FranÃ§ois Leo

List of Publications by Year
in descending order

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114 papers	2,980 citations	172457 29 h-index	161849 54 g-index
115 all docs	115 docs citations	115 times ranked	2137 citing authors

#	Article	IF	Citations
1	Temporal cavity solitons in one-dimensional Kerr media as bits in an all-optical buffer. Nature Photonics, 2010, 4, 471-476.	31.4	609
2	An octave-spanning mid-infrared frequency comb generated in a silicon nanophotonic wire waveguide. Nature Communications, 2015, 6, 6310.	12.8	191
3	Dynamics of one-dimensional Kerr cavity solitons. Optics Express, 2013, 21, 9180.	3.4	189
4	Silicon and silicon nitride photonic circuits for spectroscopic sensing on-a-chip [Invited]. Photonics Research, 2015, 3, B47.	7.0	173
5	Visible-to-near-infrared octave spanning supercontinuum generation in a silicon nitride waveguide. Optics Letters, 2015, 40, 2177.	3.3	110
6	Silicon-Based Photonic Integration Beyond the Telecommunication Wavelength Range. IEEE Journal of Selected Topics in Quantum Electronics, 2014, 20, 394-404.	2.9	106
7	Universal mechanism for the binding of temporal cavity solitons. Optica, 2017, 4, 855.	9.3	104
8	Walk-Off-Induced Modulation Instability, Temporal Pattern Formation, and Frequency Comb Generation in Cavity-Enhanced Second-Harmonic Generation. Physical Review Letters, 2016, 116, 033901.	7.8	100
9	Modulation Instability Induced Frequency Comb Generation in a Continuously Pumped Optical Parametric Oscillator. Physical Review Letters, 2018, 121, 093903.	7.8	89
10	Second-harmonic-assisted four-wave mixing in chip-based microresonator frequency comb generation. Light: Science and Applications, 2017, 6, e16253-e16253.	16.6	83
11	Third-order chromatic dispersion stabilizes Kerr frequency combs. Optics Letters, 2014, 39, 2971.	3.3	78
12	Observations of spatiotemporal instabilities of temporal cavity solitons. Optica, 2016, 3, 1071.	9.3	67
13	Frequency-comb formation in doubly resonant second-harmonic generation. Physical Review A, 2016, 93, .	2.5	67
14	Silicon-based heterogeneous photonic integrated circuits for the mid-infrared. Optical Materials Express, 2013, 3, 1523.	3.0	65
15	Dispersive wave emission and supercontinuum generation in a silicon wire waveguide pumped around the 1550â€‰â€‰nm telecommunication wavelength. Optics Letters, 2014, 39, 3623.	3.3	60
16	Octave-spanning coherent supercontinuum generation in an AlGaAs-on-insulator waveguide. Optics Letters, 2020, 45, 603.	3.3	54
17	High-Efficiency SOI Fiber-to-Chip Grating Couplers and Low-Loss Waveguides for the Short-Wave Infrared. IEEE Photonics Technology Letters, 2012, 24, 1536-1538.	2.5	53
18	Coherent supercontinuum generation in a silicon photonic wire in the telecommunication wavelength range. Optics Letters, 2015, 40, 123.	3.3	52

#	Article	IF	Citations
19	Nonlinear Symmetry Breaking Induced by Third-Order Dispersion in Optical Fiber Cavities. Physical Review Letters, 2013, 110, 104103.	7.8	50
20	Quadratic soliton combs in doubly resonant second-harmonic generation. Optics Letters, 2018, 43, 6033.	3.3	45
21	Nonlinear properties of dispersion engineered InGaP photonic wire waveguides in the telecommunication wavelength range. Optics Express, 2015, 23, 4650.	3.4	41
22	Supercontinuum generation in hydrogenated amorphous silicon waveguides at telecommunication wavelengths. Optics Express, 2014, 22, 3089.	3.4	38
23	Temporal solitons in a coherently driven active resonator. Nature Photonics, 2021, 15, 536-541.	31.4	37
24	Coexistence of Multiple Nonlinear States in a Tristable Passive Kerr Resonator. Physical Review X, 2017, 7, .	8.9	36
25	Singly resonant second-harmonic-generation frequency combs. Physical Review A, 2017, 95, .	2.5	35
26	Single envelope equation modeling of multi-octave comb arrays in microresonators with quadratic and cubic nonlinearities. Journal of the Optical Society of America B: Optical Physics, 2016, 33, 1207.	2.1	33
27	Optical Frequency Combs in Quadratically Nonlinear Resonators. Micromachines, 2020, 11, 230.	2.9	31
28	Parametrically driven Kerr cavity solitons. Nature Photonics, 2021, 15, 857-861.	31.4	31
29	Telecom to mid-infrared spanning supercontinuum generation in hydrogenated amorphous silicon waveguides using a Thulium doped fiber laser pump source. Optics Express, 2013, 21, 32032.	3.4	30
30	Observation of an optical event horizon in a silicon-on-insulator photonic wire waveguide. Optics Express, 2016, 24, 114.	3.4	29
31	Frequency comb generation through the locking of domain walls in doubly resonant dispersive optical parametric oscillators. Optics Letters, 2019, 44, 2004.	3.3	28
32	Generation of coherent supercontinuum in a-Si:H waveguides: experiment and modeling based on measured dispersion profile. Optics Express, 2014, 22, 28997.	3.4	27
33	Addressing temporal Kerr cavity solitons with a single pulse of intensity modulation. Optics Letters, 2018, 43, 3192.	3.3	23
34	Localized structures in dispersive and doubly resonant optical parametric oscillators. Physical Review E, 2019, 100, 032219.	2.1	23
35	Microscopic cluster model analysis ofO14+pelastic scattering. Physical Review C, 2005, 72, .	2.9	18
36	Nonlinear optical interactions in silicon waveguides. Nanophotonics, 2017, 6, 377-392.	6.0	18

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37	Parametric localized patterns and breathers in dispersive quadratic cavities. Physical Review A, 2020, 101, .	2.5	16
38	Supercontinuum Generation Assisted by Wave Trapping in Dispersion-Managed Integrated Silicon Waveguides. Physical Review Applied, 2020, 14, .	3.8	13
39	Polarization modulation instability in a nonlinear fiber Kerr resonator. Optics Letters, 2020, 45, 5069.	3.3	12
40	Measurement and tuning of the chromatic dispersion of a silicon photonic wire around the half band gap spectral region. Optics Letters, 2014, 39, 711.	3.3	9
41	Localized structures formed through domain wall locking in cavity-enhanced second-harmonic generation. Optics Letters, 2020, 45, 5856.	3.3	9
42	Dark quadratic localized states and collapsed snaking in doubly resonant dispersive cavity-enhanced second-harmonic generation. Physical Review A, 2021, 104, .	2.5	9
43	Second-harmonic generation enabled by longitudinal electric-field components in photonic wire waveguides. Physical Review A, 2020, 102, .	2.5	8
44	Influence of longitudinal mode components on second harmonic generation in III-V-on-insulator nanowires. Optics Express, 2020, 28, 31584.	3.4	8
45	Physical origin of higher-order soliton fission in nanophotonic semiconductor waveguides. Scientific Reports, 2018, 8, 17177.	3.3	7
46	Single is better than double: theoretical and experimental comparison between two thermal poling configurations of optical fibers. Optics Express, 2019, 27, 27761.	3.4	7
47	Highly Nondegenerate Two-Photon Absorption in Silicon Wire Waveguides. Physical Review Applied, 2018, 10, .	3.8	6
48	Self-pulsing in driven-dissipative photonic Bose-Hubbard dimers. Physical Review Research, 2021, 3, .	3.6	6
49	Dissipative localized states and breathers in phase-mismatched singly resonant optical parametric oscillators: Bifurcation structure and stability. Physical Review Research, 2022, 4, .	3.6	6
50	Secondary instabilities in all fiber ring cavities. Physical Review A, 2014, 90, .	2.5	5
51	Impact of third-order dispersion on nonlinear bifurcations in optical resonators. Physics Letters, Section A: General, Atomic and Solid State Physics, 2015, 379, 1934-1937.	2.1	5
52	Modeling of quasi-phase-matched cavity-enhanced second-harmonic generation. Physical Review A, 2020, 101, .	2.5	4
53	Efficient type II second harmonic generation in an indium gallium phosphide on insulator wire waveguide aligned with a crystallographic axis. Optics Letters, 2021, 46, 1490.	3.3	4
54	Measurement of the Raman Self-Frequency Shift of a Temporal Cavity Soliton. , 2016, , .		3

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55	Mode-locking induced by coherent driving in fiber lasers. Optics Letters, 2022, 47, 3527.	3.3	3
56	Neuronlike spiking dynamics in asymmetrically driven dissipative nonlinear photonic dimers. Physical Review A, 2022, 106, .	2.5	3
57	Mid-IR heterogeneous silicon photonics. Proceedings of SPIE, 2013, , .	0.8	2
58	Mid-infrared to telecom-band stable supercontinuum generation in hydrogenated amorphous silicon waveguides. , 2013, , .		2
59	A two-stage photonic crystal fiber / silicon photonic wire short-wave infrared wavelength converter/amplifier based on a 1064 nm pump source. Optics Express, 2015, 23, 13025.	3.4	2
60	Real Time Observations of Soliton Bound States, with Multiple Binding Mechanisms, in Passive Nonlinear Cavities. , 2016, , .		2
61	Cavity soliton oscillations in a one-dimensional fiber resonator. , 2012, , .		1
62	Modeling Kerr frequency combs using the Lugiato-Lefever equation: a characterization of the multistable landscape. , 2014, , .		1
63	Enhancing the nonlinear functionality of step-index silica fibers through the combination of thermal poling and 2D materials. , 2020, , .		1
64	Theory of Frequency Comb Generation in Cavity Enhanced Second Harmonic Generation. , 2016, , .		1
65	Writing and Erasure of Temporal Cavity Solitons via Intensity Modulation of the Cavity Driving Field. , 2016, , .		1
66	Polarization domain-wall cavity solitons in isotropic fiber ring resonators. , 2016, , .		1
67	14O+p elastic scattering in a microscopic cluster model. AIP Conference Proceedings, 2006, , .	0.4	0
68	Spatio-temporal stability of 1D Kerr cavity solitons. , 2014, , .		0
69	Supercontinuum Generation in Hydrogenated Amorphous Silicon Waveguides in the Femtosecond Regime. , 2014, , .		0
70	Experimental demonstration of coherent supercontinuum generation in a silicon wire pumped at telecommunication wavelengths. , 2014, , .		0
71	Femtosecond Supercontinuum Generation in a Silicon Wire Waveguide at Telecom Wavelengths. , 2014, , .		0
72	Long-wavelength silicon photonic integrated circuits. , 2014, , .		0

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73	Nonlinear optics on a silicon platform for broadband light generation and ultrafast information processing. , 2015, , .		0
74	Existence and dynamics of pairs of temporal cavity solitons weakly-bound through kelly sidebands in a passive optical fiber resonator. , 2015, , .		0
75	Theory of quadratic optical frequency combs. , 2016, , .		0
76	Numerical modelling of frequency comb generation in nonlinear resonators. , 2016, , .		0
77	Nonlinear dynamics of optical frequency combs. , 2017, , .		0
78	Observation of two-photon absorption induced soliton fission. , 2017, , .		0
79	Observation of super cavity solitons. , 2018, , .		0
80	Phase Sensitive Amplification in a Periodically Poled Silica Fiber. , 2019, , .		0
81	Experimental Observation of Optical Frequency Combs in Doubly Resonant Second Harmonic Generation. , 2019, , .		0
82	Experimental Observation of Second Harmonic Generation Enabled by Longitudinal Components in Indium Gallium Phosphide Nanowires. , 2019, , .		0
83	Quadratic Optical Frequency Combs. , 2019, , .		0
84	Self-Pulsing in Photonic Dimers. , 2021, , .		0
85	Bright localized patterns in singly resonant optical parametric oscillators. , 2021, , .		0
86	Temporal Cavity Soliton in a Coherently Driven Active Fiber Resonator. , 2021, , .		0
87	Bright and dark localized states in doubly resonant optical parametric oscillators. , 2021, , .		0
88	Parametric solitons in optical resonators. , 2021, , .		0
89	Temporal Cavity Soliton in an Active Fiber Resonator. , 2021, , .		0
90	Experimental Generation of 1.6-THz repetition-rate pulse-trains in a Passive Optical Fiber Resonator. , 2009, , .		0

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91	Experimental Observation of the 1D Kerr-type Cavity Soliton in a Passive Optical Fiber Resonator. , 2009, , .		0
92	Stabilization of frequency combs using third order dispersion. , 2014, , .		0
93	Efficient Continuous Wave Conversion of Light Beyond the Half-Bandgap Spectral Region of Silicon. , 2014, , .		0
94	Nonlinear symmetry breaking and rogue waves formation in a dissipative optical system. , 2014, , .		0
95	Visible-to-near-Infrared Octave Spanning Supercontinuum Generation in a Partially Underetched Silicon Nitride Waveguide. , 2015, , .		0
96	Coexistence of Temporal Cavity Solitons and Modulation Instability in a Passive Kerr Cavity. , 2016, , .		0
97	Observation of Spatiotemporal Chaos Induced by a Cavity Soliton in a Fiber Ring Resonator. , 2016, , .		0
98	Frequency combs in quadratically nonlinear resonators. , 2016, , .		0
99	Coexistence of Distinct Cavity Solitons States in a Tri-stable Passive Kerr Resonator. , 2016, , .		0
100	Observations of Complex Spatiotemporal Instabilities in a Fiber Ring Resonator. , 2016, , .		0
101	Cherenkov-radiation-induced binding of temporal cavity solitons observed in a passive fiber ring resonator. , 2016, , .		0
102	Single envelope equation modelling of frequency comb generation in quadratic and cubic nonlinear resonators. , 2016, , .		0
103	Frequency comb generation in continuously pumped optical parametric oscillator. , 2017, , .		0
104	Second Harmonic Generation by Mixing Longitudinal and Transverse Electric Field Components in Indium Gallium Phosphide-on-insulator Wire Waveguides. , 2018, , .		0
105	Frequency comb generation in a continuously pumped optical parametric oscillator. , 2018, , .		0
106	Second Harmonic Generation Induced by Longitudinal Components in Indium Gallium Phosphide Nanowaveguides. , 2019, , .		0
107	Quadratic cavity soliton optical frequency combs. , 2019, , .		0
108	Temporal localized structures in doubly resonant dispersive optical parametric oscillators. , 2020, , .		0

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109	Localized States in Phase-Matched Doubly-Resonant Second-Harmonic Generation. , 2020, , .		0
110	Dynamics of localized patterns in doubly resonant dispersive optical parametric oscillators. , 2020, , .		0
111	Quadratic Optical Frequency Combs: Towards a New Platform for Multi-Octave Microcombs. , 2020, , .		0
112	Phase locked short pulses generation in a driven laser cavity. , 2021, , .		0
113	Phase-locked short pulses in a driven laser cavity. , 2021, , .		0
114	Temporal Cavity Solitons in an Active Cavity. , 2021, , .		0