

Milos A Popovic

List of Publications by Year in descending order

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Version: 2024-02-01

170
papers

6,857
citations

159525

30
h-index

91828

69
g-index

171
all docs

171
docs citations

171
times ranked

5728
citing authors

#	ARTICLE	IF	CITATIONS
1	Miniature, highly sensitive MOSCAP ring modulators in co-optimized electronic-photonic CMOS. Photonics Research, 2022, 10, A1.	3.4	8
2	Reflectionless standing-wave operation in microring resonators. , 2022, , .		0
3	Polarization-insensitive 1D grating coupler based on a zero-birefringence subwavelength corelet waveguide. Optics Letters, 2022, 47, 3167.	1.7	3
4	Vernier optical phased array lidar transceivers. Optics Express, 2022, 30, 24589.	1.7	3
5	Optical isolation using microring modulators. Optics Letters, 2021, 46, 460.	1.7	13
6	High Shift Efficiency O-band Spoked-Ring Modulator Allowing Fully Electro-Optic Channel Tuning in a 45nm CMOS Platform. , 2021, , .		3
7	Compact, Broadband Waveguide Two-Mode (De)-Multiplexers based on Rapid Adiabatic Coupling. , 2021, , .		0
8	Compact Broadband Rapid-Adiabatic Polarization Splitter- Rotators in a Monolithic Electronic-Photonic SOI Platform. , 2021, , .		1
9	High-Throughput, Multimode Spectroscopy Using Cross-Dispersive Serpentine Integrated Grating Arrays. , 2021, , .		0
10	High-resolution and compact serpentine integrated grating spectrometer. Journal of the Optical Society of America B: Optical Physics, 2021, 38, A75.	0.9	5
11	Fourier-basis structured illumination imaging with an array of integrated optical phased arrays. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2021, 38, B19.	0.8	4
12	Efficient Passive Signal Linewidth Narrowing by Q-Engineered $\ddot{\mu}(2)$ Parametric Oscillators. , 2021, , .		0
13	Microring Modulators in a New Silicon Photonics-Optimized 45 nm Monolithic Electronics-Photonics SOI CMOS Platform. , 2021, , .		0
14	Demonstration and Fabrication Tolerance Study of a Low-Loss, Ultra-broadband Rapid Adiabatic 3-dB Coupler in a Next- Generation 45 nm Monolithic Electronic-Photonic Platform. , 2021, , .		3
15	Photonic crystal modulator in a CMOS foundry platform. , 2021, , .		2
16	MOSCAP Ring Modulator with 1.5 $\text{\AA}\mu\text{m}$ Radius, 8.5 THz FSR and 30 GHz/V Shift Efficiency in a 45 nm SOI CMOS Process. , 2021, , .		1
17	Frequency Translating Add/Drop Filters based on Electro-Optically Modulated Photonic Molecules. , 2021, , .		0
18	Tunable Source of Quantum-Correlated Photons with Integrated Pump Rejection in a Silicon CMOS Platform. , 2021, , .		2

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19	Can one critically couple to a multimode, coupled-cavity finite equispaced comb resonator?. , 2021, , .		0
20	Photonic molecule electro-optic modulators for efficient, widely tunable RF sideband generation and wavelength conversion. , 2021, , .		1
21	Rapid Adiabatic 3 dB Coupler with $50\hat{\pm}1\%$ Splitting Over 200 nm including S, C and L Bands in 45 nm CMOS Platform. , 2021, , .		1
22	Silicon Waveguides and Resonators with Sub-0.1 dB/cm Propagation Loss and Over 7 Million Q in a Foundry Process. , 2021, , .		0
23	High Q, Compact Photonic Crystal Nanobeam Cavity for an Active Device Platform in a CMOS Silicon Photonics Process. , 2021, , .		0
24	Triply resonant coupled-cavity electro-optic modulators for RF to optical signal conversion. Optics Express, 2020, 28, 788.	1.7	9
25	Reflectionless dual standing-wave microcavity resonator units for photonic integrated circuits. Optics Express, 2020, 28, 35986.	1.7	7
26	Compact multi-million Q resonators and 100â€™%â€™MHz passband filter bank in a thick-SOI photonics platform. Optics Letters, 2020, 45, 3005.	1.7	17
27	Serpentine optical phased arrays for scalable integrated photonic lidar beam steering. Optica, 2020, 7, 726.	4.8	97
28	Optical Data Stream Wavelength Conversion by a Dual-Active-Cavity Silicon Microring Wavelength Converter. , 2020, , .		0
29	Photonic resonators with microring-like behavior based on standing wave cavity pairs with opposite-symmetry modes. , 2020, , .		0
30	Ultra-high Q Resonators and Sub-GHz Bandwidth Second Order Filters in an SOI Foundry Platform. , 2020, , .		3
31	Polarization Insensitive Grating Coupler Based on a Zero-Birefringence Corelet Waveguide. , 2020, , .		0
32	Mode multiplexer for guided optical and acoustic waves. Optics Letters, 2020, 45, 6066.	1.7	1
33	Integrated optical isolators using electrically driven acoustic waves. Optics Express, 2020, 28, 36055.	1.7	3
34	Efficient coupled-cavity electro-optic modulator on silicon for high carrier frequency, narrowband RF signals. , 2019, , .		1
35	Vernier Si-Photonic Phased Array Transceiver for Grating Lobe Suppression and Extended Field-of-View. , 2019, , .		3
36	Experimental Demonstration of Rapid Adiabatic Couplers. , 2019, , .		1

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37	Serpentine optical phased array silicon photonic aperture tile with two-dimensional wavelength beam steering. , 2019, , .		4
38	Tiled Silicon-Photonic Phased Arrays for Large-Area Apertures. , 2019, , .		1
39	Integrated photonics and application-specific design on a massive open online course platform. , 2019, , .		1
40	A modular laboratory curriculum for teaching integrated photonics to students with diverse backgrounds. , 2019, , .		3
41	Integrating photonics with silicon nanoelectronics for the next generation of systems on a chip. Nature, 2018, 556, 349-354.	13.7	598
42	Photonics-based Microwave Radiometer for Hyperspectral Earth Remote Sensing. , 2018, , .		3
43	A Bandwidth-Dense, Low Power Electronic-Photonic Platform and Architecture for Multi-Tbps Optical I/O. , 2018, , .		14
44	Optimal design of a microring cavity optical modulator for efficient RF-to-optical conversion. Optics Express, 2018, 26, 2462.	1.7	19
45	Monolithic silicon-photonic platforms in state-of-the-art CMOS SOI processes [Invited]. Optics Express, 2018, 26, 13106.	1.7	160
46	Monolithic Source of Entangled Photons with Integrated Pump Rejection. , 2018, , .		8
47	29.3 A 40Gb/s PAM-4 transmitter based on a ring-resonator optical DAC in 45nm SOI CMOS. , 2017, , .		7
48	A 40-Gb/s PAM-4 Transmitter Based on a Ring-Resonator Optical DAC in 45-nm SOI CMOS. IEEE Journal of Solid-State Circuits, 2017, 52, 3503-3516.	3.5	67
49	Acoustic Waveguide Eigenmode Solver Based on a Staggered-Grid Finite-Difference Method. Scientific Reports, 2017, 7, 17509.	1.6	3
50	Room-temperature-deposited dielectrics and superconductors for integrated photonics. Optics Express, 2017, 25, 10322.	1.7	31
51	Microprocessor Chip with Photonic I/O. , 2017, , .		1
52	Dual-Cavity Optically and Electrically Resonant Modulators for Efficient Narrowband RF/Microwave Photonics. , 2017, , .		1
53	Finite-Difference Elastic Wave Mode Solver for Acoustic Waveguide Design. , 2016, , .		0
54	Ring modulators with enhanced efficiency based on standing-wave operation on a field-matched, interdigitated p-n junction. Optics Express, 2016, 24, 27433.	1.7	2

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55	Passive Linewidth Narrowing Through Nondegenerate Optical Parametric Oscillation With Asymmetric Port Couplings. , 2016, , .		1
56	A 12Gb/s, 8.6 μ m input sensitivity, monolithic-integrated fully differential optical receiver in CMOS 45nm SOI process. , 2016, , .		2
57	A 45 nm CMOS-SOI Monolithic Photonics Platform With Bit-Statistics-Based Resonant Microring Thermal Tuning. IEEE Journal of Solid-State Circuits, 2016, 51, 893-907.	3.5	99
58	Tailoring of Individual Photon Lifetimes as a Degree of Freedom in Resonant Quantum Photonic Sources. , 2016, , .		5
59	Ultra-Efficient CMOS Fiber-to-Chip Grating Couplers. , 2016, , .		44
60	Building Manycore Processor-to-DRAM Networks with Monolithic CMOS Silicon Photonics. IEEE Micro, 2016, , 1-1.	1.8	6
61	Ultra-shallow ridge waveguide microring resonators for narrow band photonic RF filters in conventional silicon-on-insulator platforms. , 2016, , .		0
62	Band-Structure Approach to Synthesis of Grating Couplers with Ultra-High Coupling Efficiency and Directivity. , 2015, , .		7
63	Scaling Zero-Change Photonics: An Active Photonics Platform in a 32 nm Microelectronics SOI CMOS Process. , 2015, , .		5
64	Photonics design tool for advanced CMOS nodes. IET Optoelectronics, 2015, 9, 163-167.	1.8	18
65	Efficient nanoscale photonic devices and monolithic electronic-photonic subsystems in sub-100 nm SOI CMOS. , 2015, , .		0
66	Single-chip microprocessor that communicates directly using light. Nature, 2015, 528, 534-538.	13.7	1,028
67	Quantum-correlated photon pairs generated in a commercial 45 μ m complementary metal-oxide semiconductor microelectronic chip. Optica, 2015, 2, 1065.	4.8	52
68	A Monolithically-Integrated Chip-to-Chip Optical Link in Bulk CMOS. IEEE Journal of Solid-State Circuits, 2015, 50, 828-844.	3.5	65
69	Wavelength conversion in modulated coupled-resonator systems and their design via an equivalent linear filter representation. Optics Letters, 2015, 40, 107.	1.7	17
70	Photonic Crystal Microcavities in a Microelectronics 45-nm SOI CMOS Technology. IEEE Photonics Technology Letters, 2015, 27, 665-668.	1.3	16
71	75% efficient wide bandwidth grating couplers in a 45 nm microelectronics CMOS process. , 2015, , .		27
72	Monolithic silicon photonics in a sub-100nm SOI CMOS microprocessor foundry: progress from devices to systems. , 2015, , .		2

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73	Four-wave mixing in silicon coupled-cavity resonators with port-selective, orthogonal supermode excitation. Optics Letters, 2015, 40, 2120.	1.7	30
74	Finite-difference complex-wavevector band structure solver for analysis and design of periodic radiative microphotonic structures. Optics Letters, 2015, 40, 1053.	1.7	11
75	A 45nm SOI monolithic photonics chip-to-chip link with bit-statistics-based resonant microring thermal tuning. , 2015, , .		12
76	Channel add-drop filter based on dual photonic crystal cavities in push-pull mode. Optics Letters, 2015, 40, 4206.	1.7	24
77	Ring modulators in standing-wave and partial standing wave operation on a matched interdigitated p-n junction for enhanced efficiency. , 2015, , .		0
78	Low-Power Parametric Wavelength Conversion in 45nm Microelectronics CMOS Silicon-On-Insulator Technology. , 2015, , .		0
79	Microphotonic Channel Add-Drop Filter Based on Dual Photonic Crystal Cavity System in Push-Pull Mode. , 2014, , .		1
80	Tunable coupled-mode dispersion compensation and its application to on-chip resonant four-wave mixing. Optics Letters, 2014, 39, 5689.	1.7	54
81	Polycrystalline silicon ring resonator photodiodes in a bulk complementary metal-oxide-semiconductor process. Optics Letters, 2014, 39, 1061.	1.7	21
82	Finite-Difference Complex Wavevector Band Structure Solver for Nanophotonics Applications. , 2014, , .		0
83	Design of triply-resonant microphotonic parametric oscillators based on Kerr nonlinearity. Optics Express, 2014, 22, 15837.	1.7	23
84	Ultra-low-loss CMOS-compatible waveguide crossing arrays based on multimode Bloch waves and imaginary coupling. Optics Letters, 2014, 39, 335.	1.7	58
85	High-Q contacted ring microcavities with scatterer-avoiding "wiggler" Bloch wave supermode fields. Applied Physics Letters, 2014, 104, 201102.	1.5	2
86	Spoked-ring microcavities: enabling seamless integration of nanophotonics in unmodified advanced CMOS microelectronics chips. Proceedings of SPIE, 2014, , .	0.8	1
87	Thermo-optically tunable linear photonic crystal microcavities in advanced SOI CMOS technology. , 2014, , .		0
88	Dark state lasers. Optics Letters, 2014, 39, 4136.	1.7	53
89	Integration of silicon photonics in bulk CMOS. , 2014, , .		15
90	Energy-efficient active photonics in a zero-change, state-of-the-art CMOS process. , 2014, , .		16

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91	Unidirectional chip-to-fiber grating couplers in unmodified 45nm CMOS Technology. , 2014, , .		1
92	Air-suspended High-Q Ring Microcavities with Scatterer-Avoiding "Wiggler" Supermode Fields. , 2014, , .		0
93	Efficient Thermally Tunable Linear Photonic Crystal Cavities in a Zero-Change Microelectronics SOI CMOS Process. , 2014, , .		0
94	Four-wave mixing in silicon "photonic molecule" resonators with port-selective, orthogonal supermode excitation. , 2014, , .		0
95	Analysis of Leaky-Wave Microphotonic Structures with a Complex-Wavevector Photonic Band Structure Solver. , 2014, , .		0
96	Wide-band On-chip Four-Wave Mixing via Coupled Cavity Dispersion Compensation. , 2014, , .		0
97	What is " and what is not " an optical isolator. Nature Photonics, 2013, 7, 579-582.	15.6	712
98	Integration of silicon photonics in a bulk CMOS memory flow. , 2013, , .		3
99	Synthesis of high-Q linear photonic crystal microcavities based on a real-k band structure solver. , 2013, , .		0
100	A 1.23pJ/b 2.5Gb/s monolithically integrated optical carrier-injection ring modulator and all-digital driver circuit in commercial 45nm SOI. , 2013, , .		9
101	Efficient wavelength multiplexers based on asymmetric response filters. Optics Express, 2013, 21, 10903.	1.7	9
102	Multi-modal optical microcavities for loss avoidance. , 2013, , .		1
103	Depletion-mode polysilicon optical modulators in a bulk complementary metal-oxide semiconductor process. Optics Letters, 2013, 38, 2729.	1.7	14
104	Depletion-mode carrier-plasma optical modulator in zero-change advanced CMOS. Optics Letters, 2013, 38, 2657.	1.7	51
105	Synthesis of Active, Nonlinear and Quantum Photonic Circuits. , 2013, , .		0
106	Ultra-low-loss Waveguide Crossing Arrays Based on Imaginary Coupling of Multimode Bloch Waves. , 2013, , .		1
107	Linear Photonic Crystal Microcavities in Zero-Change SOI CMOS. , 2013, , .		1
108	Optimum micro-optical parametric oscillators based on third-order nonlinearity. , 2013, , .		0

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109	Dark State Lasers. , 2013, , .		1
110	Asymmetric, pole-zero microring-resonator filters for efficient on-chip dense WDM multiplexers. , 2013, , .		1
111	Depletion-mode polysilicon optical modulators in a bulk CMOS process. , 2013, , .		0
112	High-Q Contacted Ring Microcavities with Scatterer-Avoiding "Wiggler" Supermode Fields. , 2013, , .		0
113	Photonic ADC: overcoming the bottleneck of electronic jitter. Optics Express, 2012, 20, 4454.	1.7	447
114	Open foundry platform for high-performance electronic-photonic integration. Optics Express, 2012, 20, 12222.	1.7	194
115	Minimum drop-loss design of microphotonic microring-resonator channel add-drop filters. , 2012, , .		6
116	Low loss waveguide integration within a thin-SOI CMOS foundry. , 2012, , .		2
117	Comment on "Nonreciprocal Light Propagation in a Silicon Photonic Circuit", Science, 2012, 335, 38-38.	6.0	114
118	Kinetics of Proton Transport into Influenza Virions by the Viral M2 Channel. PLoS ONE, 2012, 7, e31566.	1.1	31
119	Nanophotonic integration in state-of-the-art CMOS foundries. Optics Express, 2011, 19, 2335.	1.7	125
120	Device Architecture and Precision Nanofabrication of Microring-Resonator Filter Banks for Integrated Photonic Systems. Journal of Nanoscience and Nanotechnology, 2010, 10, 2044-2052.	0.9	8
121	Engineering optical forces in waveguides and cavities based on optical response. , 2010, , .		0
122	Integrated Photonic Magic-T (with Twice the Magic). , 2010, , .		3
123	Engineering optical forces in waveguides and cavities based on optical response. , 2010, , .		1
124	Efficient planar fiber-to-chip coupler based on two-stage adiabatic evolution. Optics Express, 2010, 18, 15790.	1.7	66
125	Nano-Optomechanical Photonic Circuits Based on Light Forces. , 2010, , .		0
126	Resonant optical modulators beyond conventional energy-efficiency and modulation frequency limitations. , 2010, , .		3

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127	Dynamical Slow Light Cell based on Controlled Far-Field Interference of Microring Resonators. , 2010, , .		2
128	Dynamical systems in nanophotonics: From energy efficient modulators to light forces and optomechanics. , 2009, , .		0
129	General treatment of optical forces and potentials in mechanically variable photonic systems. Optics Express, 2009, 17, 18116.	1.7	85
130	Building Many-Core Processor-to-DRAM Networks with Monolithic CMOS Silicon Photonics. IEEE Micro, 2009, 29, 8-21.	1.8	180
131	Optonanomechanical self-adaptive photonic devices based on light forces: a path to robust high-index-contrast nanophotonic circuits. , 2009, , .		4
132	Optimally efficient resonance-tuned optical modulators. , 2009, , .		2
133	Reconfigurable silicon photonic circuits for telecommunication applications. Proceedings of SPIE, 2008, , .	0.8	13
134	CMOS-compatible dual-output silicon modulator for analog signal processing. Optics Express, 2008, 16, 11027.	1.7	62
135	Optical loss in silicon microphotonic waveguides induced by metallic contamination. Applied Physics Letters, 2008, 92, 131108.	1.5	6
136	Building Manycore Processor-to-DRAM Networks with Monolithic Silicon Photonics. , 2008, , .		178
137	Hitless-Reconfigurable and Bandwidth-Scalable Silicon Photonic Circuits for Telecom and Interconnect Applications. , 2008, , .		8
138	Strategies for successful realization of strong confinement microphotonic devices. , 2008, , .		0
139	Demonstration of an electronic photonic integrated circuit in a commercial scaled bulk CMOS process. , 2008, , .		30
140	Experimental demonstration of loop-coupled microring resonators for optimally sharp optical filters. , 2008, , .		7
141	Self-aligning “smart” microcavities and picometer-scale optomechanical control through optical forces and potentials. , 2008, , .		0
142	Localized substrate removal technique enabling strong-confinement microphotonics in bulk Si CMOS processes. , 2008, , .		35
143	Circuit theory and microphotonic circuit design: from resonant filters to light-powered nanomachines. , 2008, , .		0
144	Generalized Treatment of Optically-Induced Forces and Potentials in Optomechanically Variable Photonic Circuits. , 2008, , .		0

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145	Metallic-Contamination-Induced Optical Loss in Silicon Microphotonic Waveguides. , 2007, , .		0
146	High Directivity, Vertical Fiber-to-Chip Coupler with Anisotropically Radiating Grating Teeth. , 2007, , .		12
147	Sharply-defined optical filters and dispersionless delay lines based on loop-coupled resonators and "negative" coupling. , 2007, , .		14
148	Strong-Confinement Microring Resonator Photonic Circuits. Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS, 2007, , .	0.0	3
149	Silicon photonics for compact, energy-efficient interconnects [Invited]. Journal of Optical Networking, 2007, 6, 63.	2.5	130
150	Low-Loss Bloch Waves in Open Structures and Highly Compact, Efficient Si Waveguide-Crossing Arrays. Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS, 2007, , .	0.0	13
151	Polarization-transparent microphotonic devices in the strong confinement limit. Nature Photonics, 2007, 1, 57-60.	15.6	492
152	Trapping, corralling and spectral bonding of optical resonances through optically induced potentials. Nature Photonics, 2007, 1, 658-665.	15.6	139
153	Broadband hitless bypass switch for integrated photonic circuits. IEEE Photonics Technology Letters, 2006, 18, 1137-1139.	1.3	22
154	Ultrawide tuning of photonic microcavities via evanescent field perturbation. Optics Letters, 2006, 31, 1241.	1.7	29
155	Multistage high-order microring-resonator add-drop filters. Optics Letters, 2006, 31, 2571.	1.7	157
156	Universally balanced photonic interferometers. Optics Letters, 2006, 31, 2713.	1.7	13
157	Coupling-induced resonance frequency shifts in coupled dielectric multi-cavity filters. Optics Express, 2006, 14, 1208.	1.7	147
158	Fabrication of add-drop filters based on frequency-matched microring resonators. Journal of Lightwave Technology, 2006, 24, 2207-2218.	2.7	120
159	Global design rules for silicon microphotonic waveguides: Sensitivity, polarization and resonance tunability. , 2006, , .		5
160	High-index-contrast microphotonic, from concept to implementation. , 2006, , .		0
161	Ultra-widely tunable photonic microcavities through evanescent field perturbation. , 2006, , .		0
162	Fabrication control of the resonance frequencies of high- index-contrast microphotonic cavities. , 2006, , .		1

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163	Multistage high-order microring-resonator filters with relaxed tolerances for high through-port extinction. , 2005, , .		8
164	Air trench bends and splitters for dense optical integration in low index contrast. Journal of Lightwave Technology, 2005, 23, 2271-2277.	2.7	25
165	Air trench waveguide bend for high-density optical integration. , 2004, , .		3
166	Microring-resonator-based add-drop filters in SiN: fabrication and analysis. Optics Express, 2004, 12, 1437.	1.7	193
167	OPTICAL RESONATORS AND FILTERS. Advanced Series in Applied Physics, 2004, , 1-37.	0.0	11
168	Complex-frequency leaky mode computations using PML boundary layers for dielectric resonant structures. , 2003, , ITuD4.		12
169	Micron-size bending radii in silica-based waveguides. , 2002, 4640, 54.		2
170	Air trenches for sharp silica waveguide bends. Journal of Lightwave Technology, 2002, 20, 1762-1772.	2.7	52