

Martin P J Lavery

List of Publications by Year in descending order

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89
papers

7,758
citations

117625

34
h-index

149698

56
g-index

89
all docs

89
docs citations

89
times ranked

4106
citing authors

#	ARTICLE	IF	CITATIONS
1	High-capacity millimetre-wave communications with orbital angular momentum multiplexing. <i>Nature Communications</i> , 2014, 5, 4876.	12.8	972
2	Efficient Sorting of Orbital Angular Momentum States of Light. <i>Physical Review Letters</i> , 2010, 105, 153601.	7.8	833
3	Detection of a Spinning Object Using Light's Orbital Angular Momentum. <i>Science</i> , 2013, 341, 537-540.	12.6	796
4	High-dimensional quantum cryptography with twisted light. <i>New Journal of Physics</i> , 2015, 17, 033033.	2.9	475
5	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.	3.3	443
6	4 Å– 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.	3.3	372
7	Influence of atmospheric turbulence on optical communications using orbital angular momentum for encoding. <i>Optics Express</i> , 2012, 20, 13195.	3.4	272
8	Atmospheric turbulence effects on the performance of a free space optical link employing orbital angular momentum multiplexing. <i>Optics Letters</i> , 2013, 38, 4062.	3.3	233
9	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.	3.3	216
10	Divergence of an orbital-angular-momentum-carrying beam upon propagation. <i>New Journal of Physics</i> , 2015, 17, 023011.	2.9	215
11	Refractive elements for the measurement of the orbital angular momentum of a single photon. <i>Optics Express</i> , 2012, 20, 2110.	3.4	214
12	Influence of atmospheric turbulence on states of light carrying orbital angular momentum. <i>Optics Letters</i> , 2012, 37, 3735.	3.3	192
13	Direct measurement of a 27-dimensional orbital-angular-momentum state vector. <i>Nature Communications</i> , 2014, 5, 3115.	12.8	187
14	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.	9.3	177
15	Performance metrics and design considerations for a free-space optical orbital-angular-momentum multiplexed communication link. <i>Optica</i> , 2015, 2, 357.	9.3	164
16	Interface between path and orbital angular momentum entanglement for high-dimensional photonic quantum information. <i>Nature Communications</i> , 2014, 5, 4502.	12.8	148
17	Free-space propagation of high-dimensional structured optical fields in an urban environment. <i>Science Advances</i> , 2017, 3, e1700552.	10.3	147
18	Observation of the rotational Doppler shift of a white-light, orbital-angular-momentum-carrying beam backscattered from a rotating body. <i>Optica</i> , 2014, 1, 1.	9.3	138

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19	Adaptive optics compensation of multiple orbital angular momentum beams propagating through emulated atmospheric turbulence. <i>Optics Letters</i> , 2014, 39, 2845.	3.3	138
20	Experimental characterization of a 400â€‰Gbit/s orbital angular momentum multiplexed free-space optical link over 120 m. <i>Optics Letters</i> , 2016, 41, 622.	3.3	136
21	Measurement of the light orbital angular momentum spectrum using an optical geometric transformation. <i>Journal of Optics (United Kingdom)</i> , 2011, 13, 064006.	2.2	103
22	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.	3.3	101
23	Efficient measurement of an optical orbital-angular-momentum spectrum comprising more than 50 states. <i>New Journal of Physics</i> , 2013, 15, 013024.	2.9	80
24	Measuring orbital angular momentum superpositions of light by mode transformation. <i>Optics Letters</i> , 2011, 36, 1863.	3.3	73
25	Measuring the orbital angular momentum spectrum of an electron beam. <i>Nature Communications</i> , 2017, 8, 15536.	12.8	71
26	On the resilience of scalar and vector vortex modes in turbulence. <i>Optics Express</i> , 2016, 24, 18105.	3.4	69
27	Mode-Division-Multiplexing of Multiple Bessel-Gaussian Beams Carrying Orbital-Angular-Momentum for Obstruction-Tolerant Free-Space Optical and Millimetre-Wave Communication Links. <i>Scientific Reports</i> , 2016, 6, 22082.	3.3	63
28	Efficient sorting of Bessel beams. <i>Optics Express</i> , 2013, 21, 165.	3.4	61
29	Robust interferometer for the routing of light beams carrying orbital angular momentum. <i>New Journal of Physics</i> , 2011, 13, 093014.	2.9	52
30	Unraveling Bessel Beams. <i>Optics and Photonics News</i> , 2013, 24, 22.	0.5	48
31	Turbulence compensation of an orbital angular momentum and polarization-multiplexed link using a data-carrying beacon on a separate wavelength. <i>Optics Letters</i> , 2015, 40, 2249.	3.3	46
32	A deterministic detector for vector vortex states. <i>Scientific Reports</i> , 2017, 7, 13882.	3.3	44
33	Tackling Africaâ€™s digital divide. <i>Nature Photonics</i> , 2018, 12, 249-252.	31.4	44
34	Vortex instability in turbulent free-space propagation. <i>New Journal of Physics</i> , 2018, 20, 043023.	2.9	43
35	Efficient sorting of free electron orbital angular momentum. <i>New Journal of Physics</i> , 2017, 19, 023053.	2.9	35
36	Using all transverse degrees of freedom in quantum communications based on a generic mode sorter. <i>Optics Express</i> , 2019, 27, 10383.	3.4	33

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37	A space division multiplexed free-space-optical communication system that can auto-locate and fully self align with a remote transceiver. Scientific Reports, 2019, 9, 19687.	3.3	30
38	Orbital-angular-momentum-multiplexed free-space optical communication link using transmitter lenses. Applied Optics, 2016, 55, 2098.	2.1	27
39	Optical angular momentum in a rotating frame. Optics Letters, 2014, 39, 2944.	3.3	26
40	Tunable orbital angular momentum mode filter based on optical geometric transformation. Optics Letters, 2014, 39, 1689.	3.3	23
41	100 Tbit/s Free-Space Data Link using Orbital Angular Momentum Mode Division Multiplexing Combined with Wavelength Division Multiplexing. , 2013, , .		22
42	Demonstration of a 280â€‰Gbit/s free-space space-division-multiplexing communications link utilizing plane-wave spatial multiplexing. Optics Letters, 2016, 41, 851.	3.3	17
43	Multimode Communications Using Orbital Angular Momentum. , 2013, , 569-615.		15
44	Reconfigurable orbital angular momentum and polarization manipulation of 100â€‰Gbit/s QPSK data channels. Optics Letters, 2013, 38, 5240.	3.3	13
45	400-Gbit/s Free-Space Optical Communications Link Over 120-meter Using Multiplexing of 4 Collocated Orbital-Angular-Momentum Beams. , 2015, , .		12
46	Security Enhancement in Coherent OFDM Optical Transmission With Chaotic Three-Dimensional Constellation Scrambling. Journal of Lightwave Technology, 2022, 40, 3749-3760.	4.6	12
47	Orbital-Angular-Momentum Mode (De)Multiplexer: A Single Optical Element for MIMO-based and non-MIMO-based Multimode Fiber Systems. , 2014, , .		10
48	Differential Signalling in Free-Space Optical Communication Systems. Applied Sciences (Switzerland), 2018, 8, 872.	2.5	9
49	Interconnection network architectures based on integrated orbital angular momentum emitters. Optics Communications, 2018, 408, 63-67.	2.1	8
50	Aerosol scattering of vortex beams transmission in hazy atmosphere. Optics Express, 2020, 28, 28072.	3.4	8
51	The efficient sorting of light's orbital angular momentum for optical communications. , 2012, , .		7
52	Multi-element lenslet array for efficient solar collection at extreme angles of incidence. Scientific Reports, 2020, 10, 8741.	3.3	7
53	Large volume nanoscale 3D printing: Nano-3DP. Applied Materials Today, 2020, 21, 100782.	4.3	7
54	Multi-layer light trapping structures for enhanced solar collection. Optics Express, 2020, 28, 31714.	3.4	7

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55	Experimental demonstration of obstruction-tolerant free-space transmission of two 50-Gbaud QPSK data channels using Bessel beams carrying orbital angular momentum. , 2014, , .		6
56	Space division multiplexing in a basis of vector modes. , 2014, , .		6
57	Performance metrics and design parameters for an FSO communications link based on multiplexing of multiple orbital-angular-momentum beams. , 2014, , .		6
58	Optical angular momentum interaction with turbulent and scattering media. , 2021, , 237-258.		6
59	Scattering of partially coherent vortex beam by rough surface in atmospheric turbulence. Optics Express, 2022, 30, 4165.	3.4	6
60	The measurement and generation of orbital angular momentum using an optical geometric transformation. , 2013, , .		5
61	Study of Turbulence Induced Orbital Angular Momentum Channel Crosstalk in a 1.6km Free-Space Optical Link. , 2015, , .		5
62	Degradation of light carrying orbital angular momentum by ballistic scattering. Physical Review Research, 2020, 2, .	3.6	5
63	Submersed free-space propagation of beams carrying orbital angular momentum. Proceedings of SPIE, 2016, , .	0.8	3
64	Demonstration of a Multiplane OAM-Wavelength Packet Switch Controlled by a Two-Step Scheduler Implemented in FPGAs. Journal of Lightwave Technology, 2019, 37, 3948-3955.	4.6	3
65	Near-Maximal Two-Photon Entanglement for Optical Quantum Communication at 2.1×10^4 m. Physical Review Applied, 2021, 16, .	3.8	3
66	Measuring the orbital angular momentum of light. Proceedings of SPIE, 2011, , .	0.8	2
67	Analysis of aperture size for partially receiving and de-multiplexing 100-Gbit/s optical orbital angular momentum channels over free-space link. , 2013, , .		1
68	Demonstration of Distance Emulation for an Orbital-Angular-Momentum Beam. , 2015, , .		1
69	Twisting waves increase the visibility of nonlinear behaviour. New Journal of Physics, 2020, 22, 063021.	2.9	1
70	Long Distance Free-Space Propagation of light carrying Orbital Angular Momentum. , 2016, , .		1
71	Experimental Turbulence Effects on Crosstalk and System Power Penalty over a Free Space Optical Communication Link using Orbital Angular Momentum Multiplexing. , 2013, , .		1
72	Simultaneous Pre-and Post-Turbulence Compensation of Multiple Orbital-Angular-Momentum 100-Gbit/s Data Channels in a Bidirectional Link Using a Single Adaptive-Optics System. , 2013, , .		1

#	ARTICLE	IF	CITATIONS
73	Study of Orbital Angular Momentum Mode Crosstalk Induced by Propagation Through Water. , 2016, , .		1
74	Synthesis of Space-time Wave Packets Localized in All Dimensions. , 2021, , .		1
75	Measuring the orbital angular moment of light with high optical efficiency. , 2011, , .		0
76	Direct Measurement of the Quantum Wavefunction using Weak Measurements in Orbital Angular Momentum. , 2012, , .		0
77	Measuring Light's Twist. , 2012, , .		0
78	Reconfigurable orbital-angular-momentum manipulation and switching of polarization-multiplexed 100-Gbit/s QPSK data channels. , 2013, , .		0
79	Techniques to sort Bessel beams. Proceedings of SPIE, 2013, , .	0.8	0
80	Experiment Turbulence Compensation of 50-Cbaud/s Orbital-Angular-Momentum QPSK Signals Using Intensity-only based SPGD Algorithm. , 2014, , .		0
81	A Quasi-Optical Tool for the Demultiplexing of Orbital Angular Momentum Carried at Millimeter-Wave Frequencies. , 2014, , .		0
82	High-dimensional Quantum Key Distribution with Photonic Orbital Angular Momentum. , 2014, , .		0
83	Dynamic High Dimensional Free-Space Optical Interconnects for Urban Deployment. , 2018, , .		0
84	Efficient measurement of orbital angular momentum using refractive optical elements. , 2011, , .		0
85	Tunable Filter for Orbital-Angular-Momentum Multiplexed Optical Channels. , 2013, , .		0
86	Preliminary Study of Orbital Angular Momentum Spectrum Detection for Celestial Light. , 2013, , .		0
87	1-Tbit/s Orbital-Angular-Momentum Multiplexed Link Through Emulated Turbulence With a Data-Carrying Beacon on a Separate Wavelength for Compensation. , 2014, , .		0
88	Demonstration of a 280 G-bit/s communications link utilizing plane-wave multiplexing. , 2014, , .		0
89	Physical Layer Encryption in CO-OFDM Employing Chaotic Mapping and Novel 3D 16-Ary Constellation. , 2021, , .		0