

Jonathan C F Matthews

List of Publications by Year in descending order

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82
papers

4,938
citations

201674

27
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206112

48
g-index

87
all docs

87
docs citations

87
times ranked

4059
citing authors

#	ARTICLE	IF	CITATIONS
1	2022 Roadmap on integrated quantum photonics. JPhys Photonics, 2022, 4, 012501.	4.6	152
2	Shot-Noise Limited Homodyne Detection for MHz Quantum Light Characterisation in the 2 $\hat{1}$ / ₄ m Band. Optics Express, 2022, 30, 7716-7724.	3.4	0
3	Advantage of Coherent States in Ring Resonators over Any Quantum Probe Single-Pass Absorption Estimation Strategy. Physical Review Letters, 2022, 128, .	7.8	12
4	Silicon photonics interfaced with integrated electronics for 9 GHz measurement of squeezed light. Nature Photonics, 2021, 15, 11-15.	31.4	56
5	Special Topic: Quantum sensing with correlated light sources. Applied Physics Letters, 2021, 118, .	3.3	17
6	Implementing graph-theoretic quantum algorithms on a silicon photonic quantum walk processor. Science Advances, 2021, 7, .	10.3	50
7	Ultra-Wide Photon-Pair Source in the Mid-Infrared on a Silicon Chip. , 2021, , .		0
8	Quantum Absorption Estimation for Saturable Samples. , 2021, , .		0
9	Maximizing precision in saturation-limited absorption measurements. Physical Review A, 2021, 104, .	2.5	3
10	Poissonian twin-beam states and the effect of symmetrical photon subtraction in loss estimations. Physical Review A, 2021, 104, .	2.5	0
11	A practical model of twin-beam experiments for sub-shot-noise absorption measurements. Applied Physics Letters, 2020, 117, 034001.	3.3	4
12	Quantum Optical Metrology of Correlated Phase and Loss. Physical Review Letters, 2020, 124, 140501.	7.8	18
13	Approaching the quantum limit of precision in absorbance estimation using classical resources. Physical Review Research, 2020, 2, .	3.6	10
14	Time-of-Flight Depth-Resolved Imaging with Heralded Photon Source Illumination. , 2020, , .		1
15	Combining silicon photonics and micro-electronics for high bandwidth squeezed light detection. , 2020, , .		0
16	Single-chip heterodyne characterization of heralded ring resonator photon pair source. , 2020, , .		0
17	Widely-tunable mid-infrared ring cavity pump-enhanced OPO and application in photo-thermal interferometric trace ethane detection. Optics Express, 2020, 28, 4550.	3.4	3
18	Designing quantum experiments with a genetic algorithm. Quantum Science and Technology, 2019, 4, 045012.	5.8	26

#	ARTICLE	IF	CITATIONS
19	Fisher Information with Continuous Variable Quantum Resources. , 2019, , .		0
20	Multimode interferometry for entangling atoms in quantum networks. Quantum Science and Technology, 2019, 4, 025008.	5.8	5
21	Maximisation of Quantum Correlations under Local Filtering Operations. , 2019, , .		0
22	Twin-beam sub-shot-noise raster-scanning microscope. Optics Express, 2019, 27, 30810.	3.4	31
23	Observation of nonlinear interference on a silicon photonic chip. Optics Letters, 2019, 44, 1277.	3.3	20
24	Quantum Sensing of Absorbance and the Beer-Lambert Law. , 2019, , .		0
25	A homodyne detector integrated onto a photonic chip for measuring quantum states and generating random numbers. Quantum Science and Technology, 2018, 3, 025003.	5.8	85
26	An On-Chip Homodyne Detector for Measuring Quantum States. , 2018, , .		0
27	Generation of random numbers by measuring phase fluctuations from a laser diode with a silicon-on-insulator chip. Optics Express, 2018, 26, 19730.	3.4	35
28	Large-scale silicon quantum photonics implementing arbitrary two-qubit processing. Nature Photonics, 2018, 12, 534-539.	31.4	384
29	Demonstrating an absolute quantum advantage in direct absorption measurement. Scientific Reports, 2017, 7, 6256.	3.3	68
30	Quantum-classical boundary for precision optical phase estimation. Physical Review A, 2017, 96, .	2.5	11
31	Absorption spectroscopy at the ultimate quantum limit from single-photon states. New Journal of Physics, 2017, 19, 023013.	2.9	72
32	Optical implementation of spin squeezing. New Journal of Physics, 2017, 19, 053005.	2.9	6
33	An on-chip homodyne detector for generating random numbers. , 2017, , .		0
34	An On-chip Homodyne Detector for Measuring Quantum States. , 2017, , .		2
35	Efficient quantum walk on a quantum processor. Nature Communications, 2016, 7, 11511.	12.8	75
36	Quantum Logic with Cavity Photons From Single Atoms. Physical Review Letters, 2016, 117, 023602.	7.8	11

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37	Achieving Sub-Shot-Noise Absorption-Spectroscopy with Avalanche Photodiodes and with a Charge-Coupled Device. , 2016, , .		0
38	Testing randomness with photons by direct characterization of opticalt-designs. Physical Review A, 2015, 91, .	2.5	9
39	Universal linear optics. Science, 2015, 349, 711-716.	12.6	771
40	Quantum-enhanced tomography of unitary processes. Optica, 2015, 2, 510.	9.3	18
41	Testing randomness using multi-photon interference. , 2014, , .		0
42	Quantum-Enhanced Precision in Unitary Process Tomography. , 2014, , .		0
43	Testing foundations of quantum mechanics with photons. Nature Physics, 2014, 10, 278-286.	16.7	71
44	Quantum Walks of Correlated Photon Pairs in Two-Dimensional Waveguide Arrays. Physical Review Letters, 2014, 112, 143604.	7.8	116
45	On the experimental verification of quantum complexity in linear optics. Nature Photonics, 2014, 8, 621-626.	31.4	171
46	Verifying Quantum Complexity in Linear Optical Experiments. , 2014, , .		0
47	Scalable Imaging of Superresolution. Physics Magazine, 2014, 7, .	0.1	1
48	On-Chip Manipulation of Single Photons from a Diamond Defect. Physical Review Letters, 2013, 111, 213603.	7.8	30
49	Observing fermionic statistics with photons in arbitrary processes. Scientific Reports, 2013, 3, 1539.	3.3	81
50	Coherent time evolution and boundary conditions of two-photon quantum walks in waveguide arrays. Physical Review A, 2013, 88, .	2.5	30
51	Photonic quantum technologies. , 2013, , .		0
52	Simulating Arbitrary Quantum Statistics with Entangled Photons. Springer Theses, 2013, , 95-111.	0.1	1
53	Quantum Interference in a Waveguide Interferometer. Springer Theses, 2013, , 51-67.	0.1	0
54	Multi Directional-Coupler Circuit for Quantum Logic. Springer Theses, 2013, , 41-50.	0.1	0

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55	Background and Methods. Springer Theses, 2013, , 11-28.	0.1	0
56	Heralded NOON State Generation in Waveguide. Springer Theses, 2013, , 69-79.	0.1	0
57	Measuring protein concentration with entangled photons. Applied Physics Letters, 2012, 100, .	3.3	116
58	An entangled walk of photons. Nature, 2012, 484, 47-48.	27.8	12
59	Generating, manipulating and measuring entanglement and mixture with a reconfigurable photonic circuit. Nature Photonics, 2012, 6, 45-49.	31.4	239
60	A Reconfigurable Photonic Chip for Generating, Manipulating and Measuring Entanglement and Mixture. , 2012, , .		0
61	A reconfigurable entangling circuit on a photonic chip. , 2011, , .		0
62	Integrated optics components for quantum information. , 2011, , .		0
63	Coherence properties of a single dipole emitter in diamond. New Journal of Physics, 2011, 13, 055016.	2.9	14
64	Integrated waveguide circuits for optical quantum computing. IET Circuits, Devices and Systems, 2011, 5, 94.	1.4	67
65	Reconfigurable controlled two-qubit operation on a quantum photonic chip. New Journal of Physics, 2011, 13, 115009.	2.9	14
66	Heralding Two-Photon and Four-Photon Path Entanglement on a Chip. Physical Review Letters, 2011, 107, 163602.	7.8	69
67	Photonic components for Quantum Information Science. , 2011, , .		0
68	Integrated Photonics for Quantum Information Science. , 2011, , .		0
69	New Photonic components for Quantum Information Science. , 2011, , .		0
70	Quantum information science with photonic chips. , 2010, , .		0
71	Integrated quantum photonics. , 2010, , .		0
72	Quantum Walks of Correlated Photons. Science, 2010, 329, 1500-1503.	12.6	749

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73	Advances in Photonic Quantum information science. , 2010, , .		0
74	Integrated quantum photonics. , 2010, , .		0
75	Integrated quantum information science with photons. , 2009, , .		0
76	Integrated Quantum Photonics. IEEE Journal of Selected Topics in Quantum Electronics, 2009, 15, 1673-1684.	2.9	142
77	Manipulation of multiphoton entanglement in waveguide quantum circuits. Nature Photonics, 2009, 3, 346-350.	31.4	338
78	Shor's Quantum Factoring Algorithm on a Photonic Chip. Science, 2009, 325, 1221-1221.	12.6	363
79	Laser written waveguide photonic quantum circuits. Optics Express, 2009, 17, 12546.	3.4	254
80	A compiled version of Shor's quantum factoring algorithm on a waveguide chip. , 2009, , .		2
81	Quantum information science with photons on a chip. , 2009, , .		1
82	Localization and its consequences for quantum walk algorithms and quantum communication. Physical Review A, 2007, 76, .	2.5	96