

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	Scattering of partially coherent vortex beam by rough surface in atmospheric turbulence. Optics Express, 2022, 30, 4165.	3.4	6
2	Security Enhancement in Coherent OFDM Optical Transmission With Chaotic Three-Dimensional Constellation Scrambling. Journal of Lightwave Technology, 2022, 40, 3749-3760.	4.6	12
3	Optical angular momentum interaction with turbulent and scattering media. , 2021, , 237-258.		6
4	Near-Maximal Two-Photon Entanglement for Optical Quantum Communication at $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll">\langle \text{mml:mn}>2.1\langle \text{mml:mn}>\langle \text{mml:mospace width="0.2em" />\langle \text{mml:mi}>\hat{1}/4\langle \text{mml:mi}>\langle \text{mml:mi mathvariant="normal">m\langle \text{mml:mi}>\langle \text{mml:math}>.$	3.8	3
5	Synthesis of Space-time Wave Packets Localized in All Dimensions. , 2021, , .		1
6	Physical Layer Encryption in CO-OFDM Employing Chaotic Mapping and Novel 3D 16-Ary Constellation. , 2021, , .		0
7	Multi-element lenslet array for efficient solar collection at extreme angles of incidence. Scientific Reports, 2020, 10, 8741.	3.3	7
8	Large volume nanoscale 3D printing: Nano-3DP. Applied Materials Today, 2020, 21, 100782.	4.3	7
9	Twisting waves increase the visibility of nonlinear behaviour. New Journal of Physics, 2020, 22, 063021.	2.9	1
10	Degradation of light carrying orbital angular momentum by ballistic scattering. Physical Review Research, 2020, 2, .	3.6	5
11	Multi-layer light trapping structures for enhanced solar collection. Optics Express, 2020, 28, 31714.	3.4	7
12	Aerosol scattering of vortex beams transmission in hazy atmosphere. Optics Express, 2020, 28, 28072.	3.4	8
13	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
14	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
15	Using all transverse degrees of freedom in quantum communications based on a generic mode sorter. Optics Express, 2019, 27, 10383.	3.4	33
16	Tackling Africa's digital divide. Nature Photonics, 2018, 12, 249-252.	31.4	44
17	Interconnection network architectures based on integrated orbital angular momentum emitters. Optics Communications, 2018, 408, 63-67.	2.1	8
18	Dynamic High Dimensional Free-Space Optical Interconnects for Urban Deployment. , 2018, , .		0

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19	Vortex instability in turbulent free-space propagation. <i>New Journal of Physics</i> , 2018, 20, 043023.	2.9	43
20	Differential Signalling in Free-Space Optical Communication Systems. <i>Applied Sciences (Switzerland)</i> , 2018, 8, 872.	2.5	9
21	Measuring the orbital angular momentum spectrum of an electron beam. <i>Nature Communications</i> , 2017, 8, 15536.	12.8	71
22	Free-space propagation of high-dimensional structured optical fields in an urban environment. <i>Science Advances</i> , 2017, 3, e1700552.	10.3	147
23	Efficient sorting of free electron orbital angular momentum. <i>New Journal of Physics</i> , 2017, 19, 023053.	2.9	35
24	A deterministic detector for vector vortex states. <i>Scientific Reports</i> , 2017, 7, 13882.	3.3	44
25	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
26	On the resilience of scalar and vector vortex modes in turbulence. <i>Optics Express</i> , 2016, 24, 18105.	3.4	69
27	Submersed free-space propagation of beams carrying orbital angular momentum. <i>Proceedings of SPIE</i> , 2016, , .	0.8	3
28	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
29	Demonstration of a 280â€‰Gbit/s free-space space-division-multiplexing communications link utilizing plane-wave spatial multiplexing. <i>Optics Letters</i> , 2016, 41, 851.	3.3	17
30	Orbital-angular-momentum-multiplexed free-space optical communication link using transmitter lenses. <i>Applied Optics</i> , 2016, 55, 2098.	2.1	27
31	Long Distance Free-Space Propagation of light carrying Orbital Angular Momentum. , 2016, , .		1
32	Study of Orbital Angular Momentum Mode Crosstalk Induced by Propagation Through Water. , 2016, , .		1
33	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
34	Demonstration of Distance Emulation for an Orbital-Angular-Momentum Beam. , 2015, , .		1
35	High-dimensional quantum cryptography with twisted light. <i>New Journal of Physics</i> , 2015, 17, 033033.	2.9	475
36	Divergence of an orbital-angular-momentum-carrying beam upon propagation. <i>New Journal of Physics</i> , 2015, 17, 023011.	2.9	215

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37	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.	3.3	372
38	Phase correction for a distorted orbital angular momentum beam using a Zernike polynomials-based stochastic-parallel-gradient-descent algorithm. Optics Letters, 2015, 40, 1197.	3.3	101
39	Performance metrics and design considerations for a free-space optical orbital-angular-momentumâ€™ multiplexed communication link. Optica, 2015, 2, 357.	9.3	164
40	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.	3.3	46
41	Study of Turbulence Induced Orbital Angular Momentum Channel Crosstalk in a 1.6km Free-Space Optical Link. , 2015, , .		5
42	400-Gbit/s Free-Space Optical Communications Link Over 120-meter Using Multiplexing of 4 Collocated Orbital-Angular-Momentum Beams. , 2015, , .		12
43	Experiment Turbulence Compensation of 50-Gbaud/s Orbital-Angular-Momentum QPSK Signals Using Intensity-only based SPGD Algorithm. , 2014, , .		0
44	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
45	Experimental demonstration of obstruction-tolerant free-space transmission of two 50-Gbaud QPSK data channels using Bessel beams carrying orbital angular momentum. , 2014, , .		6
46	Space division multiplexing in a basis of vector modes. , 2014, , .		6
47	Performance metrics and design parameters for an FSO communications link based on multiplexing of multiple orbital-angular-momentum beams. , 2014, , .		6
48	A Quasi-Optical Tool for the Demultiplexing of Orbital Angular Momentum Carried at Millimeter-Wave Frequencies. , 2014, , .		0
49	High-dimensional Quantum Key Distribution with Photonic Orbital Angular Momentum. , 2014, , .		0
50	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
51	Tunable orbital angular momentum mode filter based on optical geometric transformation. Optics Letters, 2014, 39, 1689.	3.3	23
52	Observation of the rotational Doppler shift of a white-light, orbital-angular-momentum-carrying beam backscattered from a rotating body. Optica, 2014, 1, 1.	9.3	138
53	High-capacity millimetre-wave communications with orbital angular momentum multiplexing. Nature Communications, 2014, 5, 4876.	12.8	972
54	Optical angular momentum in a rotating frame. Optics Letters, 2014, 39, 2944.	3.3	26

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55	Orbital-Angular-Momentum Mode (De)Multiplexer: A Single Optical Element for MIMO-based and non-MIMO-based Multimode Fiber Systems. , 2014, , .		10
56	Direct measurement of a 27-dimensional orbital-angular-momentum state vector. Nature Communications, 2014, 5, 3115.	12.8	187
57	Interface between path and orbital angular momentum entanglement for high-dimensional photonic quantum information. Nature Communications, 2014, 5, 4502.	12.8	148
58	Adaptive optics compensation of multiple orbital angular momentum beams propagating through emulated atmospheric turbulence. Optics Letters, 2014, 39, 2845.	3.3	138
59	1-Tbit/s Orbital-Angular-Momentum Multiplexed Link Through Emulated Turbulence With a Data-Carrying Beacon on a Separate Wavelength for Compensation. , 2014, , .		0
60	Demonstration of a 280 G-bit/s communications link utilizing plane-wave multiplexing. , 2014, , .		0
61	Multimode Communications Using Orbital Angular Momentum. , 2013, , 569-615.		15
62	Detection of a Spinning Object Using Light's Orbital Angular Momentum. Science, 2013, 341, 537-540.	12.6	796
63	Analysis of aperture size for partially receiving and de-multiplexing 100-Gbit/s optical orbital angular momentum channels over free-space link. , 2013, , .		1
64	Efficient sorting of Bessel beams. Optics Express, 2013, 21, 165.	3.4	61
65	Efficient measurement of an optical orbital-angular-momentum spectrum comprising more than 50 states. New Journal of Physics, 2013, 15, 013024.	2.9	80
66	100 Tbit/s Free-Space Data Link using Orbital Angular Momentum Mode Division Multiplexing Combined with Wavelength Division Multiplexing. , 2013, , .		22
67	Reconfigurable orbital angular momentum and polarization manipulation of 100-Gbit/s QPSK data channels. Optics Letters, 2013, 38, 5240.	3.3	13
68	Unraveling Bessel Beams. Optics and Photonics News, 2013, 24, 22.	0.5	48
69	Reconfigurable orbital-angular-momentum manipulation and switching of polarization-multiplexed 100-Gbit/s QPSK data channels. , 2013, , .		0
70	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
71	Techniques to sort Bessel beams. Proceedings of SPIE, 2013, , .	0.8	0
72	The measurement and generation of orbital angular momentum using an optical geometric transformation. , 2013, , .		5

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73	Tunable Filter for Orbital-Angular-Momentum Multiplexed Optical Channels. , 2013, , .		0
74	Preliminary Study of Orbital Angular Momentum Spectrum Detection for Celestial Light. , 2013, , .		0
75	Experimental Turbulence Effects on Crosstalk and System Power Penalty over a Free Space Optical Communication Link using Orbital Angular Momentum Multiplexing. , 2013, , .		1
76	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
77	Influence of atmospheric turbulence on states of light carrying orbital angular momentum. Optics Letters, 2012, 37, 3735.	3.3	192
78	Direct Measurement of the Quantum Wavefunction using Weak Measurements in Orbital Angular Momentum. , 2012, , .		0
79	Refractive elements for the measurement of the orbital angular momentum of a single photon. Optics Express, 2012, 20, 2110.	3.4	214
80	Influence of atmospheric turbulence on optical communications using orbital angular momentum for encoding. Optics Express, 2012, 20, 13195.	3.4	272
81	Measuring Light's Twist. , 2012, , .		0
82	The efficient sorting of light's orbital angular momentum for optical communications. , 2012, , .		7
83	Robust interferometer for the routing of light beams carrying orbital angular momentum. New Journal of Physics, 2011, 13, 093014.	2.9	52
84	Measuring orbital angular momentum superpositions of light by mode transformation. Optics Letters, 2011, 36, 1863.	3.3	73
85	Measuring the orbital angular moment of light with high optical efficiency. , 2011, , .		0
86	Measurement of the light orbital angular momentum spectrum using an optical geometric transformation. Journal of Optics (United Kingdom), 2011, 13, 064006.	2.2	103
87	Measuring the orbital angular momentum of light. Proceedings of SPIE, 2011, , .	0.8	2
88	Efficient measurement of orbital angular momentum using refractive optical elements. , 2011, , .		0
89	Efficient Sorting of Orbital Angular Momentum States of Light. Physical Review Letters, 2010, 105, 153601.	7.8	833