

Frederic Gardes

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/7851145/publications.pdf>

Version: 2024-02-01

121
papers

5,972
citations

126907

33
h-index

71685

76
g-index

121
all docs

121
docs citations

121
times ranked

4668
citing authors

#	ARTICLE	IF	CITATIONS
1	Channel response-aware photonic neural network accelerators for high-speed inference through bandwidth-limited optics. Optics Express, 2022, 30, 10664.	3.4	14
2	Mid-infrared silicon-on-insulator waveguides with single-mode propagation over an octave of frequency. Optics Express, 2022, 30, 8560.	3.4	5
3	Graphene microheater for phase change chalcogenides based integrated photonic components [Invited]. Optical Materials Express, 2022, 12, 1991.	3.0	7
4	UV-written silicon nitride integrated optical phased arrays. , 2022, , .		1
5	Neuromorphic Silicon Photonics and Hardware-Aware Deep Learning for High-Speed Inference. Journal of Lightwave Technology, 2022, 40, 3243-3254.	4.6	32
6	Chiral germanium micro-gears for tuning orbital angular momentum. Scientific Reports, 2022, 12, 7465.	3.3	2
7	A Review of Capabilities and Scope for Hybrid Integration Offered by Silicon-Nitride-Based Photonic Integrated Circuits. Sensors, 2022, 22, 4227.	3.8	15
8	High Bandwidth Capacitance Efficient Silicon MOS Modulator. Journal of Lightwave Technology, 2021, 39, 201-207.	4.6	17
9	High-speed silicon Michelson interferometer modulator and streamlined IMDD PAM-4 transmission of Mach-Zehnder modulators for the 2 1/4µm wavelength band. Optics Express, 2021, 29, 14438.	3.4	9
10	Designs of Silicon Nitride Slot Waveguide Modulators With Electro-Optic Polymer and the Effect of Induced Charges in Si-Substrate on Their Performance. IEEE Photonics Journal, 2021, 13, 1-15.	2.0	12
11	Towards low loss non-volatile phase change materials in mid index waveguides. Neuromorphic Computing and Engineering, 2021, 1, 014004.	5.9	24
12	Silicon Nitride Photonics for the Near-Infrared. IEEE Journal of Selected Topics in Quantum Electronics, 2020, 26, 1-13.	2.9	40
13	CORNERSTONE™s Silicon Photonics Rapid Prototyping Platforms: Current Status and Future Outlook. Applied Sciences (Switzerland), 2020, 10, 8201.	2.5	23
14	High Performance Silicon Optical Modulators. , 2020, , .		0
15	O-band N-rich silicon nitride MZI based on GST. Applied Physics Letters, 2020, 116, 093502.	3.3	23
16	Si photonic waveguides with broken symmetries: applications from modulators to quantum simulations. Japanese Journal of Applied Physics, 2020, 59, SO0801.	1.5	7
17	On-chip sub-wavelength Bragg grating design based on novel low loss phase-change materials. Optics Express, 2020, 28, 16394.	3.4	39
18	Performance characteristics of phase-change integrated silicon nitride photonic devices in the O and C telecommunications bands. Optical Materials Express, 2020, 10, 1778.	3.0	16

#	ARTICLE	IF	CITATIONS
19	Laser trimming of the operating wavelength of silicon nitride racetrack resonators. Photonics Research, 2020, 8, 677.	7.0	13
20	25 Gbit/s silicon based modulators for the 2 Åµm wavelength band. , 2020, , .		1
21	Performance characteristics of phase-change integrated silicon nitride photonic devices in the O and C telecommunications bands. Optical Materials Express, 2020, 10, 1778.	3.0	2
22	Silicon Optical Modulators for Data Transmission in Different Wavelength Bands. , 2019, , .		0
23	Ultra-sharp asymmetric Fano-like resonance spectrum on Si photonic platform. Optics Express, 2019, 27, 7365.	3.4	18
24	Post Fabrication Permanent Laser Trimming of Silicon Nitride Photonic Devices. , 2019, , .		0
25	High Speed Silicon Capacitor Modulators for TM Polarisation. , 2019, , .		0
26	Multi Composition GeSi Tuneable Concentration Silicon-Germanium Wire Structures for CMOS Photonics. , 2019, , .		0
27	Si-rich Si nitride waveguides for optical transmissions and toward wavelength conversion around 2â€™%â€™%Î¼m. Applied Optics, 2019, 58, 5165.	1.8	6
28	Tuning silicon-rich nitride microring resonances with graphene capacitors for high-performance computing applications. Optics Express, 2019, 27, 35129.	3.4	8
29	Comparison of uniaxial and polyaxial suspended germanium bridges in terms of mechanical stress and thermal management towards a CMOS compatible light source. Optics Express, 2019, 27, 37846.	3.4	5
30	Silicon-on-insulator free-carrier injection modulators for the mid-infrared. Optics Letters, 2019, 44, 915.	3.3	26
31	Intermodal frequency generation in silicon-rich silicon nitride waveguides. Photonics Research, 2019, 7, 615.	7.0	19
32	Ge-on-Si modulators operating at mid-infrared wavelengths up to 8â€™%â€™%Î¼m. Photonics Research, 2019, 7, 8280		36
33	Novel Si Photonic Waveguides and Applications to Optical Modulators. , 2019, , .		0
34	High-speed silicon modulators for the 2â€™%â€™%Î¼m wavelength band. Optica, 2018, 5, 1055.	9.3	119
35	N-rich silicon nitride angled MMI for coarse wavelength division (de)multiplexing in the O-band. Optics Letters, 2018, 43, 1251.	3.3	42
36	Group IV mid-infrared photonics [Invited]. Optical Materials Express, 2018, 8, 2276.	3.0	34

#	ARTICLE	IF	CITATIONS
37	All-silicon carrier accumulation modulator based on a lateral metal-oxide-semiconductor capacitor. Photonics Research, 2018, 6, 373.	7.0	44
38	The Emergence of Silicon Photonics as a Flexible Technology Platform. Proceedings of the IEEE, 2018, 106, 2101-2116.	21.3	156
39	Germanium vertically light-emitting micro-gears generating orbital angular momentum. Optics Express, 2018, 26, 34675.	3.4	10
40	Group IV mid-infrared devices and circuits. , 2018, , .		0
41	56 Gbps Si/GeSi integrated EAM. , 2018, , .		0
42	Germanium Mid-Infrared Photonic Devices. Journal of Lightwave Technology, 2017, 35, 624-630.	4.6	76
43	Material and optical properties of low-temperature NH ₃ -free PECVD SiN _x layers for photonic applications. Journal Physics D: Applied Physics, 2017, 50, 025106.	2.8	71
44	Mid-infrared Ge-on-Si electro-absorption modulator. , 2017, , .		2
45	Photonic crystal waveguides on silicon rich nitride platform. Optics Express, 2017, 25, 3214.	3.4	16
46	Enhanced light emission from improved homogeneity in biaxially suspended Germanium membranes from curvature optimization. Optics Express, 2017, 25, 22911.	3.4	10
47	Raman Mapping Analysis of Graphene-Integrated Silicon Micro-Ring Resonators. Nanoscale Research Letters, 2017, 12, 600.	5.7	9
48	2D Photonic Crystal Structures in Silicon Rich Nitride Platform. , 2017, , .		0
49	Tensile strain engineering of germanium micro-disks on free-standing SiO ₂ beams. Japanese Journal of Applied Physics, 2016, 55, 04EH02.	1.5	14
50	Localised Tuneable Composition Single Crystal Silicon-Germanium-on-Insulator for Low Cost Devices. Advances in Materials Science and Engineering, 2016, 2016, 1-11.	1.8	2
51	Single crystal silicon-germanium-on-insulator for high density optical interconnects. , 2016, , .		0
52	Towards a fully functional integrated photonic-electronic platform via a single SiGe growth step. Scientific Reports, 2016, 6, 19425.	3.3	22
53	Wavelength division demultiplexer and integrated III-V semiconductor lasers on a silicon photonics platform with microbubble manipulation. , 2015, , .		0
54	Scattering of a plasmonic nanoantenna embedded in a silicon waveguide. Optics Express, 2015, 23, 28108.	3.4	23

#	ARTICLE	IF	CITATIONS
55	Next Generation Device Grade Silicon-Germanium on Insulator. Scientific Reports, 2015, 5, 8288.	3.3	52
56	Whispering Gallery Mode Resonances from Ge Micro-Disks on Suspended Beams. Frontiers in Materials, 2015, 2, .	2.4	23
57	Fabrication error tolerant SOI WDM device using bidirectional angled multimode interferometers. Proceedings of SPIE, 2015, , .	0.8	1
58	Angled multimode interferometer for bidirectional wavelength division (de)multiplexing. Royal Society Open Science, 2015, 2, 150270.	2.4	4
59	Fabrication of Ge micro-disks on free-standing SiO2 beams for monolithic light emission. , 2015, , .		1
60	Silicon Photonic Waveguides and Devices for Near- and Mid-IR Applications. IEEE Journal of Selected Topics in Quantum Electronics, 2015, 21, 407-418.	2.9	86
61	Analysis of Silicon Germanium Standards for the Quantification of SiGe Microelectronic Devices Using AES. Surface Science Spectra, 2015, 22, 32-46.	1.3	0
62	Spin-on doping of germanium-on-insulator wafers for monolithic light sources on silicon. Japanese Journal of Applied Physics, 2015, 54, 052101.	1.5	8
63	Surface-Grating-Coupled Low-Loss Ge-on-Si Rib Waveguides and Multimode Interferometers. IEEE Photonics Technology Letters, 2015, 27, 1040-1043.	2.5	90
64	Device-level characterization of the flow of light in integrated photonic circuits using ultrafast photomodulation spectroscopy. Nature Photonics, 2015, 9, 54-60.	31.4	44
65	10Gb/s 5Vpp AND 5.6Vpp drivers implemented together with a monolithically integrated silicon modulator in 0.25 μ m SiGe:C BiCMOS. Optics Communications, 2015, 336, 224-234.	2.1	5
66	A monolithically integrated silicon modulator with a 10 Gb/s 5 Vpp or 5.6 Vpp driver in 0.25 μ m SiGe:C BiCMOS. Frontiers in Physics, 2014, 2, .	2.1	1
67	Recent breakthroughs in carrier depletion based silicon optical modulators. Nanophotonics, 2014, 3, 229-245.	6.0	178
68	Silicon-germanium composition engineering for next generation multilayer devices and systems. , 2014, , .		0
69	Silicon photonic crystals: light emission, modulation and detection. , 2014, , .		0
70	Planar surface implanted diffractive grating couplers in SOI. Optics Express, 2014, 22, 1077.	3.4	26
71	Determination of the quasi-TE mode (in-plane) graphene linear absorption coefficient via integration with silicon-on-insulator racetrack cavity resonators. Optics Express, 2014, 22, 18625.	3.4	8
72	Hybrid III-V on Silicon Lasers for Photonic Integrated Circuits on Silicon. IEEE Journal of Selected Topics in Quantum Electronics, 2014, 20, 158-170.	2.9	144

#	ARTICLE	IF	CITATIONS
73	Silicon carrier depletion modulator with 10ÂGbit/s driver realized in high-performance photonic BiCMOS. <i>Laser and Photonics Reviews</i> , 2014, 8, 180-187.	8.7	31
74	50 Gb/s Silicon Photonics Receiver With Low Insertion Loss. <i>IEEE Photonics Technology Letters</i> , 2014, 26, 714-717.	2.5	23
75	Silicon photonics for optical interconnects. , 2014, , .		0
76	Mid-Infrared Thermo-Optic Modulators in Sol. <i>IEEE Photonics Technology Letters</i> , 2014, 26, 1352-1355.	2.5	83
77	Locally Erasable Couplers for Optical Device Testing in Silicon on Insulator. <i>Journal of Lightwave Technology</i> , 2014, 32, 2248-2253.	4.6	26
78	High-speed carrier-depletion silicon Mach-Zehnder optical modulators with lateral PN junctions. <i>Frontiers in Physics</i> , 2014, 2, .	2.1	17
79	Dielectric waveguide vertically coupled to all-silicon photodiodes operating at telecommunication wavelengths. <i>Applied Physics Letters</i> , 2013, 102, .	3.3	28
80	10 Gbit/s error-free DPSK modulation using a pushâ€pull dual-drive silicon modulator. <i>Optics Communications</i> , 2013, 304, 107-110.	2.1	60
81	Analytical Model for Calculating the Nonlinear Distortion in Silicon-Based Electro-Optic Machâ€Zehnder Modulators. <i>Journal of Lightwave Technology</i> , 2013, 31, 3603-3613.	4.6	26
82	High Performance Machâ€Zehnder-Based Silicon Optical Modulators. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2013, 19, 85-94.	2.9	59
83	Silicon photonic devices and platforms for the mid-infrared. <i>Optical Materials Express</i> , 2013, 3, 1205.	3.0	107
84	Coarse wavelength division (de)multiplexer using an interleaved angled multimode interferometer structure. <i>Applied Physics Letters</i> , 2013, 102, .	3.3	34
85	A Photonic Microwave Filter Based on an Asymmetric Silicon Mach-Zehnder Modulator. <i>IEEE Photonics Journal</i> , 2013, 5, 5501006-5501006.	2.0	5
86	Scalable optical transmitter and receiver based on cascaded nanoresonator modulators and multiwavelength laser. , 2013, , .		1
87	Low insertion loss modulator based on a vertically coupled photonic crystal resonator. , 2012, , .		1
88	High-contrast 40â€Gb/s operation of a 500Â¼m long silicon carrier-depletion slow wave modulator. <i>Optics Letters</i> , 2012, 37, 3504.	3.3	49
89	Cascaded modulator architecture for WDM applications. <i>Optics Express</i> , 2012, 20, 27420.	3.4	70
90	Silicon slow-light-based photonic mixer for microwave-frequency conversion applications. <i>Optics Letters</i> , 2012, 37, 1721.	3.3	8

#	ARTICLE	IF	CITATIONS
91	Slow-Light-Enhanced Silicon Optical Modulators Under Low-Drive-Voltage Operation. IEEE Photonics Journal, 2012, 4, 1306-1315.	2.0	27
92	50-Gb/s Silicon Optical Modulator. IEEE Photonics Technology Letters, 2012, 24, 234-236.	2.5	371
93	Optical absorption in highly strained Ge/SiGe quantum wells: The role of $\hat{\Gamma}$ scattering. Journal of Applied Physics, 2012, 112, 123105.	2.5	7
94	Silicon on insulator modulator structures for data rates of 40 Gb/s and above. , 2012, , .		0
95	Characterization of the Chirp of Silicon Optical Modulators. , 2012, , .		3
96	Temperature insensitive racetrack resonators for near infrared applications. , 2012, , .		2
97	High contrast 40Gbit/s optical modulation in silicon. Optics Express, 2011, 19, 11507.	3.4	310
98	40 Gb/s silicon photonics modulator for TE and TM polarisations. Optics Express, 2011, 19, 11804.	3.4	157
99	High speed silicon electro-optical modulators enhanced via slow light propagation. Optics Express, 2011, 19, 20876.	3.4	69
100	Modulation of the absorption coefficient at $13\frac{1}{4}\mu\text{m}$ in Ge/SiGe multiple quantum well heterostructures on silicon. Optics Letters, 2011, 36, 4158.	3.3	55
101	Wavelength division (de)multiplexing based on dispersive self-imaging. Optics Letters, 2011, 36, 4488.	3.3	55
102	Athermal waveguides for optical communication wavelengths. Optics Letters, 2011, 36, 4659.	3.3	24
103	SOI ring resonators with controllable MMI coupler sections. , 2011, , .		0
104	Design of SOI wavelength filter based on multiple MMIs structures. , 2011, , .		1
105	Carrier depletion based silicon optical modulators. , 2010, , .		2
106	Silicon optical modulators. Nature Photonics, 2010, 4, 518-526.	31.4	1,942
107	Athermal and low loss ridge silicon waveguides. Proceedings of SPIE, 2010, , .	0.8	4
108	High speed silicon optical modulator with self aligned fabrication process. Optics Express, 2010, 18, 19064.	3.4	91

#	ARTICLE	IF	CITATIONS
109	Total Internal Reflection Optical Switch in SOI With Defect Engineered Barrier Region. Journal of Lightwave Technology, 2010, 28, 2483-2491.	4.6	3
110	High-speed modulation of a compact silicon ring resonator based on a reverse-biased pn diode. Optics Express, 2009, 17, 21986.	3.4	162
111	Using SiO_2 Carrier Confinement in Total Internal Reflection Optical Switches to Restrict Carrier Diffusion in the Guiding Layer. Journal of Lightwave Technology, 2008, 26, 1288-1294.	4.6	10
112	Free carrier lifetime modification for silicon waveguide based devices. Optics Express, 2008, 16, 19779.	3.4	31
113	Future prospects for silicon photonics. Proceedings of SPIE, 2007, , .	0.8	0
114	Tailoring the response and temperature characteristics of multiple serial-coupled resonators in silicon on insulator. , 2007, , .		3
115	Micrometer size polarization independent depletion-type photonic modulator in Silicon On Insulator. Optics Express, 2007, 15, 5879.	3.4	22
116	Optically Switched Arrayed Waveguide Gratings Using Phase Modulation. IEEE Journal of Selected Topics in Quantum Electronics, 2006, 12, 1461-1468.	2.9	1
117	Issues Associated With Polarization Independence in Silicon Photonics. IEEE Journal of Selected Topics in Quantum Electronics, 2006, 12, 1335-1344.	2.9	20
118	Silicon Photonics: Are Smaller Devices Always Better?. Japanese Journal of Applied Physics, 2006, 45, 6609-6615.	1.5	6
119	Silicon Photonic Devices and Polarisation Independence. Materials Research Society Symposia Proceedings, 2006, 958, 1.	0.1	0
120	Enhanced polarization-independent optical ring resonators on silicon-on-insulator. , 2005, 5730, 195.		4
121	A sub-micron depletion-type photonic modulator in Silicon On Insulator. Optics Express, 2005, 13, 8845.	3.4	221