

Zhengyou Liu

List of Publications by Year in descending order

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154
papers

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157
docs citations

157
times ranked

4573
citing authors

#	ARTICLE	IF	CITATIONS
1	Acoustic higher-order topology derived from first-order with built-in Zeeman-like fields. Science Bulletin, 2022, 67, 488-494.	4.3	16
2	Topological dislocation modes in three-dimensional acoustic topological insulators. Nature Communications, 2022, 13, 508.	5.8	40
3	Acoustic Subwavelength Manipulation of Particles with a Quasiperiodic Plate. Physical Review Applied, 2022, 17, .	1.5	5
4	Non-Hermitian second-order topology induced by resistances in electric circuits. Physical Review B, 2022, 105, .	1.1	16
5	Experimental Observation of Non-Abelian Earring Nodal Links in Phononic Crystals. Physical Review Letters, 2022, 128, .	2.9	22
6	Higher-order topological semimetal in acoustic crystals. Nature Materials, 2021, 20, 812-817.	13.3	106
7	Hybrid-Order Topological Insulators in a Phononic Crystal. Physical Review Letters, 2021, 126, 156801.	2.9	57
8	Acoustic Valley Spin Chern Insulators. Physical Review Applied, 2021, 16, .	1.5	13
9	Pseudomagnetic Fields Enabled Manipulation of On-Chip Elastic Waves. Physical Review Letters, 2021, 127, 136401.	2.9	19
10	3D Hinge Transport in Acoustic Higher-Order Topological Insulators. Physical Review Letters, 2021, 127, 255501.	2.9	32
11	Observation of corner states in second-order topological electric circuits. Physical Review B, 2020, 102, .	1.1	34
12	Metafluids beyond the Bulk Modulus. Physical Review Letters, 2020, 125, 185502.	2.9	4
13	Acoustic square-root topological states. Physical Review B, 2020, 102, .	1.1	45
14	Acoustic Realization of Quadrupole Topological Insulators. Physical Review Letters, 2020, 124, 206601.	2.9	160
15	Ideal Type-II Weyl Phase and Topological Transition in Phononic Crystals. Physical Review Letters, 2020, 124, 206802.	2.9	29
16	Nodal-Chain Semimetal States and Topological Focusing in Phononic Crystals. Physical Review Applied, 2020, 13, .	1.5	22
17	Valley-locked waveguide transport in acoustic heterostructures. Nature Communications, 2020, 11, 3000.	5.8	84
18	Symmetry-enforced three-dimensional Dirac phononic crystals. Light: Science and Applications, 2020, 9, 38.	7.7	38

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19	Acoustic tweezers and motor for living cells. <i>Applied Physics Letters</i> , 2020, 116, .	1.5	28
20	Experimental demonstration of acoustic semimetal with topologically charged nodal surface. <i>Science Advances</i> , 2020, 6, eaav2360.	4.7	60
21	Acoustic spin-1 Weyl semimetal. <i>Science China: Physics, Mechanics and Astronomy</i> , 2020, 63, 1.	2.0	18
22	Acoustic spin-Chern insulator induced by synthetic spin-orbit coupling with spin conservation breaking. <i>Nature Communications</i> , 2020, 11, 3227.	5.8	52
23	Bound state in the continuum in topological inductor-capacitor circuit. <i>Applied Physics Letters</i> , 2020, 116, .	1.5	20
24	Experimental characterization of fragile topology in an acoustic metamaterial. <i>Science</i> , 2020, 367, 797-800.	6.0	90
25	Phononic-Crystal-Enabled Dynamic Manipulation of Microparticles and Cells in an Acoustofluidic Channel. <i>Physical Review Applied</i> , 2020, 13, .	1.5	21
26	Observation of quadratic Weyl points and double-helicoid arcs. <i>Nature Communications</i> , 2020, 11, 1820.	5.8	50
27	Dirac points and the transition towards Weyl points in three-dimensional sonic crystals. <i>Light: Science and Applications</i> , 2020, 9, 201.	7.7	18
28	Negative Refraction and Partition in Acoustic Valley Materials of a Square Lattice. <i>Physical Review Applied</i> , 2019, 12, .	1.5	38
29	Straight nodal lines and waterslide surface states observed in acoustic metacrystals. <i>Physical Review B</i> , 2019, 100, .	1.1	18
30	Nodal rings and drumhead surface states in phononic crystals. <i>Nature Communications</i> , 2019, 10, 1769.	5.8	66
31	Acoustic Topological Transport and Refraction in a Kekulé Lattice. <i>Physical Review Applied</i> , 2019, 11, .	1.5	28
32	Acoustic Landau quantization and quantum-Hall-like edge states. <i>Nature Physics</i> , 2019, 15, 352-356.	6.5	84
33	Experimental Realization of Type-II Weyl Points and Fermi Arcs in Phononic Crystal. <i>Physical Review Letters</i> , 2019, 122, 104302.	2.9	57
34	Probing Weyl Physics with One-Dimensional Sonic Crystals. <i>Physical Review Letters</i> , 2019, 122, 136802.	2.9	48
35	Realization of acoustic omnidirectional radiation with annular anisotropic zero-density metamaterial. <i>Applied Physics Letters</i> , 2019, 114, .	1.5	5
36	Acoustic Funnel and Buncher for Nanoparticle Injection. <i>Physical Review Applied</i> , 2019, 11, .	1.5	1

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37	Trapping sound at corners. Nature Materials, 2019, 18, 98-99.	13.3	5
38	Valley-projected edge modes observed in underwater sonic crystals. Applied Physics Letters, 2019, 114, .	1.5	37
39	Acoustic Dirac degeneracy and topological phase transitions realized by rotating scatterers. Journal of Applied Physics, 2018, 123, .	1.1	41
40	Valley Topological Phases in Bilayer Sonic Crystals. Physical Review Letters, 2018, 120, 116802.	2.9	181
41	Weyl points and Fermi arcs in a chiral phononic crystal. Nature Physics, 2018, 14, 30-34.	6.5	258
42	Planar Ultrasonic Lenses Formed by Concentric Circular Sandwiched Ring Arrays. Advanced Materials Technologies, 2018, 4, 1800542.	3.0	7
43	TiO ₂ Photonic Crystals with Localized Surface Photothermal Effect and Enhanced Photocatalytic CO ₂ Reduction Activity. ACS Sustainable Chemistry and Engineering, 2018, 6, 15653-15661.	3.2	94
44	On-chip valley topological materials for elastic wave manipulation. Nature Materials, 2018, 17, 993-998.	13.3	265
45	Acoustic manipulating of capsule-shaped particle assisted by phononic crystal plate. Applied Physics Letters, 2018, 112, .	1.5	16
46	Topological negative refraction of surface acoustic waves in a Weyl phononic crystal. Nature, 2018, 560, 61-64.	13.7	330
47	Rotational manipulation by acoustic radiation torque of high-order vortex beams generated by an artificial structured plate. Applied Physics Letters, 2018, 113, .	1.5	35
48	Valley Physics in Non-Hermitian Artificial Acoustic Boron Nitride. Physical Review Letters, 2018, 120, 246601.	2.9	79
49	Extraordinary lateral beaming of sound from a square-lattice phononic crystal. Physics Letters, Section A: General, Atomic and Solid State Physics, 2017, 381, 886-889.	0.9	5
50	Multiband Asymmetric Transmission of Airborne Sound by Coded Metasurfaces. Physical Review Applied, 2017, 7, .	1.5	71
51	Metasurfaces: Coding Acoustic Metasurfaces (Adv. Mater. 6/2017). Advanced Materials, 2017, 29, .	11.1	1
52	Highly efficient isolation of waterborne sound by an air-sealed meta-screen. AIP Advances, 2017, 7, .	0.6	8
53	Coding Acoustic Metasurfaces. Advanced Materials, 2017, 29, 1603507.	11.1	207
54	Observation of topological valley transport of sound in sonic crystals. Nature Physics, 2017, 13, 369-374.	6.5	666

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55	Observation of acoustic valley vortex states and valley-chirality locked beam splitting. Physical Review B, 2017, 95, .	1.1	106
56	Acoustically driven particle delivery assisted by a graded grating plate. Applied Physics Letters, 2017, 111, 031903.	1.5	15
57	Observation of valley-selective microwave transport in photonic crystals. Applied Physics Letters, 2017, 111, .	1.5	46
58	Sound-mediated stable configurations for polystyrene particles. Physical Review E, 2017, 96, 052604.	0.8	9
59	Focusing of ultrasonic waves in water with a flat artificial composite plate. , 2017, , .		0
60	Focusing of ultrasonic waves in water with a flat artificial composite plate. , 2017, , .		0
61	Particle manipulation with acoustic vortex beam induced by a brass plate with spiral shape structure. Applied Physics Letters, 2016, 109, .	1.5	94
62	Making sound vortices by metasurfaces. AIP Advances, 2016, 6, .	0.6	99
63	Valley Vortex States in Sonic Crystals. Physical Review Letters, 2016, 116, 093901.	2.9	336
64	Acoustically mediated long-range interaction among multiple spherical particles exposed to a plane standing wave. New Journal of Physics, 2016, 18, 113034.	1.2	7
65	Guiding spoof surface acoustic waves on a monolayer array of rigid cylinders in water. Journal Physics D: Applied Physics, 2016, 49, 125304.	1.3	10
66	Elastic Waves Scattering without Conversion in Metamaterials with Simultaneous Zero Indices for Longitudinal and Transverse Waves. Physical Review Letters, 2015, 115, 175502.	2.9	45
67	Theoretical Study of Large-Angle Bending Transport of Microparticles by 2D Acoustic Half-Bessel Beams. Scientific Reports, 2015, 5, 13063.	1.6	17
68	High performance of polyimide/CaCu ₃ Ti ₄ O ₁₂ @Ag hybrid films with enhanced dielectric permittivity and low dielectric loss. Journal of Materials Chemistry A, 2015, 3, 4916-4921.	5.2	98
69	Directional excitation of the designer surface acoustic waves. Applied Physics Letters, 2015, 106, .	1.5	18
70	Dexterous acoustic trapping and patterning of particles assisted by phononic crystal plate. Applied Physics Letters, 2015, 106, .	1.5	29
71	Broadband asymmetric acoustic transmission by a plate with quasi-periodic surface ridges. Applied Physics Letters, 2014, 105, .	1.5	37
72	Dirac cones in two-dimensional artificial crystals for classical waves. Physical Review B, 2014, 89, .	1.1	153

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73	Phononic-Crystal-Based Acoustic Sieve for Tunable Manipulations of Particles by a Highly Localized Radiation Force. <i>Physical Review Applied</i> , 2014, 1, .	1.5	71
74	Anomalous refraction of airborne sound through ultrathin metasurfaces. <i>Scientific Reports</i> , 2014, 4, 6517.	1.6	299
75	Facile synthesis of PANI-modified CoFe ₂ O ₄ @TiO ₂ hierarchical flower-like nanoarchitectures with high photocatalytic activity. <i>Journal of Nanoparticle Research</i> , 2013, 15, 1.	0.8	40
76	Deep subwavelength electromagnetic transparency through dual metallic gratings with ultranarrow slits. <i>Physical Review B</i> , 2013, 87, .	1.1	8
77	Research Update: Polyimide/CaCu ₃ Ti ₄ O ₁₂ nanofiber functional hybrid films with improved dielectric properties. <i>APL Materials</i> , 2013, 1, .	2.2	17
78	Focusing of spoof surface-acoustic-waves by a gradient-index structure. <i>Journal of Applied Physics</i> , 2013, 114, .	1.1	44
79	Unidirectional transmission of acoustic waves based on asymmetric excitation of Lamb waves. <i>Applied Physics Letters</i> , 2013, 102, .	1.5	49
80	Surface morphology and raman analysis of the polyimide film aged under bipolar pulse voltage. <i>Polymer Engineering and Science</i> , 2013, 53, 1536-1541.	1.5	25
81	Effective medium of periodic fluid-solid composites. <i>Europhysics Letters</i> , 2012, 98, 54001.	0.7	13
82	Acoustic transmission through asymmetric grating structures made of cylinders. <i>Journal of Applied Physics</i> , 2012, 111, .	1.1	53
83	Broadband transmission enhancement of acoustic waves through a hybrid grating. <i>Applied Physics Letters</i> , 2012, 100, .	1.5	28
84	Transmission enhancement of acoustic waves through a thin hard plate embedded with elastic inclusions. <i>Applied Physics Letters</i> , 2012, 101, .	1.5	31
85	Deep subwavelength electromagnetic transparency through dual metallic gratings with ultranarrow slits. , 2012, , .		0
86	Acoustic Tamm states in double 1D phononic crystals. <i>Journal Wuhan University of Technology, Materials Science Edition</i> , 2012, 27, 374-376.	0.4	3
87	Intrinsic anisotropy of the effective acoustic properties in metafluids made of two-dimensional cylinder arrays. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2012, 376, 637-642.	0.9	5
88	Acoustic trapping of particle by a periodically structured stiff plate. <i>Applied Physics Letters</i> , 2011, 99, .	1.5	34
89	Applications of antireflection coatings in sonic crystal-based acoustic devices. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2011, 375, 1348-1351.	0.9	16
90	Nonleaky surface acoustic waves on a textured rigid surface. <i>Physical Review B</i> , 2011, 83, .	1.1	47

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91	Extraordinary acoustic shielding by a monolayer of periodical polymethyl methacrylate cylinders immersed in water. Journal of Applied Physics, 2011, 110, .	1.1	16
92	Asymmetric acoustic gratings. Applied Physics Letters, 2011, 98, .	1.5	90
93	Synthesis of polyaniline-Fe ₃ O ₄ nanocomposites and their conductivity and magnetic properties. Journal Wuhan University of Technology, Materials Science Edition, 2010, 25, 760-764.	0.4	5
94	Acoustic Zitterbewegung in ordinary sonic crystals: A general classical description. Physics Letters, Section A: General, Atomic and Solid State Physics, 2010, 374, 4933-4936.	0.9	2
95	Enhanced and directional water wave emission by embedded sources. Wave Motion, 2010, 47, 131-138.	1.0	14
96	Acoustic Transmission Enhancement through a Periodically Structured Stiff Plate without Any Opening. Physical Review Letters, 2010, 105, 074301.	2.9	81
97	Acoustic far-field focusing effect for two-dimensional graded negative refractive-index sonic crystals. Applied Physics Letters, 2010, 96, .	1.5	100
98	Experimental investigation of shell modes in two-dimensional phononic crystal consisting of hollow cylinders. Journal of Applied Physics, 2010, 107, 064503.	1.1	4
99	Subwavelength imaging by a simple planar acoustic superlens. Applied Physics Letters, 2010, 97, .	1.5	81
100	Model investigation on the probability of QGP formation at different centralities in relativistic heavy ion collisions. Physical Review C, 2009, 80, .	1.1	3
101	Experimental demonstration of surface acoustic waves in two-dimensional phononic crystals with fluid background. Journal of Applied Physics, 2009, 106, 044512.	1.1	13
102	Improving imaging resolution of a phononic crystal lens by employing acoustic surface waves. Journal of Applied Physics, 2009, 106, 026105.	1.1	18
103	Acoustic collimating beams by negative refraction in two-dimensional phononic crystal. Journal of Applied Physics, 2009, 105, .	1.1	24
104	Graded negative index lens with designable focal length by phononic crystal. Journal Physics D: Applied Physics, 2009, 42, 185505.	1.3	41
105	Highly directional liquid surface wave source based on resonant cavity. Physics Letters, Section A: General, Atomic and Solid State Physics, 2009, 373, 2948-2952.	0.9	11
106	Theoretical study of subwavelength imaging by acoustic metamaterial slabs. Journal of Applied Physics, 2009, 105, .	1.1	88
107	Off-axis directional acoustic wave beaming control by an asymmetric rubber heterostructures film deposited on steel plate in water. , 2009, , .		0
108	Wettability of urea-doped TiO ₂ nanoparticles and their high electrorheological effects. Journal of Sol-Gel Science and Technology, 2008, 47, 311-315.	1.1	47

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109	Negative refraction imaging of solid acoustic waves by two-dimensional three-component phononic crystal. Physics Letters, Section A: General, Atomic and Solid State Physics, 2008, 372, 3861-3867.	0.9	16
110	Guiding acoustic waves with graded phononic crystals. Solid State Communications, 2008, 148, 74-77.	0.9	26
111	Tunable transmission spectra of acoustic waves through double phononic crystal slabs. Applied Physics Letters, 2008, 92, .	1.5	45
112	Experimental determination for resonance-induced transmission of acoustic waves through subwavelength hole arrays. Journal of Applied Physics, 2008, 104, .	1.1	44
113	Subwavelength imaging of acoustic waves by a canalization mechanism in a two-dimensional phononic crystal. Applied Physics Letters, 2008, 93, .	1.5	53
114	Acoustic wave transmission through a bull's eye structure. Applied Physics Letters, 2008, 92, .	1.5	54
115	Extremal Transmission and Beating Effect of Acoustic Waves in Two-Dimensional Sonic Crystals. Physical Review Letters, 2008, 101, 264303.	2.9	130
116	Magnetically responsive elastic microspheres. Applied Physics Letters, 2008, 92, .	1.5	46
117	Surface acoustic waves in two-dimensional phononic crystals: Dispersion relation and the eigenfield distribution of surface modes. Physical Review B, 2007, 76, .	1.1	38
118	Metamaterial with Simultaneously Negative Bulk Modulus and Mass Density. Physical Review Letters, 2007, 99, 093904.	2.9	483
119	Acoustic Bloch oscillations in a two-dimensional phononic crystal. Physical Review E, 2007, 76, 056605.	0.8	33
120	Effective dynamic mass density of composites. Physical Review B, 2007, 76, .	1.1	89
121	Tuning Fabry-Perot resonances via diffraction evanescent waves. Physical Review B, 2007, 76, .	1.1	150
122	Surface Resonant-States-Enhanced Acoustic Wave Tunneling in Two-Dimensional Phononic Crystals. Physical Review Letters, 2007, 99, 044301.	2.9	29
123	Flat superlens by using negative refraction in two-dimensional phononic crystals. Solid State Communications, 2007, 142, 177-180.	0.9	39
124	Zener tunneling of acoustic waves in a one-dimensional phononic crystal. Solid State Communications, 2007, 144, 433-436.	0.9	2
125	Peculiar transmission property of acoustic waves in a one-dimensional layered phononic crystal. Physica B: Condensed Matter, 2007, 390, 159-166.	1.3	23
126	Dynamic mass density and acoustic metamaterials. Physica B: Condensed Matter, 2007, 394, 256-261.	1.3	110

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127	The synthesis and electrorheological properties of BaTiO ₃ -coated PMMA microspheres. Journal Wuhan University of Technology, Materials Science Edition, 2007, 22, 85-87.	0.4	1
128	Effective Mass Density of Fluid-Solid Composites. Physical Review Letters, 2006, 96, 024301.	2.9	156
129	Negative refraction imaging of acoustic waves by a two-dimensional three-component phononic crystal. Physical Review B, 2006, 73, .	1.1	65
130	Acoustic directional radiation and enhancement caused by band-edge states of two-dimensional phononic crystals. Applied Physics Letters, 2006, 89, 063106.	1.5	67
131	Bending and branching of acoustic waves in two-dimensional phononic crystals with linear defects. Physics Letters, Section A: General, Atomic and Solid State Physics, 2005, 338, 413-419.	0.9	55
132	The layer multiple-scattering method for calculating transmission coefficients of 2D phononic crystals. Solid State Communications, 2005, 134, 765-770.	0.9	59
133	Coupling of cavity modes and guiding modes in two-dimensional phononic crystals. Solid State Communications, 2005, 133, 397-402.	0.9	60
134	Multiple-scattering theory for out-of-plane propagation of elastic waves in two-dimensional phononic crystals. Journal of Physics Condensed Matter, 2005, 17, 3735-3757.	0.7	36
135	Mode-selecting acoustic filter by using resonant tunneling of two-dimensional double phononic crystals. Applied Physics Letters, 2005, 87, 104101.	1.5	80
136	Parallel-field electrorheological clutch: Enhanced high shear rate performance. Applied Physics Letters, 2005, 87, 104106.	1.5	18
137	Directional acoustic source based on the resonant cavity of two-dimensional phononic crystals. Applied Physics Letters, 2005, 86, 224105.	1.5	57
138	Far-field imaging of acoustic waves by a two-dimensional sonic crystal. Physical Review B, 2005, 71, .	1.1	121
139	Negative-refraction imaging with two-dimensional phononic crystals. Physical Review B, 2005, 72, .	1.1	146
140	Analytic model of phononic crystals with local resonances. Physical Review B, 2005, 71, .	1.1	408
141	ANALYSIS OF POLARIZATION FORCES AND CONDUCTIVITY EFFECTS IN THE ELECTORRHEOLOGICAL SOLID. , 2005, , .		0
142	The optimum elastic wave band gaps in three dimensional phononic crystals with local resonance. European Physical Journal B, 2004, 42, 477-482.	0.6	10
143	Phononic crystals. Physica Status Solidi (B): Basic Research, 2004, 241, 3454-3462.	0.7	66
144	Defect states in 2D acoustic band-gap materials with bend-shaped linear defects. Solid State Communications, 2004, 130, 67-71.	0.9	34

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145	Negative refraction of acoustic waves in two-dimensional phononic crystals. Applied Physics Letters, 2004, 85, 341-343.	1.5	429
146	Focusing of Sound in a 3D Phononic Crystal. Physical Review Letters, 2004, 93, 024301.	2.9	536
147	Localized states of acoustic waves in three-dimensional periodic composites with point defects. European Physical Journal B, 2003, 34, 265-268.	0.6	24
148	Theory for elastic wave scattering by a two-dimensional periodical array of cylinders: An ideal approach for band-structure calculations. Physical Review B, 2003, 67, .	1.1	139
149	Acoustic band gaps for a two-dimensional periodic array of solid cylinders in viscous liquid. Journal of Physics Condensed Matter, 2003, 15, 8207-8212.	0.7	23
150	Three-component elastic wave band-gap material. Physical Review B, 2002, 65, .	1.1	240
151	Ultrasound Tunneling through 3D Phononic Crystals. Physical Review Letters, 2002, 88, 104301.	2.9	253
152	Elastic wave scattering by periodic structures of spherical objects: Theory and experiment. Physical Review B, 2000, 62, 2446-2457.	1.1	329
153	Group velocity of acoustic waves in strongly scattering media: Dependence on the volume fraction of scatterers. Physical Review E, 1998, 58, 6626-6636.	0.8	65
154	Energy Velocity of Diffusing Waves in Strongly Scattering Media. Physical Review Letters, 1997, 79, 3166-3169.	2.9	66