

Michael Hochberg

List of Publications by Year in descending order

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139
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61984

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94
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139
all docs

139
docs citations

139
times ranked

6881
citing authors

#	ARTICLE	IF	CITATIONS
1	Variational quantum unsampling on a quantum photonic processor. Nature Physics, 2020, 16, 322-327.	16.7	52
2	Accelerating recurrent Ising machines in photonic integrated circuits. Optica, 2020, 7, 551.	9.3	70
3	Next-Generation Silicon Photonic Interconnect Solutions. , 2019, , .		12
4	Scalable feedback control of single photon sources for photonic quantum technologies. Optica, 2019, 6, 335.	9.3	18
5	Variational Quantum Unsampling on a Programmable Nanophotonic Processor. , 2019, , .		1
6	Integrated Photonics for Counterfactual Communication. , 2019, , .		1
7	An all-silicon transmitter with co-designed modulator and DC-coupled driver. , 2019, , .		3
8	A Low-Power Hybrid-Integrated 40-Gb/s Optical Receiver in Silicon. IEEE Transactions on Microwave Theory and Techniques, 2018, 66, 589-595.	4.6	15
9	Widely-tunable, narrow-linewidth III-V/silicon hybrid external-cavity laser for coherent communication. Optics Express, 2018, 26, 7920.	3.4	93
10	Nonlinear characterization of a silicon integrated Bragg waveguide filter. Optics Letters, 2018, 43, 1171.	3.3	1
11	Linear programmable nanophotonic processors. Optica, 2018, 5, 1623.	9.3	240
12	A Silicon Photonic Transceiver and Hybrid Tunable Laser for 64 Gbaud Coherent Communication. , 2018, , .		10
13	Modular architecture for fully non-blocking silicon photonic switch fabric. Microsystems and Nanoengineering, 2017, 3, 16071.	7.0	35
14	Quantum transport simulations in a programmable nanophotonic processor. Nature Photonics, 2017, 11, 447-452.	31.4	359
15	Deep learning with coherent nanophotonic circuits. Nature Photonics, 2017, 11, 441-446.	31.4	1,845
16	Programmable dispersion on a photonic integrated circuit for classical and quantum applications. Optics Express, 2017, 25, 21275.	3.4	23
17	Compact and low loss 90° optical hybrid on a silicon-on-insulator platform. Optics Express, 2017, 25, 28957.	3.4	42
18	Complexity Scaling in Silicon Photonics. , 2017, , .		6

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19	Programmable Nanophotonics for Quantum Simulation and Machine Learning. , 2017, , .		1
20	Energy correlations of photon pairs generated by a silicon microring resonator probed by Stimulated Four Wave Mixing. Scientific Reports, 2016, 6, 23564.	3.3	37
21	Large-scale quantum photonic circuits in silicon. Nanophotonics, 2016, 5, 456-468.	6.0	109
22	Tunable-Coupling Resonator Arrays for Chip-Based Quantum Enigma Machines. , 2016, , .		0
23	Programmable Wavelength Locking and Routing in a Silicon-Photonic Interconnection Network Implementation. , 2015, , .		9
24	Optimized silicon photonic components for high-performance interconnect systems. , 2015, , .		0
25	A low-power 40 Gb/s optical receiver in silicon. , 2015, , .		6
26	High-speed BPSK modulation using a silicon modulator. , 2015, , .		0
27	Polarization-insensitive 40Gb/s 4-WDM channels receiver on SOI platform. , 2015, , .		1
28	Quantum dot semiconductor optical amplifier/silicon external cavity laser for O-band high-speed optical communications. Optical Engineering, 2015, 54, 026102.	1.0	7
29	Quantum dot SOA/silicon external cavity multi-wavelength laser. Optics Express, 2015, 23, 4666.	3.4	12
30	Symmetrical polarization splitter/rotator design and application in a polarization insensitive WDM receiver. Optics Express, 2015, 23, 16052.	3.4	23
31	Phase coherence length in silicon photonic platform. Optics Express, 2015, 23, 16890.	3.4	42
32	A 25 Gb/s, 4.4 V-Swing, AC-Coupled Ring Modulator-Based WDM Transmitter with Wavelength Stabilization in 65 nm CMOS. IEEE Journal of Solid-State Circuits, 2015, 50, 3145-3159.	5.4	80
33	Single Microring-Based 2×2 Silicon Photonic Crossbar Switches. IEEE Photonics Technology Letters, 2015, 27, 1981-1984.	2.5	31
34	High-Speed BPSK Modulation in Silicon. IEEE Photonics Technology Letters, 2015, 27, 1329-1332.	2.5	7
35	Scalability of silicon photonic enabled optically connected memory. , 2014, , .		3
36	A 40-GHz bandwidth transimpedance amplifier with adjustable gain-peaking in 65-nm CMOS. , 2014, , .		7

#	ARTICLE	IF	CITATIONS
37	Reuse Distance Based Circuit Replacement in Silicon Photonic Interconnection Networks for HPC. , 2014, , .		8
38	A Compact Low-Power 320-Gb/s WDM Transmitter Based on Silicon Microrings. IEEE Photonics Journal, 2014, 6, 1-8.	2.0	32
39	High-speed silicon modulators with slow-wave electrodes. , 2014, , .		1
40	Ultra-compact 320 Gb/s and 160 Gb/s WDM transmitters based on silicon microrings. , 2014, , .		23
41	Progress in silicon platforms for integrated optics. Nanophotonics, 2014, 3, 205-214.	6.0	30
42	CMOS-compatible highly efficient polarization splitter and rotator based on a double-etched directional coupler. Optics Express, 2014, 22, 2489.	3.4	74
43	Silicon Mod-MUX-Ring transmitter with 4 channels at 40 Gb/s. Optics Express, 2014, 22, 16431.	3.4	17
44	Silicon microring modulator for 40 Gb/s NRZ-OOK metro networks in O-band. Optics Express, 2014, 22, 28284.	3.4	22
45	A single adiabatic microring-based laser in 220 nm silicon-on-insulator. Optics Express, 2014, 22, 1172.	3.4	43
46	Efficient, compact and low loss thermo-optic phase shifter in silicon. Optics Express, 2014, 22, 10487.	3.4	272
47	A high-responsivity photodetector absent metal-germanium direct contact. Optics Express, 2014, 22, 11367.	3.4	69
48	Experimental demonstration of broadband Lorentz non-reciprocity in an integrable photonic architecture based on Mach-Zehnder modulators. Optics Express, 2014, 22, 17409.	3.4	22
49	Sagnac loop mirror and micro-ring based laser cavity for silicon-on-insulator. Optics Express, 2014, 22, 17872.	3.4	26
50	Design and optimization of a novel silicon-on-insulator wavelength diplexer. Optics Express, 2014, 22, 21521.	3.4	14
51	High efficiency germanium-assisted grating coupler. Optics Express, 2014, 22, 30607.	3.4	16
52	Ultracompact silicon-on-insulator polarization rotator for polarization-diversified circuits. Optics Letters, 2014, 39, 4703.	3.3	56
53	Silicon Parallel Single Mode 48 Å— 50 Gb/s Modulator and Photodetector Array. Journal of Lightwave Technology, 2014, 32, 4370-4377.	4.6	10
54	A Reconfigurable and Redundant Optically-Connected Memory System using a Silicon Photonic Switch. , 2014, , .		11

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55	High-Efficiency Low-Crosstalk 1310-nm Polarization Splitter and Rotator. IEEE Photonics Technology Letters, 2014, 26, 925-928.	2.5	25
56	50 Gb/s Silicon Traveling Wave Mach-Zehnder Modulator near 1300 nm. , 2014, , .		2
57	Design methodologies for silicon photonic integrated circuits. Proceedings of SPIE, 2014, , .	0.8	12
58	Design and characterization of a 30-GHz bandwidth low-power silicon traveling-wave modulator. Optics Communications, 2014, 321, 124-133.	2.1	69
59	Sagnac loop mirror based laser cavity for silicon-on-insulator. , 2014, , .		0
60	A 10-Gb/s Silicon Microring Resonator-Based BPSK Link. IEEE Photonics Technology Letters, 2014, 26, 1805-1808.	2.5	13
61	High-Speed Silicon Modulator With Slow-Wave Electrodes and Fully Independent Differential Drive. Journal of Lightwave Technology, 2014, 32, 2240-2247.	4.6	63
62	High-Efficiency Grating Couplers Near 1310 nm Fabricated by 248-nm DUV Lithography. IEEE Photonics Technology Letters, 2014, 26, 1569-1572.	2.5	14
63	100-Gb/s NRZ optical transceiver analog front-end in 130-nm SiGe BiCMOS. , 2014, , .		3
64	Monolithically Integrated MESFET Devices on a High-Speed Silicon Photonics Platform. Journal of Lightwave Technology, 2014, 32, 4345-4348.	4.6	2
65	40-Gb/s silicon modulators for mid-reach applications at 1550 nm. , 2014, , .		0
66	Silicon microring based modulator and filter for high speed transmitters at 1310 nm. , 2014, , .		2
67	Integrated Source of Spectrally Filtered Correlated Photons for Large-Scale Quantum Photonic Systems. Physical Review X, 2014, 4, .	8.9	100
68	A compact and low-loss silicon waveguide crossing for O-band optical interconnect. , 2014, , .		3
69	A High-Efficiency Nonuniform Grating Coupler Realized With 248-nm Optical Lithography. IEEE Photonics Technology Letters, 2013, 25, 1358-1361.	2.5	45
70	A 30 GHz silicon photonic platform. , 2013, , .		12
71	Ultra-Responsive Phase Shifters for Depletion Mode Silicon Modulators. Journal of Lightwave Technology, 2013, 31, 3787-3793.	4.6	19
72	A 30 GHz silicon photonic platform: Multi-project wafer shuttles for next-generation optical systems. , 2013, , .		1

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73	30GHz silicon platform for photonics system. , 2013, , .		1
74	Silicon Photonics: The Next Fabless Semiconductor Industry. IEEE Solid-State Circuits Magazine, 2013, 5, 48-58.	0.4	105
75	Zwitterionic polymer-modified silicon microring resonators for label-free biosensing in undiluted human plasma. Biosensors and Bioelectronics, 2013, 42, 100-105.	10.1	44
76	A CMOS-Compatible, Low-Loss, and Low-Crosstalk Silicon Waveguide Crossing. IEEE Photonics Technology Letters, 2013, 25, 422-425.	2.5	51
77	A 92 mW, 20 dB gain, broadband lumped SiGe amplifier with bandwidth exceeding 67 GHz. , 2013, , .		5
78	A CMOS-compatible silicon photonic platform for high-speed integrated opto-electronics. Proceedings of SPIE, 2013, , .	0.8	14
79	A compact and low loss Y-junction for submicron silicon waveguide. Optics Express, 2013, 21, 1310.	3.4	302
80	Ultralow loss single layer submicron silicon waveguide crossing for SOI optical interconnect. Optics Express, 2013, 21, 29374.	3.4	190
81	A compact bi-wavelength polarization splitting grating coupler fabricated in a 220 nm SOI platform. Optics Express, 2013, 21, 31019.	3.4	91
82	Germanium photodetector with 60 GHz bandwidth using inductive gain peaking. Optics Express, 2013, 21, 28387.	3.4	121
83	Low power 50 Gb/s silicon traveling wave Mach-Zehnder modulator near 1300 nm. Optics Express, 2013, 21, 30350.	3.4	246
84	Broadband on-chip optical non-reciprocity using phase modulators. Optics Express, 2013, 21, 14500.	3.4	34
85	Highly linear silicon traveling wave Mach-Zehnder carrier depletion modulator based on differential drive. Optics Express, 2013, 21, 3818.	3.4	75
86	A 30 GHz silicon photonic platform. , 2013, , .		12
87	A Silicon Platform for High-Speed Photonics Systems. , 2012, , .		12
88	Bandwidth enhancement of waveguide-coupled photodetectors with inductive gain peaking. Optics Express, 2012, 20, 7101.	3.4	36
89	Ultralow drive voltage silicon traveling-wave modulator. Optics Express, 2012, 20, 12014.	3.4	204
90	Linearity of silicon ring modulators for analog optical links. Optics Express, 2012, 20, 13115.	3.4	60

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91	Ultra-thin silicon-on-insulator strip waveguides and mode couplers. Applied Physics Letters, 2012, 101, .	3.3	18
92	Electrically tunable resonant filters in phase-shifted contra-directional couplers. , 2012, , .		5
93	Shared shuttles for integrated silicon optoelectronics. , 2012, , .		3
94	Myths and rumours of silicon photonics. Nature Photonics, 2012, 6, 206-208.	31.4	173
95	Lithography simulation for the fabrication of silicon photonic devices with deep-ultraviolet lithography. , 2012, , .		19
96	Silicon multi-project wafer platforms for optoelectronic system integration. , 2012, , .		6
97	A 25 Gb/s 400 fJ/bit silicon traveling-wave modulator. , 2012, , .		0
98	Ultrathin Silicon-on-Insulator Grating Couplers. IEEE Photonics Technology Letters, 2012, 24, 2247-2249.	2.5	28
99	Single-chip photonic integration with CMOS for aerospace. , 2012, , .		0
100	High-Order Nonlinearities for Silicon-Organic Hybrid Devices. Advanced Materials, 2012, 24, OP326-30.	21.0	28
101	Efficient Poling of Electro-Optic Polymers in Thin Films and Silicon Slot Waveguides by Detachable Pyroelectric Crystals. Advanced Materials, 2012, 24, OP42-7.	21.0	28
102	Electro-Optical Materials: Efficient Poling of Electro-Optic Polymers in Thin Films and Silicon Slot Waveguides by Detachable Pyroelectric Crystals (Adv. Mater. 10/2012). Advanced Materials, 2012, 24, OP1.	21.0	4
103	Efficient Strip to Strip-Loaded Slot Mode Converter in Silicon-on-Insulator. IEEE Photonics Technology Letters, 2011, 23, 1496-1498.	2.5	21
104	Full-wafer loss measurements of silicon ridge waveguides. , 2011, , .		1
105	Towards a low-loss, ultra-low drive voltage silicon-polymer hybrid electro-optic modulator. , 2011, , .		1
106	Asymmetric strip-loaded slot waveguides and its applications in silicon-polymer hybrid electro-optic modulators. , 2011, , .		1
107	Multiplexed inkjet functionalization of silicon photonic biosensors. Lab on A Chip, 2011, 11, 1372.	6.0	75
108	Sub-Volt Silicon-Organic Electro-optic Modulator With 500 MHz Bandwidth. Journal of Lightwave Technology, 2011, 29, 1112-1117.	4.6	42

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109	Silicon-polymer hybrid slot waveguide ring-resonator modulator. Optics Express, 2011, 19, 3952.	3.4	114
110	Optical detection of target molecule induced aggregation of nanoparticles by means of high-Q resonators. Optics Express, 2011, 19, 7034.	3.4	23
111	Photolithographically fabricated low-loss asymmetric silicon slot waveguides. Optics Express, 2011, 19, 10950.	3.4	41
112	Mid-infrared photonics in silicon. Proceedings of SPIE, 2011, , .	0.8	1
113	A high-speed silicon photonics platform. , 2011, , .		4
114	Photolithographic fabrication of slot waveguides. Proceedings of SPIE, 2011, , .	0.8	3
115	Low-loss asymmetric strip-loaded slot waveguides in silicon-on-insulator. Applied Physics Letters, 2011, 98, .	3.3	40
116	Electron beam lithography writing strategies for low loss, high confinement silicon optical waveguides. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2011, 29, .	1.2	114
117	Theoretical Study of Optical Rectification at Radio Frequencies in a Slot Waveguide. IEEE Journal of Quantum Electronics, 2010, 46, 1634-1641.	1.9	7
118	Label-Free Biosensor Arrays Based on Silicon Ring Resonators and High-Speed Optical Scanning Instrumentation. IEEE Journal of Selected Topics in Quantum Electronics, 2010, 16, 654-661.	2.9	472
119	Towards fabless silicon photonics. Nature Photonics, 2010, 4, 492-494.	31.4	336
120	Silicon waveguides and ring resonators at 5.5 μm. Applied Physics Letters, 2010, 97, .	3.3	102
121	Silicon waveguides and ring resonators at 5.5 μm. , 2010, , .		1
122	Design of high-speed ultra-low loss slot waveguide modulators. , 2010, , .		0
123	A low loss L modulator with GHz bandwidth based on an electro-optic polymer-clad silicon slot waveguide. , 2010, , .		1
124	Silicon-on-sapphire integrated waveguides for the mid-infrared. Optics Express, 2010, 18, 12127.	3.4	217
125	Design of transmission line driven slot waveguide Mach-Zehnder interferometers and application to analog optical links. Optics Express, 2010, 18, 16902.	3.4	60
126	Low-loss strip-loaded slot waveguides in Silicon-on-Insulator. Optics Express, 2010, 18, 25061.	3.4	64

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127	Nanogap quantum dot photodetectors with high sensitivity and bandwidth. Applied Physics Letters, 2010, 96, .	3.3	29
128	Slot machine. Nature Photonics, 2009, 3, 193-194.	31.4	10
129	A Hybrid Electrooptic Microring Resonator-Based 1imes 4imes 1\$ ROADM for Wafer Scale Optical Interconnects. Journal of Lightwave Technology, 2009, 27, 440-448.	4.6	42
130	All-Optical Modulation in a Silicon Waveguide Based on a Single-Photon Process. IEEE Journal of Selected Topics in Quantum Electronics, 2008, 14, 1335-1342.	2.9	4
131	Nonlinear polymer-clad silicon slot waveguide modulator with a half wave voltage of 0.25V. Applied Physics Letters, 2008, 92, 163303.	3.3	195
132	Design and fabrication of segmented, slotted waveguides for electro-optic modulation. Applied Physics Letters, 2007, 91, .	3.3	40
133	Towards a millivolt optical modulator with nano-slot waveguides. Optics Express, 2007, 15, 8401.	3.4	129
134	Terahertz all-optical modulation in a silicon-polymer hybrid system. Nature Materials, 2006, 5, 703-709.	27.5	276
135	High-Q optical resonators in silicon-on-insulator-based slot waveguides. Applied Physics Letters, 2005, 86, 081101.	3.3	186
136	Segmented waveguides in thin silicon-on-insulator. Journal of the Optical Society of America B: Optical Physics, 2005, 22, 1493.	2.1	23
137	High-Q ring resonators in thin silicon-on-insulator. Applied Physics Letters, 2004, 85, 3346-3347.	3.3	65
138	Liquid-crystal electric tuning of a photonic crystal laser. Applied Physics Letters, 2004, 85, 360-362.	3.3	123
139	High quality factors and room-temperature lasing in a modified single-defect photonic crystal cavity. Optics Letters, 2004, 29, 721.	3.3	36