

# Maxim A Karpov

## List of Publications by Year in descending order

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Version: 2024-02-01

87  
papers

4,671  
citations

304602

22  
h-index

276775

41  
g-index

90  
all docs

90  
docs citations

90  
times ranked

2550  
citing authors

#	ARTICLE	IF	CITATIONS
1	Microresonator-based solitons for massively parallel coherent optical communications. Nature, 2017, 546, 274-279.	13.7	816
2	Parallel convolutional processing using an integrated photonic tensor core. Nature, 2021, 589, 52-58.	13.7	723
3	Ultrafast optical ranging using microresonator soliton frequency combs. Science, 2018, 359, 887-891.	6.0	509
4	Universal dynamics and deterministic switching of dissipative Kerr solitons in optical microresonators. Nature Physics, 2017, 13, 94-102.	6.5	331
5	Massively parallel coherent laser ranging using a soliton microcomb. Nature, 2020, 581, 164-170.	13.7	325
6	Photonic microwave generation in the X- and K-band using integrated soliton microcombs. Nature Photonics, 2020, 14, 486-491.	15.6	229
7	Octave-spanning dissipative Kerr soliton frequency combs in Si <sub>3</sub> N <sub>4</sub> microresonators. Optica, 2017, 4, 684.	4.8	208
8	Raman Self-Frequency Shift of Dissipative Kerr Solitons in an Optical Microresonator. Physical Review Letters, 2016, 116, 103902.	2.9	187
9	Electrically pumped photonic integrated soliton microcomb. Nature Communications, 2019, 10, 680.	5.8	160
10	Dynamics of soliton crystals in optical microresonators. Nature Physics, 2019, 15, 1071-1077.	6.5	148
11	Ultralow-power chip-based soliton microcombs for photonic integration. Optica, 2018, 5, 1347.	4.8	143
12	Breathing dissipative solitons in optical microresonators. Nature Communications, 2017, 8, 736.	5.8	139
13	Spatial multiplexing of soliton microcombs. Nature Photonics, 2018, 12, 699-705.	15.6	100
14	Soliton dual frequency combs in crystalline microresonators. Optics Letters, 2017, 42, 514.	1.7	81
15	Photonic chip-based soliton frequency combs covering the biological imaging window. Nature Communications, 2018, 9, 1146.	5.8	62
16	Detuning-dependent properties and dispersion-induced instabilities of temporal dissipative Kerr solitons in optical microresonators. Physical Review A, 2017, 95, .	1.0	47
17	Reconfigurable radiofrequency filters based on versatile soliton microcombs. Nature Communications, 2020, 11, 4377.	5.8	38
18	High-rate photon pairs and sequential Time-Bin entanglement with Si <sub>3</sub> N <sub>4</sub> microring resonators. Optics Express, 2019, 27, 19309.	1.7	38

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19	Orthogonally polarized frequency comb generation from a Kerr comb via cross-phase modulation. <i>Optics Letters</i> , 2019, 44, 1472.	1.7	32
20	Ultrafast optical circuit switching for data centers using integrated soliton microcombs. <i>Nature Communications</i> , 2021, 12, 5867.	5.8	31
21	Intermode Breather Solitons in Optical Microresonators. <i>Physical Review X</i> , 2017, 7, .	2.8	30
22	Demonstration of Tunable Optical Aggregation of QPSK to 16-QAM Over Optically Generated Nyquist Pulse Trains Using Nonlinear Wave Mixing and a Kerr Frequency Comb. <i>Journal of Lightwave Technology</i> , 2020, 38, 359-365.	2.7	23
23	Dependence of a microresonator Kerr frequency comb on the pump linewidth. <i>Optics Letters</i> , 2017, 42, 779.	1.7	21
24	Dual chirped microcomb based parallel ranging at megapixel-line rates. <i>Nature Communications</i> , 2022, 13, .	5.8	18
25	Dual-pump generation of high-coherence primary Kerr combs with multiple sub-lines. <i>Optics Letters</i> , 2017, 42, 595.	1.7	17
26	Tuning the morphology and magnetic properties of single-domain SrFe <sub>8</sub> Al <sub>4</sub> O <sub>19</sub> particles prepared by a citrate auto-combustion method. <i>Mendelevov Communications</i> , 2021, 31, 221-223.	0.6	16
27	Demonstration of Multiple Kerr-Frequency-Comb Generation Using Different Lines From Another Kerr Comb Located Up To 50 km Away. <i>Journal of Lightwave Technology</i> , 2019, 37, 579-584.	2.7	15
28	Submicron particles of Ga-substituted strontium hexaferrite obtained by a citrate auto-combustion method. <i>Journal of Materials Chemistry C</i> , 2021, 9, 13832-13840.	2.7	15
29	Pump-linewidth-tolerant wavelength multicasting using soliton Kerr frequency combs. <i>Optics Letters</i> , 2017, 42, 3177.	1.7	14
30	Full C and L-Band Transmission at 20 Tbit/s Using Cavity-Soliton Kerr Frequency Combs. , 2015, , .		13
31	Demonstration of optical multicasting using Kerr frequency comb lines. <i>Optics Letters</i> , 2016, 41, 3876.	1.7	13
32	Scalable and reconfigurable optical tapped-delay-line for multichannel equalization and correlation using nonlinear wave mixing and a Kerr frequency comb. <i>Optics Letters</i> , 2018, 43, 5563.	1.7	13
33	Metal-insulator transition in epitaxial films of LaMnO <sub>3</sub> manganites grown by magnetron sputtering. <i>Technical Physics Letters</i> , 2013, 39, 1027-1030.	0.2	11
34	Reconfigurable optical generation of nine Nyquist WDM channels with sinc-shaped temporal pulse trains using a single microresonator-based Kerr frequency comb. <i>Optics Letters</i> , 2019, 44, 1852.	1.7	11
35	Tunable insertion of multiple lines into a Kerr frequency comb using electro-optical modulators. <i>Optics Letters</i> , 2017, 42, 3765.	1.7	10
36	Glass-Ceramic Synthesis of Cr-Substituted Strontium Hexaferrite Nanoparticles with Enhanced Coercivity. <i>Nanomaterials</i> , 2021, 11, 924.	1.9	9

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37	Effects of erbium-doped fiber amplifier induced pump noise on soliton Kerr frequency combs for 64-quadrature amplitude modulation transmission. Optics Letters, 2018, 43, 2495.	1.7	8
38	Experimental Generation of a 64-QAM by Optically Aggregating Three Independent QPSK Channels using Nonlinear Wave Mixing of Multiple Kerr Comb Lines. , 2017, , .		8
39	Synthesis of near-diffraction-free orbital-angular-momentum space-time wave packets having a controllable group velocity using a frequency comb. Optics Express, 2022, 30, 16712.	1.7	7
40	Dynamics of soliton crystals in optical microresonators. , 2017, , .		4
41	50 Tbit/s Massively Parallel WDM Transmission in C and L Band Using Interleaved Cavity-Soliton Kerr Combs. , 2016, , .		3
42	Electrically driven photonic integrated soliton microcomb. , 2019, , .		3
43	Demonstration of Tunable and Reconfigurable Optical Nyquist Channel Aggregation of QPSK-to-16QAM and BPSK-to-4PAM Using Nonlinear Wave Mixing and a Kerr Frequency Comb. , 2019, , .		3
44	Sub-nanosecond Optical Switching Using Chip-Based Soliton Microcombs. , 2020, , .		3
45	Inter-mode breather solitons in optical microresonators. , 2018, , .		2
46	Universal Dynamics and Controlled Switching of Dissipative Kerr Solitons in Optical Microresonators. , 2016, , .		2
47	Demonstration of Kramers-Kronig Detection of Four 20-Gbaud 16-QAM Channels after 50-km Transmission Using Kerr Combs to Perform Shared Phase Estimation. , 2019, , .		2
48	Ultra-Low-Power Photonic Chip-Based Soliton Frequency Combs. , 2018, , .		1
49	Chip-based frequency combs for wavelength-division multiplexing applications. , 2020, , 51-102.		1
50	Megapixel per second hardware efficient LiDAR based on microcombs. , 2021, , .		1
51	Wafer-scale fabrication of ultralow-loss silicon nitride nonlinear photonic circuits. , 2020, , .		1
52	Breathing Dissipative Solitons in Microresonators. , 2017, , .		1
53	Experimental Generation and Time Multiplexing of Data- Carrying Nyquist Sinc Shaped Channels from a Single Microresonator-based Kerr Frequency Comb. , 2019, , .		1
54	Universal dynamics and deterministic switching of dissipative Kerr solitons in optical microresonators. , 2017, , .		1

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55	Ultrafast Dual-Comb Distance Metrology Using Dissipative Kerr Solitons. , 2017, , .		1
56	Tunable Insertion of Uniform-Amplitude Multiple Coherent Lines into a Kerr Frequency Comb Using Nyquist Pulse Generation. , 2018, , .		1
57	Demonstration of Multiple Kerr-Frequency-Comb Generation Using Different Lines from Another Kerr Comb Located up to a 50 km Distance. , 2018, , .		1
58	Spectral multiplexing of dissipative Kerr solitons in a single optical microresonator. , 2020, , .		1
59	Massively parallel coherent LiDAR using dissipative Kerr solitons. , 2020, , .		1
60	Microresonator Dual-Comb Coherent FMCW LiDAR. , 2020, , .		1
61	Kramersâ€“Kronig detection of four 20â€‰Gbaud 16-QAM channels using Kerr combs for a shared phase estimation. Optics Letters, 2020, 45, 1794.	1.7	1
62	Raman Self-Frequency Shift of Dissipative Kerr Solitons in an Optical Microresonator. , 2016, , .		0
63	Chip-scale frequency comb generators for high-speed communications and optical metrology. , 2017, , .		0
64	Soliton dynamics in optical micro resonators (Conference Presentation). , 2017, , .		0
65	Universal dynamics and deterministic switching of dissipative Kerr solitons in optical microresonators. , 2017, , .		0
66	Breathing dissipative solitons in microresonators. , 2017, , .		0
67	Scalable and Reconfigurable Optical Tap-Delay-Line for Multichannel Equalization and Correlation of 20-Gbaud QPSK Signals using Nonlinear Wave Mixing and a Microresonator Kerr Frequency Comb. , 2018, , .		0
68	Ultralow-Power Photonic Chip-Based Soliton Frequency Combs. , 2018, , .		0
69	Dissipative Kerr solitons in photonic chip-based microresonators. , 2018, , .		0
70	Spatially-Multiplexed Solitons in Optical Microresonators. , 2018, , .		0
71	Photonic-assisted analog-to-digital conversion using integrated soliton microcombs. , 2019, , .		0
72	Coupling Ideality of Integrated Silicon Nitride Microresonators for Nonlinear Photonics. , 2016, , .		0

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73	Experimental Generation of High-Coherence Sub-Prime Comb Lines with Multiple Sub-Lines in a Kerr Frequency Comb using Dual Pumps. , 2016, , .		0
74	Experimental Demonstration of 7-fold Multicasting of a 20-Gbaud QPSK Signal using Kerr Frequency Combs. , 2016, , .		0
75	Experimental Demonstration of Dual-Comb Generation by XPM Between Two Polarization States in a Microresonator. , 2017, , .		0
76	Soliton breathing induced by avoided mode crossing in optical microresonators. , 2017, , .		0
77	Soliton Kerr Frequency Combs with Octave Bandwidth in Integrated Si3N4 Microresonators. , 2017, , .		0
78	Microresonator soliton frequency combs. , 2018, , .		0
79	Electrically Driven Ultra-compact Photonic Integrated Soliton Microcomb. , 2019, , .		0
80	Advanced dispersion engineering of dispersive waves in Si3N4 microresonators. , 2019, , .		0
81	Ultralow-power chip-based soliton microcombs for photonic integration. , 2019, , .		0
82	Photonic Integrated K-Band Microwave Oscillator Based on Silicon Nitride Soliton Microcomb. , 2019, , .		0
83	Perfect soliton crystals in optical microresonators. , 2019, , .		0
84	Experimental demonstration of three-fold wavelength multicasting of a 64-QAM 120-Gbit/s data channel using a Kerr frequency comb and nonlinear wave mixing. , 2019, , .		0
85	Multiplexing soliton-combs in optical microresonators. , 2019, , .		0
86	Massively parallel coherent LiDAR using dissipative Kerr solitons. , 2020, , .		0
87	Two-soliton Microcombs Enabled Reconfigurable Microwave Photonic Filters. , 2020, , .		0