave with a cylindrically-symmetric gradient-index system. *Chinese Physics B* , **2015**, 24, 024301	1.2	1
5	Machine learning-assisted low-frequency and broadband sound absorber with coherently coupled weak resonances. *Applied Physics Letters*, **2022**, 120, 033501	3.4	1
4	Two-way collinear mixing of a longitudinal and a transverse plane wave in materials with cubic nonlinearity. *Waves in Random and Complex Media*, **2020**, 1-20	1.9	1
3	An ultrathin planar acoustic metasurface diffuser with narrowband uniform reflection. *AIP Advances*, **2020**, 10, 085122	1.5	1
2	Twisting Linear to Orbital Angular Momentum in an Ultrasonic Motor.. *Advanced Materials*, **2022**, e2201575	27.4	0
1	A new mechanism of waves-matter interaction. *Science China: Physics, Mechanics and Astronomy*, **2020**, 63, 1	3.6	