Minghao Qi

List of Publications by Year
in descending order

151 papers	6,211 citations	76294 40 h-index	76872 74 g-index
154 all docs	154 docs citations	154 times ranked	4979 citing authors

#	Article	IF	Citations
1	Physics-informed recurrent neural network for time dynamics in optical resonances. Nature Computational Science, 2022, 2, 169-178.	3.8	7
2	Switching dynamics of dark-pulse Kerr frequency comb states in optical microresonators. Physical Review A, 2021, 103, .	1.0	30
3	InP high power monolithically integrated widely tunable laser and SOA array for hybrid integration. Optics Express, 2021, 29, 3490.	1.7	6
4	Optical Dual-Comb Vernier Division of an Octave-Spanning Kerr Microcomb. , 2021, , .		1
5	Nano-Optic Broadband Power Splitter Design via Cycle-Consistent Adversarial Deep Learning. , 2021, , .		2
6	Optical Division of an Octave-Spanning Comb on an All-Silicon Nitride Platform. , 2021, , .		0
7	Generative Deep Learning Model for Inverse Design of Integrated Nanophotonic Devices. Laser and Photonics Reviews, 2020, 14, 2000287.	4.4	47
8	Exceptional coupling in photonic anisotropic metamaterials for extremely low waveguide crosstalk. Optica, 2020, 7, 881.	4.8	50
9	High-dimensional optical quantum logic in large operational spaces. Npj Quantum Information, 2019, 5, .	2.8	92
10	Hot-Cavity Spectroscopy of Dark Pulse Kerr Combs in Microresonators. , 2019, , .		0
11	Kerr Combs for Stimulated Brillouin Scattering Mitigation in Long-Haul Analog Optical Links. Journal of Lightwave Technology, 2019, 37, 5773-5779.	2.7	5
12	Switching Dynamics of Dark Solitons in Kerr Microresonators. , 2019, , .		0
13	Dissipative cnoidal waves (Turing rolls) and the soliton limit in microring resonators. Optica, 2019, 6, 1220.	4.8	42
14	Characterizing pump line phase offset of a single-soliton Kerr comb by dual comb interferometry. Optics Letters, 2019, 44, 1460.	1.7	3
15	Microcomb-Based True-Time-Delay Network for Microwave Beamforming With Arbitrary Beam Pattern Control. Journal of Lightwave Technology, 2018, 36, 2312-2321.	2.7	68
16	Kerr Combs for Single-Span Long-Haul Analog Optical Links. , 2018, , .		2
17	Observation of Breathing Dark Pulses in Normal Dispersion Optical Microresonators. Physical Review Letters, 2018, 121, 257401.	2.9	23
18	Controlling evanescent waves using silicon photonic all-dielectric metamaterials for dense integration. Nature Communications, 2018, 9, 1893.	5.8	140

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19	50-GHz-spaced comb of high-dimensional frequency-bin entangled photons from an on-chip silicon nitride microresonator. Optics Express, 2018, 26, 1825.	1.7	134
20	High-order coherent communications using mode-locked dark-pulse Kerr combs from microresonators. Nature Communications, 2018, 9, 1598.	5.8	167
21	Two-qudit deterministic optical quantum logic in a single photon. , 2018, , .		1
22	Stability of cnoidal wave frequency combs in microresonators. , 2018, , .		1
23	Kerr combs from normal and anomalous dispersion silicon nitride microresonators. , 2017, , .		0
24	Second-harmonic-assisted four-wave mixing in chip-based microresonator frequency comb generation. Light: Science and Applications, 2017, 6, e16253-e16253.	7.7	83
25	Microresonator Kerr frequency combs with high conversion efficiency. Laser and Photonics Reviews, 2017, 11, 1600276.	4.4	153
26	Dispersion engineering and frequency comb generation in thin silicon nitride concentric microresonators. Nature Communications, 2017, 8, 372.	5.8	108
27	Long-haul coherent communications using microresonator-based frequency combs. Optics Express, 2017, 25, 26678.	1.7	40
28	Persistent energyâ€“time entanglement covering multiple resonances of an on-chip biphoton frequency comb. Optica, 2017, 4, 655.	4.8	61
29	Spatial mode-interaction induced single soliton generation in microresonators. Optica, 2017, 4, 1011.	4.8	74
30	Soliton repetition rate in a silicon-nitride microresonator. Optics Letters, 2017, 42, 759.	1.7	37
31	Normal Dispersion High Conversion Efficiency Kerr Comb with 50 GHz Repetition Rate. , 2017, , .		2
32	High-Efficiency WDM Sources Based on Microresonator Kerr Frequency Combs. , 2017, , .		2
33	Direct soliton generation in microresonators. Optics Letters, 2017, 42, 2519.	1.7	60
34	Frequency Noise of a Normal Dispersion Microresonator-based Frequency Comb. , 2017, , .		0
35	Directly stabilized solitons in silicon-nitride microresonators. , 2017, , .		0
36	Double slot fiber-to-chip coupler using direct strip-slot mode coupling. , 2017, , .		4

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37	Dispersion immune change of soliton repetition rate in a silicon-nitride microresonator. , 2017, , .		0
38	High-Q silicon nitride microresonators exhibiting low-power frequency comb initiation. Optica, 2016, 3, 1171.	4.8	148
39	Comparison and analysis on single-layer Si fiber-to-chip edge couplers with different taper tips. , 2016, , .		4
40	Broadband second-harmonic phase-matching in dispersion engineered slot waveguides. Optics Express, 2016, 24, 773.	1.7	16
41	Observation of Fermi-Pasta-Ulam Recurrence Induced by Breather Solitons in an Optical Microresonator. Physical Review Letters, 2016, 117, 163901.	2.9	116
42	Intracavity characterization of micro-comb generation in the single-soliton regime. Optics Express, 2016, 24, 10890.	1.7	101
43	Controlled and Stabilized Lightâ€“Matter Interaction in Graphene: Plasmonic Film with Largeâ€Scale 10â€nm Lithography. Advanced Optical Materials, 2016, 4, 1811-1823.	3.6	28
44	Coherent Kerr frequency comb generation in microresonators with ï‡(2)and ï‡(3)nonlinearities. , 2016, , .		0
45	Normal-dispersion microresonator Kerr frequency combs. Nanophotonics, 2016, 5, 244-262.	2.9	44
46	Thermal tuning of Kerr frequency combs in silicon nitride microring resonators. Optics Express, 2016, 24, 687.	1.7	118
47	Strip-slot direct mode coupler. Optics Express, 2016, 24, 6532.	1.7	22
48	Long-Haul Coherent Transmission Using a Silicon Nitride Microresonator-Based Frequency Comb as WDM Source. , 2016, , .		3
49	Frequency Comb Generation in 300 nm-Thick Si3N4 Concentric-Ring-Resonators. , 2016, , .		1
50	Reciprocal Waveforms at Through and Drop Ports in Microcomb Generation. , 2016, , .		0
51	Offset Frequency Tuning of a Microcomb with an Integrated Microheater. , 2016, , .		0
52	Anomalous Dispersion in 300 nm-Thick Si3N4 Concentric-Ring-Resonators. , 2016, , .		0
53	Measurement of Hot-cavity Detuning in Microcomb Generation Using Fiber Comb Spectroscopy. , 2016, , .		0
54	Experimental Characterization of Pump Power and Detuning in Microresonator Frequency Combs. , 2016, , .		1

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55	Intracavity Characterization of Micro-comb Generation in the Single Soliton Regime. , 2016, , .		0
56	Mode-evolution-based polarization rotation and coupling between silicon and hybrid plasmonic waveguides. Scientific Reports, 2015, 5, 18378.	1.6	26
57	Normalâ€dispersion microcombs enabled by controllable mode interactions. Laser and Photonics Reviews, 2015, 9, L23.	4.4	159
58	Dispersion engineered hetero-slot waveguides for broadband on-chip second-harmonic phase-matching. , 2015, , .		0
59	Nonreciprocal transmission through a silicon optical diode. , 2015, , .		0
60	Reconfigurable radio-frequency arbitrary waveforms synthesized in a silicon photonic chip. Nature Communications, 2015, 6, 5957.	5.8	107
61	Mode-locked Microresonator Combs in the Normal Dispersion Region. , 2015, , .		1
62	Polarization rotation and coupling between silicon waveguide and hybrid plasmonic waveguide. Optics Express, 2015, 23, 9968.	1.7	31
63	A silicon-on-insulator polarization diversity scheme in the mid-infrared. Optics Express, 2015, 23, 15029.	1.7	22
64	Mode-locked dark pulse Kerr combs in normal-dispersion microresonators. Nature Photonics, 2015, 9, 594-600.	15.6	459
65	Mode-Locked and Repetition-Rate-Tunable Comb Generation Using Dual Coupled Microrings. , 2015, , .		0
66	High-Q Silicon Nitride Microresonator for Low Power Frequency Comb Initiation at Normal Dispersion Regime. , 2015, , .		3
67	Spectral broadening of Kerr Frequency Combs Generated from a Normal Dispersion Silicon Nitride Microresonator. , 2015, , .		1
68	Frequency Comb-enhanced Coupling in Silicon Nitride Microresonators. , 2015, , .		0
69	Improved performance in Si nanowire AWG routers based on a comparative study of optimization techniques. , 2014, , .		0
70	Ultrabroadband Silicon-on-Insulator Polarization Beam Splitter Based on Cascaded Mode-Sorting Asymmetric Y-Junctions. IEEE Photonics Journal, 2014, 6, 1-8.	1.0	7
71	A fabrication-tolerant SOI polarization splitter-rotator with cascaded MMI couplers and an assisted bi-level taper. , 2014, , .		0
72	First Demonstration of a Tunable Single-Bandpass Photonic Radiofrequency Filter Based on Optical Frequency Comb from a Microring. , 2014, , .		5

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73	Bandwidth scaling of a phase-modulated continuous-wave comb through four-wave mixing in a silicon nano-waveguide. Optics Letters, 2014, 39, 6478.	1.7	5
74	Investigation of mode coupling in normal-dispersion silicon nitride microresonators for Kerr frequency comb generation. Optica, 2014, 1, 137.	4.8	186
75	Design of a SiO_2 top-cladding and compact polarization splitter-rotator based on a rib directional coupler. Optics Express, 2014, 22, 4137.	1.7	52
76	Low-loss and low-crosstalk 8 Ã— 8 silicon nanowire AWG routers fabricated with CMOS technology. Optics Express, 2014, 22, 9395.	1.7	75
77	Copper nanorod array assisted silicon waveguide polarization beam splitter. Optics Express, 2014, 22, 9508.	1.7	31
78	Drop-port study of microresonator frequency combs: power transfer, spectra and time-domain characterization: erratum. Optics Express, 2014, 22, 12148.	1.7	0
79	One-way transmission of 10 Gbps data through a silicon optical diode based on nonreciprocal resonance reshaping. Optics Express, 2014, 22, 25739.	1.7	4
80	Proposal for fabrication-tolerant SOI polarization splitter-rotator based on cascaded MMI couplers and an assisted bi-level taper. Optics Express, 2014, 22, 27869.	1.7	46
81	Large-scale nanoshaping of ultrasmooth 3D crystalline metallic structures. Science, 2014, 346, 1352-1356.	6.0	153
82	Novel ultra-broadband polarization splitter-rotator based on mode-evolution tapers and a mode-sorting asymmetric Y-junction. Optics Express, 2014, 22, 13565.	1.7	73
83	An all-silicon optical diode. , 2014, , .		0
84	Programmable Single-Bandpass Photonic RF Filter Based on Kerr Comb from a Microring. Journal of Lightwave Technology, 2014, 32, 3557-3565.	2.7	136
85	Frequency Combs from Normal Dispersion Silicon Nitride Microresonators. , 2014, , .		0
86	Summary of the 2011 Dielectric Laser Accelerator Workshop. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2014, 734, 51-59.	0.7	12
87	Rapidly Reconfigurable RF Arbitrary Waveform Synthesis using a CMOS Silicon Photonic Chip. , 2014, , .		0
88	Retrieving the Complex Intracavity Pump Field of a Kerr Comb from the Through Port Data. , 2014, , .		0
89	Investigation of Mode Interaction in Optical Microresonators for Kerr Frequency Comb Generation. , 2014, , .		1
90	Metal Nanorods Array Embedded Silicon Waveguide Polarization Beam Splitter. , 2014, , .		0

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91	Tunable Frequency Comb Generation from a Microring with a Thermal Heater. , 2014, , .		2
92	A Hollowâ€Core Optical Cavity Built in a Threeâ€Layer Silicon Photonic Crystal. Advanced Optical Materials, 2013, 1, 740-746.	3.6	1
93	Enhanced Photon Management of Thinâ€Film Silicon Solar Cells Using Inverse Opal Photonic Crystals with 3D Photonic Bandgaps. Advanced Optical Materials, 2013, 1, 692-698.	3.6	32
94	Ultra high optical nonreciprocity using silicon microring resonators. , 2013, , .		0
95	Photonic Crystals: Enhanced Photon Management of Thin-Film Silicon Solar Cells Using Inverse Opal Photonic Crystals with 3D Photonic Bandgaps (Advanced Optical Materials 10/2013). Advanced Optical Materials, 2013, 1, 680-680.	3.6	0
96	An all-silicon optical diode transmitting 10 Gbps data. , 2013, , .		0
97	A Theoretical Model for an Optical Diode Built With Nonlinear Silicon Microrings. Journal of Lightwave Technology, 2013, 31, 313-321.	2.7	38
98	Resistless Nanoimprinting in Metal for Plasmonic Nanostructures. Small, 2013, 9, 3778-3783.	5.2	27
99	Optical Diodes and Transistors on a Silicon Chip. , 2013, , .		0
100	Silicon optical diode with 40ÂdB nonreciprocal transmission. Optics Letters, 2013, 38, 1259.	1.7	87
101	Nanoimprinted plasmonic nanocavity arrays. Optics Express, 2013, 21, 15081.	1.7	26
102	Drop-port study of microresonator frequency combs: power transfer, spectra and time-domain characterization. Optics Express, 2013, 21, 22441.	1.7	40
103	Far-field polarization characterization of the fundamental modes of a strip silicon waveguide. Optics Letters, 2013, 38, 4785.	1.7	1
104	Frequency comb-induced nonlinear coupling effect in microresonators. , 2013, , .		0
105	Rapid and Lowâ€Cost Prototyping of 3D Nanostructures with Multiâ€Layer Hydrogen Silsesquioxane Scaffolds. Small, 2013, 9, 4237-4242.	5.2	9
106	Neuron-Like Functionality of a Silicon Optical Transistor. , 2013, , .		0
107	Generation of a 96 GHz Pulse Train through On-Chip Pulse Shaping of an Optical Frequency Comb. , 2013, , .		0
108	One-Way 10 Gbps Data Transmission through a Silicon Optical Diode. , 2013, , .		0

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109	Radio-Frequency Arbitrary Waveform Generation with a Programmable SiN Spectral Shaper. , 2013, , .		0
110	A CMOS Photonic Chip for Rapidly Reconfigurable RF Arbitrary Waveform Generation. , 2013, , .		0
111	Design of a compact mode and polarization converter in three-dimensional photonic crystals. Optics Express, 2012, 20, 20356.	1.7	8
112	Direct fabrication of silicon photonic devices on a flexible platform and its application for strain sensing. Optics Express, 2012, 20, 20564.	1.7	59
113	On-chip wavelength-routed photonic networks with comb switches. , 2012, , .		5
114	Nonreciprocal transmission of 10 Gbps OOK data through an all-silicon passive optical diode. , 2012, , 703-704.		0
115	Efficient Silicon-on-Insulator Polarization Rotator based on Mode Evolution. , 2012, , .		1
116	An All-Silicon Passive Optical Diode. Science, 2012, 335, 447-450.	6.0	621
117	A Silicon Optical Transistor. , 2012, 2012, .		5
118	An All-Silicon Passive Optical Diode. , 2012, , .		1
119	40 dB Optical Nonreciprocal Transmission on a Silicon Chip. , 2012, , .		0
120	A Hollow-core Cavity in Three-layer Photonic Crystals. , 2012, , .		0
121	Selective Contact Anneal Effects on Indium Oxide Nanowire Transistors using Femtosecond Laser. Journal of Physical Chemistry C, 2011, 115, 17147-17153.	1.5	13
122	Control of Current Saturation and Threshold Voltage Shift in Indium Oxide Nanowire Transistors with Femtosecond Laser Annealing. ACS Nano, 2011, 5, 1095-1101.	7.3	32
123	A Contra-Directional Coupling based Waveguide Mode Converter in 3D Photonic Crystals. , 2011, , .		0
124	Ultrabroad-bandwidth arbitrary radiofrequency waveform generation with a silicon photonic chip-based spectral shaper. Nature Photonics, 2010, 4, 117-122.	15.6	335
125	Radio-frequency waveform generation with a CMOS compatible on-chip spectral shaper. , 2010, , .		0
126	A Taper to Reduce the Straight-to-Bend Transition Loss in Compact Silicon Waveguides. IEEE Photonics Technology Letters, 2010, 22, 1174-1176.	1.3	12

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127	Eight-channel reconfigurable microring filters with tunable frequency, extinction ratio and bandwidth. Optics Express, 2010, 18, 18067.	1.7	53
128	On-chip programmable radio-frequency waveform generation. , 2010, , .		1
129	Hollow-core high-Q micro-cavities in three-dimensional photonic crystals. , 2010, , .		0
130	Arbitrary Radio-Frequency Waveform Generation with a Silicon Chip-Based Spectral Shaper. , 2009, , .		0
131	Nano-switch for study of gold contact behavior. , 2009, , .		3
132	Radio-Frequency Arbitrary Waveform Generation on a Silicon Chip. , 2009, , .		0
133	Silicon-on-Insulator Microring Add-Drop Filters With Free Spectral Ranges Over 30 nm. Journal of Lightwave Technology, 2008, 26, 228-236.	2.7	91
134	Programmable RF waveform generation with thermo-optically tunable multi-channel micro-ring resonators on a silicon chip. , 2008, , .		0
135	Low-power light control with light in high Q/V silicon microring resonators. , 2008, , .		0
136	Eight-channel microring resonator array with accurately controlled channel spacing. , 2008, , .		0
137	Epitaxially grown graphene field-effect transistors with electron mobility exceeding 1500 cm²/Vs and hole mobility exceeding 3400 cm²/Vs. , 2007, , .		1
138	Ultralow-Loss Compact Silicon Microring Resonators. , 2007, , .		0
139	Two-Photon Absorption Induced Thermal-Optic Effect in High-Q Silicon Microring Resonators. Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS, 2007, , .	0.0	2
140	Multiple-channel silicon micro-resonator based filters for WDM applications. Optics Express, 2007, 15, 7489.	1.7	145
141	Modeling and measurement of losses in silicon-on-insulator resonators and bends. Optics Express, 2007, 15, 10553.	1.7	129
142	Compact silicon microring resonators with ultra-low propagation loss in the C band. Optics Express, 2007, 15, 14467.	1.7	119
143	A highly compact third-order silicon microring add-drop filter with a very large free spectral range, a flat passband and a low delay dispersion. Optics Express, 2007, 15, 14765.	1.7	127
144	Low-loss Ultra-compact SOI Microring Add-Drop Filters. , 2007, , .		1

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145	Tunable Microcavities in 3D Photonic Crystals for Single-Photon Emission. , 2006, , .		0
146	Broadband optical studies of 1D and 3D photonic crystals. , 2005, , .		0
147	Microcavities in Three-Dimensional Photonic Crystals. , 2005, , .		0
148	Strain-tunable silicon photonic band gap microcavities in optical waveguides. Applied Physics Letters, 2004, 84, 1242-1244.	1.5	79
149	A three-dimensional optical photonic crystal with designed point defects. Nature, 2004, 429, 538-542.	13.7	457
150	Fabrication of three-dimensional photonic crystals with midgap wavelength at 1.55 /spl mu/m. , 2003, , .		0
151	Achieving nanometer-scale, controllable pattern shifts in x-ray lithography using an assembly-tilting technique. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2002, 20, 2991.	1.6	6