Hongsheng Chen

List of Publications by Citations

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144 papers	5,508 citations	41 h-index	70 g-index
161 ext. papers	7,146 ext. citations	8.1 avg, IF	5.97 L-index

#	Paper	IF	Citations
144	Electromagnetic wave interactions with a metamaterial cloak. *Physical Review Letters*, **2007**, 99, 063903	7.4	355
143	Left-handed materials composed of only S-shaped resonators. *Physical Review E*, **2004**, 70, 057605	2.4	285
142	Experimental confirmation of negative refractive index of a metamaterial composed of Ɨlike metallic patterns. *Applied Physics Letters*, **2004**, 84, 1537-1539	3.4	189
141	Full-Polarization 3D Metasurface Cloak with Preserved Amplitude and Phase. *Advanced Materials*, **2016**, 28, 6866-71	24	186
140	Circular Dichroism Metamirrors with Near-Perfect Extinction. *ACS Photonics*, **2016**, 3, 2096-2101	6.3	162
139	Probing topological protection using a designer surface plasmon structure. *Nature Communications*, **2016**, 7, 11619	17.4	150
138	Realization of a three-dimensional photonic topological insulator. *Nature*, **2019**, 565, 622-626	50.4	148
137	Experimental verification of reversed Cherenkov radiation in left-handed metamaterial. *Physical Review Letters*, **2009**, 103, 194801	7.4	145
136	Origami-Based Reconfigurable Metamaterials for Tunable Chirality. *Advanced Materials*, **2017**, 29, 1700412	14	129
135	A metasurface carpet cloak for electromagnetic, acoustic and water waves. *Scientific Reports*, **2016**, 6, 20219	4.9	127
134	MULTI-BAND AND POLARIZATION INSENSITIVE METAMATERIAL ABSORBER. *Progress in Electromagnetics Research*, **2011**, 113, 103-110	3.8	115
133	Deep-learning-enabled self-adaptive microwave cloak without human intervention. *Nature Photonics*, **2020**, 14, 383-390	33.9	113
132	Triboelectrification-Induced Large Electric Power Generation from a Single Moving Droplet on Graphene/Polytetrafluoroethylene. *ACS Nano*, **2016**, 10, 7297-302	16.7	112
131	Ray-optics cloaking devices for large objects in incoherent natural light. *Nature Communications*, **2013**, 4, 2652	17.4	112
130	Ab initio study of electronic and optical behavior of two-dimensional silicon carbide. *Journal of Materials Chemistry C*, **2013**, 1, 2131	7.1	111
129	All-angle negative refraction of highly squeezed plasmon and phonon polaritons in graphene-boron nitride heterostructures. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 6717-6721	11.5	107
128	Ultra-compact optical modulator by graphene induced electro-refraction effect. *Applied Physics Letters*, **2013**, 103, 061116	3.4	99

127	Graphene-Piezoelectric Material Heterostructure for Harvesting Energy from Water Flow. *Advanced Functional Materials*, **2017**, 27, 1604226	15.6	89
126	Interface designed MoS2/GaAs heterostructure solar cell with sandwich stacked hexagonal boron nitride. *Scientific Reports*, **2015**, 5, 15103	4.9	87
125	One-Directional Perfect Cloak Created With Homogeneous Material. *IEEE Microwave and Wireless Components Letters*, **2009**, 19, 131-133	2.6	84
124	Extraordinary surface voltage effect in the invisibility cloak with an active device inside. *Physical Review Letters*, **2008**, 100, 063904	7.4	83
123	Experimental discovery of nodal chains. *Nature Physics*, **2018**, 14, 461-464	16.2	81
122	Experimental demonstration of a free-space cylindrical cloak without superluminal propagation. *Physical Review Letters*, **2012**, 109, 223903	7.4	79
121	Metamaterial exhibiting left-handed properties over multiple frequency bands. *Journal of Applied Physics*, **2004**, 96, 5338-5340	2.5	79
120	Hyperbolic spoof plasmonic metasurfaces. *NPG Asia Materials*, **2017**, 9, e428-e428	10.3	77
119	Configurable phonon polaritons in twisted MoO. *Nature Materials*, **2020**, 19, 1307-1311	27	75
118	Manipulating Smith-Purcell Emission with Babinet Metasurfaces. *Physical Review Letters*, **2016**, 117, 157401	7.4	70
117	Performing optical logic operations by a diffractive neural network. *Light: Science and Applications*, **2020**, 9, 59	16.7	65
116	In-plane and tunneling pressure sensors based on graphene/hexagonal boron nitride heterostructures. *Applied Physics Letters*, **2011**, 99, 133109	3.4	65
115	Formation mechanism of guided resonances and bound states in the continuum in photonic crystal slabs. *Scientific Reports*, **2016**, 6, 31908	4.9	64
114	Gradient Chiral Metamirrors for Spin-Selective Anomalous Reflection. *Laser and Photonics Reviews*, **2017**, 11, 1700115	8.3	61
113	High-directivity antenna with small antenna aperture. *Applied Physics Letters*, **2009**, 95, 193506	3.4	59
112	Experimental Observation of Superscattering. *Physical Review Letters*, **2019**, 122, 063901	7.4	54
111	Controlling Cherenkov angles with resonance transition radiation. *Nature Physics*, **2018**, 14, 816-821	16.2	54
110	Chiral metamirrors for broadband spin-selective absorption. *Applied Physics Letters*, **2017**, 110, 231103	3.4	53

109	Splashing transients of 2D plasmons launched by swift electrons. *Science Advances*, **2017**, 3, e1601192	14.3	52
108	A circuit method to integrate metamaterial and graphene in absorber design. *Optics Communications*, **2014**, 329, 76-80	2	51
107	Broadband surface-wave transformation cloak. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, 7635-8	11.5	47
106	Multifrequency Superscattering from Subwavelength Hyperbolic Structures. *ACS Photonics*, **2018**, 5, 1506-1511	6.3	46
105	Flipping photons backward: reversed Cherenkov radiation. *Materials Today*, **2011**, 14, 34-41	21.8	45
104	Concealing arbitrary objects remotely with multi-folded transformation optics. *Light: Science and Applications*, **2016**, 5, e16177	16.7	44
103	Kirigami metamaterials for reconfigurable toroidal circular dichroism. *NPG Asia Materials*, **2018**, 10, 888-898	10.3	39
102	Group-Velocity-Controlled and Gate-Tunable Directional Excitation of Polaritons in Graphene-Boron Nitride Heterostructures. *Laser and Photonics Reviews*, **2018**, 12, 1800049	8.3	38
101	Ab initio optical study of graphene on hexagonal boron nitride and fluorographene substrates. *Journal of Materials Chemistry C*, **2013**, 1, 1618	7.1	35
100	Transformation Optics: From Classic Theory and Applications to its New Branches. *Laser and Photonics Reviews*, **2017**, 11, 1700034	8.3	34
99	Multi-frequency metasurface carpet cloaks. *Optics Express*, **2018**, 26, 14123-14131	3.3	33
98	WAVE AND RAY ANALYSIS OF A TYPE OF CLOAK EXHIBITING MAGNIFIED AND SHIFTED SCATTERING EFFECT. *Progress in Electromagnetics Research*, **2009**, 95, 167-178	3.8	33
97	Higher-Order Topological States in Surface-Wave Photonic Crystals. *Advanced Science*, **2020**, 7, 1902724	13.6	32
96	New Concept Conformal Antennas Utilizing Metamaterial and Transformation Optics. *IEEE Antennas and Wireless Propagation Letters*, **2008**, 7, 509-512	3.8	30
95	Tailoring the energy distribution and loss of 2D plasmons. *New Journal of Physics*, **2016**, 18, 105007	2.9	30
94	Ultrawideband chromatic aberration-free meta-mirrors. *Advanced Photonics*, **2020**, 3,	8.1	29
93	Bound States in the Continuum in Fiber Bragg Gratings. *ACS Photonics*, **2019**, 6, 2996-3002	6.3	28
92	Ultraviolet dielectric hyperlens with layered graphene and boron nitride. *Journal of Materials Chemistry*, **2012**, 22, 15863		28

91	Chiral Plasmons with Twisted Atomic Bilayers. *Physical Review Letters*, **2020**, 125, 077401	7.4	28
90	Bifunctional acoustic metamaterial lens designed with coordinate transformation. *Applied Physics Letters*, **2017**, 110, 113503	3.4	27
89	Valley-Hall Photonic Topological Insulators with Dual-Band Kink States. *Advanced Optical Materials*, **2019**, 7, 1900036	8.1	26
88	Beam shifting experiment for the characterization of left-handed properties. *Journal of Applied Physics*, **2004**, 95, 2238-2241	2.5	26
87	Valley Kink States and Topological Channel Intersections in Substrate-Integrated Photonic Circuitry. *Laser and Photonics Reviews*, **2019**, 13, 1900159	8.3	24
86	Origami Metawall: Mechanically Controlled Absorption and Deflection of Light. *Advanced Science*, **2019**, 6, 1901434	13.6	22
85	Toroidal Localized Spoof Plasmons on Compact Metadisks. *Advanced Science*, **2018**, 5, 1700487	13.6	21
84	Transverse photon spin of bulk electromagnetic waves in bianisotropic media. *Nature Photonics*, **2019**, 13, 878-882	33.9	21
83	Electronic structures of multilayer two-dimensional silicon carbide with oriented misalignment. *Journal of Materials Chemistry C*, **2015**, 3, 9057-9062	7.1	20
82	3D Visible-Light Invisibility Cloak. *Advanced Science*, **2018**, 5, 1800056	13.6	20
81	Confined transverse electric phonon polaritons in hexagonal boron nitrides. *2D Materials*, **2018**, 5, 015018	5.9	20
80	Transverse-electric Brewster effect enabled by nonmagnetic two-dimensional materials. *Physical Review A*, **2016**, 94,	2.6	20
79	A broadband polygonal cloak for acoustic wave designed with linear coordinate transformation. *Journal of the Acoustical Society of America*, **2016**, 140, 95	2.2	20
78	Design of Ultracompact Graphene-Based Superscatterers. *IEEE Journal of Selected Topics in Quantum Electronics*, **2017**, 23, 130-137	3.8	19
77	Fully Coupled Multiphysics Simulation of Crosstalk Effect in Bipolar Resistive Random Access Memory. *IEEE Transactions on Electron Devices*, **2017**, 64, 3647-3653	2.9	19
76	Large-Scale Far-Infrared Invisibility Cloak Hiding Object from Thermal Detection. *Advanced Optical Materials*, **2015**, 3, 1738-1742	8.1	19
75	Realizing transmitted metasurface cloak by a tandem neural network. *Photonics Research*, **2021**, 9, B229	6	18
74	Broadband enhancement of on-chip single-photon extraction via tilted hyperbolic metamaterials. *Applied Physics Reviews*, **2020**, 7, 021403	17.3	17

73	Photonic matrix multiplication lights up photonic accelerator and beyond.. *Light: Science and Applications*, **2022**, 11, 30	16.7	17
72	SUPERSCATTERING OF LIGHT IN REFRACTIVE-INDEX NEAR-ZERO ENVIRONMENTS. *Progress in Electromagnetics Research*, **2020**, 168, 15-23	3.8	17
71	Frequency-Controlled Focusing Using Achromatic Metasurface. *Advanced Optical Materials*, **2021**, 9, 2001311	8.1	17
70	Angular-Adaptive Spin-Locked Retroreflector Based on Reconfigurable Magnetic Metagrating. *Advanced Optical Materials*, **2019**, 7, 1900151	8.1	16
69	Surface wave suppression in antenna systems using magnetic metamaterial. *Journal of Applied Physics*, **2007**, 101, 114913	2.5	16
68	DESIGNER SURFACE PLASMONS ENABLE TERAHERTZ CHERENKOV RADIATION (INVITED). *Progress in Electromagnetics Research*, **2020**, 169, 25-32	3.8	16
67	Cross-wavelength invisibility integrated with various invisibility tactics. *Science Advances*, **2020**, 6,	14.3	16
66	Diodelike Spin-Orbit Interactions of Light in Chiral Metasurfaces. *IEEE Transactions on Antennas and Propagation*, **2018**, 66, 7148-7155	4.9	16
65	A perspective on the next generation of invisibility cloaks—intelligent cloaks. *Applied Physics Letters*, **2021**, 118, 180501	3.4	15
64	Designing optimal nanofocusing with a gradient hyperlens. *Nanophotonics*, **2017**, 7, 479-487	6.3	14
63	Spiral Field Generation in Smith-Purcell Radiation by Helical Metagratings. *Research*, **2019**, 2019, 3806132	7.8	14
62	Type-I hyperbolic metasurfaces for highly-squeezed designer polaritons with negative group velocity. *Nature Communications*, **2019**, 10, 2002	17.4	13
61	REVIEW OF BLACK HOLE REALIZATION IN LABORATORY BASE ON TRANSFORMATION OPTICS (INVITED PAPER). *Progress in Electromagnetics Research*, **2015**, 154, 181-193	3.8	13
60	Electrothermal Effects on Hot-Carrier Reliability in SOI MOSFETs—AC Versus Circuit-Speed Random Stress. *IEEE Transactions on Electron Devices*, **2016**, 63, 3669-3676	2.9	13
59	Diffusive nonreciprocity and thermal diode. *Physical Review B*, **2021**, 103,	3.3	12
58	Polarization Shaping of Free-Electron Radiation by Gradient Bianisotropic Metasurfaces. *Laser and Photonics Reviews*, **2021**, 15, 2000426	8.3	12
57	Direct current remote cloak for arbitrary objects. *Light: Science and Applications*, **2019**, 8, 30	16.7	11
56	Visualization of Negative Refraction in Chiral Nihility Media. *IEEE Antennas and Propagation Magazine*, **2009**, 51, 79-87	1.7	11

55	Transient response of a signal through a dispersive invisibility cloak. *Optics Letters*, **2016**, 41, 4911-4914	3	11
54	Machine Learning-enabled metasurface for direction of arrival estimation. *Nanophotonics*, **2022**,	6.3	10
53	Interferenceless Polarization Splitting Through Nanoscale van der Waals Heterostructures. *Physical Review Applied*, **2018**, 10,	4.3	10
52	Non-contact radio frequency shielding and wave guiding by multi-folded transformation optics method. *Scientific Reports*, **2016**, 6, 36846	4.9	9
51	Dispersion engineering of hyperbolic plasmons in bilayer 2D materials. *Optics Letters*, **2018**, 43, 5737-5740	3	9
50	Experimental Realization of an Extreme-Parameter Omnidirectional Cloak. *Research*, **2019**, 2019, 8282647	7.18	8
49	Ideal type-II Weyl points in topological circuits. *National Science Review*, **2021**, 8, nwaa192	10.8	8
48	Non-contact method to freely control the radiation patterns of antenna with multi-folded transformation optics. *Scientific Reports*, **2017**, 7, 13171	4.9	7
47	Robust waveguiding in substrate-integrated topological photonic crystals. *Applied Physics Letters*, **2020**, 116, 231106	3.4	7
46	Propagation of electromagnetic fields in bulk terahertz metamaterials: A combined experimental and theoretical study. *Physical Review B*, **2013**, 87,	3.3	7
45	Controlling the field distribution in waveguides with transformation optics. *Applied Physics Letters*, **2009**, 94, 234101	3.4	7
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43	Toggling Near-Field Directionality via Polarization Control of Surface Waves. *Laser and Photonics Reviews*, **2021**, 15, 2000388	8.3	7
42	A Brewster route to Cherenkov detectors. *Nature Communications*, **2021**, 12, 5554	17.4	7
41	Improved Hybrid Leapfrog ADI-FDTD Method for Simulating Near-Field Coupling Effects Among Multiple Thin Wire Monopole Antennas on a Complex Platform. *IEEE Transactions on Electromagnetic Compatibility*, **2017**, 59, 618-626	2	6
40	A Full-Parameter, Broadband, Homogeneous, and Compact Waveguide Coupler Designed With Transformation Optics. *IEEE Antennas and Wireless Propagation Letters*, **2015**, 14, 634-637	3.8	6
39	Functional multi-band THz meta-foils. *Scientific Reports*, **2013**, 3, 3531	4.9	6
38	Photonic Topological Valley-Locked Waveguides. *ACS Photonics*, **2021**, 8, 1400-1406	6.3	6

37	Emerging chiral optics from chiral interfaces. *Physical Review B*, **2021**, 103,	3.3	6
36	Dynamic recognition and mirage using neuro-metamaterials.. *Nature Communications*, **2022**, 13, 2694	17.4	6
35	A meta-substrate to enhance the bandwidth of metamaterials. *Scientific Reports*, **2014**, 4, 5264	4.9	5
34	Highly Directional Small-Size Antenna Designed with Homogeneous Transformation Optics. *International Journal of Antennas and Propagation*, **2014**, 2014, 1-6	1.2	5
33	Electronic transport anisotropy of buckling graphene under uniaxial compressive strain: Ab initio study. *Applied Physics Letters*, **2012**, 100, 052111	3.4	5
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31	Diffusive topological transport in spatiotemporal thermal lattices. *Nature Physics*,	16.2	5
30	Acoustic non-Hermitian skin effect from twisted winding topology. *Nature Communications*, **2021**, 12, 6297	17.4	5
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28	Demonstration of Spider-Eyes-Like Intelligent Antennas for Dynamically Perceiving Incoming Waves. *Advanced Intelligent Systems*, **2021**, 3, 2100066	6	5
27	Spoof Surface Plasmonic Graphene for Controlling the Transports and Emissions of Electromagnetic Waves. *IEEE Transactions on Microwave Theory and Techniques*, **2019**, 67, 50-56	4.1	5
26	Observing the transient buildup of a superscatterer in the time domain. *Optics Express*, **2017**, 25, 4967-4974	3.4	4
25	Reciprocity of thermal diffusion in time-modulated systems.. *Nature Communications*, **2022**, 13, 167	17.4	4
24	In Situ Customized Illusion Enabled by Global Metasurface Reconstruction. *Advanced Functional Materials*,2109331	15.6	4
23	A perspective of twisted photonic structures. *Applied Physics Letters*, **2021**, 119, 240501	3.4	4
22	Design Considerations for Si- and Ge-Stacked Nanosheet pMOSFETs Based on Quantum Transport Simulations. *IEEE Transactions on Electron Devices*, **2020**, 67, 26-32	2.9	3
21	Angle-Insensitive Toroidal Metasurface for High-Efficiency Sensing. *IEEE Transactions on Microwave Theory and Techniques*, **2021**, 69, 1511-1517	4.1	3
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19	Photonic and plasmonic transition radiation from graphene. *Journal of Optics (United Kingdom)*, **2021**, 23, 034001	1.7	3
18	Large modulation capacity in graphene-based slot modulators by enhanced hybrid plasmonic effects. *Scientific Reports*, **2018**, 8, 16830	4.9	3
17	Negative refraction of ultra-squeezed in-plane hyperbolic designer polaritons. *Photonics Research*, **2021**, 9, 1540	6	3
16	Broadband Spin-Locked Metasurface Retroreflector.. *Advanced Science*, **2022**, e2201397	13.6	3
15	Mid-Infrared Nanofocusing Using Fragmented High-Order Transformation Optics. *IEEE Transactions on Antennas and Propagation*, **2019**, 67, 6515-6522	4.9	2
14	Magnetic Metamirrors as Spatial Frequency Filters. *IEEE Transactions on Antennas and Propagation*, **2020**, 68, 5505-5511	4.9	2
13	NON-HERMITIAN SKIN EFFECT AND DELOCALIZED EDGE STATES IN PHOTONIC CRYSTALS WITH ANOMALOUS PARITY-TIME SYMMETRY. *Progress in Electromagnetics Research*, **2021**, 172, 33-40	3.8	2
12	Spiral Field Generation in Smith-Purcell Radiation by Helical Metagratings. *Research*, **2019**, 2019, 1-8	7.8	2
11	High-Q Plasmonic Crystal Laser for Ultra-Sensitive Biomolecule Detection. *IEEE Journal of Selected Topics in Quantum Electronics*, **2021**, 1-1	3.8	2
10	Group-Velocity-Controlled and Gate-Tunable Directional Excitation of Polaritons in Graphene-Boron Nitride Heterostructures (Laser Photonics Rev. 12(5)/2018). *Laser and Photonics Reviews*, **2018**, 12, 1870024	8.3	2
9	Bianisotropic origami metasurfaces for mechanically controlled asymmetric radiation. *New Journal of Physics*, **2021**, 23, 085002	2.9	2
8	. *IEEE Sensors Journal*, **2021**, 21, 19948-19958	4	2
7	Heat transfer control using a thermal analogue of coherent perfect absorption.. *Nature Communications*, **2022**, 13, 2683	17.4	2
6	Quantum and thermo-mechanical noise squeezing in nanoresonators: A comparative study. *Applied Physics Letters*, **2012**, 100, 023105	3.4	1
5	Gain-assisted metamaterial embedded with gain elements. *Microwave and Optical Technology Letters*, **2010**, 52, 92-95	1.2	1
4	High-Speed Efficient On-Chip Electro-Optic Modulator Based on Midinfrared Hyperbolic Metamaterials. *Physical Review Applied*, **2021**, 16,	4.3	1
3	Deep Neural Network with Data Cropping Algorithm for Absorptive Frequency-Selective Transmission Metasurface. *Advanced Optical Materials*,2200178	8.1	1
2	Broadband Transparent Electrode in Visible/Near-Infrared Regions. *ACS Photonics*, **2021**, 8, 2203-2210	6.3	0

1 Ultra-Compact Organic Vertical-Cavity Laser With High-Contrast Grating Feedback for Gas Detection. *IEEE Sensors Journal*, **2020**, 1-1 4