Alastair Hibbins

List of Publications by Year
in descending order

156 papers	4,007 citations	147801 31 h-index	128289 60 g-index
157 all docs	157 docs citations	157 times ranked	3138 citing authors

#	Article	IF	Citations
1	Experimental Verification of Designer Surface Plasmons. Science, 2005, 308, 670-672.	12.6	749
2	Ideal Weyl points and helicoid surface states in artificial photonic crystal structures. Science, 2018, 359, 1013-1016.	12.6	250
3	Microwave Surface-Plasmon-Like Modes on Thin Metamaterials. Physical Review Letters, 2009, 102, 073901.	7.8	142
4	Optical Control over Surface-Plasmon-Polariton-Assisted THz Transmission through a Slit Aperture. Physical Review Letters, 2008, 100, 123901.	7.8	125
5	Finite Conductance Governs the Resonance Transmission of Thin Metal Slits at Microwave Frequencies. Physical Review Letters, 2004, 92, 147401.	7.8	111
6	Direct observation of topological surface-state arcs in photonic metamaterials. Nature Communications, 2017, 8, 97.	12.8	110
7	Squeezing Millimeter Waves into Microns. Physical Review Letters, 2004, 92, 143904.	7.8	107
8	Gratingless enhanced microwave transmission through a subwavelength aperture in a thick metal plate. Applied Physics Letters, 2002, 81, 4661-4663.	3.3	106
9	Selective transmission through very deep zero-order metallic gratings at microwave frequencies. Applied Physics Letters, 2000, 77, 2789-2791.	3.3	100
10	Surface-topography-induced enhanced transmission and directivity of microwave radiation through a subwavelength circular metal aperture. Applied Physics Letters, 2004, 84, 2040-2042.	3.3	98
11	Thin metamaterial Luneburg lens for surface waves. Physical Review B, 2013, 87, .	3.2	83
12	Experimental observation of photonic nodal line degeneracies in metacrystals. Nature Communications, 2018, 9, 950.	12.8	80
13	Boundary-Layer Effects on Acoustic Transmission Through Narrow Slit Cavities. Physical Review Letters, 2015, 115, 044302.	7.8	76
14	The resonant electromagnetic fields of an array of metallic slits acting as Fabry-Perot cavities. Journal of Applied Physics, 2006, 99, 124903.	2.5	74
15	Waveguide Arrays as Plasmonic Metamaterials: Transmission below Cutoff. Physical Review Letters, 2006, 96, 073904.	7.8	73
16	Microwave Transmission of a Compound Metal Grating. Physical Review Letters, 2006, 96, 257402.	7.8	71
17	One-way diffraction grating. Physical Review E, 2006, 74, 056611.	2.1	68
18	Circuit modeling of the transmissivity of stacked two-dimensional metallic meshes. Optics Express, 2010, 18, 13309.	3.4	63

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19	Resonant absorption of electromagnetic fields by surface plasmons buried in a multilayered plasmonic nanostructure. Physical Review B, 2006, 74, .	3.2	61
20	Importance of diffraction in determining the dispersion of designer surface plasmons. Physical Review B, 2008, 78, .	3.2	53
21	Designer surface plasmon dispersion on a one-dimensional periodic slot metasurface with glide symmetry. Optics Letters, 2017, 42, 3375.	3.3	48
22	Surface plasmon-polariton study of the optical dielectric function of titanium nitride. Journal of Modern Optics, 1998, 45, 2051-2062.	1.3	41
23	Enhanced microwave transmission through a single subwavelength aperture surrounded by concentric grooves. Journal of Optics, 2005, 7, S152-S158.	1.5	41
24	Grating-coupled surface plasmons at microwave frequencies. Journal of Applied Physics, 1999, 86, 1791-1795.	2.5	40
25	Microwave Transmission through a Single Subwavelength Annular Aperture in a Metal Plate. Physical Review Letters, 2005, 94, 193902.	7.8	40
26	Excitation of remarkably nondispersive surface plasmons on a nondiffracting, dual-pitch metal grating. Applied Physics Letters, 2002, 80, 2410-2412.	3.3	38
27	Prism coupling to 'designer' surface plasmons. Optics Express, 2008, 16, 20441.	3.4	37
28	Massively Sub-wavelength Guiding of Electromagnetic Waves. Scientific Reports, 2014, 4, 7495.	3.3	37
29	Thin resonant structures for angle and polarization independent microwave absorption. Applied Physics Letters, 2009, 94, 041913.	3.3	35
30	Mimicking glide symmetry dispersion with coupled slot metasurfaces. Applied Physics Letters, 2017, 111, .	3.3	35
31	Subwavelength lateral confinement of microwave surface waves. Applied Physics Letters, 2011, 99, .	3.3	33
32	Polarization conversion from a thin cavity array in the microwave regime. Scientific Reports, 2015, 5, 9366.	3.3	31
33	Transmission of microwaves through a stepped subwavelength slit. Applied Physics Letters, 2007, 91, 251106.	3.3	28
34	Thin structured rigid body for acoustic absorption. Applied Physics Letters, 2017, 110, .	3.3	28
35	Fully carbon metasurface: Absorbing coating in microwaves. Journal of Applied Physics, 2017, 121, .	2.5	26
36	Azimuth-angle-dependent reflectivity data from metallic gratings. Journal of Modern Optics, 1998, 45, 1019-1028.	1.3	22

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37	Light circulation and weaving in periodically patterned structures. Physical Review B, 2008, 77, .	3.2	22
38	Direct observation of negative-index microwave surface waves. Scientific Reports, 2016, 6, 22018.	3.3	22
39	A broadband metasurface Luneburg lens for microwave surface waves. Applied Physics Letters, 2017, 111, .	3.3	22
40	Phase resonances on metal gratings of identical, equally spaced alternately tapered slits. Applied Physics Letters, 2009, 95, 041905.	3.3	21
41	Light localization, photon sorting, and enhanced absorption in subwavelength cavity arrays. Optics Express, 2012, 20, 24226.	3.4	21
42	Surface wave resonances supported on a square array of square metallic pillars. Applied Physics Letters, 2012, 100, .	3.3	21
43	Angle-independent microwave absorption by ultrathin microcavity arrays. Journal of Applied Physics, 2008, 104, 043105.	2.5	20
44	Surface plasmon polaritons on deep, narrow-ridged rectangular gratings. Journal of the Optical Society of America B: Optical Physics, 2009, 26, 1228.	2.1	20
45	Remarkable transmission of microwaves through a wall of long metallic bricks. Applied Physics Letters, 2001, 79, 2844-2846.	3.3	19
46	Tuning the polarization state of enhanced transmission in gratings. Applied Physics Letters, 2008, 92, 191105.	3.3	19
47	Coupling of near-grazing microwave photons to surface plasmon polaritons via a dielectric grating. Physical Review E, 2000, 61, 5900-5906.	2.1	18
48	Low acoustic transmittance through a holey structure. Physical Review B, 2012, 85, .	3.2	17
49	The influence of grating profile on surface plasmon polariton resonances recorded in different diffracted orders. Journal of Modern Optics, 1999, 46, 2157-2186.	1.3	16
50	The coupling of microwave radiation to surface plasmon polaritons and guided modes via dielectric gratings. Journal of Applied Physics, 2000, 87, 2677-2683.	2.5	16
51	EXPLORING CARBON NANOTUBES/BATIO3/FE3O4 NANOCOMPOSITES AS MICROWAVE ABSORBERS. Progress in Electromagnetics Research C, 2016, 66, 77-85.	0.9	15
52	Optical excitation of surface plasmon polaritons on 90Â° and 60Â° bi-gratings. Journal of Modern Optics, 1996, 43, 1351-1360.	1.3	14
53	Microwave transmissivity of a metamaterialâ€“dielectric stack. Applied Physics Letters, 2009, 95, .	3.3	14
54	Acoustic transmission through compound subwavelength slit arrays. Physical Review B, 2016, 94, .	3.2	14

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55	Theoretical and experimental exploration of finite sample size effects on the propagation of surface waves supported by slot arrays. Physical Review B, 2017, 95, .	3.2	14
56	Resonantly inverted microwave transmissivity threshold of metal grids. New Journal of Physics, 2010, 12, 063007.	2.9	13
57	Direct mapping of surface plasmon dispersion using imaging scatterometry. Applied Physics Letters, 2013, 102, .	3.3	13
58	Metamaterial tunnel barrier gives broadband microwave transmission. Journal of Applied Physics, 2011, 109, 013104.	2.5	12
59	Optimizing the performance of aerosol photoacoustic cells using a finite element model. Part 1: Method validation and application to single-resonator multipass cells. Aerosol Science and Technology, 2019, 53, 1107-1127.	3.1	12
60	Multiband superbackscattering via mode superposition in a single dielectric particle. Applied Physics Letters, 2021, 118, .	3.3	12
61	Designing the collective non-local responses of metasurfaces. Communications Physics, 2021, 4, .	5.3	12
62	Microwave edge modes on a metasurface with glide symmetry. Physical Review B, 2018, 98, .	3.2	11
63	Dark Mode Excitation in Three-Dimensional Interlaced Metallic Meshes. ACS Photonics, 2021, 8, 841-846.	6.6	11
64	Coupled surface-plasmon-like modes between metamaterial. Physical Review B, 2007, 76, .	3.2	10
65	Broadband and low loss high refractive index metamaterials in the microwave regime. Applied Physics Letters, 2013, 102, 091108.	3.3	10
66	Omnidirectional surface wave cloak using an isotropic homogeneous dielectric coating. Scientific Reports, 2016, 6, 30984.	3.3	10
67	Broadband, slow sound on a glide-symmetric meander-channel surface. Journal of the Acoustical Society of America, 2019, 145, 3190-3194.	1.1	10
68	A Broadband Stripline Technique for Characterizing Relative Permittivity and Permeability. IEEE Transactions on Microwave Theory and Techniques, 2019, 67, 231-238.	4.6	10
69	Strong, omnidirectional radar backscatter from subwavelength, 3D printed metacubes. IET Microwaves, Antennas and Propagation, 2020, 14, 1862-1868.	1.4	10
70	Low angular-dispersion microwave absorption of a metal dual-period nondiffracting hexagonal grating. Applied Physics Letters, 2005, 86, 184103.	3.3	9
71	Babinetâ€™s principle and the band structure of surface waves on patterned metal arrays. Journal of Applied Physics, 2010, 107, .	2.5	9
72	Heavily loaded ferrite-polymer composites to produce high refractive index materials at centimetre wavelengths. APL Materials, 2013, 1, .	5.1	9

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73	An acoustic double fishnet using Helmholtz resonators. Journal of the Acoustical Society of America, 2014, 136, 980-984.	1.1	9
74	Gapless states in microwave artificial graphene. Applied Physics Letters, 2017, 110, .	3.3	9
75	Investigating the nature of chiral near-field interactions. Physical Review B, 2018, 97, .	3.2	9
76	The waveguiding of sound using lines of resonant holes. Scientific Reports, 2019, 9, 11508.	3.3	9
77	Optimizing the performance of aerosol photoacoustic cells using a finite element model. Part 2: Application to a two-resonator cell. Aerosol Science and Technology, 2019, 53, 1128-1148.	3.1	9
78	Complex Permittivity and Permeability of Composite Materials Based on Carbonyl Iron Powder Over an Ultrawide Frequency Band. Physical Review Applied, 2021, 16, .	3.8	9
79	A surface plasmon study of the optical dielectric function of indium. Journal of Modern Optics, 2000, 47, 1227-1235.	1.3	8
80	Surface waves at microwave frequencies excited on a zigzag metasurface. Physical Review B, 2012, 86, .	3.2	8
81	Microwave surface waves supported by a tapered geometry metasurface. Applied Physics Letters, 2013, 103, .	3.3	8
82	The Effect of Rotational Disorder on the Microwave Transmission of Checkerboard Metal Square Arrays. Scientific Reports, 2015, 5, 16608.	3.3	8
83	Independently controlling permittivity and diamagnetism in broadband, low-loss, isotropic metamaterials at microwave frequencies. Applied Physics Letters, 2015, 106, .	3.3	8
84	On the extraordinary optical transmission in parallel plate waveguides for non-TEM modes. Optics Express, 2017, 25, 24670.	3.4	8
85	Diffraction by a truncated planar array of dipoles:A Wienerâ€“Hopf approach. Wave Motion, 2019, 89, 28-42.	2.0	8
86	Dynamics of spiral spin waves in magnetic nanopatches: Influence of thickness and shape. Physical Review B, 2019, 100, .	3.2	8
87	Low angular-dispersion microwave absorption of a dual-pitch nondiffracting metal bigrating. Applied Physics Letters, 2003, 83, 806-808.	3.3	7
88	Resonant transmission of microwaves through a finite length subwavelength metallic slit. New Journal of Physics, 2005, 7, 250-250.	2.9	7
89	Surface plasmons on zig-zag gratings. Optics Express, 2012, 20, 23921.	3.4	7
90	Broadband and broadangle extraordinary acoustic transmission through subwavelength apertures surrounded by fluids. New Journal of Physics, 2014, 16, 083044.	2.9	7

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91	Topological modes in one-dimensional solids and photonic crystals. Physical Review B, 2016, 93, .	3.2	7
92	Structurally dictated anisotropic â€œdesigner surface plasmonsâ€• Applied Physics Letters, 2011, 99, 181107.	3.3	6
93	Microwave resonances of ultrathin hexagonally symmetric microcavity arrays. Journal of Applied Physics, 2012, 112, .	2.5	6
94	Resonantly overcoming metal opacity. Applied Physics Letters, 2013, 102, 011120.	3.3	6
95	The acoustic phase resonances and surface waves supported by a compound rigid grating. Scientific Reports, 2018, 8, 10701.	3.3	6
96	Experimental characterisation of the bound acoustic surface modes supported by honeycomb and hexagonal hole arrays. Scientific Reports, 2019, 9, 15773.	3.3	6
97	Superscattering and Directive Antennas via Mode Superposition in Subwavelength Core-Shell Meta-Atoms. Photonics, 2022, 9, 6.	2.0	6
98	Multi-modal transmission of microwaves through hole arrays. Optics Express, 2011, 19, 13793.	3.4	5
99	Microwave Transmission Through an Array of Ring Slots in a Metal Sheet Capped With Concentric Metal Rings. IEEE Transactions on Antennas and Propagation, 2013, 61, 458-461.	5.1	5
100	On the origin of pure optical rotation in twisted-cross metamaterials. Scientific Reports, 2016, 6, 30307.	3.3	5
101	Underwater acoustic surface waves on a periodically perforated metal plate. Journal of the Acoustical Society of America, 2019, 146, 4569-4575.	1.1	5
102	Coupling and confinement of current in thermoacoustic phased arrays. Science Advances, 2020, 6, eabb2752.	10.3	5
103	Near-field electromagnetic coupling between helices. Journal Physics D: Applied Physics, 2021, 54, 445108.	2.8	5
104	Excitation of Airborne Acoustic Surface Modes Driven by a Turbulent Flow. AIAA Journal, 2021, 59, 5011-5019.	2.6	5
105	Otto coupling to a transverse-electric-polarized mode on a metamaterial surface. Physical Review B, 2011, 84, .	3.2	4
106	Control of the stop band of an acoustic double fishnet. Journal of the Acoustical Society of America, 2013, 134, 1754-1759.	1.1	4
107	Experimental verification of total absorption by a low-loss thin dielectric layer. Applied Physics Letters, 2015, 106, .	3.3	4
108	Isotropic Backward Waves Supported by a Spiral Array Metasurface. Scientific Reports, 2018, 8, 7098.	3.3	4

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109	Strong beaming of microwave surface waves with complementary split-ring-resonator arrays. Scientific Reports, 2018, 8, 12102.	3.3	4
110	Metasurface bilayer for slow microwave surface waves. Physical Review B, 2019, 100, .	3.2	4
111	Extraordinary Transmission and Radiation From Finite by Infinite Arrays of Slots. IEEE Transactions on Antennas and Propagation, 2020, 68, 581-586.	5.1	4
112	MICROWAVE TRANSMISSION OF A HEXAGONAL ARRAY OF TRIANGULAR METAL PATCHES. Progress in Electromagnetics Research M, 2011, 20, 219-229.	0.9	3
113	Broadband impedance-matched electromagnetic structured ferrite composite in the megahertz range. Applied Physics Letters, 2014, 104, 221905.	3.3	3
114	Surface plasmons at the Brillouin zone boundary of an oblique lattice. Applied Physics Letters, 2015, 106, .	3.3	3
115	Fluid mobility over corrugated surfaces in the Stokes regime. Physics of Fluids, 2016, 28, 083101.	4.0	3
116	Broadband metasurface for surface wave lenses. , 2016, , .		3
117	Resonantly induced transparency for metals with low angular dependence. Applied Physics Letters, 2016, 109, 241601.	3.3	3
118	Time-domain imaging of curling modes in a confined magnetic vortex and a micromagnetic study exploring the role of spiral spin waves emitted by the core. Physical Review B, 2021, 103, .	3.2	3
119	Coupled Scholte modes supported by soft elastic plates in water. Physical Review E, 2021, 103, 063002.	2.1	3
120	Experimental characterization of acoustic beaming from an elastic plate by coupled symmetric leaky Lamb modes. Physical Review B, 2021, 104, .	3.2	3
121	Gapless dispersion of acoustic line modes with glide symmetry. Physical Review B, 2022, 105, .	3.2	3
122	Confined acoustic line modes within a glide-symmetric waveguide. Scientific Reports, 2022, 12, .	3.3	3
123	<title>Remarkable transmission of radiation through a wall of long metallic bricks</title>. , 2002, , .		2
124	Microwave response of hole and patch arrays. Physical Review B, 2010, 82, .	3.2	2
125	Microwave transmission through a metal capped array of holes in a metal sheet. Optics Express, 2010, 18, 23916.	3.4	2
126	Resonant microwave transmission from a double layer of subwavelength metal square arrays: Evanescent handedness. Physical Review B, 2012, 86, .	3.2	2

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127	Electromagnetic response of closely spaced metal meshes. Physical Review B, 2012, 86, .	3.2	2
128	Spatial transformations: from fundamentals to applications. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2015, 373, 20140365.	3.4	2
129	Measurement of Photon Sorting at Microwave Frequencies in a Cavity Array Metasurface. IEEE Transactions on Antennas and Propagation, 2015, 63, 4521-4524.	5.1	2
130	High index metasurfaces for graded lenses using glide symmetry. , 2017, , .		2
131	Microwave Superdirectivity with Dimers of Helical Elements. Physical Review Applied, 2020, 13, .	3.8	2
132	Unidirectional emission and reconfigurability of channeled spin waves from a vortex core in a teardrop-shaped nanopatch. Physical Review B, 2021, 104, .	3.2	2
133	Slow acoustic surface modes through the use of hidden geometry. Scientific Reports, 2021, 11, 22010.	3.3	2
134	Underwater Focusing of Sound by Umklapp Diffraction. Physical Review Applied, 2021, 16, .	3.8	2
135	Resonator-based Pressure Sensor for Wall Pressure. , 2022, , .		2
136	Microwaves: thin metal slits and liquid crystals. , 2004, , .		1
137	Ferrite-filled cavities for compact planar resonators. Applied Physics Letters, 2014, 104, 022405.	3.3	1
138	A Ferrite-Filled Cavity Resonator for Electronic Article Surveillance on Metallic Packaging. IEEE Transactions on Magnetics, 2019, 55, 1-10.	2.1	1
139	Experimental Demonstration of Artificial Magnetic Conductors Constructed of Magnetically Coupled Helices. , 2020, , .		1
140	Excitation of airborne acoustic surface modes driven by a turbulent flow. , 2020, , .		1
141	Graded index confined spin waves in a mixed Bloch-NÃ©el domain wall. Physical Review B, 2020, 102, .	3.2	1
142	3D-printed Metasurfaces of Capped Helices Providing Broadband Negative Mode Index. , 2020, , .		1
143	3D printed metaparticles based on platonic solids for isotropic, multimode microwave scattering. , 2022, , .		1
144	Surface plasmons on metamaterials. , 2008, , .		0

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145	Transmission of microwave radiation through a sub-wavelength slit with internal structure. Proceedings of SPIE, 2008, , .	0.8	0
146	Total absorption by a low-loss dielectric thin layer on top of a metallic metasurface. , 2015, , .		0
147	Mimicking graphene physics with a plane hexagonal wire mesh. Applied Physics Letters, 2018, 112, .	3.3	0
148	Superdirective Antennas of Coupled Helical Elements. , 2019, , .		0
149	Hippopede curves for modeling radial spin waves in an azimuthally graded magnonic landscape. Physical Review B, 2020, 102, .	3.2	0
150	Broadband Artificial Magnetic Conductors Constructed of Magnetically Coupled Elements. , 2021, , .		0
151	Surface wave reflection from a metasurface termination. Scientific Reports, 2021, 11, 12054.	3.3	0
152	Designing Metasurfaces to Manipulate Antenna Radiation. , 2021, , .		0
153	Coupled edge modes supported by a microwave metasurface. Optics Letters, 2020, 45, 1778.	3.3	0
154	Broadband negative-index surface-waves on arrays of capped helices. Physical Review Research, 2021, 3, .	3.6	0
155	Slow waves on long helices. Scientific Reports, 2022, 12, 1902.	3.3	0
156	A thermophone-based bridge circuit for the measurement of electrical and thermal properties of thin films. Journal Physics D: Applied Physics, 2022, 55, 35LT01.	2.8	0