## Shanhui Fan

List of Publications by Year in descending order

Source: https://exaly.com/author-pdf/2433580/publications.pdf

Version: 2024-02-01

295 papers 40,211 citations

97 h-index 194 g-index

300 all docs 300 docs citations

300 times ranked

17826 citing authors

#	Article	IF	CITATIONS
1	Passive radiative cooling below ambient air temperature under direct sunlight. Nature, 2014, 515, 540-544.	27.8	2,008
2	Parity–time-symmetric whispering-gallery microcavities. Nature Physics, 2014, 10, 394-398.	16.7	1,892
3	Temporal coupled-mode theory for the Fano resonance in optical resonators. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2003, 20, 569.	1.5	1,156
4	Analysis of guided resonances in photonic crystal slabs. Physical Review B, 2002, 65, .	3.2	1,146
5	Complete optical isolation created by indirect interband photonic transitions. Nature Photonics, 2009, 3, 91-94.	31.4	990
6	Realizing effective magnetic field for photons by controlling the phase of dynamic modulation. Nature Photonics, 2012, 6, 782-787.	31.4	892
7	Light management for photovoltaics using high-index nanostructures. Nature Materials, 2014, 13, 451-460.	27.5	796
8	Ultrabroadband Photonic Structures To Achieve High-Performance Daytime Radiative Cooling. Nano Letters, 2013, 13, 1457-1461.	9.1	778
9	Radiative human body cooling by nanoporous polyethylene textile. Science, 2016, 353, 1019-1023.	12.6	764
10	What is â€" and what is not â€" an optical isolator. Nature Photonics, 2013, 7, 579-582.	31.4	712
10	What is â€" and what is not â€" an optical isolator. Nature Photonics, 2013, 7, 579-582.  Fundamental limit of nanophotonic light trapping in solar cells. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 17491-17496.	31.4 7.1	712 703
	Fundamental limit of nanophotonic light trapping in solar cells. Proceedings of the National Academy		
11	Fundamental limit of nanophotonic light trapping in solar cells. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 17491-17496.  Temporal coupled-mode theory and the presence of non-orthogonal modes in lossless multimode	7.1	703
11 12	Fundamental limit of nanophotonic light trapping in solar cells. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 17491-17496.  Temporal coupled-mode theory and the presence of non-orthogonal modes in lossless multimode cavities. IEEE Journal of Quantum Electronics, 2004, 40, 1511-1518.  Electrically Driven Nonreciprocity Induced by Interband Photonic Transition on a Silicon Chip.	7.1	703 604
11 12 13	Fundamental limit of nanophotonic light trapping in solar cells. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 17491-17496.  Temporal coupled-mode theory and the presence of non-orthogonal modes in lossless multimode cavities. IEEE Journal of Quantum Electronics, 2004, 40, 1511-1518.  Electrically Driven Nonreciprocity Induced by Interband Photonic Transition on a Silicon Chip. Physical Review Letters, 2012, 109, 033901.  Radiative cooling to deep sub-freezing temperatures through a 24-h day–night cycle. Nature	7.1 1.9 7.8	703 604 580
11 12 13	Fundamental limit of nanophotonic light trapping in solar cells. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 17491-17496.  Temporal coupled-mode theory and the presence of non-orthogonal modes in lossless multimode cavities. IEEE Journal of Quantum Electronics, 2004, 40, 1511-1518.  Electrically Driven Nonreciprocity Induced by Interband Photonic Transition on a Silicon Chip. Physical Review Letters, 2012, 109, 033901.  Radiative cooling to deep sub-freezing temperatures through a 24-h day–night cycle. Nature Communications, 2016, 7, 13729.	7.1 1.9 7.8 12.8	703 604 580 574
11 12 13 14	Fundamental limit of nanophotonic light trapping in solar cells. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 17491-17496.  Temporal coupled-mode theory and the presence of non-orthogonal modes in lossless multimode cavities. IEEE Journal of Quantum Electronics, 2004, 40, 1511-1518.  Electrically Driven Nonreciprocity Induced by Interband Photonic Transition on a Silicon Chip. Physical Review Letters, 2012, 109, 033901.  Radiative cooling to deep sub-freezing temperatures through a 24-h day–night cycle. Nature Communications, 2016, 7, 13729.  S4: A free electromagnetic solver for layered periodic structures. Computer Physics Communications, 2012, 183, 2233-2244.	7.1 1.9 7.8 12.8	<ul><li>703</li><li>604</li><li>580</li><li>574</li><li>531</li></ul>

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19	Robust wireless power transfer using a nonlinear parity–time-symmetric circuit. Nature, 2017, 546, 387-390.	27.8	467
20	Omnidirectional reflection from a one-dimensional photonic crystal. Optics Letters, 1998, 23, 1573.	3.3	463
21	Radiative cooling of solar absorbers using a visibly transparent photonic crystal thermal blackbody. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 12282-12287.	7.1	449
22	Transparent and conductive paper from nanocellulose fibers. Energy and Environmental Science, 2013, 6, 513-518.	30.8	431
23	One-Way Electromagnetic Waveguide Formed at the Interface between a Plasmonic Metal under a Static Magnetic Field and a Photonic Crystal. Physical Review Letters, 2008, 100, 023902.	7.8	420
24	Inference in artificial intelligence with deep optics and photonics. Nature, 2020, 588, 39-47.	27.8	418
25	Scalable and hierarchically designed polymer film as a selective thermal emitter for high-performance all-day radiative cooling. Nature Nanotechnology, 2021, 16, 153-158.	31.5	405
26	Thermal Rectification through Vacuum. Physical Review Letters, 2010, 104, 154301.	7.8	402
27	A dual-mode textile for human body radiative heating and cooling. Science Advances, 2017, 3, e1700895.	10.3	399
28	Radiative cooling of solar cells. Optica, 2014, 1, 32.	9.3	398
29	Strongly Correlated Two-Photon Transport in a One-Dimensional Waveguide Coupled to a Two-Level System. Physical Review Letters, 2007, 98, 153003.	7.8	381
30	Limitations of nonlinear optical isolators due to dynamic reciprocity. Nature Photonics, 2015, 9, 388-392.	31.4	372
31	Nanoporous polyethylene microfibres for large-scale radiative cooling fabric. Nature Sustainability, 2018, 1, 105-112.	23.7	370
32	Terrestrial radiative cooling: Using the cold universe as a renewable and sustainable energy source. Science, 2020, 370, 786-791.	12.6	370
33	Spectrally Selective Nanocomposite Textile for Outdoor Personal Cooling. Advanced Materials, 2018, 30, e1802152.	21.0	362
34	Sub-ambient non-evaporative fluid cooling withÂtheÂsky. Nature Energy, 2017, 2, .	39.5	343
35	Superscattering of Light from Subwavelength Nanostructures. Physical Review Letters, 2010, 105, 013901.	7.8	328
36	Photonic Aharonov-Bohm Effect Based on Dynamic Modulation. Physical Review Letters, 2012, 108, 153901.	7.8	323

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37	Training of photonic neural networks through in situ backpropagation and gradient measurement. Optica, 2018, 5, 864.	9.3	319
38	Non-reciprocal phase shift induced by an effective magnetic flux for light. Nature Photonics, 2014, 8, 701-705.	31.4	295
39	Plasmonic computing of spatial differentiation. Nature Communications, 2017, 8, 15391.	12.8	292
40	Warming up human body by nanoporous metallized polyethylene textile. Nature Communications, 2017, 8, 496.	12.8	280
41	Synthetic dimension in photonics. Optica, 2018, 5, 1396.	9.3	276
42	Nonlinear photonic crystal microdevices for optical integration. Optics Letters, 2003, 28, 637.	3.3	274
43	Transforming heat transfer with thermal metamaterials and devices. Nature Reviews Materials, 2021, 6, 488-507.	48.7	270
44	Optical circulators in two-dimensional magneto-optical photonic crystals. Optics Letters, 2005, 30, 1989.	3.3	262
45	A Comprehensive Photonic Approach for Solar Cell Cooling. ACS Photonics, 2017, 4, 774-782.	6.6	262
46	Nanophotonic control of thermal radiation for energy applications [Invited]. Optics Express, 2018, 26, 15995.	3.4	248
47	Progress in 2D photonic crystal Fano resonance photonics. Progress in Quantum Electronics, 2014, 38, 1-74.	7.0	232
48	Enhanced high-harmonic generation from an all-dielectric metasurface. Nature Physics, 2018, 14, 1006-1010.	16.7	215
49	Input-output formalism for few-photon transport in one-dimensional nanophotonic waveguides coupled to a qubit. Physical Review A, 2010, 82, .	2.5	213
50	Temperature Regulation in Colored Infrared-Transparent Polyethylene Textiles. Joule, 2019, 3, 1478-1486.	24.0	213
51	Displacement-sensitive photonic crystal structures based on guided resonance in photonic crystal slabs. Applied Physics Letters, 2003, 82, 1999-2001.	3.3	206
52	Self-adaptive radiative cooling based on phase change materials. Optics Express, 2018, 26, A777.	3.4	202
53	Wave physics as an analog recurrent neural network. Science Advances, 2019, 5, eaay6946.	10.3	201
54	Creating an Ecoâ€Friendly Building Coating with Smart Subambient Radiative Cooling. Advanced Materials, 2020, 32, e1906751.	21.0	196

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55	Photonic gauge potential in a system with a synthetic frequency dimension. Optics Letters, 2016, 41, 741.	3.3	195
56	From Electromagnetically Induced Transparency to Superscattering with a Single Structure: A Coupled-Mode Theory for Doubly Resonant Structures. Physical Review Letters, 2012, 108, 083902.	7.8	193
57	Theoretical analysis of channel drop tunneling processes. Physical Review B, 1999, 59, 15882-15892.	3.2	191
58	Near-field radiative heat transfer between parallel structures in the deep subwavelength regime. Nature Nanotechnology, 2016, 11, 515-519.	31.5	189
59	Adjoint Method and Inverse Design for Nonlinear Nanophotonic Devices. ACS Photonics, 2018, 5, 4781-4787.	6.6	188
60	Photonics and thermodynamics concepts in radiative cooling. Nature Photonics, 2022, 16, 182-190.	31.4	187
61	Photonic crystal slab Laplace operator for image differentiation. Optica, 2018, 5, 251.	9.3	185
62	One-way total reflection with one-dimensional magneto-optical photonic crystals. Applied Physics Letters, 2007, 90, 121133.	3.3	180
63	Subambient daytime radiative cooling textile based on nanoprocessed silk. Nature Nanotechnology, 2021, 16, 1342-1348.	31.5	178
64	A single photonic cavity with two independent physical synthetic dimensions. Science, 2020, 367, 59-64.	12.6	175
65	Thermal meta-device in analogue of zero-index photonics. Nature Materials, 2019, 18, 48-54.	27.5	172
66	Photonic Weyl point in a two-dimensional resonator lattice with a synthetic frequency dimension. Nature Communications, 2016, 7, 13731.	12.8	170
67	Reprogrammable Electro-Optic Nonlinear Activation Functions for Optical Neural Networks. IEEE Journal of Selected Topics in Quantum Electronics, 2020, 26, 1-12.	2.9	168
68	Sensitivity enhancement in photonic crystal slab biosensors. Optics Express, 2010, 18, 22702.	3.4	161
69	Generating arbitrary topological windings of a non-Hermitian band. Science, 2021, 371, 1240-1245.	12.6	159
70	Near-complete violation of detailed balance in thermal radiation. Physical Review B, 2014, 90, .	3.2	158
71	Generating Light from Darkness. Joule, 2019, 3, 2679-2686.	24.0	158
72	Electronically programmable photonic molecule. Nature Photonics, 2019, 13, 36-40.	31.4	155

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73	Color-preserving daytime radiative cooling. Applied Physics Letters, 2013, 103, .	3.3	154
74	Axion-Field-Enabled Nonreciprocal Thermal Radiation in Weyl Semimetals. Nano Letters, 2020, 20, 1923-1927.	9.1	152
75	Interband transitions in photonic crystals. Physical Review B, 1999, 59, 1551-1554.	3.2	150
76	Thermal Photonics and Energy Applications. Joule, 2017, 1, 264-273.	24.0	147
77	Inverse-designed non-reciprocal pulse router for chip-based LiDAR. Nature Photonics, 2020, 14, 369-374.	31.4	145
78	Hyperbolic Weyl Point in Reciprocal Chiral Metamaterials. Physical Review Letters, 2016, 117, 057401.	7.8	141
79	Photonic thermal management of coloured objects. Nature Communications, 2018, 9, 4240.	12.8	139
80	Topological complex-energy braiding of non-Hermitian bands. Nature, 2021, 598, 59-64.	27.8	132
81	Temporal Coupled-Mode Theory for Fano Resonance in Light Scattering by a Single Obstacle. Journal of Physical Chemistry C, 2010, 114, 7324-7329.	3.1	129
82	Theory of single-photon transport in a single-mode waveguide. II. Coupling to a whispering-gallery resonator containing a two-level atom. Physical Review A, 2009, 79, .	2.5	128
83	Modal analysis and coupling in metal-insulator-metal waveguides. Physical Review B, 2009, 79, .	3.2	124
84	Photonic Aharonov–Bohm effect in photon–phonon interactions. Nature Communications, 2014, 5, 3225.	12.8	124
85	Choice of the perfectly matched layer boundary condition for frequency-domain Maxwell's equations solvers. Journal of Computational Physics, 2012, 231, 3406-3431.	3.8	122
86	Heat-flux control and solid-state cooling by regulating chemical potential of photons in near-field electromagnetic heat transfer. Physical Review B, 2015, 91, .	3.2	118
87	Persistent Directional Current at Equilibrium in Nonreciprocal Many-Body Near Field Electromagnetic Heat Transfer. Physical Review Letters, 2016, 117, 134303.	7.8	118
88	Omnidirectional resonance in a metal–dielectric–metal geometry. Applied Physics Letters, 2004, 84, 4421-4423.	3.3	117
89	Time Reversal of Light with Linear Optics and Modulators. Physical Review Letters, 2004, 93, 173903.	7.8	117
90	Simultaneously and Synergistically Harvest Energy from the Sun and Outer Space. Joule, 2019, 3, 101-110.	24.0	117

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91	High-performance near-field thermophotovoltaics for waste heat recovery. Nano Energy, 2017, 41, 344-350.	16.0	115
92	Comment on "Nonreciprocal Light Propagation in a Silicon Photonic Circuit― Science, 2012, 335, 38-38.	12.6	114
93	Tutorial on Electromagnetic Nonreciprocity and its Origins. Proceedings of the IEEE, 2020, 108, 1684-1727.	21.3	114
94	Inverse Design of Photonic Crystals through Automatic Differentiation. ACS Photonics, 2020, 7, 1729-1741.	6.6	114
95	Method for sensitivity analysis of photonic crystal devices. Optics Letters, 2004, 29, 2288.	3.3	113
96	Enhancing Near-Field Radiative Heat Transfer with Si-based Metasurfaces. Physical Review Letters, 2017, 118, 203901.	7.8	107
97	Optimization of Multilayer Optical Films with a Memetic Algorithm and Mixed Integer Programming. ACS Photonics, 2018, 5, 684-691.	6.6	103
98	Three-Dimensional Printable Nanoporous Polymer Matrix Composites for Daytime Radiative Cooling. Nano Letters, 2021, 21, 1493-1499.	9.1	102
99	Near-complete violation of Kirchhoff's law of thermal radiation with a 03  T magnetic field. Optics Letters, 2019, 44, 4203.	3.3	101
100	Zero-Index Bound States in the Continuum. Physical Review Letters, 2018, 121, 263901.	7.8	98
101	Experimental band structure spectroscopy along a synthetic dimension. Nature Communications, 2019, 10, 3122.	12.8	95
102	Angle-selective perfect absorption with two-dimensional materials. Light: Science and Applications, 2016, 5, e16052-e16052.	16.6	94
103	Topological optical differentiator. Nature Communications, 2021, 12, 680.	12.8	94
104	Universal modal radiation laws for all thermal emitters. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 4336-4341.	7.1	93
105	Enhancing Mo:BiVO <sub>4</sub> Solar Water Splitting with Patterned Au Nanospheres by Plasmonâ€Induced Energy Transfer. Advanced Energy Materials, 2018, 8, 1701765.	19.5	92
106	Controlling the Flow of Light Using the Inhomogeneous Effective Gauge Field that Emerges from Dynamic Modulation. Physical Review Letters, 2013, 111, 203901.	7.8	88
107	Homotopy characterization of non-Hermitian Hamiltonians. Physical Review B, 2020, 101, .	3.2	86
108	Integrated cooling (i-Cool) textile of heat conduction and sweat transportation for personal perspiration management. Nature Communications, 2021, 12, 6122.	12.8	86

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109	Integrated near-field thermo-photovoltaics for heat recycling. Nature Communications, 2020, 11, 2545.	12.8	85
110	Fundamental bounds on decay rates in asymmetric single-mode optical resonators. Optics Letters, 2013, 38, 100.	3.3	84
111	Protecting ice from melting under sunlight via radiative cooling. Science Advances, 2022, 8, eabj9756.	10.3	80
112	Coloured low-emissivity films for building envelopes for year-round energy savings. Nature Sustainability, 2022, 5, 339-347.	23.7	80
113	Bloch oscillation and unidirectional translation of frequency in a dynamically modulated ring resonator. Optica, 2016, 3, 1014.	9.3	79
114	Subâ€Wavelength Passive Optical Isolators Using Photonic Structures Based on Weyl Semimetals. Advanced Optical Materials, 2020, 8, 2000100.	<b>7.</b> 3	79
115	Topologically Protected Complete Polarization Conversion. Physical Review Letters, 2017, 119, 167401.	7.8	78
116	Thermodynamic limits of energy harvesting from outgoing thermal radiation. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E3609-E3615.	7.1	78
117	Robust and efficient wireless power transfer using a switch-mode implementation of a nonlinear parity–time symmetric circuit. Nature Electronics, 2020, 3, 273-279.	26.0	78
118	Doubly resonant \(\text{i\pmax}\cdot\sup>\((2)\cdot\sup>\) nonlinear photonic crystal cavity based on a bound state in the continuum. Optica, 2019, 6, 1039.	9.3	77
119	Temporal coupled-mode theory for resonant apertures. Journal of the Optical Society of America B: Optical Physics, 2010, 27, 1947.	2.1	76
120	Higher-order topological insulators in synthetic dimensions. Light: Science and Applications, 2020, 9, 131.	16.6	75
121	Thermal-to-electrical energy conversion by diodes under negative illumination. Physical Review B, 2016, 93, .	3.2	74
122	Wireless energy transfer with the presence of metallic planes. Applied Physics Letters, 2011, 99, .	3.3	73
123	Theory for Twisted Bilayer Photonic Crystal Slabs. Physical Review Letters, 2021, 126, 136101.	7.8	72
124	Fluctuational electrodynamics calculations of near-field heat transfer in non-planar geometries: A brief overview. Journal of Quantitative Spectroscopy and Radiative Transfer, 2014, 132, 3-11.	2.3	71
125	Photonic Structure Textile Design for Localized Thermal Cooling Based on a Fiber Blending Scheme. ACS Photonics, 2016, 3, 2420-2426.	6.6	71
126	Optical Circulation and Isolation Based on Indirect Photonic Transitions of Guided Resonance Modes. ACS Photonics, 2017, 4, 1639-1645.	6.6	70

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127	Significant Enhancement of Near-Field Electromagnetic Heat Transfer in a Multilayer Structure through Multiple Surface-States Coupling. Physical Review Letters, 2018, 120, 063901.	7.8	70
128	Thermodynamic limits for simultaneous energy harvesting from the hot sun and cold outer space. Light: Science and Applications, 2020, 9, 68.	16.6	70
129	A three-dimensional photonic topological insulator using a two-dimensional ring resonator lattice with a synthetic frequency dimension. Science Advances, 2018, 4, eaat2774.	10.3	66
130	Planar metallic nanoscale slit lenses for angle compensation. Applied Physics Letters, 2009, 95, .	3.3	64
131	Hot Carrier-Based Near-Field Thermophotovoltaic Energy Conversion. ACS Nano, 2017, 11, 3001-3009.	14.6	64
132	Broadband Absorption Enhancement in Solar Cells with an Atomically Thin Active Layer. ACS Photonics, 2016, 3, 571-577.	6.6	62
133	Optical isolation based on nonreciprocal phase shift induced by interband photonic transitions. Applied Physics Letters, 2009, 94, 171116.	3.3	60
134	Experimental demonstration of acoustic semimetal with topologically charged nodal surface. Science Advances, 2020, 6, eaav2360.	10.3	60
135	Thermodynamic Upper Bound on Broadband Light Coupling with Photonic Structures. Physical Review Letters, 2012, 109, 173901.	7.8	59
136	Dynamic non-reciprocal meta-surfaces with arbitrary phase reconfigurability based on photonic transition in meta-atoms. Applied Physics Letters, 2016, 108, .	3.3	59
137	Synthetic space with arbitrary dimensions in a few rings undergoing dynamic modulation. Physical Review B, 2018, 97, .	3.2	59
138	Nighttime radiative cooling in hot and humid climates. Optics Express, 2019, 27, 31587.	3.4	58
139	Squeeze free space with nonlocal flat optics. Optica, 2020, 7, 1133.	9.3	58
140	Topological dissipation in a time-multiplexed photonic resonator network. Nature Physics, 2022, 18, 442-449.	16.7	58
141	Nonreciprocal infrared absorption via resonant magneto-optical coupling to InAs. Science Advances, 2022, 8, eabm4308.	10.3	58
142	Radiative Thermal Router Based on Tunable Magnetic Weyl Semimetals. ACS Photonics, 2020, 7, 3257-3263.	6.6	57
143	Roadmap on topological photonics. JPhys Photonics, 2022, 4, 032501.	4.6	56
144	Reaching the Ultimate Efficiency of Solar Energy Harvesting with a Nonreciprocal Multijunction Solar Cell. Nano Letters, 2022, 22, 448-452.	9.1	56

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145	Photonic Gauge Potential in One Cavity with Synthetic Frequency and Orbital Angular Momentum Dimensions. Physical Review Letters, 2019, 122, 083903.	7.8	54
146	Inverse Design of Lightweight Broadband Reflector for Relativistic Lightsail Propulsion. ACS Photonics, 2020, 7, 2350-2355.	6.6	54
147	Absence of unidirectionally propagating surface plasmon-polaritons at nonreciprocal metal-dielectric interfaces. Nature Communications, 2020, 11, 674.	12.8	54
148	Prospects and applications of photonic neural networks. Advances in Physics: X, 2022, 7, .	4.1	54
149	Near-Field Enhanced Negative Luminescent Refrigeration. Physical Review Applied, 2016, 6, .	3.8	53
150	Theory of many-body radiative heat transfer without the constraint of reciprocity. Physical Review B, 2018, 97, .	3.2	53
151	Compact Incoherent Image Differentiation with Nanophotonic Structures. ACS Photonics, 2020, 7, 338-343.	6.6	53
152	Temporal coupled-mode theory for light scattering by an arbitrarily shaped object supporting a single resonance. Physical Review A, 2012, 85, .	2.5	52
153	Temporal coupled mode theory for thermal emission from a single thermal emitter supporting either a single mode or an orthogonal set of modes. Applied Physics Letters, 2013, 102, .	3.3	52
154	High-performance near-field electroluminescent refrigeration device consisting of a GaAs light emitting diode and a Si photovoltaic cell. Journal of Applied Physics, 2017, 122, .	2.5	49
155	Violating Kirchhoff's Law of Thermal Radiation in Semitransparent Structures. ACS Photonics, 2021, 8, 2417-2424.	6.6	49
156	Maximal nighttime electrical power generation via optimal radiative cooling. Optics Express, 2020, 28, 25460.	3.4	47
157	Inverse Design of Metasurfaces Based on Coupled-Mode Theory and Adjoint Optimization. ACS Photonics, 2021, 8, 2265-2273.	6.6	45
158	Design methodology for compact photonic-crystal-based wavelength division multiplexers. Optics Letters, 2011, 36, 591.	3.3	44
159	Exact solution to the steady-state dynamics of a periodically modulated resonator. APL Photonics, 2017, 2, .	5.7	44
160	Near-Field Thermophotonic Systems for Low-Grade Waste-Heat Recovery. Nano Letters, 2018, 18, 5224-5230.	9.1	44
161	Meron Spin Textures in Momentum Space. Physical Review Letters, 2020, 124, 106103.	7.8	44
162	Engineering arbitrarily oriented spatiotemporal optical vortices using transmission nodal lines. Optica, 2021, 8, 966.	9.3	44

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163	Synthetic frequency dimensions in dynamically modulated ring resonators. APL Photonics, 2021, 6, .	5.7	44
164	Forward-Mode Differentiation of Maxwell's Equations. ACS Photonics, 2019, 6, 3010-3016.	6.6	43
165	Quantum Entanglement and Modulation Enhancement of Free-Electron–Bound-Electron Interaction. Physical Review Letters, 2021, 126, 233402.	7.8	43
166	Nonreciprocity in Bianisotropic Systems with Uniform Time Modulation. Physical Review Letters, 2020, 125, 266102.	7.8	43
167	Nighttime Radiative Cooling for Water Harvesting from Solar Panels. ACS Photonics, 2021, 8, 269-275.	6.6	41
168	Connection of temporal coupled-mode-theory formalisms for a resonant optical system and its time-reversal conjugate. Physical Review A, 2019, 99, .	2.5	40
169	Nontrivial point-gap topology and non-Hermitian skin effect in photonic crystals. Physical Review B, 2021, 104, .	3.2	40
170	Radiative Cooling: Harvesting the Coldness of the Universe. Optics and Photonics News, 2019, 30, 32.	0.5	40
171	Upper Bound on the Modal Material Loss Rate in Plasmonic and Metamaterial Systems. Physical Review Letters, 2013, 110, 183901.	7.8	37
172	Multi-frequency finite-difference frequency-domain algorithm for active nanophotonic device simulations. Optica, 2016, 3, 1256.	9.3	37
173	On-Chip Laser-Power Delivery System for Dielectric Laser Accelerators. Physical Review Applied, 2018, 9, .	3.8	37
174	Experimental demonstration of energy harvesting from the sky using the negative illumination effect of a semiconductor photodiode. Applied Physics Letters, 2019, 114, .	3.3	37
175	Structured 3D linear space–time light bullets by nonlocal nanophotonics. Light: Science and Applications, 2021, 10, 160.	16.6	37
176	Wireless power transfer in the presence of metallic plates: Experimental results. AIP Advances, 2013, 3,	1.3	36
177	Three-Dimensional Dynamic Localization of Light from a Time-Dependent Effective Gauge Field for Photons. Physical Review Letters, 2015, 114, 243901.	7.8	36
178	Integrated Nonreciprocal Photonic Devices With Dynamic Modulation. Proceedings of the IEEE, 2020, 108, 1759-1784.	21.3	35
179	Effective electric-field force for a photon in a synthetic frequency lattice created in a waveguide modulator. Physical Review A, 2018, 97, .	2.5	34
180	Direction-dependent parity-time phase transition and nonreciprocal amplification with dynamic gain-loss modulation. Physical Review A, 2019, 99, .	2.5	34

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181	Integrated Nonmagnetic Optical Isolators Based on Photonic Transitions\$^{ast}\$. IEEE Journal of Selected Topics in Quantum Electronics, 2010, 16, 459-466.	2.9	33
182	Method for computationally efficient design of dielectric laser accelerator structures. Optics Express, 2017, 25, 15414.	3.4	33
183	Arbitrary Polarization Conversion with a Photonic Crystal Slab. Advanced Optical Materials, 2019, 7, 1801453.	7.3	33
184	Arbitrary linear transformations for photons in the frequency synthetic dimension. Nature Communications, 2021, 12, 2401.	12.8	32
185	Fundamental Limits of the Dew-Harvesting Technology. Nanoscale and Microscale Thermophysical Engineering, 2020, 24, 43-52.	2.6	31
186	Perfect RGB″R Color Routers for Subâ€Wavelength Size CMOS Image Sensor Pixels. Advanced Photonics Research, 2021, 2, 2000048.	3.6	31
187	Dynamic band structure measurement in the synthetic space. Science Advances, 2021, 7, .	10.3	31
188	Configurable Phase Transitions in a Topological Thermal Material. Physical Review Letters, 2021, 127, 105901.	7.8	31
189	Optical pulling force and conveyor belt effect in resonator–waveguide system. Optics Letters, 2013, 38, 3264.	3.3	30
190	Isotropic wavevector domain image filters by a photonic crystal slab device. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2018, 35, 1685.	1.5	30
191	Photonic Refrigeration from Time-Modulated Thermal Emission. Physical Review Letters, 2020, 124, 077402.	7.8	29
192	Few-Photon Single-Atom Cavity QED With Input-Output Formalism in Fock Space. IEEE Journal of Selected Topics in Quantum Electronics, 2012, 18, 1754-1762.	2.9	28
193	Narrowband thermal emission from a uniform tungsten surface critically coupled with a photonic crystal guided resonance. Optics Express, 2016, 24, 29896.	3.4	28
194	MESH: A free electromagnetic solver for far-field and near-field radiative heat transfer for layered periodic structures. Computer Physics Communications, 2018, 231, 163-172.	7.5	28
195	A perspective on the pathway toward full wave simulation of large area metalenses. Applied Physics Letters, 2021, 119, .	3.3	28
196	Nondissipative non-Hermitian dynamics and exceptional points in coupled optical parametric oscillators. Optica, 2021, 8, 415.	9.3	27
197	Inverse Design of Plasma Metamaterial Devices for Optical Computing. Physical Review Applied, 2021, 16,	3.8	27
198	Topologically nontrivial Floquet band structure in a system undergoing photonic transitions in the ultrastrong-coupling regime. Physical Review A, 2015, 92, .	2.5	26

#	Article	IF	CITATIONS
199	Nonreciprocal Metamaterial Obeying Time-Reversal Symmetry. Physical Review Letters, 2020, 124, 257403.	7.8	26
200	Space–Time Metasurfaces for Power Combining of Waves. ACS Photonics, 2021, 8, 3034-3041.	6.6	26
201	Analog of superradiant emission in thermal emitters. Physical Review B, 2015, 92, .	3.2	23
202	Nonreciprocal radiative heat transfer between two planar bodies. Physical Review B, 2020, 101, .	3.2	23
203	First-principles simulation of photonic crystal surface-emitting lasers using rigorous coupled wave analysis. Applied Physics Letters, 2018, 113, .	3.3	22
204	Isotropic topological second-order spatial differentiator operating in transmission mode. Optics Letters, 2021, 46, 3247.	3.3	22
205	Deterministic photonic quantum computation in a synthetic time dimension. Optica, 2021, 8, 1515.	9.3	21
206	Nonreciprocal Thermal Emitters Using Metasurfaces with Multiple Diffraction Channels. Physical Review Applied, 2021, 16, .	3.8	21
207	Observation of Weyl exceptional rings in thermal diffusion. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2110018119.	7.1	21
208	Nighttime electric power generation at a density of 50 mW/m2 via radiative cooling of a photovoltaic cell. Applied Physics Letters, 2022, 120, .	3.3	21
209	Creating boundaries along a synthetic frequency dimension. Nature Communications, 2022, 13, .	12.8	21
210	Pulse shortening in an actively mode-locked laser with parity-time symmetry. APL Photonics, 2018, 3, 086103.	5.7	20
211	Theoretical constraints on reciprocal and non-reciprocal many-body radiative heat transfer. Physical Review B, 2020, 102, .	3.2	20
212	Wide wavelength-tunable narrow-band thermal radiation from moir $\tilde{A} @$ patterns. Applied Physics Letters, 2021, 118, .	3.3	20
213	Creating locally interacting Hamiltonians in the synthetic frequency dimension for photons. Photonics Research, 2020, 8, B8.	7.0	20
214	Low-overhead distribution strategy for simulation and optimization of large-area metasurfaces. Npj Computational Materials, 2022, 8, .	8.7	19
215	Self-Focused Thermal Emission and Holography Realized by Mesoscopic Thermal Emitters. ACS Photonics, 2021, 8, 497-504.	6.6	18
216	Time reversal of a wave packet with temporal modulation of gauge potential. Physical Review B, 2016, 94, .	3.2	17

#	Article	IF	Citations
217	Relation between photon thermal Hall effect and persistent heat current in nonreciprocal radiative heat transfer. Physical Review B, 2019, 100, .	3.2	17
218	Nonequilibrium lateral force and torque by thermally excited nonreciprocal surface electromagnetic waves. Physical Review B, $2021$ , $104$ , .	3.2	17
219	Enhancing the waveguide-resonator optical force with an all-optical on-chip analog of electromagnetically induced transparency. Physical Review A, 2012, 86, .	2.5	16
220	Universal programmable photonic architecture for quantum information processing. Physical Review A, 2020, 101, .	2.5	16
221	Efficient pixel-by-pixel optimization of photonic devices utilizing the Dyson's equation in a Green's function formalism: Part I Implementation with the method of discrete dipole approximation. Journal of the Optical Society of America B: Optical Physics, 2019, 36, 2378.	2.1	16
222	Compact dynamic optical isolator based on tandem phase modulators. Optics Letters, 2019, 44, 2240.	3.3	16
223	Nonequilibrium Casimir Force with a Nonzero Chemical Potential for Photons. Physical Review Letters, 2016, 117, 267401.	7.8	15
224	Nonreciprocal Optical Dissipation Based on Direction-Dependent Rabi Splitting. IEEE Journal of Selected Topics in Quantum Electronics, 2018, 24, 1-7.	2.9	15
225	Atomic-Scale Control of Coherent Thermal Radiation. ACS Photonics, 2021, 8, 872-878.	6.6	15
226	Deep-Subwavelength Thermal Switch via Resonant Coupling in Monolayer Hexagonal Boron Nitride. Physical Review Applied, 2021, 15, .	3.8	15
227	Generation of guided space-time wave packets using multilevel indirect photonic transitions in integrated photonics. Physical Review Research, 2021, 3, .	3.6	15
228	Topological Materials for Functional Optoelectronic Devices. Advanced Functional Materials, 2022, 32, .	14.9	15
229	Adjoint Kirchhoff's Law and General Symmetry Implications for All Thermal Emitters. Physical Review X, 2022, 12, .	8.9	15
230	Theory of solar cell light trapping through a nonequilibrium Green's function formulation of Maxwell's equations. Physical Review B, 2017, 96, .	3.2	14
231	Beating absorption in solid-state high harmonics. Communications Physics, 2020, 3, .	5.3	14
232	Photonic Modal Circulator Using Temporal Refractive-Index Modulation with Spatial Inversion Symmetry. Physical Review Letters, 2021, 126, 193901.	7.8	14
233	Silicon nitride waveguide as a power delivery component for on-chip dielectric laser accelerators. Optics Letters, 2019, 44, 335.	3.3	14
234	Design of a multichannel photonic crystal dielectric laser accelerator. Photonics Research, 2020, 8, 1586.	7.0	14

#	Article	IF	CITATIONS
235	Long-Range Directional Routing and Spatial Selection of High-Spin-Purity Valley Trion Emission in Monolayer WS <sub>2</sub> . ACS Nano, 2021, 15, 18163-18171.	14.6	14
236	Polarization-Independent Isotropic Nonlocal Metasurfaces with Wavelength-Controlled Functionality. Physical Review Applied, 2022, 17, .	3.8	14
237	Tunable Frequency Filter Based on Twisted Bilayer Photonic Crystal Slabs. ACS Photonics, 2022, 9, 800-805.	6.6	14
238	Reconfigurable Photonic Circuit for Controlled Power Delivery to Laser-Driven Accelerators on a Chip. Physical Review Applied, 2019, 11, .	3.8	13
239	Experimental Demonstration of Dynamical Input Isolation in Nonadiabatically Modulated Photonic Cavities. ACS Photonics, 2019, 6, 162-169.	6.6	13
240	Efficient pixel-by-pixel optimization of photonic devices utilizing the Dyson's equation in a Green's function formalism: Part II Implementation using standard electromagnetic solvers. Journal of the Optical Society of America B: Optical Physics, 2019, 36, 2387.	2.1	13
241	Electron Pulse Compression with Optical Beat Note. Physical Review Letters, 2021, 127, 164802.	7.8	13
242	Violation of Kirchhoff's Law of Thermal Radiation with Space–Time Modulated Grating. ACS Photonics, 2022, 9, 1157-1164.	6.6	13
243	Thermodynamics of Light Management in Near-Field Thermophotovoltaics. Physical Review Applied, 2021, 16, .	3.8	13
244	Planar, Ultrathin, Subwavelength Spectral Light Separator for Efficient, Wide-Angle Spectral Imaging. ACS Photonics, 2017, 4, 525-535.	6.6	12
245	Accelerating adjoint variable method based photonic optimization with Schur complement domain decomposition. Optics Express, 2019, 27, 20711.	3.4	12
246	Design of Compact Meta-Crystal Slab for General Optical Convolution. ACS Photonics, 2022, 9, 1358-1365.	6.6	12
247	Concentrated radiative cooling and its constraint from reciprocity. Optics Express, 2022, 30, 275.	3.4	12
248	Mirror symmetric on-chip frequency circulation of light. Nature Photonics, 2022, 16, 603-608.	31.4	12
249	High Reflection from a One-Dimensional Array of Graphene Nanoribbons. ACS Photonics, 2019, 6, 339-344.	6.6	11
250	High-performance photonic transformers for DC voltage conversion. Nature Communications, 2021, 12, 4684.	12.8	11
251	Internal transformations and internal symmetries in linear photonic systems. Physical Review A, 2022, 105, .	2.5	11
252	Subwavelength Bayer RGB color routers with perfect optical efficiency. Nanophotonics, 2022, 11, 2381-2387.	6.0	11

#	Article	IF	Citations
253	Synthetic gauge potential and effective magnetic field in a Raman medium undergoing molecular modulation. Physical Review A, 2017, 95, .	2.5	10
254	Design of a tapered slot waveguide dielectric laser accelerator for sub-relativistic electrons. Optics Express, 2018, 26, 22801.	3.4	10
255	Single Gyrotropic Particle as a Heat Engine. ACS Photonics, 2021, 8, 1623-1629.	6.6	10
256	Phonon-induced anomalous gauge potential for photonic isolation in frequency space. Optica, 2021, 8, 1448.	9.3	10
257	Temporal modulation brings metamaterials into new era. Light: Science and Applications, 2022, 11, .	16.6	10
258	Unidirectional light transport in dynamically modulated waveguides. Physical Review Applied, 2018, 10,	3.8	9
259	Arbitrary synthetic dimensions via multiboson dynamics on a one-dimensional lattice. Physical Review Research, 2021, 3, .	3.6	9
260	Single-Photon Transport in a Topological Waveguide from a Dynamically Modulated Photonic System. Physical Review Applied, 2020, 14, .	3.8	8
261	CHEMICAL POTENTIAL OF PHOTONS AND ITS IMPLICATIONS FOR CONTROLLING RADIATIVE HEAT TRANSFER. Annual Review of Heat Transfer, 2020, 23, 397-431.	1.0	8
262	Self-sustaining thermophotonic circuits. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 11596-11601.	7.1	7
263	Spectral emissivity modeling in multi-resonant systems using coupled-mode theory. Optics Express, 2022, 30, 9463.	3.4	7
264	Control of non-equilibrium Casimir force. Applied Physics Letters, 2021, 118, .	3.3	6
265	Controllable finite ultra-narrow quality-factor peak in a perturbed Dirac-cone band structure of a photonic-crystal slab. Applied Physics Letters, 2021, 119, .	3.3	6
266	Exterior tuning and switching of non-equilibrium Casimir force. Journal of the Optical Society of America B: Optical Physics, 2021, 38, 151.	2.1	6
267	Truncation-dependent <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi mathvariant="script">PT</mml:mi></mml:math> phase transition for the edge states of a two-dimensional non-Hermitian system. Physical Review B, 2022, 105, .	3.2	6
268	Photonic crystal theory. , 2008, , 431-454.		5
269	Penetration Depth Reduction with Plasmonic Metafilms. ACS Photonics, 2019, 6, 2049-2055.	6.6	5
270	Experimental demonstration of silicon photonic devices optimized by a flexible and deterministic pixel-by-pixel technique. Applied Physics Letters, 2020, 117, 071104.	3.3	5

#	Article	IF	CITATIONS
271	Shockley-Queisser analysis of the temperature-efficiency correlation of solar cells in the presence of non-radiative heat transfer. Optics Express, 2021, 29, 27554.	3.4	5
272	Casimir force between two plasmonic metallic plates from a real frequency perspective. Journal of the Optical Society of America B: Optical Physics, 2019, 36, 2981.	2.1	5
273	Efficient method for accelerating line searches in adjoint optimization of photonic devices by combining Schur complement domain decomposition and Born series expansions. Optics Express, 2022, 30, 6413.	3.4	5
274	Determining the optimal learning rate in gradient-based electromagnetic optimization using the Shanks transformation in the Lippmann–Schwinger formalism. Optics Letters, 2020, 45, 595.	3.3	4
275	Effect of Coulomb interaction on the transient optical response of electrons in field-coupled quantum dots. Physical Review A, 2021, 103, .	2.5	3
276	Scattering of a single plasmon polariton by multiple atoms for in-plane control of light. Nanophotonics, 2020, 10, 579-587.	6.0	3
277	Efficient and robust wireless power transfer based on parity-time symmetry. AIP Conference Proceedings, 2020, , .	0.4	2
278	Adaptive four-level modeling of laser cooling of solids. Applied Physics Letters, 2021, 119, 181107.	3.3	2
279	Trajectory tracking through the control of non-equilibrium Casimir force. Journal of Quantitative Spectroscopy and Radiative Transfer, 2022, 289, 108281.	2.3	2
280	Photonic arbitrary linear transformations in the frequency synthetic dimension. , 2021, , .		1
281	Correction to "Adjoint Method and Inverse Design for Nonlinear Nanophotonic Devices― ACS Photonics, 2021, 8, 1505-1505.	6.6	1
282	Nonreciprocal Devices in Silicon Photonics. Optics and Photonics News, 2020, 31, 38.	0.5	1
283	Full Wave Simulation and Optimization of Large Area Metalens. , 2021, , .		1
284	Practical efficiency limits of electroluminescent cooling. , 2019, , .		1
285	Large permittivity increments for efficient predictive photonic devices optimization. , 2020, , .		1
286	Controlling the dopant profile for SRH suppression at low current densities in λ â‰^ 1330 nm Galn light-emitting diodes. Applied Physics Letters, 2020, 116, 203503.	AşP 3.3	1
287	Lineshape study of optical force spectra on resonant structures. Optics Express, 2022, 30, 6142.	3.4	1
288	Universal Behavior of the Scattering Matrix Near Thresholds in Photonics. Physical Review Letters, 2021, 127, 277401.	7.8	1

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#	Article	IF	CITATIONS
289	Arbitrary control and direct measurement of topological windings of a non-Hermitian band., 2021,,.		О
290	Inverse design of relativistic lightsail for efficient propulsion., 2021,,.		0
291	Constructing an effective Hamiltonian with local interaction in the synthetic space for photons. , 2020, , .		0
292	Recurrent Machine Learning and Computing with Nonlinear Optical Waves. , 2020, , .		0
293	Shockley-Queisser analysis of the temperature-efficiency correlation of solar cells in the presence of non-radiative heat transfer: erratum. Optics Express, 2021, 29, 39173.	3.4	0
294	Perfect RGB-IR color routers for sub-wavelength size CMOS image sensor pixels. , 2021, , .		0
295	Universal Behavior of the Scattering Matrix Near Thresholds in Photonics. , 2021, , .		0