

Yun Lai

List of Publications by Year in descending order

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Version: 2024-02-01

122
papers

5,592
citations

109321

35
h-index

82547

72
g-index

122
all docs

122
docs citations

122
times ranked

3336
citing authors

#	ARTICLE	IF	CITATIONS
1	Dirac cones induced by accidental degeneracy in photonic crystals and zero-refractive-index materials. Nature Materials, 2011, 10, 582-586.	27.5	815
2	Illusion Optics: The Optical Transformation of an Object into Another Object. Physical Review Letters, 2009, 102, 253902.	7.8	565
3	Complementary Media Invisibility Cloak that Cloaks Objects at a Distance Outside the Cloaking Shell. Physical Review Letters, 2009, 102, 093901.	7.8	504
4	Hybrid elastic solids. Nature Materials, 2011, 10, 620-624.	27.5	386
5	Elastic Metamaterials with Simultaneously Negative Effective Shear Modulus and Mass Density. Physical Review Letters, 2011, 107, 105506.	7.8	292
6	Effective medium theory for elastic metamaterials in two dimensions. Physical Review B, 2007, 76, .	3.2	173
7	A hybrid invisibility cloak based on integration of transparent metasurfaces and zero-index materials. Light: Science and Applications, 2018, 7, 50.	16.6	156
8	Realizing almost perfect bending waveguides with anisotropic epsilon-near-zero metamaterials. Applied Physics Letters, 2012, 100, .	3.3	117
9	Broadband asymmetric waveguiding of light without polarization limitations. Nature Communications, 2013, 4, 2561.	12.8	100
10	Polarization bandgaps and fluid-like elasticity in fully solid elastic metamaterials. Nature Communications, 2016, 7, 13536.	12.8	96
11	Dirac cones at $k = 0$ in photonic crystals. Physical Review B, 2011, 84, .		
12	Arbitrary Control of Electromagnetic Flux in Inhomogeneous Anisotropic Media with Near-Zero Index. Physical Review Letters, 2014, 112, 073903.	7.8	84
13	Broadband perfect absorption of ultrathin conductive films with coherent illumination: Superabsorption of microwave radiation. Physical Review B, 2015, 91, .	3.2	84
14	Dirac Spectra and Edge States in Honeycomb Plasmonic Lattices. Physical Review Letters, 2009, 102, 123904.	7.8	77
15	Acoustic coherent perfect absorbers. New Journal of Physics, 2014, 16, 033026.	2.9	75
16	Topological transitions in continuously deformed photonic crystals. Physical Review B, 2018, 97, .	3.2	70
17	Engineering acoustic band gaps. Applied Physics Letters, 2001, 79, 3224-3226.	3.3	66
18	Roadmap on transformation optics. Journal of Optics (United Kingdom), 2018, 20, 063001.	2.2	64

#	ARTICLE	IF	CITATIONS
19	Ultratransparent Media and Transformation Optics with Shifted Spatial Dispersions. Physical Review Letters, 2016, 117, 223901.	7.8	63
20	Theoretical requirements for broadband perfect absorption of acoustic waves by ultra-thin elastic meta-films. Scientific Reports, 2015, 5, 12139.	3.3	62
21	Simultaneous realization of a coherent perfect absorber and laser by zero-index media with both gain and loss. Physical Review A, 2016, 94, .	2.5	51
22	Coherent Perfect Absorption via Photonic Doping of Zero-Index Media. Laser and Photonics Reviews, 2018, 12, 1800001.	8.7	51
23	Three-Dimensional Acoustic Double-Zero-Index Medium with a Fourfold Degenerate Dirac-like Point. Physical Review Letters, 2020, 124, 074501.	7.8	51
24	Manipulate the Transmissions Using Index-Near-Zero or Epsilon-Near-Zero Metamaterials with Coated Defects. Plasmonics, 2012, 7, 353-358.	3.4	48
25	Unified theory for perfect absorption in ultrathin absorptive films with constant tangential electric or magnetic fields. Physical Review B, 2014, 90, .	3.2	45
26	An equivalent realization of coherent perfect absorption under single beam illumination. Scientific Reports, 2014, 4, 7369.	3.3	44
27	Anisotropic zero-index waveguide with arbitrary shapes. Scientific Reports, 2014, 4, 5875.	3.3	43
28	Ultra-broadband reflectionless Brewster absorber protected by reciprocity. Light: Science and Applications, 2021, 10, 89.	16.6	43
29	Twisted Quadrupole Topological Photonic Crystals. Laser and Photonics Reviews, 2020, 14, 2000010.	8.7	42
30	Large band gaps in elastic phononic crystals with air inclusions. Applied Physics Letters, 2003, 83, 3900-3902.	3.3	41
31	Electromagnetic Impurity-Immunity Induced by Parity-Time Symmetry. Physical Review X, 2018, 8, .	8.9	41
32	Three-Dimensional Soundproof Acoustic Metacage. Physical Review Letters, 2021, 127, 084301.	7.8	41
33	Diffuse reflection and reciprocity-protected transmission via a random-flip metasurface. Science Advances, 2021, 7, eabj0935.	10.3	41
34	Polycrystalline Few-Layer Graphene as a Durable Anticorrosion Film for Copper. Nano Letters, 2021, 21, 1161-1168.	9.1	39
35	Broadband unidirectional and omnidirectional bidirectional acoustic insulation through an open window structure with a metasurface of ultrathin hooklike meta-atoms. Applied Physics Letters, 2018, 112, .	3.3	38
36	Switchable omnidirectional acoustic insulation through open window structures with ultrathin metasurfaces. Physical Review Materials, 2019, 3, .	2.4	37

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37	Acoustic metamaterials with broadband and wide-angle impedance matching. <i>Physical Review Materials</i> , 2018, 2, .	2.4	36
38	Invisible surfaces enabled by the coalescence of anti-reflection and wavefront controllability in ultrathin metasurfaces. <i>Nature Communications</i> , 2021, 12, 4523.	12.8	34
39	Hybrid Solar Absorber–Emitter by Coherence–Enhanced Absorption for Improved Solar Thermophotovoltaic Conversion. <i>Advanced Optical Materials</i> , 2018, 6, 1800813.	7.3	33
40	Large sonic band gaps in 12-fold quasicrystals. <i>Journal of Applied Physics</i> , 2002, 91, 6191-6193.	2.5	32
41	Unusual percolation threshold of electromagnetic waves in double–zero medium embedded with random inclusions. <i>Laser and Photonics Reviews</i> , 2015, 9, 523-529.	8.7	31
42	Photonic crystals with broadband, wide-angle, and polarization-insensitive transparency. <i>Optics Letters</i> , 2016, 41, 5106.	3.3	31
43	Equivalent perfect magnetic conductor based on epsilon-near-zero media. <i>Applied Physics Letters</i> , 2014, 104, .	3.3	28
44	Near-perfect absorption by photonic crystals with a broadband and omnidirectional impedance-matching property. <i>Optics Express</i> , 2019, 27, 15800.	3.4	26
45	Metamaterial slab as a lens, a cloak, or an intermediate. <i>Physical Review B</i> , 2011, 83, .	3.2	25
46	Design of full-k-space flat bands in photonic crystals beyond the tight-binding picture. <i>Scientific Reports</i> , 2015, 5, 18181.	3.3	25
47	Experimental realization of a broadband conformal mapping lens for directional emission. <i>Applied Physics Letters</i> , 2012, 100, 261907.	3.3	21
48	Illusion optics. <i>Frontiers of Physics in China</i> , 2010, 5, 308-318.	1.0	20
49	Three-Dimensional Electromagnetic Void Space. <i>Physical Review Letters</i> , 2021, 127, 123902.	7.8	20
50	Extremely anisotropic epsilon-near-zero media in waveguide metamaterials. <i>Optics Express</i> , 2019, 27, 19463.	3.4	20
51	Beam splitting and unidirectional cloaking using anisotropic zero-index photonic crystals. <i>Applied Physics Letters</i> , 2019, 114, .	3.3	19
52	Optical Brewster Metasurfaces Exhibiting Ultrabroadband Reflectionless Absorption and Extreme Angular Asymmetry. <i>Physical Review Applied</i> , 2021, 16, .	3.8	19
53	An inside-out Eaton lens made of H-fractal metamaterials. <i>Applied Physics Letters</i> , 2012, 101, .	3.3	18
54	Elastic metamaterial beam with remotely tunable stiffness. <i>Journal of Applied Physics</i> , 2016, 119, .	2.5	18

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55	Deep-learning-enabled inverse engineering of multi-wavelength invisibility-to-superscattering switching with phase-change materials. Optics Express, 2021, 29, 10527.	3.4	18
56	Manipulating sources using transformation optics with $\tilde{\epsilon}$ -folded geometry TM . Journal of Optics (United Kingdom), 2021, 23, 013001.	2.2	17
57	Angular selection of incident waves by photonic crystals with position-varying Dirac points at the Brillouin zone boundary. Physical Review B, 2016, 93, .	3.2	17
58	Hiding objects and obtaining Fano resonances in index-near-zero and epsilon-near-zero metamaterials with Bragg-fiber-like defects. Journal of the Optical Society of America B: Optical Physics, 2013, 30, 1878.	2.1	16
59	Multi-channel coherent perfect absorbers. Europhysics Letters, 2016, 114, 28003.	2.0	16
60	Topological node lines in mechanical metacrystals. Physical Review B, 2018, 97, .	3.2	16
61	Illusion optics via one-dimensional ultratransparent photonic crystals with shifted spatial dispersions. Optics Express, 2017, 25, 30931.	3.4	15
62	Controlling the effective bending stiffness via out-of-plane rotational resonances in elastic metamaterial thin plates. New Journal of Physics, 2018, 20, 103043.	2.9	15
63	Observation of wide-angle impedance matching in terahertz photonic crystals. New Journal of Physics, 2020, 22, 023033.	2.9	15
64	Hermitian and Non-Hermitian Dirac-Like Cones in Photonic and Phononic Structures. Frontiers in Physics, 2022, 10, .	2.1	14
65	Low-frequency and broadband muffler via cascaded labyrinthine metasurfaces. Applied Physics Letters, 2022, 120, .	3.3	14
66	Nonlocality-Induced Negative Refraction and Subwavelength Imaging by Parabolic Dispersions in Metal ¹ -Dielectric Multilayered Structures with Effective Zero Permittivity. Plasmonics, 2013, 8, 1095-1099.	3.4	13
67	Bidirectional acoustic negative refraction based on a pair of metasurfaces with both local and global PT-symmetries. Scientific Reports, 2020, 10, 10794.	3.3	13
68	Pseudo ² -Hermitian Systems Constructed by Transformation Optics with Robustly Balanced Loss and Gain. Advanced Photonics Research, 2021, 2, 2000081.	3.6	13
69	Transforming zero-index media into geometry-invariant coherent perfect absorbers via embedded conductive films. Optics Express, 2021, 29, 5247.	3.4	13
70	Conformally Mapped Mikaelian Lens for Broadband Achromatic High Resolution Focusing. Laser and Photonics Reviews, 2021, 15, 2000564.	8.7	13
71	Ventilative meta-window with broadband low-frequency acoustic insulation. Journal of Applied Physics, 2021, 129, .	2.5	13
72	Through-Wall Wireless Communication Enabled by a Metalens. Physical Review Applied, 2022, 17, .	3.8	12

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73	General transformation for the reduced invisibility cloak. Physical Review B, 2009, 80, .	3.2	11
74	Oblique total transmissions through epsilon-near-zero metamaterials with hyperbolic dispersions. Europhysics Letters, 2013, 101, 44001.	2.0	11
75	Wide-Angle Broadband Nonreflecting Acoustic Metamaterial Fence. Physical Review Applied, 2020, 13, .	3.8	11
76	Anomalous properties of the band-edge states in large two-dimensional photonic quasicrystals. Physical Review B, 2007, 76, .	3.2	10
77	Negative group velocity from quadrupole resonance of plasmonic spheres. Physical Review B, 2009, 79, .	3.2	10
78	Electromagnetic characteristics of Hilbert curve-based metamaterials. Applied Physics A: Materials Science and Processing, 2014, 117, 445-450.	2.3	10
79	Sound-impenetrable holes in water based on acoustic complementary medium. Europhysics Letters, 2016, 115, 58002.	2.0	10
80	Configurable Dirac-like conical dispersions in complex photonic crystals. Physical Review B, 2017, 95, .	3.2	10
81	Non-Hermitian effective medium theory and complex Dirac-like cones. Optics Express, 2021, 29, 14345.	3.4	10
82	Parity-Time Symmetric Optoelectronic Oscillator Based on an Integrated Mode-Locked Laser. IEEE Journal of Quantum Electronics, 2021, 57, 1-9.	1.9	10
83	Band engineering method to create Dirac cones of accidental degeneracy in general photonic crystals without symmetry. Optics Express, 2021, 29, 18070.	3.4	10
84	Loss/gain-induced ultrathin antireflection coatings. Scientific Reports, 2016, 6, 28681.	3.3	9
85	Theory and experimental observation of hyperbolic media based on structural dispersions. Physical Review Materials, 2020, 4, .	2.4	9
86	Modified Luneburg Lens for Achromatic Subdiffraction Focusing and Directional Emission. IEEE Transactions on Antennas and Propagation, 2021, 69, 7930-7934.	5.1	8
87	Ultracompact Photonic Circuits without Cladding Layers. Physical Review X, 2022, 12, .	8.9	8
88	Ultra-wideband Luneburg lens with high performance based on gradient metamaterials. Journal Physics D: Applied Physics, 2022, 55, 355109.	2.8	8
89	APPLYING EFFECTIVE MEDIUM THEORY IN CHARACTERIZING DIELECTRIC CONSTANT OF SOLIDS. Progress in Electromagnetics Research Letters, 2012, 35, 145-153.	0.7	7
90	Bendable disordered metamaterials for broadband terahertz invisibility. Optics Express, 2020, 28, 3552.	3.4	7

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91	Realization of broadband coherent perfect absorption of spoof surface plasmon polaritons. Applied Physics Letters, 2022, 120, .	3.3	7
92	Wave transport in two-dimensional random media: The ballistic to diffusive transition and the extrapolation length. Physical Review E, 2005, 72, 036606.	2.1	6
93	Epsilon-near-zero or mu-near-zero materials composed of dielectric photonic crystals. Science China Information Sciences, 2013, 56, 1-10.	4.3	6
94	A panel acoustic energy harvester based on the integration of acoustic metasurface and Helmholtz resonator. Applied Physics Letters, 2021, 119, .	3.3	6
95	Wave propagation in strongly scattered random elastic media: Energy equilibration and crossover from ballistic to diffusive behavior. Physical Review B, 2008, 77, .	3.2	5
96	Efficient way to convert propagating waves into guided waves via gradient wire structures. Optics Letters, 2016, 41, 3551.	3.3	5
97	Side scattering shadow and energy concentration effects of epsilon-near-zero media. Optics Letters, 2018, 43, 1738.	3.3	5
98	Ultrabroadband compact lens antenna with high performance based on a transmission gradient index medium. Journal Physics D: Applied Physics, 2021, 54, 175101.	2.8	5
99	Wave Steering by Relaying Interface States in a Valley-Hall-Derived Photonic Superlattice. Physical Review Applied, 2021, 16, .	3.8	4
100	Nesting and degeneracy of Mie resonances of dielectric cavities within zero-index materials. Journal of Optics (United Kingdom), 2022, 24, 025401.	2.2	4
101	Flip-component metasurfaces for camouflaged meta-domes. Optics Express, 2022, 30, 17321.	3.4	4
102	Large enhancement of phononic gap in periodic and quasiperiodic elastic composites by using air inclusions. Zeitschrift Fur Kristallographie - Crystalline Materials, 2005, 220, 877-883.	0.8	3
103	Perfect absorbers based on dielectric optical mirrors and ultrathin absorptive films. Applied Physics Express, 2020, 13, 032001.	2.4	3
104	Highly Efficient Gradient Solid Immersion Lens with Large Numerical Aperture for Broadband Achromatic Deep Subwavelength Focusing and Magnified Far Field. Advanced Optical Materials, 2021, 9, 2100509.	7.3	3
105	A Metacoupler for Converting Propagating Waves to Guided Waves in Wire Waveguides. IEEE Photonics Journal, 2017, 9, 1-7.	2.0	2
106	Broadband Bidirectional and Multi-Channel Unidirectional Acoustic Insulation by Mode-Conversion Phased Units. Frontiers in Materials, 2021, 8, .	2.4	2
107	The Applications of Metamaterials. International Journal of Antennas and Propagation, 2015, 2015, 1-2.	1.2	1
108	Photonic-doped Zero-index Media as Coherent Perfect Absorbers. , 2018, , .		1

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109	Flat distorting mirrors via metasurfaces. Optics Letters, 2021, 46, 4738.	3.3	1
110	Enhanced absorption of CVD grown molybdenum disulfide monolayers via surface plasmon resonance with silver nano-triangles. OSA Continuum, 2019, 2, 1401.	1.8	1
111	Numerical design of frequency-split Weyl points in Weyl metamaterial. Wuli Xuebao/Acta Physica Sinica, 2020, 69, 154204.	0.5	1
112	Using metamaterials to create illusion and related subtle optical effects. , 2010, , .		0
113	Dirac cone and double zero materials. , 2011, , .		0
114	Flux control in inhomogeneous anisotropic epsilon-near-zero metamaterials. , 2012, , .		0
115	Applying effective medium theory in characterizing dielectric constant of solids. , 2012, , .		0
116	Omnidirectional impedance matching induced by spatial dispersions. , 2015, , .		0
117	A meta-prism for high-efficiency coupling between free space and optical waveguides with different angular momentums. Europhysics Letters, 2018, 123, 38001.	2.0	0
118	Pseudo-Hermitian Systems Constructed by Transformation Optics with Robustly Balanced Loss and Gain. Advanced Photonics Research, 2021, 2, 2170005.	3.6	0
119	Creating Illusion Effects Using Transformation Optics. , 2014, , 139-165.		0
120	Efficiency-improved silicon thermo-optic switches with deep trenches. , 2018, , .		0
121	Pseudo-local effect medium theory. Wuli Xuebao/Acta Physica Sinica, 2020, 69, 154203.	0.5	0
122	Acoustic three-terminal controller with amplitude control for nonlinear seismic metamaterials. AIP Advances, 2022, 12, 075312.	1.3	0