David Marpaung

List of Publications by Year
in descending order

167 papers	5,957 citations	94433 37 h-index	74163 75 g-index
168 all docs	168 docs citations	168 times ranked	2821 citing authors

#	Article	IF	Citations
1	Self-mode-locking in a high-power hybrid silicon nitride integrated laser. Optics Letters, 2022, 47, 198.	3.3	3
2	Crack barriers for thick SiN using dicing. Optics Express, 2022, 30, 16725.	3.4	2
3	Programmable photonic circuits. Journal of Physics: Conference Series, 2022, 2274, 012008.	0.4	3
4	Low-loss microwave photonics links using hollow core fibres. Light: Science and Applications, 2022, 11, .	16.6	5
5	Integrated Microwave Photonic Spectral Shaping For Linearization and Spurious-Free Dynamic Range Enhancement. Journal of Lightwave Technology, 2021, 39, 7551-7562.	4.6	7
6	Microwave photonic notch filter with integrated phase-to-intensity modulation transformation and optical carrier suppression. Optics Letters, 2021, 46, 488.	3.3	18
7	A Tutorial on Integrated Microwave Photonic Spectral Shaping. Journal of Lightwave Technology, 2021, 39, 700-711.	4.6	13
8	Circulatorâ€Free Brillouin Photonic Planar Circuit. Laser and Photonics Reviews, 2021, 15, 2000481.	8.7	10
9	Versatile silicon microwave photonic spectral shaper. APL Photonics, 2021, 6, .	5.7	19
10	Optical Fiber Delay Lines in Microwave Photonics: Sensitivity to Temperature and Means to Reduce it. Journal of Lightwave Technology, 2021, 39, 2311-2318.	4.6	10
11	Integrated Microwave Photonic Filters. , 2021, , .		0
12	Programmable Integrated Microwave Photonic Filter using a Modulation Transformer and a Double-Injection Ring Resonator. , 2021, , .		3
13	Simultaneous Notch Filtering and Linearization in an Integrated Microwave Photonic Circuit. , 2021, , .		1
14	Reconfigurable Double-Injection Ring Resonator for Integrated Microwave Photonic Signal Processing. , 2021, , .		3
15	Stimulated Brillouin Scattering in Multilayer Silicon Nitride Waveguides. , 2021, , .		0
16	Silicon nitride integrated mode-locked laser with widely tunable line spacing. , 2021, , .		1
17	Hybrid Integrated Semiconductor Lasers with Silicon Nitride Feedback Circuits. Photonics, 2020, 7, 4.	2.0	63
18	Editorial Introduction to JSTQE Special Issue on Programmable Photonics. IEEE Journal of Selected Topics in Quantum Electronics, 2020, 26, 1-2.	2.9	0

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19	Integrated microwave photonic filters. Advances in Optics and Photonics, 2020, 12, 485.	25.5	111
20	Linearized phase modulated microwave photonic link based on integrated ring resonators. Optics Express, 2020, 28, 38603.	3.4	6
21	Si₃N₄-chip-based versatile photonic RF waveform generator with a wide tuning range of repetition rate. Optics Letters, 2020, 45, 1370.	3.3	9
22	On-chip programmable microwave photonic filter with an integrated optical carrier processor. OSA Continuum, 2020, 3, 2166.	1.8	18
23	Microwave Photonic Notch Filter with Integrated Modulation Transformation and Optical Carrier Suppression. , 2020, , .		0
24	Integrated Microwave Photonic Spectrum Shaping. , 2020, , .		1
25	Integrated Microwave Photonic Spectral Shaping for Filtering and Linearization. , 2020, , .		0
26	Integration of Brillouin and passive circuits for enhanced radio-frequency photonic filtering. APL Photonics, 2019, 4, .	5.7	37
27	System-Level Performance of Chip-Based Brillouin Microwave Photonic Bandpass Filters. Journal of Lightwave Technology, 2019, 37, 5246-5258.	4.6	36
28	Integrated microwave photonics. Nature Photonics, 2019, 13, 80-90.	31.4	722
29	Roadmap on all-optical processing. Journal of Optics (United Kingdom), 2019, 21, 063001.	2.2	128
30	Positive link gain microwave photonic bandpass filter using Si₃N₄-ring-enabled sideband filtering and carrier suppression. Optics Express, 2019, 27, 31727.	3.4	31
31	Brillouin-loss enabled Noise Figure Improvement for Chip-based Tunable Microwave Photonic Filters. , 2019, , .		0
32	System Metrics of Brillouin Integrated RF Photonic Filters. , 2019, , .		0
33	On-Chip Backward Inter-modal Brillouin Scattering. , 2019, , .		2
34	Chip-Based Brillouin Processing for Phase Control of RF Signals. IEEE Journal of Quantum Electronics, 2018, 54, 1-13.	1.9	28
35	Low-Loss Si3N4 TriPleX Optical Waveguides: Technology and Applications Overview. IEEE Journal of Selected Topics in Quantum Electronics, 2018, 24, 1-21.	2.9	243
36	Integrating Brillouin processing with functional circuits for enhanced RF photonic processing. , 2018, , .		1

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37	High Performance, Low Noise Figure Brillouin-based Tunable Microwave Photonic Bandpass Filter. , 2018, , .		1
38	All-optimized integrated microwave photonic bandstop filter. , 2018, , .		0
39	Editorial Special Issue on Advances in Integrated Microwave Photonics. IEEE Photonics Technology Letters, 2018, 30, 1813-1813.	2.5	5
40	Link Performance Optimization of Chip-Based Si₃N₄ Microwave Photonic Filters. Journal of Lightwave Technology, 2018, 36, 4361-4370.	4.6	48
41	On-Chip Brillouin Filtering of RF and Optical Signals. IEEE Journal of Selected Topics in Quantum Electronics, 2018, 24, 1-11.	2.9	28
42	High-Performance Chip-Assisted Microwave Photonic Functionalities. IEEE Photonics Technology Letters, 2018, 30, 1822-1825.	2.5	15
43	Chip-based arbitrary radio-frequency photonic filter with algorithm-driven reconfigurable resolution. Optics Letters, 2018, 43, 415.	3.3	24
44	Narrowband gain in chalcogenide waveguides for low-power RF delay lines. , 2018, , .		1
45	Chip-based Brillouin processing for carrier recovery in self-coherent optical communications. Optica, 2018, 5, 1191.	9.3	37
46	High link performance of Brillouin-loss based microwave bandpass photonic filters. OSA Continuum, 2018, 1, 1287.	1.8	12
47	Brillouin Filtering with Enhanced Noise Performance and Linearity Using Anti-Stokes Interactions. , 2018, , .		8
48	High-resolution, on-chip RF photonic signal processor using Brillouin gain shaping and RF interference. Scientific Reports, 2017, 7, 5932.	3.3	44
49	Advanced Integrated Microwave Signal Processing With Giant On-Chip Brillouin Gain. Journal of Lightwave Technology, 2017, 35, 846-854.	4.6	99
50	Sub-20-dB noise figure and positive link gain in a chip-based Si<inf>3</inf>N<inf>4</inf> microwave photonic filter. , 2017, , .		0
51	Lossless integrated RF photonic filter with record-low noise figure and 116 dB of dynamic range. , 2017, , .		0
52	Linearity and resolution of on-chip Brillouin filters for RF and optical communications. , 2017, , .		5
53	On-chip carrier recovery for coherent optical communications using Brillouin filtering. , 2017, , .		1
54	On-chip Brillouin processing for coherent optical communications. , 2017, , .		1

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55	Low noise frequency comb carriers for 64-QAM via a Brillouin comb amplifier. Optics Express, 2017, 25, 17847.	3.4	42
56	Gigahertz optical tuning of an on-chip radio frequency photonic delay line. Optica, 2017, 4, 418.	9.3	42
57	Compact Brillouin devices through hybrid integration on silicon. Optica, 2017, 4, 847.	9.3	135
58	Chip-based Brillouin radio frequency photonic phase shifter and wideband time delay. Optics Letters, 2017, 42, 1313.	3.3	42
59	All-optimized integrated RF photonic notch filter. Optics Letters, 2017, 42, 4631.	3.3	106
60	Integrated Microwave Photonic Brillouin Processor. , 2017, , .		0
61	Brillouin lasing in a hybrid silicon chip. , 2017, , .		0
62	Uni-directional wavelength conversion in silicon using four-wave mixing driven by cross-polarized pumps. Optics Letters, 2017, 42, 1668.	3.3	13
63	On-chip Brillouin purification for frequency comb-based coherent optical communications. Optics Letters, 2017, 42, 5074.	3.3	30
64	Highly selective and reconfigurable Si3N4 RF photonic notch filter with negligible RF losses. , 2017, , .		6
65	Regeneration of Noise Limited Frequency Comb Lines for 64-QAM by Brillouin Gain Seeded via SSB Modulation. , 2017, , .		2
66	Enhanced Self-Coherent Optical OFDM using Stimulated Brillouin Scattering. , 2017, , .		9
67	On-chip Microwave Photonics. , 2017, , .		0
68	Multi-Line Regeneration of Noise Limited Frequency Combs by Brillouin Amplification via a Self-Seeded Dispersed Pump. , 2017, , .		0
69	47 dB Net on-chip Brillouin gain for true time delay applications. , 2017, , .		0
70	Gigahertz tuning of on-chip RF photonic delay line. , 2017, , .		1
71	Signal interference RF photonic bandstop filter. Optics Express, 2016, 24, 14995.	3.4	28
72	Lossless and high-resolution RF photonic filter. , 2016, , .		2

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73	Four-wave mixing and nonlinear losses in thick silicon waveguides. Optics Letters, 2016, 41, 2418.	3.3	7
74	Reconfigurable and frequency-agile on-chip microwave photonic bandpass and bandstop filters using stimulated Brillouin scattering. , 2016, , .		1
75	Stimulated Brillouin Scattering in Photonic Integrated Circuits: Novel Applications and Devices. IEEE Journal of Selected Topics in Quantum Electronics, 2016, 22, 336-346.	2.9	36
76	Wide-range, high-precision multiple microwave frequency measurement using a chip-based photonic Brillouin filter. Optica, 2016, 3, 30.	9.3	91
77	Tailoring of the Brillouin gain for on-chip widely tunable and reconfigurable broadband microwave photonic filters. Optics Letters, 2016, 41, 436.	3.3	116
78	Instantaneous microwave frequency measurement using four-wave mixing in a chalcogenide chip. Optics Communications, 2016, 373, 100-104.	2.1	12
79	Spectral narrowing of RF photonic filters using Brillouin gain shaping and signal interference. , 2016, , .		1
80	Reconfigurable microwave bandstop filter based on stimulated Brillouin scattering in a photonic chip. , 2016, , .		9
81	Net Brillouin gain of 18.5 dB in a hybrid silicon chip. , 2016, , .		5
82	Lossless and high-resolution RF photonic notch filter. Optics Letters, 2016, 41, 5306.	3.3	46
83	On-chip Rectangular Microwave PhotonicPeriodic Filter with Large Bandwidth Tunability. , 2016, , .		0
84	Dynamic optical tuning of an on-chip RF photonic delay line. , 2016, , .		0
85	Nonlinear Loss Engineering in a Silicon-Chalcogenide Hybrid Optical Waveguide. , 2016, , .		0
86	Amplitude and phase control of RF signals using on-chip stimulated Brillouin scattering. , 2016, , .		1
87	Tunable microwave notch filter enabled by SBS in silicon. , 2016, , .		1
88	Delay amplification in a broadband Brillouin-based microwave photonic delay line. , 2016, , .		1
89	On-chip stimulated Brillouin scattering for microwave photonic signal processing. , 2016, , .		6
90	Reconfigurable microwave bandstop filter based on stimulated Brillouin scattering. , 2016, , .		0

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91	On-chip EIT-like RF photonic signal processor. , 2016, , .		2
92	Instantaneous frequency measurement system using four-wave mixing in an ultra-compact long silicon waveguide. , 2015, , .		1
93	Multiple frequencies microwave measurement using a tunable Brillouin RF photonic filter. , 2015, , .		0
94	Material platforms for nonlinear integrated microwave photonics. , 2015, , .		0
95	Highly-stable RF photonic cancellation filter. , 2015, , .		1
96	Tunable microwave notch filter created by stimulated Brillouin scattering in a silicon chip. , 2015, , .		1
97	Low-power, chip-based stimulated Brillouin scattering microwave photonic filter with ultrahigh selectivity. Optica, 2015, 2, 76.	9.3	282
98	RF Engineering Meets Optoelectronics: Progress in Integrated Microwave Photonics. IEEE Microwave Magazine, 2015, 16, 28-45.	0.8	83
99	Low-error and broadband microwave frequency measurement in a silicon chip. Optica, 2015, 2, 751.	9.3	71
100	Independent manipulation of the phase and amplitude of optical sidebands in a highly-stable RF photonic filter. Optics Express, 2015, 23, 23278.	3.4	11
101	Compact and reconfigurable silicon nitride time-bin entanglement circuit. Optica, 2015, 2, 724.	9.3	76
102	Integrated microwave photonics phase shifter using on-chip stimulated Brillouin scattering. , 2015, , .		0
103	Tunable narrowband microwave photonic filter created by stimulated Brillouin scattering from a silicon nanowire. Optics Letters, 2015, 40, 4154.	3.3	67
104	Harnessing Nonlinear Optics for Microwave Signal Processing. Springer Series in Optical Sciences, 2015, , 449-467.	0.7	0
105	Tunable Microwave Photonic Phase Shifter Using On-Chip Stimulated Brillouin Scattering. , 2015, , .		2
106	Ultra-narrowband tunable microwave filter created by stimulated Brillouin scattering in a Silicon chip. , 2015, , .		0
107	CMOS-compatible RF notch filter enabled by SBS in silicon. , 2015, , .		0
108	Tunable wideband microwave photonic phase shifter using on-chip stimulated Brillouin scattering. Optics Express, 2014, 22, 28810.	3.4	66

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109	Ultra-wideband RF photonic phase shifter with 360° tunable phase and configurable amplitude response. , 2014, , .		2
110	Bandwidth Tunable, High Suppression RF Photonic Filter with Improved Insertion Loss. , 2014, , .		3
111	Ultra-wideband microwave photonic phase shifter with configurable amplitude response. Optics Letters, 2014, 39, 5854.	3.3	30
112	Tunable microwave photonic notch filter using on-chip stimulated Brillouin scattering. Optics Communications, 2014, 313, 85-89.	2.1	52
113	On-chip stimulated Brillouin Scattering for microwave signal processing and generation. Laser and Photonics Reviews, 2014, 8, 653-666.	8.7	92
114	Multiwavelength-Integrated Optical Beamformer Based on Wavelength Division Multiplexing for 2-D Phased Array Antennas. Journal of Lightwave Technology, 2014, 32, 3509-3520.	4.6	78
115	Ultra-high suppression microwave photonic bandstop filters. Science Bulletin, 2014, 59, 2684-2692.	1.7	8
116	Nonlinear Integrated Microwave Photonics. Journal of Lightwave Technology, 2014, 32, 3421-3427.	4.6	72
117	Ultrahigh suppression and reconfigurable RF photonic notch filter using a silicon nitride ring resonator. , 2014, , .		3
118	Integrated Photonic ${m K}_{m u}$-Band Beamformer Chip With Continuous Amplitude and Delay Control. IEEE Photonics Technology Letters, 2013, 25, 1145-1148.	2.5	27
119	On-Chip Photonic-Assisted Instantaneous Microwave Frequency Measurement System. IEEE Photonics Technology Letters, 2013, 25, 837-840.	2.5	74
120	TriPleX waveguide platform: low-loss technology over a wide wavelength range. Proceedings of SPIE, 2013, , .	0.8	28
121	On-chip stimulated Brillouin scattering and its applications. , 2013, , .		1
122	On-chip, CMOS-compatible, hardware-compressive integrated photonic beamformer based on WDM. , 2013, , .		4
123	Microwave photonic notch filter using on-chip stimulated Brillouin scattering. , 2013, , .		4
124	Integrated microwave photonics. Laser and Photonics Reviews, 2013, 7, 506-538.	8.7	614
125	Photonic-chip-based all-optical ultra-wideband pulse generation via XPM and birefringence in a chalcogenide waveguide. Optics Express, 2013, 21, 2003.	3.4	18
126	Silicon nitride microwave photonic circuits. Optics Express, 2013, 21, 22937.	3.4	268

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127	Nonlinear integrated microwave photonics. , 2013, , .		0
128	Si_3N_4 ring resonator-based microwave photonic notch filter with an ultrahigh peak rejection. Optics Express, 2013, 21, 23286.	3.4	105
129	Frequency agile microwave photonic notch filter with anomalously high stopband rejection. Optics Letters, 2013, 38, 4300.	3.3	88
130	System integration and radiation pattern measurements of a phased array antenna employing an integrated photonic beamformer for radio astronomy applications. Applied Optics, 2012, 51, 789.	1.8	34
131	Highly stable microwave carrier generation using a dual-frequency distributed feedback laser. , 2012, , .		0
132	Dual-Frequency Distributed Feedback Laser With Optical Frequency Locked Loop for Stable Microwave Signal Generation. IEEE Photonics Technology Letters, 2012, 24, 1431-1433.	2.5	14
133	CMOS-compatible integrated optical delay line for broadband K<inf>u</inf>-band satellite communications. , 2012, , .		2
134	Integrated microwave photonics for phase modulated systems. , 2012, , .		2
135	TriPleX™ platform technology for photonic integration: Applications from UV through NIR to IR. , 2011, , .		10
136	Low-loss and programmable integrated photonic beamformer for electronically-steered broadband phased array antennas. , 2011, , .		2
137	Investigation on the performance of an optically generated RF local oscillator signal in K<inf>u</inf>-band DVB-S systems. , 2011, , .		1
138	Development of the SANDRA antenna for airborne satellite communication. , 2011, , .		6
139	A novel measurement technique to estimate the RF beat-linewidth of free-running heterodyning system using a photonic discriminator. , 2011, , .		2
140	Arrays of surface-normal electroabsorption modulators for the generation and signal processing of microwave photonics signals. , 2011, , .		2
141	Separate carrier tuning scheme for integrated optical delay lines in photonic beamformers. , 2011, , .		9
142	On-chip CMOS compatible reconfigurable optical delay line with separate carrier tuning for microwave photonic signal processing. Optics Express, 2011, 19, 21475.	3.4	175
143	Low-loss, high-index-contrast Si_3N_4/SiO_2 optical waveguides for optical delay lines in microwave photonics signal processing. Optics Express, 2011, 19, 23162.	3.4	136
144	Impulse radio ultrawideband pulse shaper based on a programmable photonic chip frequency discriminator. Optics Express, 2011, 19, 24838.	3.4	33

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145	Photonic integration and components development for a K<inf>u</inf>-band phased array antenna system. , 2011, , .		2
146	Development of an integrated photonic beamformer for electronically-steered K<inf>u</inf>-band phased array antenna. , 2011, , .		0
147	Smart Antennas in aerospace applications. , 2010, , .		2
148	A photonic chip based frequency discriminator for a high performance microwave photonic link. Optics Express, 2010, 18, 27359.	3.4	90
149	Novel Ring Resonator-Based Integrated Photonic Beamformer for Broadband Phased Array Receive Antennasâ€"Part I: Design and Performance Analysis. Journal of Lightwave Technology, 2010, 28, 3-18.	4.6	225
150	Novel Ring Resonator-Based Integrated Photonic Beamformer for Broadband Phased Array Receive Antennasâ€"Part II: Experimental Prototype. Journal of Lightwave Technology, 2010, 28, 19-31.	4.6	211
151	Design and realization of an integrated optical frequency modulation discriminator for a high performance microwave photonic link. , 2010, , .		8
152	Squint-free beamsteering demonstration using a photonic integrated beamformer based on optical ring resonators. , 2010, , .		2
153	Performance comparison of two analog photonic links employing a pair of directly modulated lasers and a balanced photodetector. , 2009, , .		0
154	Enhanced Dynamic Range in a Directly Modulated Analog Photonic Link. IEEE Photonics Technology Letters, 2009, 21, 1810-1812.	2.5	6
155	Broadband optical beam forming for airborne phased array antenna. , 2009, , .		12
156	Optical phase synchronization in coherent optical beamformers for phased array receive antennas. , 2009, , .		2
157	Integrated photonic beamformer employing continuously tunable ring resonator-based delays in CMOS-compatible LPCVD waveguide technology. Proceedings of SPIE, 2008, , .	0.8	2
158	Broadband Conformal Phased Array with Optical Beam Forming for Airborne Satellite Communication. Aerospace Conference Proceedings IEEE, 2008, , .	0.0	21
159	Novel ring resonator-based optical beamformer for broadband phased array receive antennas. , 2008, , .		5
160	A broadband high dynamic range analog photonic link using push-pull directly-modulated semiconductor lasers. , 2008, , .		7
161	Performance Study of a Ring Resonator-Based Optical Beam Forming System for Phased Array Receive Antennas. , 2007, , .		4
162	Experimental prototype of a novel ring resonator-based optical beamformer system. Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS, 2007, , .	0.0	3

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163	Phased Array Receive Antenna Steering System Using a Ring Resonator-Based Optical Beam Forming Network and Filter-Based Optical SSB-SC Modulation. , 2007, , .		11
164	Dynamic Range Enhancement in Analog Optical Links with a Balanced Modulation and Detection Scheme. , 2006, , .		0
165	Phased Array Antenna Steering Using a Ring Resonator-Based Optical Beam Forming Network. , 2006, , .		17
166	Slow Light Excitation in Tapered 1D Photonic Crystals: Theory. Optical and Quantum Electronics, 2006, 38, 161-176.	3.3	4
167	Development of a Broadband and Squint-Free Ku-Band Phased Array Antenna System for Airborne Satellite Communications. , 0, , .		7