

Guodong Xie

List of Publications by Year in descending order

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96
papers

6,006
citations

136885

32
h-index

155592

55
g-index

97
all docs

97
docs citations

97
times ranked

3719
citing authors

#	ARTICLE	IF	CITATIONS
1	High-capacity millimetre-wave communications with orbital angular momentum multiplexing. <i>Nature Communications</i> , 2014, 5, 4876.	5.8	972
2	Roadmap on structured light. <i>Journal of Optics (United Kingdom)</i> , 2017, 19, 013001.	1.0	888
3	100-Tbit/s free-space data link enabled by three-dimensional multiplexing of orbital angular momentum, polarization, and wavelength. <i>Optics Letters</i> , 2014, 39, 197.	1.7	443
4	4 – 20-Gbit/s mode division multiplexing over free space using vector modes and a q-plate mode (de)multiplexer. <i>Optics Letters</i> , 2015, 40, 1980.	1.7	372
5	Atmospheric turbulence effects on the performance of a free space optical link employing orbital angular momentum multiplexing. <i>Optics Letters</i> , 2013, 38, 4062.	1.7	233
6	Mode division multiplexing using an orbital angular momentum mode sorter and MIMO-DSP over a graded-index few-mode optical fibre. <i>Scientific Reports</i> , 2015, 5, 14931.	1.6	216
7	Adaptive-optics-based simultaneous pre- and post-turbulence compensation of multiple orbital-angular-momentum beams in a bidirectional free-space optical link. <i>Optica</i> , 2014, 1, 376.	4.8	177
8	Performance metrics and design considerations for a free-space optical orbital-angular-momentum multiplexed communication link. <i>Optica</i> , 2015, 2, 357.	4.8	164
9	Orbital Angular Momentum-based Space Division Multiplexing for High-capacity Underwater Optical Communications. <i>Scientific Reports</i> , 2016, 6, 33306.	1.6	156
10	Adaptive optics compensation of multiple orbital angular momentum beams propagating through emulated atmospheric turbulence. <i>Optics Letters</i> , 2014, 39, 2845.	1.7	138
11	Experimental characterization of a 400-Gbit/s orbital angular momentum multiplexed free-space optical link over 120 m. <i>Optics Letters</i> , 2016, 41, 622.	1.7	136
12	Recent advances in high-capacity free-space optical and radio-frequency communications using orbital angular momentum multiplexing. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2017, 375, 20150439.	1.6	131
13	Line-of-Sight Millimeter-Wave Communications Using Orbital Angular Momentum Multiplexing Combined With Conventional Spatial Multiplexing. <i>IEEE Transactions on Wireless Communications</i> , 2017, 16, 3151-3161.	6.1	130
14	Nonlinear conversion efficiency in Kerr frequency comb generation. <i>Optics Letters</i> , 2014, 39, 6126.	1.7	125
15	Crosstalk mitigation in a free-space orbital angular momentum multiplexed communication link using 4 – 4 MIMO equalization. <i>Optics Letters</i> , 2014, 39, 4360.	1.7	116
16	Phase correction for a distorted orbital angular momentum beam using a Zernike polynomials-based stochastic-parallel-gradient-descent algorithm. <i>Optics Letters</i> , 2015, 40, 1197.	1.7	101
17	Experimental demonstration of a 200-Gbit/s free-space optical link by multiplexing Laguerre-Gaussian beams with different radial indices. <i>Optics Letters</i> , 2016, 41, 3447.	1.7	85
18	High-Capacity Free-Space Optical Communications Between a Ground Transmitter and a Ground Receiver via a UAV Using Multiplexing of Multiple Orbital-Angular-Momentum Beams. <i>Scientific Reports</i> , 2017, 7, 17427.	1.6	81

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19	Using a complex optical orbital-angular-momentum spectrum to measure object parameters. Optics Letters, 2017, 42, 4482.	1.7	81
20	Atmospheric turbulence mitigation in an OAM-based MIMO free-space optical link using spatial diversity combined with MIMO equalization. Optics Letters, 2016, 41, 2406.	1.7	77
21	Underwater optical communications using orbital angular momentum-based spatial division multiplexing. Optics Communications, 2018, 408, 21-25.	1.0	70
22	Free-space optical communications using orbital-angular-momentum multiplexing combined with MIMO-based spatial multiplexing. Optics Letters, 2015, 40, 4210.	1.7	69
23	Mode-Division-Multiplexing of Multiple Bessel-Gaussian Beams Carrying Orbital-Angular-Momentum for Obstruction-Tolerant Free-Space Optical and Millimetre-Wave Communication Links. Scientific Reports, 2016, 6, 22082.	1.6	63
24	Experimental demonstration of 20-Gbit/s data encoding and 2-channels channel hopping using orbital angular momentum modes. Optics Letters, 2015, 40, 5810.	1.7	59
25	400-Gbit/s QPSK free-space optical communication link based on four-fold multiplexing of Hermite-Gaussian or Laguerre-Gaussian modes by varying both modal indices. Optics Letters, 2018, 43, 3889.	1.7	55
26	Perspectives on advances in high-capacity, free-space communications using multiplexing of orbital-angular-momentum beams. APL Photonics, 2021, 6, .	3.0	53
27	Turbulence compensation of an orbital angular momentum and polarization-multiplexed link using a data-carrying beacon on a separate wavelength. Optics Letters, 2015, 40, 2249.	1.7	46
28	High-Speed and Bias-Free Optical Random Number Generator. IEEE Photonics Technology Letters, 2012, 24, 437-439.	1.3	45
29	Multipath Effects in Millimetre-Wave Wireless Communication using Orbital Angular Momentum Multiplexing. Scientific Reports, 2016, 6, 33482.	1.6	37
30	A Novel Polarization-Multiplexing System for Free-Space Optical Links. IEEE Photonics Technology Letters, 2011, 23, 1484-1486.	1.3	35
31	Design challenges and guidelines for free-space optical communication links using orbital-angular-momentum multiplexing of multiple beams. Journal of Optics (United Kingdom), 2016, 18, 074014.	1.0	34
32	Power loss mitigation of orbital-angular-momentum-multiplexed free-space optical links using nonzero radial index Laguerre-Gaussian beams. Journal of the Optical Society of America B: Optical Physics, 2017, 34, 1.	0.9	32
33	Orbital-angular-momentum-based reconfigurable optical switching and routing. Photonics Research, 2016, 4, B5.	3.4	31
34	Spatial light structuring using a combination of multiple orthogonal orbital angular momentum beams with complex coefficients. Optics Letters, 2017, 42, 991.	1.7	31
35	Reconfigurable switching of orbital-angular-momentum-based free-space data channels. Optics Letters, 2013, 38, 5118.	1.7	29
36	32-Gbit/s 60-GHz millimeter-wave wireless communication using orbital angular momentum and polarization multiplexing. , 2016, , .		29

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37	Orbital-angular-momentum-multiplexed free-space optical communication link using transmitter lenses. <i>Applied Optics</i> , 2016, 55, 2098.	2.1	27
38	Reconfigurable 2 Å– 2 orbital angular momentum based optical switching of 50-Gbaud QPSK channels. <i>Optics Express</i> , 2014, 22, 756.	1.7	22
39	Spatially multiplexed orbital-angular-momentum-encoded single photon and classical channels in a free-space optical communication link. <i>Optics Letters</i> , 2017, 42, 4881.	1.7	22
40	Single-End Adaptive Optics Compensation for Emulated Turbulence in a Bi-Directional 10-Mbit/s per Channel Free-Space Quantum Communication Link Using Orbital-Angular-Momentum Encoding. <i>Research</i> , 2019, 2019, 8326701.	2.8	21
41	Demonstration of Tunable Steering and Multiplexing of Two 28â€™GHz Data Carrying Orbital Angular Momentum Beams Using Antenna Array. <i>Scientific Reports</i> , 2016, 6, 37078.	1.6	20
42	Effects of Atmosphere Dominated Phase Fluctuation and Intensity Scintillation to DPSK System. , 2011, , .		18
43	Experimental measurements of multipath-induced intra- and inter-channel crosstalk effects in a millimeter-wave communications link using orbital-angular-momentum multiplexing. , 2015, , .		18
44	Demonstration of a 10â€™Mbit/s quantum communication link by encoding data on two Laguerreâ€™Gaussian modes with different radial indices. <i>Optics Letters</i> , 2018, 43, 5639.	1.7	18
45	Experimental demonstration of 16 Gbit/s millimeter-wave communications using MIMO processing of 2 OAM modes on each of two transmitter/receiver antenna apertures. , 2014, , .		17
46	Experimental demonstration of 16-Gbit/s millimeter-wave communications link using thin metamaterial plates to generate data-carrying orbital-angular-momentum beams. , 2015, , .		17
47	OFDM over mm-Wave OAM Channels in a Multipath Environment with Intersymbol Interference. , 2016, , .		17
48	Demonstration of a 280â€™Gbit/s free-space space-division-multiplexing communications link utilizing plane-wave spatial multiplexing. <i>Optics Letters</i> , 2016, 41, 851.	1.7	17
49	Dual-pump generation of high-coherence primary Kerr combs with multiple sub-lines. <i>Optics Letters</i> , 2017, 42, 595.	1.7	17
50	Invited Article: Division and multiplication of the state order for data-carrying orbital angular momentum beams. <i>APL Photonics</i> , 2016, 1, .	3.0	16
51	Coherent optical wireless communication link employing orbital angular momentum multiplexing in a ballistic and diffusive scattering medium. <i>Optics Letters</i> , 2019, 44, 691.	1.7	15
52	Tunable generation and angular steering of a millimeter-wave orbital-angular-momentum beam using differential time delays in a circular antenna array. , 2016, , .		14
53	Reconfigurable orbital angular momentum and polarization manipulation of 100â€™Gbit/s QPSK data channels. <i>Optics Letters</i> , 2013, 38, 5240.	1.7	13
54	Demonstration of optical multicasting using Kerr frequency comb lines. <i>Optics Letters</i> , 2016, 41, 3876.	1.7	13

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55	Orbital angular momentum beams generated by passive dielectric phase masks and their performance in a communication link. <i>Optics Letters</i> , 2017, 42, 2746.	1.7	13
56	400-Gbit/s Free-Space Optical Communications Link Over 120-meter Using Multiplexing of 4 Collocated Orbital-Angular-Momentum Beams. , 2015, , .		12
57	Demonstration of 8-mode 32-Gbit/s millimeter-wave free-space communication link using 4 orbital-angular-momentum modes on 2 polarizations. , 2014, , .		11
58	Tunable insertion of multiple lines into a Kerr frequency comb using electro-optical modulators. <i>Optics Letters</i> , 2017, 42, 3765.	1.7	10
59	Detecting Object Open Angle and Direction Using Machine Learning. <i>IEEE Access</i> , 2020, 8, 12300-12306.	2.6	10
60	Demonstration of OAM-based MIMO FSO link using spatial diversity and MIMO equalization for turbulence mitigation. , 2016, , .		10
61	4 Gbit/s Underwater Optical Transmission Using OAM Multiplexing and Directly Modulated Green Laser. , 2016, , .		9
62	Experimental demonstration of beaconless beam displacement tracking for an orbital angular momentum multiplexed free-space optical link. <i>Optics Letters</i> , 2018, 43, 2392.	1.7	8
63	Single-pixel identification of 2-dimensional objects by using complex Laguerreâ€“Gaussian spectrum containing both azimuthal and radial modal indices. <i>Optics Communications</i> , 2021, 481, 126557.	1.0	8
64	Space division multiplexing in a basis of vector modes. , 2014, , .		6
65	Performance metrics and design parameters for an FSO communications link based on multiplexing of multiple orbital-angular-momentum beams. , 2014, , .		6
66	Effect of a breather soliton in Kerr frequency combs on optical communication systems. <i>Optics Letters</i> , 2016, 41, 1764.	1.7	6
67	Performance of Using Antenna Arrays to Generate and Receive mm-Wave Orbital-Angular-Momentum Beams. , 2017, , .		6
68	Limited-size aperture effects in an orbital-angular-momentum-multiplexed free-space optical data link between a ground station and a retro-reflecting UAV. <i>Optics Communications</i> , 2019, 450, 241-245.	1.0	6
69	Experimental Demonstration of a 400-Gbit/s Free Space Optical Link Using Multiple Orbital-Angular-Momentum Beams with Higher Order Radial Indices. , 2015, , .		3
70	Demonstration of Adaptive Optics Compensation for Emulated Atmospheric Turbulence in a Two-Orbital-Angular-Momentum Encoded Free-Space Quantum Link at 10 Mbits/s. , 2018, , .		3
71	Dividing and multiplying the mode order for orbital-angular-momentum beams. , 2015, , .		2
72	Experimental Effect of Scattering on an 80-Gbit/s QPSK Wireless Link using 4 Orbital-Angular-Momentum Beams. , 2018, , .		2

#	ARTICLE	IF	CITATIONS
73	Outage Probability and SER Analysis of Partial Relay Selection in Amplify-and-Forward MIMO Relay Systems. , 2011, , .		1
74	Effects of outdated channel state information in partial relay selection systems with multiple antennas at the destination. , 2011, , .		1
75	Analysis of aperture size for partially receiving and de-multiplexing 100-Gbit/s optical orbital angular momentum channels over free-space link. , 2013, , .		1
76	Demonstration of Distance Emulation for an Orbital-Angular-Momentum Beam. , 2015, , .		1
77	Causes and mitigation of modal crosstalk in OAM multiplexed optical communication links. , 2021, , 259-289.		1
78	Experimental Demonstration of an Orbital-Angular-Momentum Encoded Quantum Communication Link Co-propagating with a Classical Channel. , 2017, , .		1
79	Experimental Demonstration of 400-Gbit/s Free-Space Mode-Division-Multiplexing by Varying Both Indices when using Four Laguerre-Gaussian Modes or Four Hermite-Gaussian Modes. , 2018, , .		1
80	Experimental Beam Displacement Tracking and Correction of Data-Carrying Orbital-Angular-Momentum Beams in a Free-Space Optical Link. , 2017, , .		1
81	CMA Equalization for a 2 Gb/s Orbital Angular Momentum Multiplexed Optical Underwater Link through Thermally Induced Refractive Index Inhomogeneity. , 2016, , .		1
82	Experimental Demonstration of a 10-Mbit/s Quantum Link using Data Encoding on Orthogonal Laguerre-Gaussian Modes. , 2018, , .		1
83	Experimental utilization of repeated spatial-mode shifting for achieving discrete delays in a free-space recirculating loop. Optics Letters, 2018, 43, 5395.	1.7	1
84	Single-End Adaptive Optics Compensation for Emulated Turbulence in a Bi-Directional 10-Mbit/s per Channel Free-Space Quantum Communication Link Using Orbital-Angular-Momentum Encoding. Research, 2019, 2019, 1-10.	2.8	1
85	Experiment Turbulence Compensation of 50-Gbaud/s Orbital-Angular-Momentum QPSK Signals Using Intensity-only based SPGD Algorithm. , 2014, , .		0
86	Exploiting the unique intensity gradient of an orbital-angular-momentum beam for accurate receiver alignment monitoring in a free-space communication link. , 2015, , .		0
87	Impact of breather soliton in Kerr combs on the performance of communication systems. , 2015, , .		0
88	Free-space optical communications using encoding of data on different orbital-angular-momentum modes. Proceedings of SPIE, 2016, , .	0.8	0
89	Switchable detector array scheme to reduce the effect of single-photon detector's deadtime in a multi-bit/photon quantum link. Optics Communications, 2019, 441, 132-137.	1.0	0
90	Object Wedge Angle and Direction Identification Using Machine Learning Algorithms. , 2019, , .		0

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91	1-Tbit/s Orbital-Angular-Momentum Multiplexed Link Through Emulated Turbulence With a Data-Carrying Beacon on a Separate Wavelength for Compensation. , 2014, , .		0
92	Demonstration of a 280 G-bit/s communications link utilizing plane-wave multiplexing. , 2014, , .		0
93	Demonstration of using Passive Integrated Phase Masks to Generate Orbital-Angular-Momentum Beams in a Communications Link. , 2016, , .		0
94	Channel effects and mitigation approaches in free-space and underwater optical communications using orbital angular momentum multiplexing. , 2016, , .		0
95	Reduced Effect of Single-Photon-Detector Deadtime Using a Switchable Detector Array in an Orbital-Angular-Momentum (OAM) Encoded Quantum System. , 2017, , .		0
96	Power loss mitigation of orbital-angular-momentum-multiplexed free-space optical links using nonzero radial index Laguerre-Gaussian beams. Journal of the Optical Society of America B: Optical Physics, 2017, 34, 2656.	0.9	0