

Zhaowei Liu

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

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	Metamaterial assisted illumination nanoscopy via random super-resolution speckles. <i>Nature Communications</i> , 2021 , 12, 1559	17.4	8
134	Highly-efficient electrically-driven localized surface plasmon source enabled by resonant inelastic electron tunneling. <i>Nature Communications</i> , 2021 , 12, 3111	17.4	4
133	LED control of gene expression in a nanobiosystem composed of metallic nanoparticles and a genetically modified <i>E. coli</i> strain. <i>Journal of Nanobiotechnology</i> , 2021 , 19, 190	9.4	0
132	Two-dimensional optical spatial differentiation and high-contrast imaging. <i>National Science Review</i> , 2021 , 8, nwaa176	10.8	20
131	Kerr Metasurface Enabled by Metallic Quantum Wells. <i>Nano Letters</i> , 2021 , 21, 330-336	11.5	2
130	Unprecedented Fluorophore Photostability Enabled by Low-Loss Organic Hyperbolic Materials. <i>Advanced Materials</i> , 2021 , 33, e2006496	24	5
129	Imaging of Cell Morphology Changes via Metamaterial-Assisted Photobleaching Microscopy. <i>Nano Letters</i> , 2021 , 21, 1716-1721	11.5	6
128	Influence of Hafnium Defects on the Optical and Structural Properties of Zirconium Nitride. <i>Physica Status Solidi - Rapid Research Letters</i> , 2021 , 15, 2100372	2.5	
127	Organic Hyperbolic Material Assisted Illumination Nanoscopy. <i>Advanced Science</i> , 2021 , 8, e2102230	13.6	3
126	SECOND-ORDER NONLINEAR SUSCEPTIBILITY ENHANCEMENT IN GALLIUM NITRIDE NANOWIRES (INVITED). <i>Progress in Electromagnetics Research</i> , 2020 , 168, 25-30	3.8	8
125	Low-Loss Organic Hyperbolic Materials in the Visible Spectral Range: A Joint Experimental and First-Principles Study. <i>Advanced Materials</i> , 2020 , 32, e2002387	24	7
124	Anomalous Nonlinear Optical Selection Rules in Metallic Quantum Wells. <i>Advanced Functional Materials</i> , 2020 , 30, 2000829	15.6	0
123	Metamaterial-Assisted Photobleaching Microscopy with Nanometer Scale Axial Resolution. <i>Nano Letters</i> , 2020 , 20, 6038-6044	11.5	7
122	Large second-order nonlinearity in asymmetric metallic quantum wells. <i>Applied Physics Letters</i> , 2020 , 116, 241105	3.4	
121	Nanoscale optical pulse limiter enabled by refractory metallic quantum wells. <i>Science Advances</i> , 2020 , 6, eaay3456	14.3	7
120	Imaging of Nanoscale Light Confinement in Plasmonic Nanoantennas by Brownian Optical Microscopy. <i>ACS Nano</i> , 2020 , 14, 7666-7672	16.7	8
119	Metasurface enabled quantum edge detection. <i>Science Advances</i> , 2020 , 6,	14.3	32

118	Plasmonically Enhanced Amorphous Silicon Photodetector With Internal Gain. <i>IEEE Photonics Technology Letters</i> , 2019 , 31, 959-962	2.2	4
117	Large optical nonlinearity enabled by coupled metallic quantum wells. <i>Light: Science and Applications</i> , 2019 , 8, 13	16.7	27
116	Photothermal Modulation of Propagating Surface Plasmons on Silver Nanowires. <i>ACS Photonics</i> , 2019 , 6, 2133-2140	6.3	12
115	Optical edge detection based on high-efficiency dielectric metasurface. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019 , 116, 11137-11140	11.5	140
114	Organic Bulk Heterojunction Infrared Photodiodes for Imaging Out to 1300 nm. <i>ACS Applied Electronic Materials</i> , 2019 , 1, 660-666	4	17
113	Array atomic force microscopy for real-time multiparametric analysis. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019 , 116, 5872-5877	11.5	8
112	A spin controlled wavefront shaping metasurface with low dispersion in visible frequencies. <i>Nanoscale</i> , 2019 , 11, 17111-17119	7.7	8
111	Localized plasmonic structured illumination microscopy with gaps in spatial frequencies. <i>Optics Letters</i> , 2019 , 44, 2915	3	8
110	Engineering the dispersion properties of multilayered periodic segmented waveguides and nanowire waveguides. <i>Optical Engineering</i> , 2019 , 58, 1	1.1	
109	Nanostructuring Multilayer Hyperbolic Metamaterials for Ultrafast and Bright Green InGaN Quantum Wells. <i>Advanced Materials</i> , 2018 , 30, e1706411	24	33
108	Surface wave resonance and chirality in a tubular cavity with metasurface design. <i>Optics Communications</i> , 2018 , 417, 42-45	2	3
107	Controlled Homoepitaxial Growth of Hybrid Perovskites. <i>Advanced Materials</i> , 2018 , 30, e1705992	24	51
106	Positively charged and flexible SiO@ZrO nanofibrous membranes and their application in adsorption and separation.. <i>RSC Advances</i> , 2018 , 8, 13018-13025	3.7	14
105	Asymmetrically Curved Hyperbolic Metamaterial Structure with Gradient Thicknesses for Enhanced Directional Spontaneous Emission. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 7704-7708	9.5	11
104	Nonlinear Metasurface Based on Giant Optical Kerr Response of Gold Quantum Wells. <i>ACS Photonics</i> , 2018 , 5, 1654-1659	6.3	16
103	Metamaterial-assisted illumination nanoscopy. <i>National Science Review</i> , 2018 , 5, 141-143	10.8	10
102	Anomalous scaling laws of hyperbolic metamaterials in a tubular geometry. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2018 , 35, 391	1.7	4
101	Multi-layer nanoarrays sandwiched by anodized aluminium oxide membranes: an approach to an inexpensive, reproducible, highly sensitive SERS substrate. <i>Nanoscale</i> , 2018 , 10, 16278-16283	7.7	13

100	Efficient light generation from enhanced inelastic electron tunnelling. <i>Nature Photonics</i> , 2018 , 12, 485-488	9.9	67
99	High Spatiotemporal Resolution Imaging with Localized Plasmonic Structured Illumination Microscopy. <i>ACS Nano</i> , 2018 , 12, 8248-8254	16.7	28
98	Design and Analysis of Blue InGaN/GaN Plasmonic LED for High-Speed, High-Efficiency Optical Communications. <i>ACS Photonics</i> , 2018 , 5, 3557-3564	6.3	13
97	Broadband Photonic Spin Hall Meta-Lens. <i>ACS Nano</i> , 2018 , 12, 82-88	16.7	60
96	Nonlinear Optics: Enhanced Second Harmonic Generation in Double-Resonance Colloidal Metasurfaces (Adv. Funct. Mater. 51/2018). <i>Advanced Functional Materials</i> , 2018 , 28, 1870367	15.6	
95	Optimization of Nanopatterned Multilayer Hyperbolic Metamaterials for Spontaneous Light Emission Enhancement. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2018 , 215, 1800263	1.6	5
94	Experimental Demonstration of Hyperbolic Metamaterial Assisted Illumination Nanoscopy. <i>ACS Nano</i> , 2018 , 12, 11316-11322	16.7	14
93	Enhanced Second Harmonic Generation in Double-Resonance Colloidal Metasurfaces. <i>Advanced Functional Materials</i> , 2018 , 28, 1803019	15.6	18
92	Near-perfect broadband absorption from hyperbolic metamaterial nanoparticles. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017 , 114, 1264-1268	11.5	47
91	Etalon Array Reconstructive Spectrometry. <i>Scientific Reports</i> , 2017 , 7, 40693	4.9	29
90	Optical Observation of Plasmonic Nonlocal Effects in a 2D Superlattice of Ultrasmall Gold Nanoparticles. <i>Nano Letters</i> , 2017 , 17, 2234-2239	11.5	26
89	Experimental Demonstration of Localized Plasmonic Structured Illumination Microscopy. <i>ACS Nano</i> , 2017 , 11, 5344-5350	16.7	51
88	Hyperbolic metamaterials for dispersion-assisted directional light emission. <i>Nanoscale</i> , 2017 , 9, 9034-9047	4.7	32
87	Adsorption and separation properties of positively charged ZrO ₂ nanofibrous membranes fabricated by electrospinning. <i>RSC Advances</i> , 2017 , 7, 42505-42512	3.7	10
86	Three-dimensional nanoscale imaging by plasmonic Brownian microscopy. <i>Nanophotonics</i> , 2017 , 7, 489-495	4.5	1
85	Super-resolution imaging by metamaterial-based compressive spatial-to-spectral transformation. <i>Nanoscale</i> , 2017 , 9, 18268-18274	7.7	22
84	Localized plasmonic structured illumination microscopy with an optically trapped microlens. <i>Nanoscale</i> , 2017 , 9, 14907-14912	7.7	33
83	Investigation of the light generation from crystalline Ag-cubes based metal-insulator-metal tunnel junctions 2017 ,		2

82 Plasmonic Structured Illumination Microscopy **2017**, 127-163

81 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

80 Three-dimensional fluorescent microscopy via simultaneous illumination and detection at multiple planes. *Scientific Reports*, **2016**, 6, 31445 4.9 13

79 Giant Kerr response of ultrathin gold films from quantum size effect. *Nature Communications*, **2016**, 7, 13153 17.4 64

78 Ultrafast Imaging using Spectral Resonance Modulation. *Scientific Reports*, **2016**, 6, 25240 4.9 10

77 Robustness of the far-field response of nonlocal plasmonic ensembles. *Scientific Reports*, **2016**, 6, 28441 4.9 21

76 Tubular optical microcavities of indefinite medium for sensitive liquid refractometers. *Lab on A Chip*, **2016**, 16, 182-7 7.2 26

75 Plasmon-Enhanced Two-Photon Absorption in Photoluminescent Semiconductor Nanocrystals. *ACS Photonics*, **2016**, 3, 526-531 6.3 40

74 High-Quality, Ultraconformal Aluminum-Doped Zinc Oxide Nanoplasmonic and Hyperbolic Metamaterials. *Small*, **2016**, 12, 892-901 11 28

73 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

72 Highly stretchable, printable nanowire array optical polarizers. *Nanoscale*, **2016**, 8, 15850-6 7.7 7

71 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

70 Coherent Four-Fold Super-Resolution Imaging with Composite Photonic Plasmonic Structured Illumination. *ACS Photonics*, **2015**, 2, 341-348 6.3 22

69 Numerical study of hyperlenses for three-dimensional imaging and lithography. *Optics Express*, **2015**, 23, 18501-10 3.3 9

68 Hyperbolic metamaterials and their applications. *Progress in Quantum Electronics*, **2015**, 40, 1-40 9.1 400

67 Tandem structured spectrally selective coating layer of copper oxide nanowires combined with cobalt oxide nanoparticles. *Nano Energy*, **2015**, 11, 247-259 17.1 27

66 Quantum Electrostatic Model for Optical Properties of Nanoscale Gold Films. *Nanophotonics*, **2015**, 4, 413-418 6.3 17

65 Anomalously Weak Scattering in Metal-Semiconductor Multilayer Hyperbolic Metamaterials. *Physical Review X*, **2015**, 5, 9.1 17

64	NiO(x)-Fe ₂ O ₃ -coated p-Si photocathodes for enhanced solar water splitting in neutral pH water. <i>Nanoscale</i> , 2015 , 7, 4900-5	7.7	16
63	Ultralow thermal conductivity of multilayers with highly dissimilar Debye temperatures. <i>Nano Letters</i> , 2014 , 14, 2448-55	11.5	64
62	Enhancing spontaneous emission rates of molecules using nanopatterned multilayer hyperbolic metamaterials. <i>Nature Nanotechnology</i> , 2014 , 9, 48-53	28.7	324
61	From Fano-like interference to superscattering with a single metallic nanodisk. <i>Nanoscale</i> , 2014 , 6, 9093-102	7.7	35
60	High performance multi-scaled nanostructured spectrally selective coating for concentrating solar power. <i>Nano Energy</i> , 2014 , 8, 238-246	17.1	90
59	Localized plasmon assisted structured illumination microscopy for wide-field high-speed dispersion-independent super resolution imaging. <i>Nanoscale</i> , 2014 , 6, 5807-12	7.7	50
58	Si boride-coated Si nanoparticles with improved thermal oxidation resistance. <i>Nano Energy</i> , 2014 , 9, 32-40	7.1	8
57	Wide field super-resolution surface imaging through plasmonic structured illumination microscopy. <i>Nano Letters</i> , 2014 , 14, 4634-9	11.5	104
56	Enhanced spontaneous emission inside hyperbolic metamaterials. <i>Optics Express</i> , 2014 , 22, 4301-6	3.3	60
55	TIRF microscopy with ultra-short penetration depth. <i>Optics Express</i> , 2014 , 22, 10728-34	3.3	11
54	Localized surface plasmon assisted contrast microscopy for ultrathin transparent specimens. <i>Applied Physics Letters</i> , 2014 , 105, 163102	3.4	
53	Three-dimensional ZnO/Si broom-like nanowire heterostructures as photoelectrochemical anodes for solar energy conversion. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2013 , 210, 2561-2568	1.6	8
52	Control the dispersive properties of compound plasmonic lenses. <i>Optics Communications</i> , 2013 , 291, 390-394	2	3
51	Motion-map constrained image reconstruction (MCIR): application to four-dimensional cone-beam computed tomography. <i>Medical Physics</i> , 2013 , 40, 121710	4.4	16
50	3D branched nanowire heterojunction photoelectrodes for high-efficiency solar water splitting and H ₂ generation. <i>Nanoscale</i> , 2012 , 4, 1515-21	7.7	149
49	Hyperlenses and metalenses for far-field super-resolution imaging. <i>Nature Communications</i> , 2012 , 3, 1205	17.4	361
48	Fast compressed sensing-based CBCT reconstruction using Barzilai-Borwein formulation for application to on-line IGRT. <i>Medical Physics</i> , 2012 , 39, 1207-17	4.4	105
47	Organic light-emitting-diode-based plasmonic dark-field microscopy. <i>Optics Letters</i> , 2012 , 37, 4359-61	3	2

46	Liver motion during cone beam computed tomography guided stereotactic body radiation therapy. <i>Medical Physics</i> , 2012 , 39, 6431-42	4.4	78
45	Breaking the imaging symmetry in negative refraction lenses. <i>Optics Express</i> , 2012 , 20, 2581-6	3.3	11
44	Direct observation of plasmonic index ellipsoids on a deep-subwavelength metallic grating. <i>Applied Optics</i> , 2011 , 50, G1-6	0.2	11
43	Metamaterials for enhanced polarization conversion in plasmonic excitation. <i>ACS Nano</i> , 2011 , 5, 5100-6	16.7	29
42	Design, fabrication and characterization of indefinite metamaterials of nanowires. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2011 , 369, 3434-46	3	34
41	Four-dimensional cone-beam computed tomography and digital tomosynthesis reconstructions using respiratory signals extracted from transcutaneously inserted metal markers for liver SBRT. <i>Medical Physics</i> , 2011 , 38, 1028-36	4.4	32
40	Extraordinary light focusing and Fourier transform properties of gradient-index metalenses. <i>Physical Review B</i> , 2011 , 84,	3.3	25
39	Tunable surface plasmon polaritons in Ag composite films by adding dielectrics or semiconductors. <i>Applied Physics Letters</i> , 2011 , 98, 243114	3.4	22
38	Ultra-fast digital tomosynthesis reconstruction using general-purpose GPU programming for image-guided radiation therapy. <i>Technology in Cancer Research and Treatment</i> , 2011 , 10, 295-306	2.7	21
37	A super resolution metalens with phase compensation mechanism. <i>Applied Physics Letters</i> , 2010 , 96, 183103	3.4	73
36	Form birefringence metal and its plasmonic anisotropy. <i>Applied Physics Letters</i> , 2010 , 96, 041112	3.4	21
35	Plasmonic dark field microscopy. <i>Applied Physics Letters</i> , 2010 , 96, 113107	3.4	37
34	Combined surface plasmon and classical waveguiding through metamaterial fiber design. <i>Nano Letters</i> , 2010 , 10, 1-5	11.5	91
33	Plasmonic structured illumination microscopy. <i>Nano Letters</i> , 2010 , 10, 2531-6	11.5	117
32	Focusing surface waves with an inhomogeneous metamaterial lens. <i>Applied Optics</i> , 2010 , 49, A18-22	0.2	5
31	Focusing light into deep subwavelength using metamaterial immersion lenses. <i>Optics Express</i> , 2010 , 18, 4838-44	3.3	41
30	Spherical hyperlens for two-dimensional sub-diffractive imaging at visible frequencies. <i>Nature Communications</i> , 2010 , 1, 143	17.4	300
29	Advances in the hyperlens. <i>Science Bulletin</i> , 2010 , 55, 2618-2624		18

28	A simple design of flat hyperlens for lithography and imaging with half-pitch resolution down to 20 nm. <i>Applied Physics Letters</i> , 2009 , 94, 203108	3.4	92
27	Imaging visible light using anisotropic metamaterial slab lens. <i>Optics Express</i> , 2009 , 17, 22380-5	3.3	38
26	Broad band two-dimensional manipulation of surface plasmons. <i>Nano Letters</i> , 2009 , 9, 462-6	11.5	67
25	Bulky Nanowire Metamaterials for Negative Refraction at Broadband Frequencies from Visible to NIR 2009 ,		1
24	Superlenses to overcome the diffraction limit. <i>Nature Materials</i> , 2008 , 7, 435-41	27	915
23	Projecting deep-subwavelength patterns from diffraction-limited masks using metal-dielectric multilayers. <i>Applied Physics Letters</i> , 2008 , 93, 111116	3.4	77
22	Super-resolution imaging by random adsorbed molecule probes. <i>Nano Letters</i> , 2008 , 8, 1159-62	11.5	29
21	Ray optics at a deep-subwavelength scale: a transformation optics approach. <i>Nano Letters</i> , 2008 , 8, 4243-7	11.5	71
20	Design, fabrication and characterization of a Far-field Superlens. <i>Solid State Communications</i> , 2008 , 146, 202-207	1.6	11
19	Optical negative refraction in bulk metamaterials of nanowires. <i>Science</i> , 2008 , 321, 930	33.3	683
18	All optical interface for parallel, remote, and spatiotemporal control of neuronal activity. <i>Nano Letters</i> , 2007 , 7, 3859-63	11.5	60
17	Two-dimensional imaging by far-field superlens at visible wavelengths. <i>Nano Letters</i> , 2007 , 7, 3360-5	11.5	120
16	Near-field Moiré Effect mediated by surface plasmon polariton excitation. <i>Optics Letters</i> , 2007 , 32, 629-31	3	27
15	Experimental studies of far-field superlens for sub-diffractive optical imaging. <i>Optics Express</i> , 2007 , 15, 6947-54	3.3	62
14	Tuning the far-field superlens: from UV to visible. <i>Optics Express</i> , 2007 , 15, 7095-102	3.3	35
13	Development of optical hyperlens for imaging below the diffraction limit. <i>Optics Express</i> , 2007 , 15, 15886-91	3.3	160
12	Far-field optical hyperlens magnifying sub-diffraction-limited objects. <i>Science</i> , 2007 , 315, 1686	33.3	1574
11	Far-field optical superlens. <i>Nano Letters</i> , 2007 , 7, 403-8	11.5	300

10	Tuning the focus of a plasmonic lens by the incident angle. <i>Applied Physics Letters</i> , 2006 , 88, 171108	3.4	87
9	Negative group velocity of surface plasmons on thin metallic films 2006 , 6323, 224		5
8	Surface plasmon beats formed on thin metal films 2006 , 6323, 215		2
7	Theory of optical imaging beyond the diffraction limit with a far-field superlens 2006 , 6323, 207		1
6	Theory of the transmission properties of an optical far-field superlens for imaging beyond the diffraction limit. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2006 , 23, 2383	1.7	106
5	Resonant and non-resonant generation and focusing of surface plasmons with circular gratings. <i>Optics Express</i> , 2006 , 14, 5664-70	3.3	108
4	Focusing surface plasmons with a plasmonic lens. <i>Nano Letters</i> , 2005 , 5, 1726-9	11.5	447
3	Large positive and negative lateral optical beam displacements due to surface plasmon resonance. <i>Applied Physics Letters</i> , 2004 , 85, 372-374	3.4	192
2	Regenerating evanescent waves from a silver superlens. <i>Optics Express</i> , 2003 , 11, 682-7	3.3	105
1	Rapid growth of evanescent wave by a silver superlens. <i>Applied Physics Letters</i> , 2003 , 83, 5184-5186	3.4	140