

# David Marpaung

## List of Publications by Year in descending order

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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	Integrated microwave photonics. <i>Nature Photonics</i> , 2019, 13, 80-90.	31.4	722
2	Integrated microwave photonics. <i>Laser and Photonics Reviews</i> , 2013, 7, 506-538.	8.7	614
3	Low-power, chip-based stimulated Brillouin scattering microwave photonic filter with ultrahigh selectivity. <i>Optica</i> , 2015, 2, 76.	9.3	282
4	Silicon nitride microwave photonic circuits. <i>Optics Express</i> , 2013, 21, 22937.	3.4	268
5	Low-Loss Si <sub>3</sub> N <sub>4</sub> TriPleX Optical Waveguides: Technology and Applications Overview. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2018, 24, 1-21.	2.9	243
6	Novel Ring Resonator-Based Integrated Photonic Beamformer for Broadband Phased Array Receive Antennas—Part I: Design and Performance Analysis. <i>Journal of Lightwave Technology</i> , 2010, 28, 3-18.	4.6	225
7	Novel Ring Resonator-Based Integrated Photonic Beamformer for Broadband Phased Array Receive Antennas—Part II: Experimental Prototype. <i>Journal of Lightwave Technology</i> , 2010, 28, 19-31.	4.6	211
8	On-chip CMOS compatible reconfigurable optical delay line with separate carrier tuning for microwave photonic signal processing. <i>Optics Express</i> , 2011, 19, 21475.	3.4	175
9	Low-loss, high-index-contrast Si <sub>3</sub> N <sub>4</sub> /SiO <sub>2</sub> optical waveguides for optical delay lines in microwave photonics signal processing. <i>Optics Express</i> , 2011, 19, 23162.	3.4	136
10	Compact Brillouin devices through hybrid integration on silicon. <i>Optica</i> , 2017, 4, 847.	9.3	135
11	Roadmap on all-optical processing. <i>Journal of Optics (United Kingdom)</i> , 2019, 21, 063001.	2.2	128
12	Tailoring of the Brillouin gain for on-chip widely tunable and reconfigurable broadband microwave photonic filters. <i>Optics Letters</i> , 2016, 41, 436.	3.3	116
13	Integrated microwave photonic filters. <i>Advances in Optics and Photonics</i> , 2020, 12, 485.	25.5	111
14	All-optimized integrated RF photonic notch filter. <i>Optics Letters</i> , 2017, 42, 4631.	3.3	106
15	Si <sub>3</sub> N <sub>4</sub> ring resonator-based microwave photonic notch filter with an ultrahigh peak rejection. <i>Optics Express</i> , 2013, 21, 23286.	3.4	105
16	Advanced Integrated Microwave Signal Processing With Giant On-Chip Brillouin Gain. <i>Journal of Lightwave Technology</i> , 2017, 35, 846-854.	4.6	99
17	On-chip stimulated Brillouin Scattering for microwave signal processing and generation. <i>Laser and Photonics Reviews</i> , 2014, 8, 653-666.	8.7	92
18	Wide-range, high-precision multiple microwave frequency measurement using a chip-based photonic Brillouin filter. <i>Optica</i> , 2016, 3, 30.	9.3	91

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19	A photonic chip based frequency discriminator for a high performance microwave photonic link. Optics Express, 2010, 18, 27359.	3.4	90
20	Frequency agile microwave photonic notch filter with anomalously high stopband rejection. Optics Letters, 2013, 38, 4300.	3.3	88
21	RF Engineering Meets Optoelectronics: Progress in Integrated Microwave Photonics. IEEE Microwave Magazine, 2015, 16, 28-45.	0.8	83
22	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
23	Compact and reconfigurable silicon nitride time-bin entanglement circuit. Optica, 2015, 2, 724.	9.3	76
24	On-Chip Photonic-Assisted Instantaneous Microwave Frequency Measurement System. IEEE Photonics Technology Letters, 2013, 25, 837-840.	2.5	74
25	Nonlinear Integrated Microwave Photonics. Journal of Lightwave Technology, 2014, 32, 3421-3427.	4.6	72
26	Low-error and broadband microwave frequency measurement in a silicon chip. Optica, 2015, 2, 751.	9.3	71
27	Tunable narrowband microwave photonic filter created by stimulated Brillouin scattering from a silicon nanowire. Optics Letters, 2015, 40, 4154.	3.3	67
28	Tunable wideband microwave photonic phase shifter using on-chip stimulated Brillouin scattering. Optics Express, 2014, 22, 28810.	3.4	66
29	Hybrid Integrated Semiconductor Lasers with Silicon Nitride Feedback Circuits. Photonics, 2020, 7, 4.	2.0	63
30	Tunable microwave photonic notch filter using on-chip stimulated Brillouin scattering. Optics Communications, 2014, 313, 85-89.	2.1	52
31	Link Performance Optimization of Chip-Based Si <sub>3</sub> N <sub>4</sub> Microwave Photonic Filters. Journal of Lightwave Technology, 2018, 36, 4361-4370.	4.6	48
32	Lossless and high-resolution RF photonic notch filter. Optics Letters, 2016, 41, 5306.	3.3	46
33	High-resolution, on-chip RF photonic signal processor using Brillouin gain shaping and RF interference. Scientific Reports, 2017, 7, 5932.	3.3	44
34	Low noise frequency comb carriers for 64-QAM via a Brillouin comb amplifier. Optics Express, 2017, 25, 17847.	3.4	42
35	Gigahertz optical tuning of an on-chip radio frequency photonic delay line. Optica, 2017, 4, 418.	9.3	42
36	Chip-based Brillouin radio frequency photonic phase shifter and wideband time delay. Optics Letters, 2017, 42, 1313.	3.3	42

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37	Integration of Brillouin and passive circuits for enhanced radio-frequency photonic filtering. APL Photonics, 2019, 4, .	5.7	37
38	Chip-based Brillouin processing for carrier recovery in self-coherent optical communications. Optica, 2018, 5, 1191.	9.3	37
39	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
40	System-Level Performance of Chip-Based Brillouin Microwave Photonic Bandpass Filters. Journal of Lightwave Technology, 2019, 37, 5246-5258.	4.6	36
41	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
42	Impulse radio ultrawideband pulse shaper based on a programmable photonic chip frequency discriminator. Optics Express, 2011, 19, 24838.	3.4	33
43	Positive link gain microwave photonic bandpass filter using Si <sub>3</sub> N <sub>4</sub> -ring-enabled sideband filtering and carrier suppression. Optics Express, 2019, 27, 31727.	3.4	31
44	Ultra-wideband microwave photonic phase shifter with configurable amplitude response. Optics Letters, 2014, 39, 5854.	3.3	30
45	On-chip Brillouin purification for frequency comb-based coherent optical communications. Optics Letters, 2017, 42, 5074.	3.3	30
46	TriPleX waveguide platform: low-loss technology over a wide wavelength range. Proceedings of SPIE, 2013, , .	0.8	28
47	Signal interference RF photonic bandstop filter. Optics Express, 2016, 24, 14995.	3.4	28
48	Chip-Based Brillouin Processing for Phase Control of RF Signals. IEEE Journal of Quantum Electronics, 2018, 54, 1-13.	1.9	28
49	On-Chip Brillouin Filtering of RF and Optical Signals. IEEE Journal of Selected Topics in Quantum Electronics, 2018, 24, 1-11.	2.9	28
50	Integrated Photonic $\mu$ K- $\mu$ u-Band Beamformer Chip With Continuous Amplitude and Delay Control. IEEE Photonics Technology Letters, 2013, 25, 1145-1148.	2.5	27
51	Chip-based arbitrary radio-frequency photonic filter with algorithm-driven reconfigurable resolution. Optics Letters, 2018, 43, 415.	3.3	24
52	Broadband Conformal Phased Array with Optical Beam Forming for Airborne Satellite Communication. Aerospace Conference Proceedings IEEE, 2008, , .	0.0	21
53	Versatile silicon microwave photonic spectral shaper. APL Photonics, 2021, 6, .	5.7	19
54	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

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55	Microwave photonic notch filter with integrated phase-to-intensity modulation transformation and optical carrier suppression. <i>Optics Letters</i> , 2021, 46, 488.	3.3	18
56	On-chip programmable microwave photonic filter with an integrated optical carrier processor. <i>OSA Continuum</i> , 2020, 3, 2166.	1.8	18
57	Phased Array Antenna Steering Using a Ring Resonator-Based Optical Beam Forming Network. , 2006, , .		17
58	High-Performance Chip-Assisted Microwave Photonic Functionalities. <i>IEEE Photonics Technology Letters</i> , 2018, 30, 1822-1825.	2.5	15
59	Dual-Frequency Distributed Feedback Laser With Optical Frequency Locked Loop for Stable Microwave Signal Generation. <i>IEEE Photonics Technology Letters</i> , 2012, 24, 1431-1433.	2.5	14
60	Uni-directional wavelength conversion in silicon using four-wave mixing driven by cross-polarized pumps. <i>Optics Letters</i> , 2017, 42, 1668.	3.3	13
61	A Tutorial on Integrated Microwave Photonic Spectral Shaping. <i>Journal of Lightwave Technology</i> , 2021, 39, 700-711.	4.6	13
62	Broadband optical beam forming for airborne phased array antenna. , 2009, , .		12
63	Instantaneous microwave frequency measurement using four-wave mixing in a chalcogenide chip. <i>Optics Communications</i> , 2016, 373, 100-104.	2.1	12
64	High link performance of Brillouin-loss based microwave bandpass photonic filters. <i>OSA Continuum</i> , 2018, 1, 1287.	1.8	12
65	Phased Array Receive Antenna Steering System Using a Ring Resonator-Based Optical Beam Forming Network and Filter-Based Optical SSB-SC Modulation. , 2007, , .		11
66	Independent manipulation of the phase and amplitude of optical sidebands in a highly-stable RF photonic filter. <i>Optics Express</i> , 2015, 23, 23278.	3.4	11
67	TriPlex platform technology for photonic integration: Applications from UV through NIR to IR. , 2011, , .		10
68	Circulator-Free Brillouin Photonic Planar Circuit. <i>Laser and Photonics Reviews</i> , 2021, 15, 2000481.	8.7	10
69	Optical Fiber Delay Lines in Microwave Photonics: Sensitivity to Temperature and Means to Reduce it. <i>Journal of Lightwave Technology</i> , 2021, 39, 2311-2318.	4.6	10
70	Separate carrier tuning scheme for integrated optical delay lines in photonic beamformers. , 2011, , .		9
71	Reconfigurable microwave bandstop filter based on stimulated Brillouin scattering in a photonic chip. , 2016, , .		9
72	Enhanced Self-Coherent Optical OFDM using Stimulated Brillouin Scattering. , 2017, , .		9

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73	Si <sub>3</sub> N <sub>4</sub> -chip-based versatile photonic RF waveform generator with a wide tuning range of repetition rate. Optics Letters, 2020, 45, 1370.	3.3	9
74	Design and realization of an integrated optical frequency modulation discriminator for a high performance microwave photonic link. , 2010, , .		8
75	Ultra-high suppression microwave photonic bandstop filters. Science Bulletin, 2014, 59, 2684-2692.	1.7	8
76	Brillouin Filtering with Enhanced Noise Performance and Linearity Using Anti-Stokes Interactions. , 2018, , .		8
77	A broadband high dynamic range analog photonic link using push-pull directly-modulated semiconductor lasers. , 2008, , .		7
78	Development of a Broadband and Squint-Free Ku-Band Phased Array Antenna System for Airborne Satellite Communications. , 0, , .		7
79	Four-wave mixing and nonlinear losses in thick silicon waveguides. Optics Letters, 2016, 41, 2418.	3.3	7
80	Integrated Microwave Photonic Spectral Shaping For Linearization and Spurious-Free Dynamic Range Enhancement. Journal of Lightwave Technology, 2021, 39, 7551-7562.	4.6	7
81	Enhanced Dynamic Range in a Directly Modulated Analog Photonic Link. IEEE Photonics Technology Letters, 2009, 21, 1810-1812.	2.5	6
82	Development of the SANDRA antenna for airborne satellite communication. , 2011, , .		6
83	Highly selective and reconfigurable Si <sub>3</sub> N <sub>4</sub> RF photonic notch filter with negligible RF losses. , 2017, , .		6
84	Linearized phase modulated microwave photonic link based on integrated ring resonators. Optics Express, 2020, 28, 38603.	3.4	6
85	On-chip stimulated Brillouin scattering for microwave photonic signal processing. , 2016, , .		6
86	Novel ring resonator-based optical beamformer for broadband phased array receive antennas. , 2008, , .		5
87	Linearity and resolution of on-chip Brillouin filters for RF and optical communications. , 2017, , .		5
88	Editorial Special Issue on Advances in Integrated Microwave Photonics. IEEE Photonics Technology Letters, 2018, 30, 1813-1813.	2.5	5
89	Net Brillouin gain of 18.5 dB in a hybrid silicon chip. , 2016, , .		5
90	Low-loss microwave photonics links using hollow core fibres. Light: Science and Applications, 2022, 11, .	16.6	5

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91	Slow Light Excitation in Tapered 1D Photonic Crystals: Theory. Optical and Quantum Electronics, 2006, 38, 161-176.	3.3	4
92	Performance Study of a Ring Resonator-Based Optical Beam Forming System for Phased Array Receive Antennas. , 2007, , .		4
93	On-chip, CMOS-compatible, hardware-compressive integrated photonic beamformer based on WDM. , 2013, , .		4
94	Microwave photonic notch filter using on-chip stimulated Brillouin scattering. , 2013, , .		4
95	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
96	Bandwidth Tunable, High Suppression RF Photonic Filter with Improved Insertion Loss. , 2014, , .		3
97	Ultrahigh suppression and reconfigurable RF photonic notch filter using a silicon nitride ring resonator. , 2014, , .		3
98	Programmable Integrated Microwave Photonic Filter using a Modulation Transformer and a Double-Injection Ring Resonator. , 2021, , .		3
99	Self-mode-locking in a high-power hybrid silicon nitride integrated laser. Optics Letters, 2022, 47, 198.	3.3	3
100	Reconfigurable Double-Injection Ring Resonator for Integrated Microwave Photonic Signal Processing. , 2021, , .		3
101	Programmable photonic circuits. Journal of Physics: Conference Series, 2022, 2274, 012008.	0.4	3
102	Integrated photonic beamformer employing continuously tunable ring resonator-based delays in CMOS-compatible LPCVD waveguide technology. Proceedings of SPIE, 2008, , .	0.8	2
103	Optical phase synchronization in coherent optical beamformers for phased array receive antennas. , 2009, , .		2
104	Smart Antennas in aerospace applications. , 2010, , .		2
105	Squint-free beamsteering demonstration using a photonic integrated beamformer based on optical ring resonators. , 2010, , .		2
106	Low-loss and programmable integrated photonic beamformer for electronically-steered broadband phased array antennas. , 2011, , .		2
107	A novel measurement technique to estimate the RF beat-linewidth of free-running heterodyning system using a photonic discriminator. , 2011, , .		2
108	Arrays of surface-normal electroabsorption modulators for the generation and signal processing of microwave photonics signals. , 2011, , .		2

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109	Photonic integration and components development for a K $\times$ u-band phased array antenna system. , 2011, , .		2
110	CMOS-compatible integrated optical delay line for broadband K $\times$ u-band satellite communications. , 2012, , .		2
111	Integrated microwave photonics for phase modulated systems. , 2012, , .		2
112	Ultra-wideband RF photonic phase shifter with 360 $\times$ tunable phase and configurable amplitude response. , 2014, , .		2
113	Lossless and high-resolution RF photonic filter. , 2016, , .		2
114	Regeneration of Noise Limited Frequency Comb Lines for 64-QAM by Brillouin Gain Seeded via SSB Modulation. , 2017, , .		2
115	Tunable Microwave Photonic Phase Shifter Using On-Chip Stimulated Brillouin Scattering. , 2015, , .		2
116	On-Chip Backward Inter-modal Brillouin Scattering. , 2019, , .		2
117	On-chip EIT-like RF photonic signal processor. , 2016, , .		2
118	Crack barriers for thick SiN using dicing. Optics Express, 2022, 30, 16725.	3.4	2
119	Investigation on the performance of an optically generated RF local oscillator signal in K $\times$ u-band DVB-S systems. , 2011, , .		1
120	On-chip stimulated Brillouin scattering and its applications. , 2013, , .		1
121	Instantaneous frequency measurement system using four-wave mixing in an ultra-compact long silicon waveguide. , 2015, , .		1
122	Highly-stable RF photonic cancellation filter. , 2015, , .		1
123	Tunable microwave notch filter created by stimulated Brillouin scattering in a silicon chip. , 2015, , .		1
124	Reconfigurable and frequency-agile on-chip microwave photonic bandpass and bandstop filters using stimulated Brillouin scattering. , 2016, , .		1
125	On-chip carrier recovery for coherent optical communications using Brillouin filtering. , 2017, , .		1
126	On-chip Brillouin processing for coherent optical communications. , 2017, , .		1



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127	Integrating Brillouin processing with functional circuits for enhanced RF photonic processing. , 2018, , .		1
128	High Performance, Low Noise Figure Brillouin-based Tunable Microwave Photonic Bandpass Filter. , 2018, , .		1
129	Narrowband gain in chalcogenide waveguides for low-power RF delay lines. , 2018, , .		1
130	Spectral narrowing of RF photonic filters using Brillouin gain shaping and signal interference. , 2016, , .		1
131	Amplitude and phase control of RF signals using on-chip stimulated Brillouin scattering. , 2016, , .		1
132	Tunable microwave notch filter enabled by SBS in silicon. , 2016, , .		1
133	Delay amplification in a broadband Brillouin-based microwave photonic delay line. , 2016, , .		1
134	Gigahertz tuning of on-chip RF photonic delay line. , 2017, , .		1
135	Integrated Microwave Photonic Spectrum Shaping. , 2020, , .		1
136	Simultaneous Notch Filtering and Linearization in an Integrated Microwave Photonic Circuit. , 2021, , .		1
137	Silicon nitride integrated mode-locked laser with widely tunable line spacing. , 2021, , .		1
138	Dynamic Range Enhancement in Analog Optical Links with a Balanced Modulation and Detection Scheme. , 2006, , .		0
139	Performance comparison of two analog photonic links employing a pair of directly modulated lasers and a balanced photodetector. , 2009, , .		0
140	Development of an integrated photonic beamformer for electronically-steered K<inf>u</inf>-band phased array antenna. , 2011, , .		0
141	Highly stable microwave carrier generation using a dual-frequency distributed feedback laser. , 2012, , .		0
142	Nonlinear integrated microwave photonics. , 2013, , .		0
143	Multiple frequencies microwave measurement using a tunable Brillouin RF photonic filter. , 2015, , .		0
144	Material platforms for nonlinear integrated microwave photonics. , 2015, , .		0

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145	Integrated microwave photonics phase shifter using on-chip stimulated Brillouin scattering. , 2015, , .		0
146	Sub-20-dB noise figure and positive link gain in a chip-based Si <sub>3</sub> N <sub>4</sub> microwave photonic filter. , 2017, , .		0
147	Lossless integrated RF photonic filter with record-low noise figure and 116 dB of dynamic range. , 2017, , .		0
148	Integrated Microwave Photonic Brillouin Processor. , 2017, , .		0
149	Brillouin lasing in a hybrid silicon chip. , 2017, , .		0
150	All-optimized integrated microwave photonic bandstop filter. , 2018, , .		0
151	Editorial Introduction to JSTQE Special Issue on Programmable Photonics. IEEE Journal of Selected Topics in Quantum Electronics, 2020, 26, 1-2.	2.9	0
152	Integrated Microwave Photonic Filters. , 2021, , .		0
153	Harnessing Nonlinear Optics for Microwave Signal Processing. Springer Series in Optical Sciences, 2015, , 449-467.	0.7	0
154	Ultra-narrowband tunable microwave filter created by stimulated Brillouin scattering in a Silicon chip. , 2015, , .		0
155	CMOS-compatible RF notch filter enabled by SBS in silicon. , 2015, , .		0
156	On-chip Rectangular Microwave Photonic Periodic Filter with Large Bandwidth Tunability. , 2016, , .		0
157	Dynamic optical tuning of an on-chip RF photonic delay line. , 2016, , .		0
158	Nonlinear Loss Engineering in a Silicon-Chalcogenide Hybrid Optical Waveguide. , 2016, , .		0
159	On-chip Microwave Photonics. , 2017, , .		0
160	Multi-Line Regeneration of Noise Limited Frequency Combs by Brillouin Amplification via a Self-Seeded Dispersed Pump. , 2017, , .		0
161	47 dB Net on-chip Brillouin gain for true time delay applications. , 2017, , .		0
162	Brillouin-loss enabled Noise Figure Improvement for Chip-based Tunable Microwave Photonic Filters. , 2019, , .		0

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163	System Metrics of Brillouin Integrated RF Photonic Filters. , 2019, , .		0
164	Microwave Photonic Notch Filter with Integrated Modulation Transformation and Optical Carrier Suppression. , 2020, , .		0
165	Reconfigurable microwave bandstop filter based on stimulated Brillouin scattering. , 2016, , .		0
166	Integrated Microwave Photonic Spectral Shaping for Filtering and Linearization. , 2020, , .		0
167	Stimulated Brillouin Scattering in Multilayer Silicon Nitride Waveguides. , 2021, , .		0