

Runzhou Zhang

List of Publications by Year in descending order

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47
papers

716
citations

623574

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476
citing authors

#	ARTICLE	IF	CITATIONS
1	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.	1.6	81
2	Using a complex optical orbital-angular-momentum spectrum to measure object parameters. Optics Letters, 2017, 42, 4482.	1.7	81
3	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
4	Perspectives on advances in high-capacity, free-space communications using multiplexing of orbital-angular-momentum beams. APL Photonics, 2021, 6, .	3.0	53
5	Turbulence-resilient pilot-assisted self-coherent free-space optical communications using automatic optoelectronic mixing of many modes. Nature Photonics, 2021, 15, 743-750.	15.6	45
6	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.	2.7	33
7	Adiabatic Frequency Conversion Using a Time-Varying Epsilon-Near-Zero Metasurface. Nano Letters, 2021, 21, 5907-5913.	4.5	30
8	High-fidelity spatial mode transmission through a 1-km-long multimode fiber via vectorial time reversal. Nature Communications, 2021, 12, 1866.	5.8	27
9	Dynamic spatiotemporal beams that combine two independent and controllable orbital-angular-momenta using multiple optical-frequency-comb lines. Nature Communications, 2020, 11, 4099.	5.8	25
10	Photon Acceleration Using a Time-Varying Epsilon-near-Zero Metasurface. ACS Photonics, 2021, 8, 716-720.	3.2	24
11	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.	1.6	21
12	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
13	Utilizing multiplexing of structured THz beams carrying orbital-angular-momentum for high-capacity communications. Optics Express, 2022, 30, 25418.	1.7	19
14	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
15	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.	2.7	14
16	Increasing system tolerance to turbulence in a 100-Gbit/s QPSK free-space optical link using both mode and space diversity. Optics Communications, 2021, 480, 126488.	1.0	13
17	Multiprobe Time Reversal for High-Fidelity Vortex-Mode-Division Multiplexing Over a Turbulent Free-Space Link. Physical Review Applied, 2021, 15, .	1.5	13
18	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.	1.7	13

#	ARTICLE	IF	CITATIONS
19	Experimental Demonstration of Sub-THz Wireless Communications Using Multiplexing of Laguerre-Gaussian Beams When Varying two Different Modal Indices. <i>Journal of Lightwave Technology</i> , 2022, 40, 3285-3292.	2.7	13
20	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. <i>Optics Letters</i> , 2020, 45, 6310.	1.7	11
21	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. <i>Optics Letters</i> , 2020, 45, 3577.	1.7	10
22	Simulation of near-diffraction- and near-dispersion-free OAM pulses with controllable group velocity by combining multiple frequencies, each carrying a Bessel mode. <i>Optics Letters</i> , 2021, 46, 4678.	1.7	9
23	Single-pixel identification of 2-dimensional objects by using complex Laguerre-Gaussian spectrum containing both azimuthal and radial modal indices. <i>Optics Communications</i> , 2021, 481, 126557.	1.0	8
24	Modal properties of a beam carrying OAM generated by a circular array of multiple ring-resonator emitters. <i>Optics Letters</i> , 2021, 46, 4722.	1.7	8
25	Utilizing phase delays of an integrated pixel-array structure to generate orbital-angular-momentum beams with tunable orders and a broad bandwidth. <i>Optics Letters</i> , 2020, 45, 4144.	1.7	8
26	Simultaneous turbulence mitigation and channel demultiplexing using a single multi-plane light converter for a free-space optical link with two 100-Gbit/s OAM channels. <i>Optics Communications</i> , 2021, 501, 127359.	1.0	7
27	Synthesis of near-diffraction-free orbital-angular-momentum space-time wave packets having a controllable group velocity using a frequency comb. <i>Optics Express</i> , 2022, 30, 16712.	1.7	7
28	Tunable Doppler shift using a time-varying epsilon-near-zero thin film near 1550 nm. <i>Optics Letters</i> , 2021, 46, 3444.	1.7	6
29	Simultaneous turbulence mitigation and channel demultiplexing for two 100-Gbit/s orbital-angular-momentum multiplexed beams by adaptive wavefront shaping and diffusing. <i>Optics Letters</i> , 2020, 45, 702.	1.7	6
30	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. <i>Optics Letters</i> , 2021, 46, 4765.	1.7	5
31	Experimental Demonstration of Crosstalk Reduction to Achieve Turbulence-Resilient Multiple-OAM-Beam Free-Space Optical Communications using Pilot Tones to Mix Beams at the Receiver. , 2020, , .		5
32	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
33	Demonstration of Recovering Orbital-Angular-Momentum Multiplexed Channels Using a Tunable, Broadband Pixel-Array-Based Photonic-Integrated-Circuit Receiver. <i>Journal of Lightwave Technology</i> , 2022, 40, 1346-1352.	2.7	4
34	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. <i>Optics Letters</i> , 0, , .	1.7	4
35	Experimental Demonstration of an Integrated Broadband Pixel-Array Structure Generating Two Tunable Orbital-Angular-Momentum Mode Values and Carrying 100-Gbit/s QPSK Data. , 2021, , .		3
36	Vectorial Phase Conjugation for High-Fidelity Mode Transmission Through Multimode Fiber. , 2020, , .		3

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37	Demonstration of a Tunable, Broadband Pixel-Array-based Photonic-Integrated-Circuit Receiver for Recovering Two 100-Gbit/s QPSK Orbital-Angular-Momentum Multiplexed Channels. , 2021, , .		2
38	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, 40, 3277-3284.	2.7	2
39	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
40	Causes and mitigation of modal crosstalk in OAM multiplexed optical communication links. , 2021, , 259-289.		1
41	Near-Diffraction- and Near-Dispersion-Free OAM Pulse Having a Controllable Group Velocity by Coherently Combining Different Bessel Beams Based on Space-Time Correlations. , 2020, , .		1
42	Using an Integrated Silicon Emitter to Generate Two Coaxial Orbital-Angular-Momentum Beams with Tunable Mode Orders and Broad Bandwidth. , 2019, , .		1
43	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
44	"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.	0.9	1
45	"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
46	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.	1.7	0
47	Space-time light sheet with a controllable group velocity and reduced diffraction by combining multiple frequencies each carrying multiple Laguerre-Gaussian modes. Optics Communications, 2022, 520, 128477.	1.0	0