Kazuhiro Ikeda

List of Publications by Year
in descending order

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148 papers	2,774 citations	186209 28 h-index	197736 49 g-index
148 all docs	148 docs citations	148 times ranked	2156 citing authors

#	Article	IF	Citations
1	Thermal and Kerr nonlinear properties of plasma-deposited silicon nitride/ silicon dioxide waveguides. Optics Express, 2008, 16, 12987.	1.7	334
2	Ultra-compact 32 Ã— 32 strictly-non-blocking Si-wire optical switch with fan-out LGA interposer. Optics Express, 2015, 23, 17599.	1.7	161
3	Group velocity dispersion and self phase modulation in silicon nitride waveguides. Applied Physics Letters, 2010, 96, .	1.5	112
4	Inhomogenous Dielectric Metamaterials with Space-Variant Polarizability. Physical Review Letters, 2007, 98, 243901.	2.9	107
5	Cladding-modulated Bragg gratings in silicon waveguides. Optics Letters, 2009, 34, 1357.	1.7	107
6	Low-Insertion-Loss and Power-Efficient 32 Ã— 32 Silicon Photonics Switch With Extremely High-Î” Silica PLC Connector. Journal of Lightwave Technology, 2019, 37, 116-122.	2.7	102
7	Room temperature circularly polarized lasing in an optically spin injected vertical-cavity surface-emitting laser with (110) GaAs quantum wells. Applied Physics Letters, 2011, 98, .	1.5	96
8	Ultra-high-extinction-ratio 2 Ã— 2 silicon optical switch with variable splitter. Optics Express, 2015, 23, 9086.	1.7	92
9	Chip-scale dispersion engineering using chirped vertical gratings. Optics Letters, 2008, 33, 3013.	1.7	81
10	Wide bandwidth, low loss 1 by 4 wavelength division multiplexer on silicon for optical interconnects. Optics Express, 2011, 19, 2401.	1.7	71
11	Enhanced optical nonlinearity in amorphous silicon and its application to waveguide devices. Optics Express, 2007, 15, 17761.	1.7	68
12	Thermally Stable Schottky Barrier Diode by Ru/Diamond. Applied Physics Express, 2009, 2, 011202.	1.1	67
13	Increase in Reverse Operation Limit by Barrier Height Control of Diamond Schottky Barrier Diode. IEEE Electron Device Letters, 2009, 30, 960-962.	2.2	62
14	Broadband silicon photonics 8 Ã— 8 switch based on double-Machâ€“Zehnder element switches. Optics Express, 2017, 25, 7538.	1.7	62
15	Hybrid-Integration of SOA on Silicon Photonics Platform Based on Flip-Chip Bonding. Journal of Lightwave Technology, 2019, 37, 307-313.	2.7	54
16	Coupled chirped vertical gratings for on-chip group velocity dispersion engineering. Applied Physics Letters, 2009, 95, .	1.5	53
17	Wavelength selective coupler with vertical gratings on silicon chip. Applied Physics Letters, 2008, 92, .	1.5	50
18	Resonant waveguide device with vertical gratings. Optics Letters, 2007, 32, 539.	1.7	49

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19	Tunable Transmission Resonant Filter and Modulator With Vertical Gratings. Journal of Lightwave Technology, 2007, 25, 1147-1151.	2.7	48
20	Fabrication of a field plate structure for diamond Schottky barrier diodes. Diamond and Related Materials, 2009, 18, 292-295.	1.8	40
21	Device scaling of pseudo-vertical diamond power Schottky barrier diodes. Diamond and Related Materials, 2009, 18, 1196-1199.	1.8	39
22	Low-Loss, Low-Crosstalk, and Large-Scale Optical Switch Based on Silicon Photonics. Journal of Lightwave Technology, 2020, 38, 233-239.	2.7	37
23	Nonduplicate Polarization-Diversity 32 Ã— 32 Silicon Photonics Switch Based on a SiN/Si Double-Layer Platform. Journal of Lightwave Technology, 2020, 38, 226-232.	2.7	36
24	155-Î¼m VCSEL with polarization-independent HCG mirror on SOI. Optics Express, 2013, 21, 28685.	1.7	35
25	Reconfigurable all-optical on-chip MIMO three-mode demultiplexing based on multi-plane light conversion. Optics Letters, 2018, 43, 1798.	1.7	32
26	Non-duplicate polarization-diversity 8 Ã— 8 Si-wire PILOSS switch integrated with polarization splitter-rotators. Optics Express, 2017, 25, 10885.	1.7	31
27	Spin polarization modulation for high-speed vertical-cavity surface-emitting lasers. Applied Physics Letters, 2018, 113, .	1.5	31
28	Polarization-independent high-index contrast grating and its fabrication tolerances. Applied Optics, 2013, 52, 1049.	0.9	30
29	Switching of Lasing Circular Polarizations in a (110)-VCSEL. IEEE Photonics Technology Letters, 2009, 21, 1350-1352.	1.3	24
30	Processing advantages of linear chirped fiber Bragg gratings in the time domain realization of optical frequency-domain reflectometry. Optics Express, 2007, 15, 15464.	1.7	23
31	SOA-Integrated Silicon Photonics Switch and Its Lossless Multistage Transmission of High-Capacity WDM Signals. Journal of Lightwave Technology, 2019, 37, 123-130.	2.7	23
32	Large-scale silicon photonics switch based on 45-nm CMOS technology. Optics Communications, 2020, 466, 125677.	1.0	22
33	SiN/Si double-layer platform for ultralow-crosstalk multiport optical switches. Optics Express, 2019, 27, 21130.	1.7	22
34	Compact 2 Ã— 2 polarization-diversity Si-wire switch. Optics Express, 2014, 22, 29818.	1.7	21
35	Accelerating Switching Speed of Thermo-optic MZI Silicon-Photonic Switches with â€œTurbo Pulseâ€•in PWM Control. , 2017, , .		21
36	First demonstration of ultra-low-energy hierarchical multi-granular optical path network dynamically controlled through NSI-CS for video related applications. , 2014, , .		18

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37	Ultra-compact silicon photonics switch with high-density thermo-optic heaters. Optics Express, 2019, 27, 10332.	1.7	18
38	Off-Chip Polarization-Diversity $4 ,, imes ,, 4$ Si-Wire Optical Switch With Digital DGD Compensation. IEEE Photonics Technology Letters, 2016, 28, 457-460.	1.3	17
39	Modified long-range surface plasmon polariton modes for laser nanoresonators. Journal of Applied Physics, 2011, 110, 063106.	1.1	16
40	Nonlinear Fabry-Perot resonator with a silicon photonic crystal waveguide. Optics Letters, 2006, 31, 3486.	1.7	15
41	High Temperature Characteristics of Diamond SBDs. Materials Science Forum, 2010, 645-648, 1231-1234.	0.3	15
42	Novel polarization diversity without switch duplication of a Si-wire PILOSS optical switch. Optics Express, 2016, 24, 6861.	1.7	15
43	Integrated silicon photonic wavelength-selective switch using wavefront control waveguides. Optics Express, 2018, 26, 13573.	1.7	15
44	Material and structural criteria for ultra-fast Kerr nonlinear switching in optical resonant cavities. Solid-State Electronics, 2007, 51, 1376-1380.	0.8	14
45	Lasing Polarization Characteristics in 1.55- $mu ext{m}$ Spin-Injected VCSELs. IEEE Photonics Technology Letters, 2017, 29, 711-714.	1.3	14
46	Wavelength-Division Demultiplexing Enhanced by Silicon-Photonic Tunable Filters in Ultra-Wideband Optical-Path Networks. Journal of Lightwave Technology, 2020, 38, 1002-1009.	2.7	13
47	Effects produced by metal-coated near-field probes on the performance of silicon waveguides and resonators. Optics Letters, 2007, 32, 2602.	1.7	12
48	Crystal growth of InGaAs/InAlAs quantum wells on InP(110) by MBE. Journal of Crystal Growth, 2013, 364, 95-100.	0.7	12
49	Low Insertion Loss and Power Efficient 32 Ã— 32 Silicon Photonics Switch with Extremely-High-Î” PLC Connector. , 2018, , .		12
50	All-Optical Flip-Flop Operation at 1-mA Bias Current in Polarization Bistable Vertical-Cavity Surface-Emitting Lasers With an Oxide Confinement Structure. IEEE Photonics Technology Letters, 2011, 23, 1811-1813.	1.3	11
51	Room temperature spin transport in undoped (110) GaAs/AlGaAs quantum wells. Applied Physics Letters, 2014, 104, 072406.	1.5	11
52	2.5-dB loss, 100-nm Operating Bandwidth, and Low Power Consumption Strictly-Non-Blocking 8 Ã— 8 Si Switch. , 2017, , .		11
53	A Large-Scale Optical Circuit Switch Using Fast Wavelength-Tunable and Bandwidth-Variable Filters. IEEE Photonics Technology Letters, 2018, 30, 1439-1442.	1.3	11
54	Scalable and Fast Optical Circuit Switch Based on Colorless Coherent Detection: Design Principle and Experimental Demonstration. Journal of Lightwave Technology, 2021, 39, 2263-2274.	2.7	11

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55	Recent Progress of Diamond Device toward Power Application. Materials Science Forum, 2009, 615-617, 999-1002.	0.3	10
56	Silicon nanophotonic devices for chip-scale optical communication applications [Invited]. Applied Optics, 2013, 52, 613.	0.9	10
57	2 Ã— 2 16-ch silicon photonics wavelength-selective switch based on waveguide gratings. Optics Express, 2020, 28, 26861.	1.7	10
58	Lasing-Polarization-Dependent Output from Orthogonal Waveguides in High-Index-Contrast Subwavelength Grating Vertical-Cavity Surface-Emitting Laser. Applied Physics Express, 2013, 6, 092106.	1.1	9
59	Electron spin relaxation time in (110) InGaAs/InAlAs quantum wells. Journal of Applied Physics, 2014, 116, 023507.	1.1	9
60	Silicon Photonics Wavelength Selective Switch With Unlimited Free Spectral Range. Journal of Lightwave Technology, 2020, 38, 3268-3272.	2.7	9
61	Fast Frequency Tuning of Silicon-Photonic Thermo-optic MZI Filters using â€œTurbo Pulseâ€•Method. , 2018, , .		9
62	32-Port 5.5%-Î” Silica-Based Connecting Device for Low-Loss Coupling between SMFs and Silicon Waveguides. , 2018, , .		9
63	Fast and Accurate Automatic Calibration of a 32 Ã— 32 Silicon Photonic Strictly-Non-Blocking Switch. , 2017, , .		9
64	Heterodyne near-field scanning optical microscopy with spectrally broad sources. Optics Letters, 2009, 34, 1327.	1.7	8
65	Room temperature spin injection into (110) GaAs quantum wells using Fe/x-AlOx contacts in the regime of current density comparable to laser oscillation. Journal of Applied Physics, 2015, 118, 163905.	1.1	8
66	Polarization-Rotator-Free Polarization-Diversity 4 4 Si-Wire Optical Switch. IEEE Photonics Journal, 2016, 8, 1-7.	1.0	8
67	Spin-Injected Birefringent VCSELs for Analog Radio-Over-Fiber Systems. IEEE Photonics Technology Letters, 2021, 33, 297-300.	1.3	8
68	In-line Optical Amplification for Silicon Photonics Platform by Flip-Chip Bonded InP-SOAs. , 2018, , .		8
69	Design and verification of a LO bank enabled by fixed-wavelength lasers and fast tunable silicon ring filters for creating large scale optical switches. Optics Express, 2021, 29, 39930.	1.7	8
70	Carrier Lifetime and Electron Spin Relaxation Time in (110)-Oriented GaAsâ€“AlGaAs Quantum-Well Micro-Posts. IEEE Photonics Technology Letters, 2010, 22, 1689-1691.	1.3	7
71	Silicon photonics based 1 Ã— 2 wavelength selective switch using fold-back arrayed-waveguide gratings. IEICE Electronics Express, 2018, 15, 20180532-20180532.	0.3	6
72	Gain-Integrated 8 Ã— 8 Silicon Photonics Multicast Switch With On-Chip 2 Ã— 4-ch. SOAs. Journal of Lightwave Technology, 2020, 38, 2930-2937.	2.7	6

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73	Strictly Non-Blocking 8 Ã— 8 Silicon Photonics Switch Operating in the O-Band. Journal of Lightwave Technology, 2021, 39, 1096-1101.	2.7	6
74	A 300-mm-wafer silicon photonics technology for ultra-low-energy optical network systems. , 2017, , .		6
75	Self-alignment and instability of waveguides induced by optical forces. Physical Review A, 2009, 80, .	1.0	5
76	Ultralow-crosstalk and broadband multi-port optical switch using SiN/Si double-layer platform. , 2017, , .		5
77	Silicon Based 1 Ã— M Wavelength Selective Switch Using Arrayed Waveguide Gratings With Fold-Back Waveguides. Journal of Lightwave Technology, 2021, 39, 2413-2420.	2.7	5
78	Multiport optical switches integrated on Si photonics platform. IEICE Electronics Express, 2014, 11, 20142011-20142011.	0.3	4
79	Fully-Loaded Operation of 0.29-pJ/bit Wall-plug Efficiency, 81.9-Tb/s Throughput 32 Ã— 32 Silicon Photonics Switch. , 2021, , .		4
80	1Ã—2 Silicon Wavelength Selective Switch Using Fold Back Arrayed-Waveguide Gratings. , 2017, , .		4
81	Polarization-Diversity 32 x 32 Si Photonics Switch with Non-Duplicate Diversity Circuit in Double-Layer Platform. , 2019, , .		4
82	Path-Independent Insertion-Loss (PILOSS) 8 Ã— 8 Silicon Photonics Switch with <8 nsec Switching Time. , 2022, , .		4
83	Tunable Transmission Resonant Filter and Modulator with Vertical Gratings. , 2006, , .		3
84	Metallic nanowire lasers. Journal of the Optical Society of America B: Optical Physics, 2013, 30, 1981.	0.9	3
85	Evaluation of the phase error in Si-wire arrayed-waveguide gratings fabricated by ArF-immersion photolithography. IEICE Electronics Express, 2015, 12, 20150019-20150019.	0.3	3
86	A 200-GHz spacing, 17-channel, 1×2 wavelength selective switch using a silicon arrayed-waveguide grating with loopback. , 2015, , .		3
87	Silicon photonics C-band tunable filter for large-scale optical circuit switches. , 2017, , .		3
88	Recent Advances in Large-scale Optical Switches Based on Silicon Photonics. , 2022, , .		3
89	PMD Compensator With Second-Order PMD Mitigation Using Mode-Coupled Fixed Delay. IEEE Photonics Technology Letters, 2004, 16, 105-107.	1.3	2
90	Device Characteristics Dependence on Diamond SDBs Area. Materials Science Forum, 0, 615-617, 1003-1006.	0.3	2

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91	Correlation between morphology and electron spin relaxation time in GaAs/AlGaAs quantum wells on misoriented GaAs(110) substrates. Journal of Applied Physics, 2011, 110, 043516.	1.1	2
92	Circularly polarized lasing over wide wavelength range in spin-controlled (110) vertical-cavity surface-emitting laser. Solid State Communications, 2012, 152, 1518-1521.	0.9	2
93	Analysis of Optical Output Characteristics in Waveguide Coupled HCG-VCSELs. IEICE Transactions on Electronics, 2014, E97.C, 369-376.	0.3	2
94	In-band OSNR monitor based on 3 × 3 Si-wire MMI coupler. , 2015, , .		2
95	4Ã—4 Si-wire optical path switch with off-chip polarization diversity. , 2015, , .		2
96	Silicon photonics based switching technology for telecom, datacom and computercom. , 2015, , .		2
97	Effects of spin diffusion on electron spin relaxation time measured with a time-resolved microscopic photoluminescence technique. Journal of Applied Physics, 2015, 117, 053903.	1.1	2
98	Low-Crosstalk Bandwidth Expansion in $32imes 32$ Silicon Optical Switch with Port-Exchanged Mach-Zehnder Switch. , 2019, , .		2
99	Port-Alternated Switch-and-Select Optical Switches. Journal of Lightwave Technology, 2021, 39, 1102-1107.	2.7	2
100	Large-Scale Optical Switches Based on Silicon Photonics. , 2021, , .		2
101	Pump Probe Measurement of Electron Spin Relaxation Time in (110)-Oriented GaAs/AlGaAs Multiple Quantum Well Microposts. Applied Physics Express, 2012, 5, 122401.	1.1	2
102	High-Speed Modulation of 1.55-Î¼m VCSELs with Spin Polarization Modulation. , 2018, , .		2
103	Wavelength (DE)MUX-and-Switch Based on 5.5%-Î”-Silica PLC/Silicon Photonics Hybrid Platform. Journal of Lightwave Technology, 2022, 40, 1810-1814.	2.7	2
104	Fast Optical Switch Utilizing Coherent Detection Enabled by Cooperative Filtering of Transmission Signal and Local Oscillator (LO) Wavelength Sourced from an LO Bank. , 2021, , .		2
105	5.5%-Î”-PLC/Silicon Photonics Hybrid Wavelength MUX/DEMUX-and-Switch Device. , 2021, , .		2
106	Reconfigurable 3-Channel All-Optical MIMO Circuit on Silicon Based on Multi-Plane Light Conversion. , 2018, , .		2
107	Next-Generation ROADM Employing Bandwidth-Adaptive Silicon-Photonic Filters for Flexible Drop Operation. , 2018, , .		2
108	Scalable and Fast Optical Circuit Switch Created with Silicon-Photonic Tunable-Filter-based Local Oscillator Bank and Colorless Coherent Detection. , 2020, , .		2

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109	Comparison of measurement techniques for electron spin relaxation time in a GaAs/AlGaAs multiple quantum well. Physica E: Low-Dimensional Systems and Nanostructures, 2012, 44, 1176-1181.	1.3	1
110	Densely packed NxN wavelength cross-connect switch module. Proceedings of SPIE, 2015, , .	0.8	1
111	Silicon photonic bandwidth-tunable filter based on 16-tap finite impulse response. , 2017, , .		1
112	Fast Optical Circuit Switch Using Monolithically Integrated Silicon-Photonic Space Switch and Wavelength-Tuneable Filter. , 2018, , .		1
113	Ultra-Compact Silicon Photonics Switch with Ultra-Dense Thermo-Optic MZI Matrix and Multi-Layer Wiring. , 2018, , .		1
114	Nanophotonics for Information Systems. Lecture Notes in Computer Science, 2009, , 2-4.	1.0	1
115	Silicon-Photonics Polarization-Insensitive Broadband Strictly-Non-Blocking 8 Ã— 8 Blade Switch. , 2017, , .		1
116	Multi-port Optical Switch Based on Silicon Photonics. , 2016, , .		1
117	Strictly Non-Blocking Silicon Photonics Switches. , 2016, , .		1
118	Fully Integrated Non-Duplicate Polarization-Diversity 8 Ã— 8 Si-Wire PILOSS Switch. , 2017, , .		1
119	5.7-dB Fiber-to-Fiber Loss 8 Ã— 8 Silicon Photonics Switch with Port-Alternated Switch-and-Select Architecture. , 2020, , .		1
120	O-Band Strictly Non-Blocking 8 Ã— 8 Silicon-Photonics Switch. , 2020, , .		1
121	Demonstration of 8-Step Single-Photon Quantum Walk using 32 x 32 Reconfigurable Silicon Photonics Switch. , 2020, , .		1
122	Strictly Non-Blocking Silicon Photonics Switches. IEICE Transactions on Electronics, 2020, E103.C, 627-634.	0.3	1
123	Nearfield investigation of subwavelength structured graded-index lens. , 2006, , .		0
124	Devices Utilizing Free-space Optics on a Chip. , 2006, , .		0
125	Nanophotonics for information systems. , 2007, , .		0
126	Dispersion compensation for on-chip ultrafast signal processing. , 2008, , .		0

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127	Metamaterials for free space on a chip applications. Proceedings of SPIE, 2008, , .	0.8	0
128	Self-alignment and instability of waveguides induced by forces of guided and radiated fields. Proceedings of SPIE, 2010, , .	0.8	0
129	Coupled vertical gratings on silicon for applications in wavelength division multiplexing. , 2010, , .		0
130	Analog signal processing/filtering. , 2011, , .		0
131	All-optical flip-flop operation of polarization bistable VCSELs with an oxide confinement structure. , 2011, , .		0
132	Optically-pumped circularly polarized lasing in a (110) VCSEL with GaAs/AlGaAs QWs at room temperature. , 2011, , .		0
133	Spin-controlled switching of lasing circular polarizations in (110)-oriented VCSELs. , 2011, , .		0
134	Design and fabrication of a polarization-independent HCG. , 2013, , .		0
135	Silicon nanophotonics integration for chip-scale optical communication. Proceedings of SPIE, 2014, , .	0.8	0
136	Novel PILOSS Port Assignment for Compact Polarization-Diversity Si-Wire Optical Switch. , 2016, , .		0
137	Silicon optical switch monolithically integrated with driver electronics and its power efficient driving. , 2016, , .		0
138	Polarization diversity circuit based on silica waveguides and photonic crystal waveplates for a 4Ã—4 silicon optical switch. IEICE Electronics Express, 2017, 14, 20170252-20170252.	0.3	0
139	Switching Devices and Systems Based on Advanced Silicon Photonics. , 2018, , .		0
140	Silicon Photonic Multiport Optical Switch and Its Control Electronics. , 2018, , .		0
141	A 300-mm-wafer silicon photonics technology for advanced information systems. , 2019, , .		0
142	Characteristics of 1Ã—2 Silicon Wavelength Selective Switch Using Arrayed - Waveguide Gratings with Fold-Back Waveguides. , 2019, , .		0
143	Transverse and Longitudinal Optical Forces of Self-Alignment in Waveguides. , 2010, , .		0
144	Control of Electron Spin Relaxation Dynamics and Circularly Polarized Lasing in Semiconductor Lasers. Hyomen Kagaku, 2011, 32, 755-760.	0.0	0

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145	Ultra-compact 32 Ã— 32 strictly-non-blocking Si-wire PILOSS switch. , 2016, , .		0
146	1,024Ã—1,024 Optical Circuit Switch Using Wavelength-Tunable and Bandwidth-Variable Silicon Photonic Filter. , 2018, , .		0
147	Spin polarization modulation of 1.55-μm VCSELs for high-speed data communications. , 2019, , .		0
148	Polarization-Insensitive Local-Oscillator-Carrier Loopback Modulation for Cost-effective and High-port-count Wavelength Routing Optical Switch. Optics Letters, 0, , .	1.7	0