

# 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	Single-pixel identification of 2-dimensional objects by using complex Laguerre-Gaussian spectrum containing both azimuthal and radial modal indices. Optics Communications, 2021, 481, 126557.	1.0	8
2	Causes and mitigation of modal crosstalk in OAM multiplexed optical communication links. , 2021, , 259-289.		1
3	Perspectives on advances in high-capacity, free-space communications using multiplexing of orbital-angular-momentum beams. APL Photonics, 2021, 6, .	3.0	53
4	Detecting Object Open Angle and Direction Using Machine Learning. IEEE Access, 2020, 8, 12300-12306.	2.6	10
5	Limited-size aperture effects in an orbital-angular-momentum-multiplexed free-space optical data link between a ground station and a retro-reflecting UAV. Optics Communications, 2019, 450, 241-245.	1.0	6
6	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
7	Object Wedge Angle and Direction Identification Using Machine Learning Algorithms. , 2019, , .		0
8	Coherent optical wireless communication link employing orbital angular momentum multiplexing in a ballistic and diffusive scattering medium. Optics Letters, 2019, 44, 691.	1.7	15
9	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, 8326701.	2.8	21
10	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
11	Underwater optical communications using orbital angular momentum-based spatial division multiplexing. Optics Communications, 2018, 408, 21-25.	1.0	70
12	Experimental demonstration of beaconless beam displacement tracking for an orbital angular momentum multiplexed free-space optical link. Optics Letters, 2018, 43, 2392.	1.7	8
13	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
14	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
15	Demonstration of a 10-Mbit/s quantum communication link by encoding data on two Laguerre-Gaussian modes with different radial indices. Optics Letters, 2018, 43, 5639.	1.7	18
16	Experimental Demonstration of a 10-Mbit/s Quantum Link using Data Encoding on Orthogonal Laguerre-Gaussian Modes. , 2018, , .		1
17	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
18	Experimental Effect of Scattering on an 80-Gbit/s QPSK Wireless Link using 4 Orbital-Angular-Momentum Beams. , 2018, , .		2

#	ARTICLE	IF	CITATIONS
19	Experimental utilization of repeated spatial-mode shifting for achieving discrete delays in a free-space recirculating loop. <i>Optics Letters</i> , 2018, 43, 5395.	1.7	1
20	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
21	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
22	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
23	Roadmap on structured light. <i>Journal of Optics (United Kingdom)</i> , 2017, 19, 013001.	1.0	888
24	Performance of Using Antenna Arrays to Generate and Receive mm-Wave Orbital-Angular-Momentum Beams. , 2017, , .		6
25	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
26	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
27	Tunable insertion of multiple lines into a Kerr frequency comb using electro-optical modulators. <i>Optics Letters</i> , 2017, 42, 3765.	1.7	10
28	Using a complex optical orbital-angular-momentum spectrum to measure object parameters. <i>Optics Letters</i> , 2017, 42, 4482.	1.7	81
29	Dual-pump generation of high-coherence primary Kerr combs with multiple sub-lines. <i>Optics Letters</i> , 2017, 42, 595.	1.7	17
30	Power loss mitigation of orbital-angular-momentum-multiplexed free-space optical links using nonzero radial index Laguerre-Gaussian beams. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2017, 34, 1.	0.9	32
31	Spatial light structuring using a combination of multiple orthogonal orbital angular momentum beams with complex coefficients. <i>Optics Letters</i> , 2017, 42, 991.	1.7	31
32	Experimental Demonstration of an Orbital-Angular-Momentum Encoded Quantum Communication Link Co-propagating with a Classical Channel. , 2017, , .		1
33	Experimental Beam Displacement Tracking and Correction of Data-Carrying Orbital-Angular-Momentum Beams in a Free-Space Optical Link. , 2017, , .		1
34	Reduced Effect of Single-Photon-Detector Deadtime Using a Switchable Detector Array in an Orbital-Angular-Momentum (OAM) Encoded Quantum System. , 2017, , .		0
35	Power loss mitigation of orbital-angular-momentum-multiplexed free-space optical links using nonzero radial index Laguerre-Gaussian beams. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2017, 34, 2656.	0.9	0
36	Orbital Angular Momentum-based Space Division Multiplexing for High-capacity Underwater Optical Communications. <i>Scientific Reports</i> , 2016, 6, 33306.	1.6	156

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37	OFDM over mm-Wave OAM Channels in a Multipath Environment with Intersymbol Interference. , 2016, , .		17
38	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
39	Multipath Effects in Millimetre-Wave Wireless Communication using Orbital Angular Momentum Multiplexing. Scientific Reports, 2016, 6, 33482.	1.6	37
40	Invited Article: Division and multiplication of the state order for data-carrying orbital angular momentum beams. APL Photonics, 2016, 1, .	3.0	16
41	Demonstration of Tunable Steering and Multiplexing of Two 28â€™GHz Data Carrying Orbital Angular Momentum Beams Using Antenna Array. Scientific Reports, 2016, 6, 37078.	1.6	20
42	Effect of a breather soliton in Kerr frequency combs on optical communication systems. Optics Letters, 2016, 41, 1764.	1.7	6
43	Free-space optical communications using encoding of data on different orbital-angular-momentum modes. Proceedings of SPIE, 2016, , .	0.8	0
44	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
45	Orbital-angular-momentum-based reconfigurable optical switching and routing. Photonics Research, 2016, 4, B5.	3.4	31
46	32-Gbit/s 60-GHz millimeter-wave wireless communication using orbital angular momentum and polarization multiplexing. , 2016, , .		29
47	Demonstration of optical multicasting using Kerr frequency comb lines. Optics Letters, 2016, 41, 3876.	1.7	13
48	Tunable generation and angular steering of a millimeter-wave orbital-angular-momentum beam using differential time delays in a circular antenna array. , 2016, , .		14
49	Experimental demonstration of a 200-Gbit/s free-space optical link by multiplexing Laguerreâ€™Gaussian beams with different radial indices. Optics Letters, 2016, 41, 3447.	1.7	85
50	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
51	Experimental characterization of a 400â€™Gbit/s orbital angular momentum multiplexed free-space optical link over 120 m. Optics Letters, 2016, 41, 622.	1.7	136
52	Demonstration of a 280â€™Gbit/s free-space space-division-multiplexing communications link utilizing plane-wave spatial multiplexing. Optics Letters, 2016, 41, 851.	1.7	17
53	Orbital-angular-momentum-multiplexed free-space optical communication link using transmitter lenses. Applied Optics, 2016, 55, 2098.	2.1	27
54	4 Gbit/s Underwater Optical Transmission Using OAM Multiplexing and Directly Modulated Green Laser. , 2016, , .		9

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55	Demonstration of using Passive Integrated Phase Masks to Generate Orbital-Angular-Momentum Beams in a Communications Link. , 2016, , .		0
56	CMA Equalization for a 2 Gb/s Orbital Angular Momentum Multiplexed Optical Underwater Link through Thermally Induced Refractive Index Inhomogeneity. , 2016, , .		1
57	Channel effects and mitigation approaches in free-space and underwater optical communications using orbital angular momentum multiplexing. , 2016, , .		0
58	Demonstration of OAM-based MIMO FSO link using spatial diversity and MIMO equalization for turbulence mitigation. , 2016, , .		10
59	Mode division multiplexing using an orbital angular momentum mode sorter and MIMO-DSP over a graded-index few-mode optical fibre. Scientific Reports, 2015, 5, 14931.	1.6	216
60	Dividing and multiplying the mode order for orbital-angular-momentum beams. , 2015, , .		2
61	Experimental measurements of multipath-induced intra- and inter-channel crosstalk effects in a millimeter-wave communications link using orbital-angular-momentum multiplexing. , 2015, , .		18
62	Demonstration of Distance Emulation for an Orbital-Angular-Momentum Beam. , 2015, , .		1
63	Exploiting the unique intensity gradient of an orbital-angular-momentum beam for accurate receiver alignment monitoring in a free-space communication link. , 2015, , .		0
64	Impact of breather soliton in Kerr combs on the performance of communication systems. , 2015, , .		0
65	Experimental demonstration of 20â€™â€™Gbit/s data encoding and 2â€™â€™s channel hopping using orbital angular momentum modes. Optics Letters, 2015, 40, 5810.	1.7	59
66	4 Å— 20â€™â€™Gbit/s mode division multiplexing over free space using vector modes and a q-plate mode (de)multiplexer. Optics Letters, 2015, 40, 1980.	1.7	372
67	Phase correction for a distorted orbital angular momentum beam using a Zernike polynomials-based stochastic-parallel-gradient-descent algorithm. Optics Letters, 2015, 40, 1197.	1.7	101
68	Performance metrics and design considerations for a free-space optical orbital-angular-momentumâ€™ multiplexed communication link. Optica, 2015, 2, 357.	4.8	164
69	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
70	Experimental demonstration of 16-Gbit/s millimeter-wave communications link using thin metamaterial plates to generate data-carrying orbital-angular-momentum beams. , 2015, , .		17
71	400-Gbit/s Free-Space Optical Communications Link Over 120-meter Using Multiplexing of 4 Collocated Orbital-Angular-Momentum Beams. , 2015, , .		12
72	Free-space optical communications using orbital-angular-momentum multiplexing combined with MIMO-based spatial multiplexing. Optics Letters, 2015, 40, 4210.	1.7	69

#	ARTICLE	IF	CITATIONS
73	Experimental Demonstration of a 400-Gbit/s Free Space Optical Link Using Multiple Orbital-Angular-Momentum Beams with Higher Order Radial Indices. , 2015, , .		3
74	Experiment Turbulence Compensation of 50-Gbaud/s Orbital-Angular-Momentum QPSK Signals Using Intensity-only based SPGD Algorithm. , 2014, , .		0
75	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
76	100â€™Tbit/s free-space data link enabled by three-dimensional multiplexing of orbital angular momentum, polarization, and wavelength. Optics Letters, 2014, 39, 197.	1.7	443
77	Space division multiplexing in a basis of vector modes. , 2014, , .		6
78	Performance metrics and design parameters for an FSO communications link based on multiplexing of multiple orbital-angular-momentum beams. , 2014, , .		6
79	Adaptive-optics-based simultaneous pre- and post-turbulence compensation of multiple orbital-angular-momentum beams in a bidirectional free-space optical link. Optica, 2014, 1, 376.	4.8	177
80	Crosstalk mitigation in a free-space orbital angular momentum multiplexed communication link using 4Ã—4 MIMO equalization. Optics Letters, 2014, 39, 4360.	1.7	116
81	Demonstration of 8-mode 32-Gbit/s millimeter-wave free-space communication link using 4 orbital-angular-momentum modes on 2 polarizations. , 2014, , .		11
82	Nonlinear conversion efficiency in Kerr frequency comb generation. Optics Letters, 2014, 39, 6126.	1.7	125
83	High-capacity millimetre-wave communications with orbital angular momentum multiplexing. Nature Communications, 2014, 5, 4876.	5.8	972
84	Adaptive optics compensation of multiple orbital angular momentum beams propagating through emulated atmospheric turbulence. Optics Letters, 2014, 39, 2845.	1.7	138
85	Reconfigurable 2 Ã— 2 orbital angular momentum based optical switching of 50-Gbaud QPSK channels. Optics Express, 2014, 22, 756.	1.7	22
86	1-Tbit/s Orbital-Angular-Momentum Multiplexed Link Through Emulated Turbulence With a Data-Carrying Beacon on a Separate Wavelength for Compensation. , 2014, , .		0
87	Demonstration of a 280 G-bit/s communications link utilizing plane-wave multiplexing. , 2014, , .		0
88	Analysis of aperture size for partially receiving and de-multiplexing 100-Gbit/s optical orbital angular momentum channels over free-space link. , 2013, , .		1
89	Reconfigurable switching of orbital-angular-momentum-based free-space data channels. Optics Letters, 2013, 38, 5118.	1.7	29
90	Reconfigurable orbital angular momentum and polarization manipulation of 100â€™Gbit/s QPSK data channels. Optics Letters, 2013, 38, 5240.	1.7	13

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91	Atmospheric turbulence effects on the performance of a free space optical link employing orbital angular momentum multiplexing. Optics Letters, 2013, 38, 4062.	1.7	233
92	High-Speed and Bias-Free Optical Random Number Generator. IEEE Photonics Technology Letters, 2012, 24, 437-439.	1.3	45
93	A Novel Polarization-Multiplexing System for Free-Space Optical Links. IEEE Photonics Technology Letters, 2011, 23, 1484-1486.	1.3	35
94	Effects of Atmosphere Dominated Phase Fluctuation and Intensity Scintillation to DPSK System. , 2011, , .		18
95	Outage Probability and SER Analysis of Partial Relay Selection in Amplify-and-Forward MIMO Relay Systems. , 2011, , .		1
96	Effects of outdated channel state information in partial relay selection systems with multiple antennas at the destination. , 2011, , .		1