Alejandro Ortega-MoÃ±ux

List of Publications by Year
in descending order

132 papers	3,679 citations	136950 32 h-index	138484 58 g-index
133 all docs	133 docs citations	133 times ranked	2000 citing authors

#	Article	IF	Citations
1	Waveguide subâ€wavelength structures: a review of principles and applications. Laser and Photonics Reviews, 2015, 9, 25-49.	8.7	475
2	Subwavelength-Grating Metamaterial Structures for Silicon Photonic Devices. Proceedings of the IEEE, 2018, 106, 2144-2157.	21.3	155
3	Ultraâ€broadband nanophotonic beamsplitter using an anisotropic subâ€wavelength metamaterial. Laser and Photonics Reviews, 2016, 10, 1039-1046.	8.7	148
4	Evanescent field waveguide sensing with subwavelength grating structures in silicon-on-insulator. Optics Letters, 2014, 39, 4442.	3.3	143
5	Wavelength independent multimode interference coupler. Optics Express, 2013, 21, 7033.	3.4	128
6	Suspended SOI waveguide with sub-wavelength grating cladding for mid-infrared. Optics Letters, 2014, 39, 5661.	3.3	108
7	Subwavelength index engineered surface grating coupler with sub-decibel efficiency for 220-nm silicon-on-insulator waveguides. Optics Express, 2015, 23, 22628.	3.4	106
8	Fiber-chip edge coupler with large mode size for silicon photonic wire waveguides. Optics Express, 2016, 24, 5026.	3.4	104
9	Ultracompact polarization converter with a dual subwavelength trench built in a silicon-on-insulator waveguide. Optics Letters, 2012, 37, 365.	3.3	92
10	High-directionality fiber-chip grating coupler with interleaved trenches and subwavelength index-matching structure. Optics Letters, 2015, 40, 4190.	3.3	89
11	[INVITED] Subwavelength structures for silicon photonics biosensing. Optics and Laser Technology, 2019, 109, 437-448.	4.6	79
12	High-performance 90Â° hybrid based on a silicon-on-insulator multimode interference coupler. Optics Letters, 2011, 36, 178.	3.3	78
13	Integrated polarization beam splitter with relaxed fabrication tolerances. Optics Express, 2013, 21, 14146.	3.4	77
14	Recent Advances in Silicon Waveguide Devices Using Sub-Wavelength Gratings. IEEE Journal of Selected Topics in Quantum Electronics, 2014, 20, 279-291.	2.9	77
15	Design of narrowband Bragg spectral filters in subwavelength grating metamaterial waveguides. Optics Express, 2018, 26, 179.	3.4	74
16	A review of silicon subwavelength gratings: building break-through devices with anisotropic metamaterials. Nanophotonics, 2021, 10, 2765-2797.	6.0	70
17	Highâ€efficiency single etch step apodized surface grating coupler using subwavelength structure. Laser and Photonics Reviews, 2014, 8, L93.	8.7	68
18	Ultra-Broadband Mode Converter and Multiplexer Based on Sub-Wavelength Structures. IEEE Photonics Journal, 2018, 10, 1-10.	2.0	65

#	Article	IF	Citations
19	FOURIER BASED COMBINED TECHNIQUES TO DESIGN NOVEL SUB-WAVELENGTH OPTICAL INTEGRATED DEVICES. Progress in Electromagnetics Research, 2012, 123, 447-465.	4.4	64
20	Fiber-chip grating coupler based on interleaved trenches with directionality exceeding 95%. Optics Letters, 2014, 39, 5351.	3.3	61
21	Controlling leakage losses in subwavelength grating silicon metamaterial waveguides. Optics Letters, 2016, 41, 3443.	3.3	60
22	Tilted subwavelength gratings: controlling anisotropy in metamaterial nanophotonic waveguides. Optics Letters, 2018, 43, 4691.	3.3	60
23	High-Performance Multimode Interference Coupler in Silicon Waveguides With Subwavelength Structures. IEEE Photonics Technology Letters, 2011, 23, 1406-1408.	2.5	57
24	Efficient fiber-to-chip grating coupler for micrometric SOI rib waveguides. Optics Express, 2010, 18, 15189.	3.4	55
25	A Design Procedure for High-Performance, Rib-Waveguide-Based Multimode Interference Couplers in Silicon-on-Insulator. Journal of Lightwave Technology, 2008, 26, 2928-2936.	4.6	51
26	An Ultracompact GRINâ€Lensâ€Based Spot Size Converter using Subwavelength Grating Metamaterials. Laser and Photonics Reviews, 2019, 13, 1900172.	8.7	47
27	Broadband fiber-chip zero-order surface grating coupler with 04â€‰â€‰dB efficiency. Optics Letters, 2016, 41, 3013.	3.3	46
28	Bragg filter bandwidth engineering in subwavelength grating metamaterial waveguides. Optics Letters, 2019, 44, 1043.	3.3	41
29	Single-etch subwavelength engineered fiber-chip grating couplers for 13 Âµm datacom wavelength band. Optics Express, 2016, 24, 12893.	3.4	38
30	Design of a Broadband Polarization Splitter Based on Anisotropy-Engineered Tilted Subwavelength Gratings. IEEE Photonics Journal, 2019, 11, 1-8.	2.0	34
31	Perfectly vertical surface grating couplers using subwavelength engineering for increased feature sizes. Optics Letters, 2020, 45, 3701.	3.3	34
32	Fundamental limit of detection of photonic biosensors with coherent phase read-out. Optics Express, 2019, 27, 12616.	3.4	33
33	Single-etch grating coupler for micrometric silicon rib waveguides. Optics Letters, 2011, 36, 2647.	3.3	32
34	High-performance monolithically integrated 120Â° downconverter with relaxed hardware constraints. Optics Express, 2012, 20, 5725.	3.4	31
35	Disorder effects in subwavelength grating metamaterial waveguides. Optics Express, 2017, 25, 12222.	3.4	31
36	Experimental demonstration of metamaterial anisotropy engineering for broadband on-chip polarization beam splitting. Optics Express, 2020, 28, 16385.	3.4	31

#	Article	IF	Citations
37	Polarization rotator for InP rib waveguide. Optics Letters, 2012, 37, 335.	3.3	30
38	An ultraâ€compact multimode interference coupler with a subwavelength grating slot. Laser and Photonics Reviews, 2013, 7, L12.	8.7	29
39	Ultra-broadband nanophotonic phase shifter based on subwavelength metamaterial waveguides. Photonics Research, 2020, 8, 359.	7.0	28
40	Single etch grating couplers for mass fabrication with DUV lithography. Optical and Quantum Electronics, 2012, 44, 521-526.	3.3	27
41	Integrated Polarization Beam Splitter for 100/400 GE Polarization Multiplexed Coherent Optical Communications. Journal of Lightwave Technology, 2014, 32, 361-368.	4.6	27
42	Polarization splitting directional coupler using tilted subwavelength gratings. Optics Letters, 2020, 45, 3398.	3.3	26
43	Experimental demonstration of a broadband mode converter and multiplexer based on subwavelength grating waveguides. Optics and Laser Technology, 2020, 129, 106297.	4.6	25
44	SIGNAL CONSTELLATION DISTORTION AND BER DEGRADATION DUE TO HARDWARE IMPAIRMENTS IN SIX-PORT RECEIVERS WITH ANALOG I/Q GENERATION. Progress in Electromagnetics Research, 2011, 121, 225-247.	4.4	23
45	Narrowband Bragg filters based on subwavelength grating waveguides for silicon photonic sensing. Optics Express, 2020, 28, 37971.	3.4	22
46	Compact High-Performance Multimode Interference Couplers in Silicon-on-Insulator. IEEE Photonics Technology Letters, 2009, 21, 1600-1602.	2.5	21
47	Midâ€infrared suspended waveguide platform and building blocks. IET Optoelectronics, 2019, 13, 55-61.	3.3	21
48	Suspended germanium waveguides with subwavelength-grating metamaterial cladding for the mid-infrared band. Optics Express, 2021, 29, 16867.	3.4	21
49	Complex spectral filters in silicon waveguides based on cladding-modulated Bragg gratings. Optics Express, 2021, 29, 15867.	3.4	20
50	Characterization of integrated photonic devices with minimum phase technique. Optics Express, 2009, 17, 8349.	3.4	19
51	Polarization-independent grating coupler for micrometric silicon rib waveguides. Optics Letters, 2012, 37, 3663.	3.3	19
52	Dual-Band Polarization-Independent Subwavelength Grating Coupler for Wavelength Demultiplexing. IEEE Photonics Technology Letters, 2020, 32, 1163-1166.	2.5	19
53	Highly tolerant tunable waveguide polarization rotator scheme. Optics Letters, 2012, 37, 3534.	3.3	18
54	Bricked Subwavelength Gratings: A Tailorable Onâ€Chip Metamaterial Topology. Laser and Photonics Reviews, 2021, 15, 2000478.	8.7	18

#	Article	IF	Citations
55	Development of a Fourier-transform waveguide spectrometer for space applications. Optical and Quantum Electronics, 2012, 44, 549-556.	3.3	17
56	Distributed Bragg deflector coupler for on-chip shaping of optical beams. Optics Express, 2019, 27, 33180.	3.4	17
57	Planar lightwave circuit six-port technique for optical measurements and characterizations. Journal of Lightwave Technology, 2005, 23, 2148-2157.	4.6	16
58	Wideband Slot-Coupled Butler Matrix. IEEE Microwave and Wireless Components Letters, 2014, 24, 848-850.	3.2	15
59	Add/Drop Mode-Division Multiplexer Based on a Machâ€“Zehnder Interferometer and Periodic Waveguides. IEEE Photonics Journal, 2015, 7, 1-7.	2.0	15
60	Breaking the Coupling Efficiencyâ€“Bandwidth Tradeâ€Off in Surface Grating Couplers Using Zeroâ€Order Radiation. Laser and Photonics Reviews, 2021, 15, 2000542.	8.7	15
61	3D-Scalar Fourier Eigenvector Expansion Method (Fourier-EEM) for analyzing optical waveguide discontinuities. Optical and Quantum Electronics, 2005, 37, 213-228.	3.3	14
62	Zero-Birefringence Silicon Waveguides Based on Tilted Subwavelength Metamaterials. IEEE Photonics Journal, 2019, 11, 1-8.	2.0	14
63	Enhanced accuracy in fast-Fourier-based methods for full-vector modal analysis of dielectric waveguides. IEEE Photonics Technology Letters, 2006, 18, 1128-1130.	2.5	13
64	Improving Multimode Interference Couplers Performance Through Index Profile Engineering. Journal of Lightwave Technology, 2009, 27, 1307-1314.	4.6	13
65	HIGH PERFORMANCE MULTI-SECTION CORRUGATED SLOT-COUPLED DIRECTIONAL COUPLERS. Progress in Electromagnetics Research, 2013, 134, 437-454.	4.4	13
66	Polarization-independent multimode interference coupler with anisotropy-engineered bricked metamaterial. Photonics Research, 2022, 10, A57.	7.0	11
67	Colorless monolithically integrated 120Â° downconverter. Optics Express, 2013, 21, 23048.	3.4	10
68	Dual-Mode Coupled-Resonator Integrated Optical Filters. IEEE Photonics Technology Letters, 2014, 26, 929-932.	2.5	10
69	Butler matrix based six-port passive junction. , 2014, , .		10
70	Adaptive Hermiteâ€“Gauss decomposition method to analyze optical dielectric waveguides. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2003, 20, 557.	1.5	9
71	Accurate Analysis of Photonic Crystal Fibers by Means of the Fast-Fourier-Based Mode Solver. IEEE Photonics Technology Letters, 2007, 19, 414-416.	2.5	9
72	Integrated Optical Six-Port Reflectometer in Silicon on Insulator. Journal of Lightwave Technology, 2009, 27, 5405-5409.	4.6	9

#	Article	IF	Citations
73	Enhanced monolithically integrated coherent 120Â° downconverter with high fabrication yield. Optics Express, 2012, 20, 23013.	3.4	9
74	High-efficiency conversion from waveguide mode to an on-chip beam using a metamaterial engineered Bragg deflector. Optics Letters, 2021, 46, 2409.	3.3	8
75	Grating couplers for thick SOI rib waveguides. Optical and Quantum Electronics, 2012, 44, 535-540.	3.3	7
76	Mode Converter and Multiplexer With a Subwavelength Phase Shifter for Extended Broadband Operation. IEEE Photonics Technology Letters, 2021, 33, 1262-1265.	2.5	7
77	Broadband 2â€‰â€‰Ã—â€‰â€‰2 multimode interference coupler for mid-infrared wavelengths. Optics Letters, 2021, 46, 5300.	3.3	7
78	Fabrication Tolerance Analysis of Bent Single-Mode Rib Waveguides on SOI. Optical and Quantum Electronics, 2007, 38, 921-932.	3.3	6
79	Polarization-beam-splitter-less integrated dual-polarization coherent receiver. Optics Letters, 2014, 39, 4400.	3.3	6
80	Athermal InP-based 90Â°-hybrid Rx OEICs with pin-PDs >60 GHz for coherent DP-QPSK photoreceivers. , 2010, , .		4
81	Nonlinear wide-angle beam propagation method using complex Jacobi iteration in the Fourier domain. Journal of the Optical Society of America B: Optical Physics, 2011, 28, 2142.	2.1	3
82	Fiber-chip edge coupler with large mode size for silicon photonic wire waveguides. , 2015, , .		3
83	Low-loss off-axis curved waveguide grating demultiplexer. Optics Letters, 2021, 46, 4821.	3.3	3
84	Improved coupling to integrated spatial heterodyne spectrometers with applications to space. , 2011, , .		2
85	High performance multimode interference couplers for coherent communications in silicon. , 2011, , .		2
86	Multi-port technology for microwave and optical communications. , 2012, , .		2
87	New concepts in silicon component design using subwavelength structures. , 2012, , .		2
88	A general approach for robust integrated polarization rotators. , 2013, , .		2
89	Monolithic integrated InP receiver chip for coherent phase sensitive detection in the C- and L-band for colorless WDM applications. , 2014, , .		2
90	Silicon-on-insulator single channel-extraction filter for DWDM applications. , 2014, , .		2

#	Article	IF	Citations
91	Mode filtering in periodic waveguides by means of band gap engineering. , 2015, , .		2
92	Calibrated Monolithically Integrated 90 <named-content content-type="math" xlink:type="simple"> <inline-formula> <tex-math notation="TeX">$^{circ} $</tex-math></inline-formula></named-content> Downconverter for Colorless Operation in the C+L Band. IEEE Photonics Journal, 2015, 7, 1-10.	2.0	2
93	Broadband high-efficiency zero-order surface grating coupler for the near- and mid-infrared wavelength ranges. , 2017, , .		2
94	2-D Extension of Spectrum-Splitting Fast-Fourier-Based Mode Solvers. IEEE Photonics Technology Letters, 2008, 20, 1205-1207.	2.5	1
95	Recent advances in Fourier-transform waveguide spectrometers. , 2011, , .		1
96	Compact broadband directional coupler. , 2012, , .		1
97	Silicon-on-insulator polarization controller with relaxed fabrication tolerances. , 2014, , .		1
98	High-efficiency fully etched fiber-chip grating couplers with subwavelength structures for datacom and telecom applications. Proceedings of SPIE, 2015, , .	0.8	1
99	Integrated mode converter for mode division multiplexing. , 2016, , .		1
100	Subwavelength metamaterial engineering for silicon photonics. , 2017, , .		1
101	Designing Anisotropy with Waveguide Subwavelength Structures. , 2018, , .		1
102	Dispersion-engineered nanophotonic devices based on subwavelength metamaterial waveguides. , 2020, , .		1
103	Reaping the benefits of machine learning pattern recognition in nanophotonic component design. , 2019, , .		1
104	Subwavelength-engineered metamaterial devices for integrated photonics. , 2022, , .		1
105	Fourier decomposition methods for passive photonic device characterization. Proceedings of SPIE, 2008, , .	0.8	0
106	Detecting spurious reflections in integrated photonic devices. , 2009, , .		0
107	Index profile engineering of multimode interference couplers. , 2009, , .		0
108	Subwavelength structures in SOI waveguides. , 2011, , .		0

#	Article	IF	Citations
109	Design of an optimized grating coupler for thick SOI rib waveguides. , 2011, , .		0
110	Diffractive and subwavelength grating couplers for microphotonic waveguides. , 2012, , .		0
111	Grating couplers in thick rib SOI waveguides for TE and TM polarizations. , 2012, , .		0
112	Ultra-Compact Polarization Mode Converter Implemented in a Dual-Trench Silicon-On-Insulator Waveguide. , 2012, , .		0
113	SWG dispersion engineering for ultra-broadband photonic devices. , 2013, , .		0
114	Engineering the optical properties of silicon using sub-wavelength structures. , 2013, , .		0
115	Re-inventing multimode interference couplers using subwavelength gratings. , 2013, , .		0
116	High-efficiency subwavelength-engineered surface grating couplers in SOI and DSOI. , 2014, , .		0
117	Subwavelength metastructures for dispersion engineering in planar waveguide devices. , 2014, , .		0
118	Silicon photonic integration with subwavelength gratings. , 2014, , .		0
119	Sub-wavelength cladding mid-infrared devices. , 2015, , .		0
120	Colorless devices and reception techniques for polarization multiplexed communications. , 2015, , .		0
121	First experimental demonstration of high-directionality fiber-chip grating coupler with interleaved trenches. , 2015, , .		0
122	Group IV mid-infrared photonics. , 2015, , .		0
123	A subwavelength structured multimode interference coupler for the 3-4 micrometers mid-infrared band. Proceedings of SPIE, 2015, , .	0.8	0
124	Silicon-on-insulator integrated tunable polarization controller (Conference Presentation). , 2016, , .		0
125	Suspended Silicon Integrated Platform for the Long-Wavelength Mid-Infrared Band. , 2019, , .		0
126	Photonic Integrated Dual-Mode Filters Realized with Ring Resonators Loaded by Bragg Gratings. , 2013, , .		0

#	Article	IF	Citations
127	Designing polarization management devices by tilting subwavelength grating. , 2019, , .		0
128	Diffractive sidewall grating coupler: towards 2D free-space optics on chip. , 2019, , .		0
129	Perfectly vertical silicon-on-insulator grating couplers with low broadband back-reflection and increased feature sizes. , 2020, , .		0
130	Building high-performance integrated optical devices using subwavelength grating metamaterials -INVITED. EPJ Web of Conferences, 2021, 255, 01001.	0.3	0
131	A broadband polarization splitter directional coupler based on tilted subwavelengh grating metamaterials. , 2020, , .		0
132	Bricked patterning: a new concept to enhance the capabilities of subwavelength grating waveguides. , 2021, , .		0