

Jonathan C F Matthews

List of Publications by Year in descending order

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Version: 2024-02-01

82
papers

4,938
citations

201674

27
h-index

206112

48
g-index

87
all docs

87
docs citations

87
times ranked

4059
citing authors

#	ARTICLE	IF	CITATIONS
1	Universal linear optics. <i>Science</i> , 2015, 349, 711-716.	12.6	771
2	Quantum Walks of Correlated Photons. <i>Science</i> , 2010, 329, 1500-1503.	12.6	749
3	Large-scale silicon quantum photonics implementing arbitrary two-qubit processing. <i>Nature Photonics</i> , 2018, 12, 534-539.	31.4	384
4	Shor's Quantum Factoring Algorithm on a Photonic Chip. <i>Science</i> , 2009, 325, 1221-1221.	12.6	363
5	Manipulation of multiphoton entanglement in waveguide quantum circuits. <i>Nature Photonics</i> , 2009, 3, 346-350.	31.4	338
6	Laser written waveguide photonic quantum circuits. <i>Optics Express</i> , 2009, 17, 12546.	3.4	254
7	Generating, manipulating and measuring entanglement and mixture with a reconfigurable photonic circuit. <i>Nature Photonics</i> , 2012, 6, 45-49.	31.4	239
8	On the experimental verification of quantum complexity in linear optics. <i>Nature Photonics</i> , 2014, 8, 621-626.	31.4	171
9	2022 Roadmap on integrated quantum photonics. <i>JPhys Photonics</i> , 2022, 4, 012501.	4.6	152
10	Integrated Quantum Photonics. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2009, 15, 1673-1684.	2.9	142
11	Measuring protein concentration with entangled photons. <i>Applied Physics Letters</i> , 2012, 100, .	3.3	116
12	Quantum Walks of Correlated Photon Pairs in Two-Dimensional Waveguide Arrays. <i>Physical Review Letters</i> , 2014, 112, 143604.	7.8	116
13	Localization and its consequences for quantum walk algorithms and quantum communication. <i>Physical Review A</i> , 2007, 76, .	2.5	96
14	A homodyne detector integrated onto a photonic chip for measuring quantum states and generating random numbers. <i>Quantum Science and Technology</i> , 2018, 3, 025003.	5.8	85
15	Observing fermionic statistics with photons in arbitrary processes. <i>Scientific Reports</i> , 2013, 3, 1539.	3.3	81
16	Efficient quantum walk on a quantum processor. <i>Nature Communications</i> , 2016, 7, 11511.	12.8	75
17	Absorption spectroscopy at the ultimate quantum limit from single-photon states. <i>New Journal of Physics</i> , 2017, 19, 023013.	2.9	72
18	Testing foundations of quantum mechanics with photons. <i>Nature Physics</i> , 2014, 10, 278-286.	16.7	71

#	ARTICLE	IF	CITATIONS
19	Heralding Two-Photon and Four-Photon Path Entanglement on a Chip. <i>Physical Review Letters</i> , 2011, 107, 163602.	7.8	69
20	Demonstrating an absolute quantum advantage in direct absorption measurement. <i>Scientific Reports</i> , 2017, 7, 6256.	3.3	68
21	Integrated waveguide circuits for optical quantum computing. <i>IET Circuits, Devices and Systems</i> , 2011, 5, 94.	1.4	67
22	Silicon photonics interfaced with integrated electronics for 9 GHz measurement of squeezed light. <i>Nature Photonics</i> , 2021, 15, 11-15.	31.4	56
23	Implementing graph-theoretic quantum algorithms on a silicon photonic quantum walk processor. <i>Science Advances</i> , 2021, 7, .	10.3	50
24	Generation of random numbers by measuring phase fluctuations from a laser diode with a silicon-on-insulator chip. <i>Optics Express</i> , 2018, 26, 19730.	3.4	35
25	Twin-beam sub-shot-noise raster-scanning microscope. <i>Optics Express</i> , 2019, 27, 30810.	3.4	31
26	On-Chip Manipulation of Single Photons from a Diamond Defect. <i>Physical Review Letters</i> , 2013, 111, 213603.	7.8	30
27	Coherent time evolution and boundary conditions of two-photon quantum walks in waveguide arrays. <i>Physical Review A</i> , 2013, 88, .	2.5	30
28	Designing quantum experiments with a genetic algorithm. <i>Quantum Science and Technology</i> , 2019, 4, 045012.	5.8	26
29	Observation of nonlinear interference on a silicon photonic chip. <i>Optics Letters</i> , 2019, 44, 1277.	3.3	20
30	Quantum-enhanced tomography of unitary processes. <i>Optica</i> , 2015, 2, 510.	9.3	18
31	Quantum Optical Metrology of Correlated Phase and Loss. <i>Physical Review Letters</i> , 2020, 124, 140501.	7.8	18
32	Special Topic: Quantum sensing with correlated light sources. <i>Applied Physics Letters</i> , 2021, 118, .	3.3	17
33	Coherence properties of a single dipole emitter in diamond. <i>New Journal of Physics</i> , 2011, 13, 055016.	2.9	14
34	Reconfigurable controlled two-qubit operation on a quantum photonic chip. <i>New Journal of Physics</i> , 2011, 13, 115009.	2.9	14
35	An entangled walk of photons. <i>Nature</i> , 2012, 484, 47-48.	27.8	12
36	Advantage of Coherent States in Ring Resonators over Any Quantum Probe Single-Pass Absorption Estimation Strategy. <i>Physical Review Letters</i> , 2022, 128, .	7.8	12

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37	Quantum Logic with Cavity Photons From Single Atoms. <i>Physical Review Letters</i> , 2016, 117, 023602.	7.8	11
38	Quantum-classical boundary for precision optical phase estimation. <i>Physical Review A</i> , 2017, 96, .	2.5	11
39	Approaching the quantum limit of precision in absorbance estimation using classical resources. <i>Physical Review Research</i> , 2020, 2, .	3.6	10
40	Testing randomness with photons by direct characterization of optical designs. <i>Physical Review A</i> , 2015, 91, .	2.5	9
41	Optical implementation of spin squeezing. <i>New Journal of Physics</i> , 2017, 19, 053005.	2.9	6
42	Multimode interferometry for entangling atoms in quantum networks. <i>Quantum Science and Technology</i> , 2019, 4, 025008.	5.8	5
43	A practical model of twin-beam experiments for sub-shot-noise absorption measurements. <i>Applied Physics Letters</i> , 2020, 117, 034001.	3.3	4
44	Widely-tunable mid-infrared ring cavity pump-enhanced OPO and application in photo-thermal interferometric trace ethane detection. <i>Optics Express</i> , 2020, 28, 4550.	3.4	3
45	Maximizing precision in saturation-limited absorption measurements. <i>Physical Review A</i> , 2021, 104, .	2.5	3
46	A compiled version of Shor's quantum factoring algorithm on a waveguide chip. , 2009, , .		2
47	An On-chip Homodyne Detector for Measuring Quantum States. , 2017, , .		2
48	Scalable Imaging of Superresolution. <i>Physics Magazine</i> , 2014, 7, .	0.1	1
49	Simulating Arbitrary Quantum Statistics with Entangled Photons. <i>Springer Theses</i> , 2013, , 95-111.	0.1	1
50	Quantum information science with photons on a chip. , 2009, , .		1
51	Time-of-Flight Depth-Resolved Imaging with Heralded Photon Source Illumination. , 2020, , .		1
52	Integrated quantum information science with photons. , 2009, , .		0
53	Quantum information science with photonic chips. , 2010, , .		0
54	Integrated quantum photonics. , 2010, , .		0

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55	A reconfigurable entangling circuit on a photonic chip. , 2011, , .		0
56	Integrated optics components for quantum information. , 2011, , .		0
57	Photonic quantum technologies. , 2013, , .		0
58	Testing randomness using multi-photon interference. , 2014, , .		0
59	Quantum-Enhanced Precision in Unitary Process Tomography. , 2014, , .		0
60	Verifying Quantum Complexity in Linear Optical Experiments. , 2014, , .		0
61	An on-chip homodyne detector for generating random numbers. , 2017, , .		0
62	An On-Chip Homodyne Detector for Measuring Quantum States. , 2018, , .		0
63	Fisher Information with Continuous Variable Quantum Resources. , 2019, , .		0
64	Maximisation of Quantum Correlations under Local Filtering Operations. , 2019, , .		0
65	Ultra-Wide Photon-Pair Source in the Mid-Infrared on a Silicon Chip. , 2021, , .		0
66	Quantum Absorption Estimation for Saturable Samples. , 2021, , .		0
67	Advances in Photonic Quantum information science. , 2010, , .		0
68	Integrated quantum photonics. , 2010, , .		0
69	Photonic components for Quantum Information Science. , 2011, , .		0
70	Integrated Photonics for Quantum Information Science. , 2011, , .		0
71	New Photonic components for Quantum Information Science. , 2011, , .		0
72	A Reconfigurable Photonic Chip for Generating, Manipulating and Measuring Entanglement and Mixture. , 2012, , .		0

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73	Quantum Interference in a Waveguide Interferometer. Springer Theses, 2013, , 51-67.	0.1	0
74	Multi Directional-Coupler Circuit for Quantum Logic. Springer Theses, 2013, , 41-50.	0.1	0
75	Background and Methods. Springer Theses, 2013, , 11-28.	0.1	0
76	Heralded NOON State Generation in Waveguide. Springer Theses, 2013, , 69-79.	0.1	0
77	Achieving Sub-Shot-Noise Absorption-Spectroscopy with Avalanche Photodiodes and with a Charge-Coupled Device. , 2016, , .		0
78	Quantum Sensing of Absorbance and the Beer-Lambert Law. , 2019, , .		0
79	Combining silicon photonics and micro-electronics for high bandwidth squeezed light detection. , 2020, , .		0
80	Single-chip heterodyne characterization of heralded ring resonator photon pair source. , 2020, , .		0
81	Shot-Noise Limited Homodyne Detection for MHz Quantum Light Characterisation in the $2\hat{1}/4\text{m}$ Band. Optics Express, 2022, 30, 7716-7724.	3.4	0
82	Poissonian twin-beam states and the effect of symmetrical photon subtraction in loss estimations. Physical Review A, 2021, 104, .	2.5	0