Mark Shtaif

List of Publications by Year
in descending order

137 papers	4,890 citations	87723 38 h-index	102304 66 g-index
137 all docs	137 docs citations	137 times ranked	1898 citing authors

#	Article	IF	Citations
1	Kramersâ€“Kronig coherent receiver. Optica, 2016, 3, 1220.	4.8	494
2	Properties of nonlinear noise in long, dispersion-uncompensated fiber links. Optics Express, 2013, 21, 25685.	1.7	310
3	Accumulation of nonlinear interference noise in fiber-optic systems. Optics Express, 2014, 22, 14199.	1.7	214
4	Analysis of intrachannel nonlinear effects in highly dispersed optical pulse transmission. IEEE Photonics Technology Letters, 2000, 12, 392-394.	1.3	212
5	Inter-Channel Nonlinear Interference Noise in WDM Systems: Modeling and Mitigation. Journal of Lightwave Technology, 2015, 33, 1044-1053.	2.7	142
6	Modeling of Nonlinear Propagation in Space-Division Multiplexed Fiber-Optic Transmission. Journal of Lightwave Technology, 2016, 34, 36-54.	2.7	140
7	Nonlinear propagation in multi-mode fibers in the strong coupling regime. Optics Express, 2012, 20, 11673.	1.7	134
8	Stokes-space analysis of modal dispersion in fibers with multiple mode transmission. Optics Express, 2012, 20, 11718.	1.7	133
9	The statistics of polarization-dependent loss in optical communication systems. IEEE Photonics Technology Letters, 2002, 14, 313-315.	1.3	128
10	Coupled Manakov equations in multimode fibers with strongly coupled groups of modes. Optics Express, 2012, 20, 23436.	1.7	127
11	Kramersâ€“Kronig Receivers for 100-km Datacenter Interconnects. Journal of Lightwave Technology, 2018, 36, 79-89.	2.7	119
12	Cancellation of timing and amplitude jitter in symmetric links using highly dispersed pulses. IEEE Photonics Technology Letters, 2001, 13, 445-447.	1.3	107
13	System impact of intra-channel nonlinear effects in highly dispersed optical pulse transmission. IEEE Photonics Technology Letters, 2000, 12, 1633-1635.	1.3	86
14	Performance degradation in coherent polarization multiplexed systems as a result of polarization dependent loss. Optics Express, 2008, 16, 13918.	1.7	80
15	Mean-square magnitude of all orders of polarization mode dispersion and the relation with the bandwidth of the principal states. IEEE Photonics Technology Letters, 2000, 12, 53-55.	1.3	79
16	Kramersâ€“Kronig receivers. Advances in Optics and Photonics, 2019, 11, 480.	12.1	76
17	New bounds on the capacity of the nonlinear fiber-optic channel. Optics Letters, 2014, 39, 398.	1.7	72
18	Pulse Collision Picture of Inter-Channel Nonlinear Interference in Fiber-Optic Communications. Journal of Lightwave Technology, 2016, 34, 593-607.	2.7	70

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19	Analytical solution of wave mixing between short optical pulses in a semiconductor optical amplifier. Applied Physics Letters, 1995, 66, 1458-1460.	1.5	65
20	Random coupling between groups of degenerate fiber modes in mode multiplexed transmission. Optics Express, 2013, 21, 9484.	1.7	65
21	A Shaping Algorithm for Mitigating Inter-Channel Nonlinear Phase-Noise in Nonlinear Fiber Systems. Journal of Lightwave Technology, 2016, 34, 3884-3889.	2.7	64
22	Polarization Multiplexing With the Kramers-Kronig Receiver. Journal of Lightwave Technology, 2017, 35, 5418-5424.	2.7	63
23	On the capacity of intensity modulated systems using optical amplifiers. IEEE Photonics Technology Letters, 2001, 13, 1029-1031.	1.3	60
24	Analysis of intensity interference caused by cross-phase modulation in dispersive optical fibers. IEEE Photonics Technology Letters, 1998, 10, 979-981.	1.3	59
25	A compensator for the effects of high-order polarization mode dispersion in optical fibers. IEEE Photonics Technology Letters, 2000, 12, 434-436.	1.3	55
26	Study of the frequency autocorrelation of the differential group delay in fibers with polarization mode dispersion. Optics Letters, 2000, 25, 707.	1.7	54
27	Loss of polarization entanglement in a fiber-optic system with polarization mode dispersion in one optical path. Optics Letters, 2011, 36, 43.	1.7	54
28	The delay spread in fibers for SDM transmission: dependence on fiber parameters and perturbations. Optics Express, 2015, 23, 2196.	1.7	54
29	Noise spectra of semiconductor optical amplifiers: relation between semiclassical and quantum descriptions. IEEE Journal of Quantum Electronics, 1998, 34, 869-878.	1.0	52
30	The effect of the frequency dependence of PMD on the performance of optical communications systems. IEEE Photonics Technology Letters, 2003, 15, 1369-1371.	1.3	51
31	218-Gb/s Single-Wavelength, Single-Polarization, Single-Photodiode Transmission Over 125-km of Standard Singlemode Fiber Using Kramers-Kronig Detection. , 2017, , .		51
32	Nonlinear interference noise in space-division multiplexed transmission through optical fibers. Optics Express, 2017, 25, 13055.	1.7	49
33	Noise characteristics of nonlinear semiconductor optical amplifiers in the Gaussian limit. IEEE Journal of Quantum Electronics, 1996, 32, 1801-1809.	1.0	48
34	Intensity impulse response of SDM links. Optics Express, 2015, 23, 5738.	1.7	45
35	Signal-to-Noise-Ratio Degradation Caused by Polarization-Dependent Loss and the Effect of Dynamic Gain Equalization. Journal of Lightwave Technology, 2004, 22, 1856-1871.	2.7	44
36	Analytical description of cross-phase modulation in dispersive optical fibers. Optics Letters, 1998, 23, 1191.	1.7	42

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37	Modeling and performance metrics of MIMO-SDM systems with different amplification schemes in the presence of mode-dependent loss. Optics Express, 2015, 23, 2203.	1.7	40
38	Modeling the Bit-Error-Rate Performance of Nonlinear Fiber-Optic Systems. Journal of Lightwave Technology, 2016, 34, 3482-3489.	2.7	40
39	Nonlocal compensation of polarization mode dispersion in the transmission of polarization entangled photons. Optics Express, 2011, 19, 1728.	1.7	38
40	Four-wave mixing among short optical pulses in semiconductor optical amplifiers. IEEE Photonics Technology Letters, 1995, 7, 1001-1003.	1.3	37
41	The relation between optical duobinary modulation and spectral efficiency in WDM systems. IEEE Photonics Technology Letters, 1999, 11, 712-714.	1.3	33
42	Noise properties of nonlinear semiconductor optical amplifiers. Optics Letters, 1996, 21, 1851.	1.7	32
43	Cross-phase modulation distortion measurements in multispan WDM systems. IEEE Photonics Technology Letters, 2000, 12, 88-90.	1.3	32
44	Crosstalk in WDM systems caused by cross-phase modulation in erbium-doped fiber amplifiers. IEEE Photonics Technology Letters, 1998, 10, 1796-1798.	1.3	31
45	Raman amplification in multimode fibers with random mode coupling. Optics Letters, 2013, 38, 1188.	1.7	30
46	Nonlinear Phase Noise in Phase-Modulated WDM Fiber-Optic Communications. IEEE Photonics Technology Letters, 2004, 16, 1307-1309.	1.3	29
47	Bit-error rate of optical DPSK in fiber systems by multicanonical Monte Carlo Simulations. IEEE Photonics Technology Letters, 2005, 17, 1355-1357.	1.3	29
48	Large-mode-area fused-fiber combiners, with nearly lowest-mode brightness conservation. Optics Letters, 2011, 36, 2874.	1.7	28
49	Roadmap on multimode photonics. Journal of Optics (United Kingdom), 2022, 24, 083001.	1.0	27
50	Polarization-dependent loss as a waveform-distorting mechanism and its effect on fiber-optic systems. Journal of Lightwave Technology, 2005, 23, 923-930.	2.7	26
51	The Jacobi MIMO Channel. IEEE Transactions on Information Theory, 2013, 59, 2426-2441.	1.5	26
52	Assessing the Effects of Mode-Dependent Loss in Space-Division Multiplexed Systems. Journal of Lightwave Technology, 2014, 32, 1317-1322.	2.7	26
53	Kramersâ€"Kronig PAM Transceiver and Two-Sided Polarization-Multiplexed Kramersâ€"Kronig Transceiver. Journal of Lightwave Technology, 2018, 36, 468-475.	2.7	26
54	Secure communication in fiber optic systems via transmission of broad-band optical noise. Optics Express, 2008, 16, 3383.	1.7	24

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55	Stokes-Space Analysis of Modal Dispersion of SDM Fibers With Mode-Dependent Loss: Theory and Experiments. Journal of Lightwave Technology, 2020, 38, 1668-1677.	2.7	24
56	Contribution of timing jitter and amplitude distortion to XPM system penalty in WDM systems. IEEE Photonics Technology Letters, 1999, 11, 748-750.	1.3	23
57	The Brownian-bridge method for simulating polarization mode dispersion in optical communications systems. IEEE Photonics Technology Letters, 2003, 15, 51-53.	1.3	23
58	Iterative Symbol Recovery for Power-Efficient DC-Biased Optical OFDM Systems. Journal of Lightwave Technology, 2016, 34, 2331-2338.	2.7	23
59	Kramers-Kronig PAM transceiver. , 2017, , .		23
60	Polarization-Dependent Loss and Its Effect on the Signal-to-Noise Ratio in Fiber-Optic Systems. IEEE Photonics Technology Letters, 2004, 16, 671-673.	1.3	21
61	Use of space-time coding in coherent polarization-multiplexed systems suffering from polarization-dependent loss. Optics Letters, 2010, 35, 3547.	1.7	21
62	Cross-phase modulation in an L-band EDFA. IEEE Photonics Technology Letters, 1999, 11, 1575-1577.	1.3	20
63	Experimental study of the statistical properties of nonlinearly amplified signals in semiconductor optical amplifiers. IEEE Photonics Technology Letters, 1997, 9, 904-906.	1.3	19
64	Information Capacity of Direct Detection Optical Transmission Systems. Journal of Lightwave Technology, 2018, 36, 689-694.	2.7	19
65	Calculation of bit error rates in all-optical signal processing applications exploiting nondegenerate few-wave mixing in semiconductor optical amplifiers. Journal of Lightwave Technology, 1996, 14, 2069-2077.	2.7	18
66	BER Performance of MDL-Impaired MIMO-SDM Systems With Finite Constellation Inputs. IEEE Photonics Technology Letters, 2014, 26, 1223-1226.	1.3	18
67	Experimental characterization of nonlinear interference noise as a process of intersymbol interference. Optics Letters, 2018, 43, 1123.	1.7	18
68	Blind Equalization in Optical Communications Using Independent Component Analysis. Journal of Lightwave Technology, 2013, 31, 2043-2049.	2.7	17
69	NLIN Mitigation Using Turbo Equalization and an Extended Kalman Smoother. Journal of Lightwave Technology, 2019, 37, 1885-1892.	2.7	17
70	Single-wavelength, single-polarization, single- photodiode kramers-kronig detection of 440-Gb/s entropy-loaded discrete multitone modulation transmitted over 100-km SSMF. , 2017, , .		16
71	Kalman-MLSE Equalization for NLIN Mitigation. Journal of Lightwave Technology, 2018, 36, 2541-2550.	2.7	16
72	Beam quality output of a few-modes fiber seeded by an off-center single-mode fiber source. Optics Letters, 2009, 34, 1795.	1.7	14

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73	Reduction of Cross-Phase Modulation-Induced Impairments in Long-Haul WDM Telecommunication Systems Via Spectral Inversion. IEEE Photonics Technology Letters, 2004, 16, 677-679.	1.3	13
74	Balanced Versus Single-Ended Detection of DPSK: Degraded Advantage Due to Fiber Nonlinearities. IEEE Photonics Technology Letters, 2007, 19, 164-166.	1.3	13
75	Capacity limitations in fiber-optic communication systems as a result of polarization-dependent loss. Optics Letters, 2009, 34, 3613.	1.7	13
76	Quantum Limits on the Energy Consumption of Optical Transmission Systems. Journal of Lightwave Technology, 2014, 32, 1853-1860.	2.7	13
77	4 Ã— 240 Gb/s Dense WDM and PDM Kramers-Kronig Detection with 125-km SSMF Transmission. , 2017, , .		13
78	The Enhanced Kramers Kronig Receiver. , 2018, , .		13
79	The underaddressed optical multiple-input, multiple-output channel: capacity and outage. Optics Letters, 2012, 37, 3150.	1.7	12
80	Optical implementation of a spaceâ€"time-trellis code for enhancing the tolerance of systems to polarization-dependent loss. Optics Letters, 2013, 38, 118.	1.7	12
81	Spatial beam properties of combined lasersâ€™ delivery fibers. Optics Letters, 2012, 37, 1412.	1.7	11
82	Mitigation of inter-channel nonlinear interference in WDM systems. , 2014, , .		11
83	Transmission in 125-km SMF with 3.9 bit/s/Hz spectral efficiency using a single-drive MZM and a direct-detection Kramers-Kronig receiver without optical CD compensation. , 2018, , .		11
84	Correlated Nonlinear Phase-Noise in Multi-Subcarrier Systems: Modeling and Mitigation. Journal of Lightwave Technology, 2020, 38, 1148-1156.	2.7	10
85	Study of the two-frequency moment generating function of the PMD vector. IEEE Photonics Technology Letters, 2003, 15, 1713-1715.	1.3	9
86	Improving the Accuracy of Mean DGD Estimates by Analysis of Second-Order PMD Statistics. IEEE Photonics Technology Letters, 2004, 16, 792-794.	1.3	9
87	Disjoint detection in polarization multiplexed communication systems affected by polarization dependent loss. Optics Express, 2009, 17, 8173.	1.7	9
88	Nonlinear propagation equations in fibers with multiple modesâ€"Transitions between representation bases. APL Photonics, 2019, 4, 022806.	3.0	9
89	Correlations and phase noise in NLIN- modelling and system implications. , 2016, , .		7
90	Statistical distribution of polarization-dependent loss in systems characterized by the hinge model. Optics Letters, 2020, 45, 1224.	1.7	7

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91	Optoelectronic mixing using a short cavity distributed Bragg reflector laser. Journal of Lightwave Technology, 1998, 16, 443-447.	2.7	6
92	Ultrahigh Data-Rate Transmission Using a Dense Dispersion Map With Two-Fold Periodicity. IEEE Photonics Technology Letters, 2008, 20, 620-622.	1.3	6
93	Nonlinear phase and polarization rotation noise in fully loaded WDM systems. , 2015, , .		6
94	Modeling the evolution of spatial beam parameters in parabolic index fibers. Optics Letters, 2012, 37, 3636.	1.7	5
95	Equalization Methods for Out-of-Band Nonlinearity Mitigation in Fiber-Optic Communications. Applied Sciences (Switzerland), 2019, 9, 511.	1.3	5
96	An optically triggered oscillator based on wave coupling in a semiconductor optical amplifier. IEEE Journal of Quantum Electronics, 1994, 30, 2188-2193.	1.0	4
97	Noiseless amplification and signal-to-noise ratio in single-sideband transmission. Optics Letters, 2003, 28, 203.	1.7	4
98	Understanding nonlinear phase noise in optical DPSK systems. , 0, , .		4
99	Effects of DGE channel bandwidth on nonlinear ULH systems. , 2005, , .		4
100	Optical DPASK and DQPSK: a comparative analysis for linear and nonlinear transmission. IEEE Journal of Selected Topics in Quantum Electronics, 2006, 12, 581-588.	1.9	4
101	Propagation effects in few-mode fibers. , 2017, , .		4
102	Universal Virtual Lab: A Fast and Accurate Simulation Tool for Wideband Nonlinear DWDM Systems. Journal of Lightwave Technology, 2022, 40, 2441-2455.	2.7	4
103	Improved bit-error-rate performance in frequency conversion of high-bit-rate data based on cross gain compression in semiconductor optical amplifiers. IEEE Photonics Technology Letters, 1996, 8, 1474-1476.	1.3	3
104	PMD penalties in long nonsoliton systems and the effect of inline filtering. IEEE Photonics Technology Letters, 2006, 18, 1179-1181.	1.3	3
105	Beneficial use of spectral broadening resulting from the nonlinearity of the fiber-optic channel. Optics Letters, 2012, 37, 4458.	1.7	3
106	Coherent detection with an incoherent local oscillator. Optics Express, 2018, 26, 33970.	1.7	3
107	Enhancing the Kramersâ€"Kronig receiver via dispersion-based spatial diversity. Optics Letters, 2020, 45, 3494.	1.7	3
108	Band splitting and modal dispersion induced by symmetry braking in coupled-resonator slowlight waveguide structures. Optics Express, 2010, 18, 1762.	1.7	2

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109	Carrier-envelope phase locking of multi-pulse lasers with an intra-cavity Mach-Zehnder interferometer. Optics Express, 2011, 19, 23202.	1.7	2
110	Mode-division multiplexing for next-generation optical transport. , 2012, , .		2
111	Information rates in the optical nonlinear phase noise channel. , 2013, , .		2
112	Use of the Kramersâ€“Kronig receiver with a low-cost dual-drive Machâ€“Zehnder transmitter. Optics Communications, 2019, 453, 124419.	1.0	2
113	Fundamental Limits to the Measurement of the Polarization of Classical Light. Journal of Lightwave Technology, 2021, 39, 2387-2396.	2.7	2
114	Modelling of polarization mode dispersion in optical communications systems. Journal of Optical and Fiber Communications Research, 2004, 1, 248-265.	0.5	1
115	Correction to "Improving the Accuracy of Mean DGD Estimates by Analysis of Second-Order PMD Statistics". IEEE Photonics Technology Letters, 2004, 16, 2398-2398.	1.3	1
116	The effect of strong inline filtering on the amplitude jitter in long optical systems. Journal of Lightwave Technology, 2006, 24, 3097-3102.	2.7	1
117	Increasing the PDL tolerance of systems by use of the Golden-code. , 2010, , .		1
118	Disappearance of polarization entanglement due to the relative orientation of two fiber's PMD vectors. , 2010, , .		1
119	Modeling of linear and nonlinear coupling in multiple-mode fiber optic transmission with MIMO signal processing. , 2012, , .		1
120	Approaching fundamental energy consumption limits in optical communications. , 2013, , .		1
121	Inter-modal nonlinear interference in SDM systems and its impact on information capacity. , 2016, , .		1
122	Experimental Characterization of the Time Correlation Properties of Nonlinear Interference Noise. , 2017, , .		1
123	Universal Virtual Lab: A Fast and Accurate Simulation Method for Nonlinear DWDM Systems. , 2021, , .		1
124	Noiseless amplification and signal-to-noise ratio in single-sideband transmission: erratum. Optics Letters, 2003, 28, 1278.	1.7	0
125	Optimal optical power for DPASK over a nonlinear fiber-optic channel. , 2005, , .		0
126	The four-frequency autocorrelation function of polarization mode dispersion and its application to measurements. Journal of Lightwave Technology, 2005, 23, 3773-3780.	2.7	0

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127	ULH systems with strong filters acting as amplitude regenerators. , 2006, , .		0
128	The changing paradigm of terrestrial long-haul transmission system design. , 2008, , .		0
129	The role of polarization dependent loss in polarization multiplexed transmission. , 2010, , .		0
130	Propagation of polarization-entangled photon pairs in optical fibers. , 2010, , .		0
131	Abrupt disappearance of entangelement in fibers with polarization mode dispersion. , 2011, , .		0
132	Modeling the evolution of spatial beam parameters in parabolic index fibers: erratum. Optics Letters, 2013, 38, 1067.	1.7	0
133	Criticality of assumptions in the study of performance degradation caused by mode-dependent loss in SDM systems. , 2014, , .		0
134	MSE reduction in digital compensation for non-linear analog channels. , 2014, , .		0
135	Ultra high-rate optical key distribution. , 2008, , .		0
136	Kramers-Kronig coherent receiver. , 2018, , .		0
137	Kramersâ€“Kronig receivers: erratum. Advances in Optics and Photonics, 2019, 11, 826.	12.1	0