Zhaowei Liu

List of Publications by Citations

135 papers	9,664 citations	42 h-index	97 g-index
154 ext. papers	11,243 ext. citations	9 avg, IF	6.35 L-index

#	Paper	IF	Citations
135	Far-field optical hyperlens magnifying sub-diffraction-limited objects. *Science*, **2007**, 315, 1686	33.3	1574
134	Superlenses to overcome the diffraction limit. *Nature Materials*, **2008**, 7, 435-41	27	915
133	Optical negative refraction in bulk metamaterials of nanowires. *Science*, **2008**, 321, 930	33.3	683
132	Focusing surface plasmons with a plasmonic lens. *Nano Letters*, **2005**, 5, 1726-9	11.5	447
131	Hyperbolic metamaterials and their applications. *Progress in Quantum Electronics*, **2015**, 40, 1-40	9.1	400
130	Hyperlenses and metalenses for far-field super-resolution imaging. *Nature Communications*, **2012**, 3, 1205	17.4	361
129	Enhancing spontaneous emission rates of molecules using nanopatterned multilayer hyperbolic metamaterials. *Nature Nanotechnology*, **2014**, 9, 48-53	28.7	324
128	Spherical hyperlens for two-dimensional sub-diffractional imaging at visible frequencies. *Nature Communications*, **2010**, 1, 143	17.4	300
127	Far-field optical superlens. *Nano Letters*, **2007**, 7, 403-8	11.5	300
126	Large positive and negative lateral optical beam displacements due to surface plasmon resonance. *Applied Physics Letters*, **2004**, 85, 372-374	3.4	192
125	Development of optical hyperlens for imaging below the diffraction limit. *Optics Express*, **2007**, 15, 15886-91	3.5	160
124	3D branched nanowire heterojunction photoelectrodes for high-efficiency solar water splitting and H2 generation. *Nanoscale*, **2012**, 4, 1515-21	7.7	149
123	Optical edge detection based on high-efficiency dielectric metasurface. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 11137-11140	11.5	140
122	Rapid growth of evanescent wave by a silver superlens. *Applied Physics Letters*, **2003**, 83, 5184-5186	3.4	140
121	Two-dimensional imaging by far-field superlens at visible wavelengths. *Nano Letters*, **2007**, 7, 3360-5	11.5	120
120	Plasmonic structured illumination microscopy. *Nano Letters*, **2010**, 10, 2531-6	11.5	117
119	Resonant and non-resonant generation and focusing of surface plasmons with circular gratings. *Optics Express*, **2006**, 14, 5664-70	3.3	108

118	Theory of the transmission properties of an optical far-field superlens for imaging beyond the diffraction limit. *Journal of the Optical Society of America B: Optical Physics*, **2006**, 23, 2383	1.7	106
117	Fast compressed sensing-based CBCT reconstruction using Barzilai-Borwein formulation for application to on-line IGRT. *Medical Physics*, **2012**, 39, 1207-17	4.4	105
116	Regenerating evanescent waves from a silver superlens. *Optics Express*, **2003**, 11, 682-7	3.3	105
115	Wide field super-resolution surface imaging through plasmonic structured illumination microscopy. *Nano Letters*, **2014**, 14, 4634-9	11.5	104
114	A simple design of flat hyperlens for lithography and imaging with half-pitch resolution down to 20 nm. *Applied Physics Letters*, **2009**, 94, 203108	3.4	92
113	Combined surface plasmon and classical waveguiding through metamaterial fiber design. *Nano Letters*, **2010**, 10, 1-5	11.5	91
112	High performance multi-scaled nanostructured spectrally selective coating for concentrating solar power. *Nano Energy*, **2014**, 8, 238-246	17.1	90
111	Tuning the focus of a plasmonic lens by the incident angle. *Applied Physics Letters*, **2006**, 88, 171108	3.4	87
110	Liver motion during cone beam computed tomography guided stereotactic body radiation therapy. *Medical Physics*, **2012**, 39, 6431-42	4.4	78
109	Projecting deep-subwavelength patterns from diffraction-limited masks using metal-dielectric multilayers. *Applied Physics Letters*, **2008**, 93, 111116	3.4	77
108	A super resolution metalens with phase compensation mechanism. *Applied Physics Letters*, **2010**, 96, 183103	3.4	73
107	Ray optics at a deep-subwavelength scale: a transformation optics approach. *Nano Letters*, **2008**, 8, 4243-7	11.5	71
106	Efficient light generation from enhanced inelastic electron tunnelling. *Nature Photonics*, **2018**, 12, 485-488	39.9	67
105	Broad band two-dimensional manipulation of surface plasmons. *Nano Letters*, **2009**, 9, 462-6	11.5	67
104	Giant Kerr response of ultrathin gold films from quantum size effect. *Nature Communications*, **2016**, 7, 13153	17.4	64
103	Ultralow thermal conductivity of multilayers with highly dissimilar Debye temperatures. *Nano Letters*, **2014**, 14, 2448-55	11.5	64
102	Experimental studies of far-field superlens for sub-diffractional optical imaging. *Optics Express*, **2007**, 15, 6947-54	3.3	62
101	Enhanced spontaneous emission inside hyperbolic metamaterials. *Optics Express*, **2014**, 22, 4301-6	3.3	60

100	All optical interface for parallel, remote, and spatiotemporal control of neuronal activity. *Nano Letters*, **2007**, 7, 3859-63	11.5	60
99	Broadband Photonic Spin Hall Meta-Lens. *ACS Nano*, **2018**, 12, 82-88	16.7	60
98	Black oxide nanoparticles as durable solar absorbing material for high-temperature concentrating solar power system. *Solar Energy Materials and Solar Cells*, **2015**, 134, 417-424	6.4	56
97	Experimental Demonstration of Localized Plasmonic Structured Illumination Microscopy. *ACS Nano*, **2017**, 11, 5344-5350	16.7	51
96	Controlled Homoepitaxial Growth of Hybrid Perovskites. *Advanced Materials*, **2018**, 30, e1705992	24	51
95	Localized plasmon assisted structured illumination microscopy for wide-field high-speed dispersion-independent super resolution imaging. *Nanoscale*, **2014**, 6, 5807-12	7.7	50
94	Near-perfect broadband absorption from hyperbolic metamaterial nanoparticles. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 1264-1268	11.5	47
93	Focusing light into deep subwavelength using metamaterial immersion lenses. *Optics Express*, **2010**, 18, 4838-44	3.3	41
92	Plasmon-Enhanced Two-Photon Absorption in Photoluminescent Semiconductor Nanocrystals. *ACS Photonics*, **2016**, 3, 526-531	6.3	40
91	Imaging visible light using anisotropic metamaterial slab lens. *Optics Express*, **2009**, 17, 22380-5	3.3	38
90	Plasmonic dark field microscopy. *Applied Physics Letters*, **2010**, 96, 113107	3.4	37
89	From Fano-like interference to superscattering with a single metallic nanodisk. *Nanoscale*, **2014**, 6, 9093-102	7.7	35
88	Tuning the far-field superlens: from UV to visible. *Optics Express*, **2007**, 15, 7095-102	3.3	35
87	Design, fabrication and characterization of indefinite metamaterials of nanowires. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2011**, 369, 3434-46	3	34
86	Copper-alloyed spinel black oxides and tandem-structured solar absorbing layers for high-temperature concentrating solar power systems. *Solar Energy*, **2016**, 132, 257-266	6.8	34
85	Nanostructuring Multilayer Hyperbolic Metamaterials for Ultrafast and Bright Green InGaN Quantum Wells. *Advanced Materials*, **2018**, 30, e1706411	24	33
84	Localized plasmonic structured illumination microscopy with an optically trapped microlens. *Nanoscale*, **2017**, 9, 14907-14912	7.7	33
83	Hyperbolic metamaterials for dispersion-assisted directional light emission. *Nanoscale*, **2017**, 9, 9034-9048	7.7	32

82	Four-dimensional cone-beam computed tomography and digital tomosynthesis reconstructions using respiratory signals extracted from transcutaneously inserted metal markers for liver SBRT. *Medical Physics*, **2011**, 38, 1028-36	4.4	32
81	Metasurface enabled quantum edge detection. *Science Advances*, **2020**, 6,	14.3	32
80	Etalon Array Reconstructive Spectrometry. *Scientific Reports*, **2017**, 7, 40693	4.9	29
79	Metamaterials for enhanced polarization conversion in plasmonic excitation. *ACS Nano*, **2011**, 5, 5100-6	16.7	29
78	Super-resolution imaging by random adsorbed molecule probes. *Nano Letters*, **2008**, 8, 1159-62	11.5	29
77	High Spatiotemporal Resolution Imaging with Localized Plasmonic Structured Illumination Microscopy. *ACS Nano*, **2018**, 12, 8248-8254	16.7	28
76	High-Quality, Ultraconformal Aluminum-Doped Zinc Oxide Nanoplasmonic and Hyperbolic Metamaterials. *Small*, **2016**, 12, 892-901	11	28
75	Large optical nonlinearity enabled by coupled metallic quantum wells. *Light: Science and Applications*, **2019**, 8, 13	16.7	27
74	Tandem structured spectrally selective coating layer of copper oxide nanowires combined with cobalt oxide nanoparticles. *Nano Energy*, **2015**, 11, 247-259	17.1	27
73	Near-field Moir□effect mediated by surface plasmon polariton excitation. *Optics Letters*, **2007**, 32, 629-31	3	27
72	Optical Observation of Plasmonic Nonlocal Effects in a 2D Superlattice of Ultrasmall Gold Nanoparticles. *Nano Letters*, **2017**, 17, 2234-2239	11.5	26
71	Tubular optical microcavities of indefinite medium for sensitive liquid refractometers. *Lab on A Chip* , **2016**, 16, 182-7	7.2	26
70	Direction Modulated Brachytherapy for Treatment of Cervical Cancer. II: Comparative Planning Study With Intracavitary and Intracavitary-Interstitial Techniques. *International Journal of Radiation Oncology Biology Physics*, **2016**, 96, 440-448	4	25
69	Extraordinary light focusing and Fourier transform properties of gradient-index metalenses. *Physical Review B*, **2011**, 84,	3.3	25
68	Coherent Four-Fold Super-Resolution Imaging with Composite Photonic□Plasmonic Structured Illumination. *ACS Photonics*, **2015**, 2, 341-348	6.3	22
67	Super-resolution imaging by metamaterial-based compressive spatial-to-spectral transformation. *Nanoscale*, **2017**, 9, 18268-18274	7.7	22
66	Tunable surface plasmon polaritons in Ag composite films by adding dielectrics or semiconductors. *Applied Physics Letters*, **2011**, 98, 243114	3.4	22
65	Robustness of the far-field response of nonlocal plasmonic ensembles. *Scientific Reports*, **2016**, 6, 28441	4.9	21

64	Form birefringence metal and its plasmonic anisotropy. *Applied Physics Letters*, **2010**, 96, 041112	3.4	21
63	Ultra-fast digital tomosynthesis reconstruction using general-purpose GPU programming for image-guided radiation therapy. *Technology in Cancer Research and Treatment*, **2011**, 10, 295-306	2.7	21
62	Two-dimensional optical spatial differentiation and high-contrast imaging. *National Science Review*, **2021**, 8, nwaa176	10.8	20
61	Advances in the hyperlens. *Science Bulletin*, **2010**, 55, 2618-2624		18
60	Enhanced Second Harmonic Generation in Double-Resonance Colloidal Metasurfaces. *Advanced Functional Materials*, **2018**, 28, 1803019	15.6	18
59	Organic Bulk Heterojunction Infrared Photodiodes for Imaging Out to 1300 nm. *ACS Applied Electronic Materials*, **2019**, 1, 660-666	4	17
58	Quantum Electrostatic Model for Optical Properties of Nanoscale Gold Films. *Nanophotonics*, **2015**, 4, 413-418	6.3	17
57	Anomalously Weak Scattering in Metal-Semiconductor Multilayer Hyperbolic Metamaterials. *Physical Review X*, **2015**, 5,	9.1	17
56	Nonlinear Metasurface Based on Giant Optical Kerr Response of Gold Quantum Wells. *ACS Photonics*, **2018**, 5, 1654-1659	6.3	16
55	NiO(x)-Fe2O3-coated p-Si photocathodes for enhanced solar water splitting in neutral pH water. *Nanoscale*, **2015**, 7, 4900-5	7.7	16
54	Motion-map constrained image reconstruction (MCIR): application to four-dimensional cone-beam computed tomography. *Medical Physics*, **2013**, 40, 121710	4.4	16
53	Positively charged and flexible SiO@ZrO nanofibrous membranes and their application in adsorption and separation.. *RSC Advances*, **2018**, 8, 13018-13025	3.7	14
52	Experimental Demonstration of Hyperbolic Metamaterial Assisted Illumination Nanoscopy. *ACS Nano*, **2018**, 12, 11316-11322	16.7	14
51	Three-dimensional fluorescent microscopy via simultaneous illumination and detection at multiple planes. *Scientific Reports*, **2016**, 6, 31445	4.9	13
50	Multi-layer nanoarrays sandwiched by anodized aluminium oxide membranes: an approach to an inexpensive, reproducible, highly sensitive SERS substrate. *Nanoscale*, **2018**, 10, 16278-16283	7.7	13
49	Design and Analysis of Blue InGaN/GaN Plasmonic LED for High-Speed, High-Efficiency Optical Communications. *ACS Photonics*, **2018**, 5, 3557-3564	6.3	13
48	Photothermal Modulation of Propagating Surface Plasmons on Silver Nanowires. *ACS Photonics*, **2019**, 6, 2133-2140	6.3	12
47	Asymmetrically Curved Hyperbolic Metamaterial Structure with Gradient Thicknesses for Enhanced Directional Spontaneous Emission. *ACS Applied Materials & Interfaces*, **2018**, 10, 7704-7708	9.5	11

46	TIRF microscopy with ultra-short penetration depth. *Optics Express*, **2014**, 22, 10728-34	3.3	11
45	Direct observation of plasmonic index ellipsoids on a deep-subwavelength metallic grating. *Applied Optics*, **2011**, 50, G1-6	0.2	11
44	Breaking the imaging symmetry in negative refraction lenses. *Optics Express*, **2012**, 20, 2581-6	3.3	11
43	Design, fabrication and characterization of a Far-field Superlens. *Solid State Communications*, **2008**, 146, 202-207	1.6	11
42	Metamaterial-assisted illumination nanoscopy. *National Science Review*, **2018**, 5, 141-143	10.8	10
41	Ultrafast Imaging using Spectral Resonance Modulation. *Scientific Reports*, **2016**, 6, 25240	4.9	10
40	Adsorption and separation properties of positively charged ZrO2 nanofibrous membranes fabricated by electrospinning. *RSC Advances*, **2017**, 7, 42505-42512	3.7	10
39	Numerical study of hyperlenses for three-dimensional imaging and lithography. *Optics Express*, **2015**, 23, 18501-10	3.3	9
38	Array atomic force microscopy for real-time multiparametric analysis. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 5872-5877	11.5	8
37	SECOND-ORDER NONLINEAR SUSCEPTIBILITY ENHANCEMENT IN GALLIUM NITRIDE NANOWIRES (INVITED). *Progress in Electromagnetics Research*, **2020**, 168, 25-30	3.8	8
36	A spin controlled wavefront shaping metasurface with low dispersion in visible frequencies. *Nanoscale*, **2019**, 11, 17111-17119	7.7	8
35	Si boride-coated Si nanoparticles with improved thermal oxidation resistance. *Nano Energy*, **2014**, 9, 32-40	17.1	8
34	Three-dimensional ZnO/Si broom-like nanowire heterostructures as photoelectrochemical anodes for solar energy conversion. *Physica Status Solidi (A) Applications and Materials Science*, **2013**, 210, 2561-2568	1.6	8
33	Localized plasmonic structured illumination microscopy with gaps in spatial frequencies. *Optics Letters*, **2019**, 44, 2915	3	8
32	Imaging of Nanoscale Light Confinement in Plasmonic Nanoantennas by Brownian Optical Microscopy. *ACS Nano*, **2020**, 14, 7666-7672	16.7	8
31	Metamaterial assisted illumination nanoscopy via random super-resolution speckles. *Nature Communications*, **2021**, 12, 1559	17.4	8
30	Low-Loss Organic Hyperbolic Materials in the Visible Spectral Range: A Joint Experimental and First-Principles Study. *Advanced Materials*, **2020**, 32, e2002387	24	7
29	Metamaterial-Assisted Photobleaching Microscopy with Nanometer Scale Axial Resolution. *Nano Letters*, **2020**, 20, 6038-6044	11.5	7

28	Nanoscale optical pulse limiter enabled by refractory metallic quantum wells. *Science Advances*, **2020**, 6, eaay3456	14.3	7
27	Highly stretchable, printable nanowire array optical polarizers. *Nanoscale*, **2016**, 8, 15850-6	7.7	7
26	Imaging of Cell Morphology Changes via Metamaterial-Assisted Photobleaching Microscopy. *Nano Letters*, **2021**, 21, 1716-1721	11.5	6
25	Focusing surface waves with an inhomogeneous metamaterial lens. *Applied Optics*, **2010**, 49, A18-22	0.2	5
24	Negative group velocity of surface plasmons on thin metallic films **2006**, 6323, 224		5
23	Unprecedented Fluorophore Photostability Enabled by Low-Loss Organic Hyperbolic Materials. *Advanced Materials*, **2021**, 33, e2006496	24	5
22	Optimization of Nanopatterned Multilayer Hyperbolic Metamaterials for Spontaneous Light Emission Enhancement. *Physica Status Solidi (A) Applications and Materials Science*, **2018**, 215, 1800263	1.6	5
21	Plasmonically Enhanced Amorphous Silicon Photodetector With Internal Gain. *IEEE Photonics Technology Letters*, **2019**, 31, 959-962	2.2	4
20	Anomalous scaling laws of hyperbolic metamaterials in a tubular geometry. *Journal of the Optical Society of America B: Optical Physics*, **2018**, 35, 391	1.7	4
19	Highly-efficient electrically-driven localized surface plasmon source enabled by resonant inelastic electron tunneling. *Nature Communications*, **2021**, 12, 3111	17.4	4
18	Surface wave resonance and chirality in a tubular cavity with metasurface design. *Optics Communications*, **2018**, 417, 42-45	2	3
17	Control the dispersive properties of compound plasmonic lenses. *Optics Communications*, **2013**, 291, 390-394	2	3
16	Organic Hyperbolic Material Assisted Illumination Nanoscopy. *Advanced Science*, **2021**, 8, e2102230	13.6	3
15	Organic light-emitting-diode-based plasmonic dark-field microscopy. *Optics Letters*, **2012**, 37, 4359-61	3	2
14	Surface plasmon beats formed on thin metal films **2006**, 6323, 215		2
13	Investigation of the light generation from crystalline Ag-cubes based metal-insulator-metal tunnel junctions **2017**,		2
12	Kerr Metasurface Enabled by Metallic Quantum Wells. *Nano Letters*, **2021**, 21, 330-336	11.5	2
11	Three-dimensional nanoscale imaging by plasmonic Brownian microscopy. *Nanophotonics*, **2017**, 7, 489-495	6.5	1

List of Publications

10	Theory of optical imaging beyond the diffraction limit with a far-field superlens **2006**, 6323, 207		1
9	Bulky Nanowire Metamaterials for Negative Refraction at Broadband Frequencies from Visible to NIR **2009**,		1
8	Anomalous Nonlinear Optical Selection Rules in Metallic Quantum Wells. *Advanced Functional Materials*, **2020**, 30, 2000829	15.6	0
7	LED control of gene expression in a nanobiosystem composed of metallic nanoparticles and a genetically modified E. coli strain. *Journal of Nanobiotechnology*, **2021**, 19, 190	9.4	0
6	Large second-order nonlinearity in asymmetric metallic quantum wells. *Applied Physics Letters*, **2020**, 116, 241105	3.4	
5	Localized surface plasmon assisted contrast microscopy for ultrathin transparent specimens. *Applied Physics Letters*, **2014**, 105, 163102	3.4	
4	Engineering the dispersion properties of multilayered periodic segmented waveguides and nanowire waveguides. *Optical Engineering*, **2019**, 58, 1	1.1	
3	Plasmonic Structured Illumination Microscopy **2017**, 127-163		
2	Nonlinear Optics: Enhanced Second Harmonic Generation in Double-Resonance Colloidal Metasurfaces (Adv. Funct. Mater. 51/2018). *Advanced Functional Materials*, **2018**, 28, 1870367	15.6	
1	Influence of Hafnium Defects on the Optical and Structural Properties of Zirconium Nitride. *Physica Status Solidi - Rapid Research Letters*, **2021**, 15, 2100372	2.5	