Cong Liu

List of Publications by Citations

61 papers	5,570 citations	19 h-index	67 g-index
67 ext. papers	7,335 ext. citations	5.8 avg, IF	5.28 L-index

#	Paper	IF	Citations
61	Terabit free-space data transmission employing orbital angular momentum multiplexing. *Nature Photonics*, **2012**, 6, 488-496	33.9	2390
60	Terabit-scale orbital angular momentum mode division multiplexing in fibers. *Science*, **2013**, 340, 1545-8	33.3	1601
59	100 Tbit/s free-space data link enabled by three-dimensional multiplexing of orbital angular momentum, polarization, and wavelength. *Optics Letters*, **2014**, 39, 197-200	3	309
58	Atmospheric turbulence effects on the performance of a free space optical link employing orbital angular momentum multiplexing. *Optics Letters*, **2013**, 38, 4062-5	3	154
57	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	8.6	123
56	Spectrally efficient direct-detected OFDM transmission employing an iterative estimation and cancellation technique. *Optics Express*, **2009**, 17, 9099-111	3.3	112
55	Performance metrics and design considerations for a free-space optical orbital-angular-momentum-multiplexed communication link. *Optica*, **2015**, 2, 357	8.6	110
54	Orbital Angular Momentum-based Space Division Multiplexing for High-capacity Underwater Optical Communications. *Scientific Reports*, **2016**, 6, 33306	4.9	99
53	Crosstalk mitigation in a free-space orbital angular momentum multiplexed communication link using 4×4 MIMO equalization. *Optics Letters*, **2014**, 39, 4360-3	3	78
52	Experimental demonstration of a 200-Gbit/s free-space optical link by multiplexing Laguerre-Gaussian beams with different radial indices. *Optics Letters*, **2016**, 41, 3447-50	3	56
51	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	4.9	53
50	Broadband frequency translation through time refraction in an epsilon-near-zero material. *Nature Communications*, **2020**, 11, 2180	17.4	42
49	Atmospheric turbulence compensation in orbital angular momentum communications: Advances and perspectives. *Optics Communications*, **2018**, 408, 68-81	2	42
48	All-Optical Signal Processing Techniques for Flexible Networks. *Journal of Lightwave Technology*, **2019**, 37, 21-35	4	36
47	Communication with a twist. *IEEE Spectrum*, **2016**, 53, 34-39	1.7	35
46	400-Gbit/s QPSK free-space optical communicationlink based on four-fold multiplexing of Hermite-Gaussian or Laguerre-Gaussian modes by varying both modal indices. *Optics Letters*, **2018**, 43, 3889-3892	3	32
45	Spatial light structuring using a combination of multiple orthogonal orbital angular momentum beams with complex coefficients. *Optics Letters*, **2017**, 42, 991-994	3	20

44	Perspectives on advances in high-capacity, free-space communications using multiplexing of orbital-angular-momentum beams. *APL Photonics*, **2021**, 6, 030901	5.2	20
43	. *Journal of Lightwave Technology*, **2020**, 38, 82-89	4	20
42	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, 5181-5184	3	19
41	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	7.8	15
40	Demonstration of Tunable Steering and Multiplexing of Two 28 GHz Data Carrying Orbital Angular Momentum Beams Using Antenna Array. *Scientific Reports*, **2016**, 6, 37078	4.9	15
39	Pilot-tone-based self-homodyne detection using optical nonlinear wave mixing. *Optics Letters*, **2017** , 42, 1840-1843	3	12
38	OFDM over mm-Wave OAM Channels in a Multipath Environment with Intersymbol Interference **2016**,		12
37	Perspective on using multiple orbital-angular-momentum beams for enhanced capacity in free-space optical communication links. *Nanophotonics*, **2020**, 10, 225-233	6.3	11
36	Demonstration of tunable optical generation of higher-order modulation formats using nonlinearities and coherent frequency comb. *Optics Letters*, **2014**, 39, 4915-8	3	10
35	Performance of real-time adaptive optics compensation in a turbulent channel with high-dimensional spatial-mode encoding. *Optics Express*, **2020**, 28, 15376-15391	3.3	10
34	Demonstration of using two aperture pairs combined with multiple-mode receivers and MIMO signal processing for enhanced tolerance to turbulence and misalignment in a 10 Gbit/s QPSK FSO link. *Optics Letters*, **2020**, 45, 3042-3045	3	9
33	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, 5639-5642	3	9
32	Turbulence-resilient pilot-assisted self-coherent free-space optical communications using automatic optoelectronic mixing of many modes. *Nature Photonics*, **2021**, 15, 743-750	33.9	9
31	Dynamic spatiotemporal beams that combine two independent and controllable orbital-angular-momenta using multiple optical-frequency-comb lines. *Nature Communications*, **2020**, 11, 4099	17.4	8
30	Tunable insertion of multiple lines into a Kerr frequency comb using electro-optical modulators. *Optics Letters*, **2017**, 42, 3765-3768	3	7
29	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, 3577-3580	3	7
28	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, 4144-4147	3	6
27	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 Laguerre-Gaussian modes. *Optics Letters*, **2020**, 45, 6310-6313	3	6

26	Coherent optical wireless communication link employing orbital angular momentum multiplexing in a ballistic and diffusive scattering medium. *Optics Letters*, **2019**, 44, 691-694	3	6
25	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, 1852-1855	3	6
24	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	4.9	6
23	Experimental demonstration of beaconless beam displacement tracking for an orbital angular momentum multiplexed free-space optical link. *Optics Letters*, **2018**, 43, 2392-2395	3	5
22	Adiabatic Frequency Conversion Using a Time-Varying Epsilon-Near-Zero Metasurface. *Nano Letters* , **2021**, 21, 5907-5913	11.5	5
21	Invited Article: Division and multiplication of the state order for data-carrying orbital angular momentum beams. *APL Photonics*, **2016**, 1, 090802	5.2	5
20	Simultaneous turbulence mitigation and channel demultiplexing for two 100 Gbit/s orbital-angular-momentum multiplexed beams by adaptive wavefront shaping and diffusing. *Optics Letters*, **2020**, 45, 702-705	3	4
19	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	4
18	. *IEEE Journal of Selected Topics in Quantum Electronics*, **2021**, 27, 1-16	3.8	4
17	Photon Acceleration Using a Time-Varying Epsilon-near-Zero Metasurface. *ACS Photonics*, **2021**, 8, 716-720	6.3	4
16	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, 241102	3.4	3
15	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**,		3
14	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, 4765-4768	3	3
13	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, 4678-4681	3	3
12	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	2
11	Dynamic aerosol and dynamic air-water interface curvature effects on a 2-Gbit/s free-space optical link using orbital-angular-momentum multiplexing. *Nanophotonics*, **2021**,	6.3	2
10	Demonstration of Recovering Orbital-Angular-Momentum Multiplexed Channels Using a Tunable, Broadband Pixel-Array-based Photonic-Integrated-Circuit Receiver. *Journal of Lightwave Technology*, **2021**, 1-1	4	2
9	Demonstration of Turbulence Resiliency in a Mode-, Polarization-, and Wavelength-Multiplexed Free-Space Optical Link using Pilot Tones and Optoelectronic Wave Mixing **2020**,		2

List of Publications

8	Vectorial Phase Conjugation for High-Fidelity Mode Transmission Through Multimode Fiber **2020**,		1
7	High-capacity Free-space Optical Communications Using Multiplexing of Multiple OAM Beams **2021** , 357-400		1
6	Experimental Demonstration of a 100-Gbit/s 16-QAM Free-Space Optical Link Using a Structured Optical Bottle Beam to Circumvent Obstructions. *Journal of Lightwave Technology*, **2022**, 1-1	4	1
5	Tunable Doppler shift using a time-varying epsilon-near-zero thin film near 1550 nm. *Optics Letters*, **2021**, 46, 3444-3447	3	0
4	Modal properties of a beam carrying OAM generated by a circular array of multiple ring-resonator emitters. *Optics Letters*, **2021**, 46, 4722-4725	3	0
3	"Hiding" a low-intensity 50 Gbit/s QPSK free-space OAM beam using an orthogonal coaxial high-intensity 50 Gbit/s QPSK beam. *Applied Optics*, **2020**, 59, 7448-7454	1.7	
2	Demonstrating the use of OAM modes to facilitate the networking functions of carrying channel header information and orthogonal channel coding. *Optics Letters*, **2020**, 45, 4381-4384	3	
1	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, 132-132	2	