Cong Liu

List of Publications by Year
in descending order

66 papers	8,489 citations	257429 24 h-index	161844 54 g-index
67 all docs	67 docs citations	67 times ranked	4755 citing authors

#	Article	IF	Citations
1	Terabit free-space data transmission employing orbital angular momentum multiplexing. Nature Photonics, 2012, 6, 488-496.	31.4	3,471
2	Terabit-Scale Orbital Angular Momentum Mode Division Multiplexing in Fibers. Science, 2013, 340, 1545-1548.	12.6	2,330
3	100â€‰â€‰Tbit/s free-space data link enabled by three-dimensional multiplexing of orbital angular momentum, polarization, and wavelength. Optics Letters, 2014, 39, 197.	3.3	443
4	Atmospheric turbulence effects on the performance of a free space optical link employing orbital angular momentum multiplexing. Optics Letters, 2013, 38, 4062.	3.3	233
5	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.	9.3	177
6	Performance metrics and design considerations for a free-space optical orbital-angular-momentumâ€“multiplexed communication link. Optica, 2015, 2, 357.	9.3	164
7	Spectrally efficient direct-detected OFDM transmission employing an iterative estimation and cancellation technique. Optics Express, 2009, 17, 9099.	3.4	159
8	Orbital Angular Momentum-based Space Division Multiplexing for High-capacity Underwater Optical Communications. Scientific Reports, 2016, 6, 33306.	3.3	156
9	Broadband frequency translation through time refraction in an epsilon-near-zero material. Nature Communications, 2020, 11, 2180.	12.8	121
10	Crosstalk mitigation in a free-space orbital angular momentum multiplexed communication link using 4Ã—4 MIMO equalization. Optics Letters, 2014, 39, 4360.	3.3	116
11	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.	3.3	85
12	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. Scientific Reports, 2017, 7, 17427.	3.3	81
13	Atmospheric turbulence compensation in orbital angular momentum communications: Advances and perspectives. Optics Communications, 2018, 408, 68-81.	2.1	77
14	All-Optical Signal Processing Techniques for Flexible Networks. Journal of Lightwave Technology, 2019, 37, 21-35.	4.6	71
15	400-Gbit/s QPSK free-space optical communication link based on four-fold multiplexing of Hermiteâ€“Gaussian or Laguerreâ€“Gaussian modes by varying both modal indices. Optics Letters, 2018, 43, 3889.	3.3	55
16	Perspectives on advances in high-capacity, free-space communications using multiplexing of orbital-angular-momentum beams. APL Photonics, 2021, 6, .	5.7	53
17	Communication with a twist. IEEE Spectrum, 2016, 53, 34-39.	0.7	48
18	Turbulence-resilient pilot-assisted self-coherent free-space optical communications using automatic optoelectronic mixing of many modes. Nature Photonics, 2021, 15, 743-750.	31.4	45

#	Article	IF	Citations
19	Mitigation for turbulence effects in a 40-Gbit/s orbital-angular-momentum-multiplexed free-space optical link between a ground station and a retro-reflecting UAV using MIMO equalization. Optics Letters, 2019, 44, 5181.	3.3	37
20	Perspective on using multiple orbital-angular-momentum beams for enhanced capacity in free-space optical communication links. Nanophotonics, 2020, 10, 225-233.	6.0	36
21	Experimental Mitigation of Atmospheric Turbulence Effect Using Pre-Signal Combining for Uni- and Bi-Directional Free-Space Optical Links With Two 100-Gbit/s OAM-Multiplexed Channels. Journal of Lightwave Technology, 2020, 38, 82-89.	4.6	33
22	Spatial light structuring using a combination of multiple orthogonal orbital angular momentum beams with complex coefficients. Optics Letters, 2017, 42, 991.	3.3	31
23	Adiabatic Frequency Conversion Using a Time-Varying Epsilon-Near-Zero Metasurface. Nano Letters, 2021, 21, 5907-5913.	9.1	30
24	Dynamic spatiotemporal beams that combine two independent and controllable orbital-angular-momenta using multiple optical-frequency-comb lines. Nature Communications, 2020, 11, 4099.	12.8	25
25	Photon Acceleration Using a Time-Varying Epsilon-near-Zero Metasurface. ACS Photonics, 2021, 8, 716-720.	6.6	24
26	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. Journal of Lightwave Technology, 2020, 38, 359-365.	4.6	23
27	Optical Signal Processing Aided by Optical Frequency Combs. IEEE Journal of Selected Topics in Quantum Electronics, 2021, 27, 1-16.	2.9	22
28	Pilot-tone-based self-homodyne detection using optical nonlinear wave mixing. Optics Letters, 2017, 42, 1840.	3.3	21
29	Modal coupling and crosstalk due to turbulence and divergence on free space THz links using multiple orbital angular momentum beams. Scientific Reports, 2021, 11, 2110.	3.3	21
30	Performance of real-time adaptive optics compensation in a turbulent channel with high-dimensional spatial-mode encoding. Optics Express, 2020, 28, 15376.	3.4	21
31	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.	5.7	21
32	Demonstration of Tunable Steering and Multiplexing of Two 28â€‰GHz Data Carrying Orbital Angular Momentum Beams Using Antenna Array. Scientific Reports, 2016, 6, 37078.	3.3	20
33	Demonstration of a 10â€‰â€‰Mbit/s quantum communication link by encoding data on two Laguerreâ€“Gaussian modes with different radial indices. Optics Letters, 2018, 43, 5639.	3.3	18
34	OFDM over mm-Wave OAM Channels in a Multipath Environment with Intersymbol Interference. , 2016, , .		17
35	Invited Article: Division and multiplication of the state order for data-carrying orbital angular momentum beams. APL Photonics, 2016, 1, .	5.7	16
36	Coherent optical wireless communication link employing orbital angular momentum multiplexing in a ballistic and diffusive scattering medium. Optics Letters, 2019, 44, 691.	3.3	15

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37	Demonstration of Turbulence Resiliency in a Mode-, Polarization-, and Wavelength-Multiplexed Free-Space Optical Link Using Pilot-Assisted Optoelectronic Beam Mixing. Journal of Lightwave Technology, 2022, 40, 588-596.	4.6	14
38	Demonstration of tunable optical generation of higher-order modulation formats using nonlinearities and coherent frequency comb. Optics Letters, 2014, 39, 4915.	3.3	13
39	Dependence of the coupling properties between a plasmonic antenna array and a sub-wavelength epsilon-near-zero film on structural and material parameters. Applied Physics Letters, 2021, 118, .	3.3	13
40	Demonstration of using two aperture pairs combined with multiple-mode receivers and MIMO signal processing for enhanced tolerance to turbulence and misalignment in a 10â€‰â€‰Gbit/s QPSK FSO link. Optics Letters, 2020, 45, 3042.	3.3	13
41	Experimental mitigation of the effects of the limited size aperture or misalignment by singular-value-decomposition-based beam orthogonalization in a free-space optical link using Laguerreâ€“Gaussian modes. Optics Letters, 2020, 45, 6310.	3.3	11
42	Reconfigurable optical generation of nine Nyquist WDM channels with sinc-shaped temporal pulse trains using a single microresonator-based Kerr frequency comb. Optics Letters, 2019, 44, 1852.	3.3	11
43	Tunable insertion of multiple lines into a Kerr frequency comb using electro-optical modulators. Optics Letters, 2017, 42, 3765.	3.3	10
44	Utilizing adaptive optics to mitigate intra-modal-group power coupling of graded-index few-mode fiber in a 200-Gbit/s mode-division-multiplexed link. Optics Letters, 2020, 45, 3577.	3.3	10
45	Simulation of near-diffraction- and near-dispersion-free OAM pulses with controllable group velocity by combining multiple frequencies, each carrying a Bessel mode. Optics Letters, 2021, 46, 4678.	3.3	9
46	Experimental demonstration of beaconless beam displacement tracking for an orbital angular momentum multiplexed free-space optical link. Optics Letters, 2018, 43, 2392.	3.3	8
47	Modal properties of a beam carrying OAM generated by a circular array of multiple ring-resonator emitters. Optics Letters, 2021, 46, 4722.	3.3	8
48	Utilizing phase delays of an integrated pixel-array structure to generate orbital-angular-momentum beams with tunable orders and a broad bandwidth. Optics Letters, 2020, 45, 4144.	3.3	8
49	Tunable Doppler shift using a time-varying epsilon-near-zero thin film near 1550â€‰â€‰nm. Optics Letters, 2021, 46, 3444.	3.3	6
50	Simultaneous turbulence mitigation and channel demultiplexing for two 100â€‰â€‰Gbit/s orbital-angular-momentum multiplexed beams by adaptive wavefront shaping and diffusing. Optics Letters, 2020, 45, 702.	3.3	6
51	Demonstration of generating a 100 Gbit/s orbital-angular-momentum beam with a tunable mode order over a range of wavelengths using an integrated broadband pixel-array structure. Optics Letters, 2021, 46, 4765.	3.3	5
52	Dynamic aerosol and dynamic air-water interface curvature effects on a 2-Gbit/s free-space optical link using orbital-angular-momentum multiplexing. Nanophotonics, 2022, 11, 885-895.	6.0	5
53	MIMO Equalization to Mitigate Turbulence in a 2-Channel 40-Gbit/s QPSK Free-Space Optical 100-m Round-Trip Orbital-Angular-Momentum-Multiplexed Link Between a Ground Station and a Retro-Reflecting UAV. , 2018, , .		4
54	Demonstration of Recovering Orbital-Angular-Momentum Multiplexed Channels Using a Tunable, Broadband Pixel-Array-Based Photonic-Integrated-Circuit Receiver. Journal of Lightwave Technology, 2022, 40, 1346-1352.	4.6	4

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55	Demonstration of turbulence mitigation in a 200-Gbit/s orbital-angular-momentum multiplexed free-space optical link using simple power measurements for determining the modal crosstalk matrix. Optics Letters, 0, , .	3.3	4
56	Vectorial Phase Conjugation for High-Fidelity Mode Transmission Through Multimode Fiber. , 2020, , .		3
57	Demonstration of Turbulence Resiliency in a Mode-, Polarization-, and Wavelength-Multiplexed Free-Space Optical Link using Pilot Tones and Optoelectronic Wave Mixing. , 2020, , .		2
58	Experimental Demonstration of a 100-Gbit/s 16-QAM Free-Space Optical Link Using a Structured Optical â€œBottle Beamâ€•to Circumvent Obstructions. Journal of Lightwave Technology, 2022, 40, 3277-3284.	4.6	2
59	Demonstration of Turbulence Resilient Self-Coherent Free-Space Optical Communications Using a Pilot Tone and an Array of Smaller Photodiodes for Bandwidth Enhancement. , 2022, , .		2
60	â€œHidingâ€•a low-intensity 50â€‰â€‰Gbit/s QPSK free-space OAM beam using an orthogonal coaxial high-intensity 50â€‰â€‰Gbit/s QPSK beam. Applied Optics, 2020, 59, 7448.	1.8	1
61	Physical-Layer Challenges in Stable, High-Capacity Optical Communication Networks. , 2006, , .		0
62	Switchable detector array scheme to reduce the effect of single-photon detectorâ€™s deadtime in a multi-bit/photon quantum link. Optics Communications, 2019, 441, 132-137.	2.1	0
63	"Hiding" a Low-Intensity 50-Gbit/s QPSK Free-Space Optical Beam That Co-Axially Propagates on the Same Wavelength with a High-Intensity 50-Gbit/s QPSK Optical Beam using Orthogonal Mode Multiplexing. , 2019, , .		0
64	Demonstrating the use of OAM modes to facilitate the networking functions of carrying channel header information and orthogonal channel coding. Optics Letters, 2020, 45, 4381.	3.3	0
65	Nonlinear Response of ENZ Plasmon Modes near 1550 nm. , 2020, , .		0
66	Experimental Generation of OAM +1 and +3 Spatiotemporal Beams with a Time-Dependent Beam Radius of ~0.24-to-~0.68 mm Using a Coherent Combination of Multiple Frequencies Each Containing Multiple LG Modes. , 2021, , .		0