Chao-Yang Lu

List of Publications by Year
in descending order

127 papers	17,838 citations	23500 58 h-index	20307 116 g-index
132 all docs	132 docs citations	132 times ranked	10031 citing authors

#	Article	IF	Citations
1	Quantum computational advantage using photons. Science, 2020, 370, 1460-1463.	6.0	1,250
2	Satellite-to-ground quantum key distribution. Nature, 2017, 549, 43-47.	13.7	1,040
3	Multiphoton entanglement and interferometry. Reviews of Modern Physics, 2012, 84, 777-838.	16.4	1,007
4	Satellite-based entanglement distribution over 1200 kilometers. Science, 2017, 356, 1140-1144.	6.0	870
5	Single quantum emitters in monolayer semiconductors. Nature Nanotechnology, 2015, 10, 497-502.	15.6	749
6	On-Demand Single Photons with High Extraction Efficiency and Near-Unity Indistinguishability from a Resonantly Driven Quantum Dot in a Micropillar. Physical Review Letters, 2016, 116, 020401.	2.9	675
7	Experimental entanglement of six photons in graph states. Nature Physics, 2007, 3, 91-95.	6.5	554
8	Quantum teleportation of multiple degrees of freedom of a single photon. Nature, 2015, 518, 516-519.	13.7	549
9	Ground-to-satellite quantum teleportation. Nature, 2017, 549, 70-73.	13.7	524
10	Satellite-Relayed Intercontinental Quantum Network. Physical Review Letters, 2018, 120, 030501.	2.9	499
11	Strong Quantum Computational Advantage Using a Superconducting Quantum Processor. Physical Review Letters, 2021, 127, 180501.	2.9	491
12	On-demand semiconductor single-photon source with near-unity indistinguishability. Nature Nanotechnology, 2013, 8, 213-217.	15.6	444
13	An integrated space-to-ground quantum communication network over 4,600 kilometres. Nature, 2021, 589, 214-219.	13.7	415
14	Experimental Ten-Photon Entanglement. Physical Review Letters, 2016, 117, 210502.	2.9	403
15	Observation of eight-photon entanglement. Nature Photonics, 2012, 6, 225-228.	15.6	355
16	Entanglement-based secure quantum cryptography over 1,120 kilometres. Nature, 2020, 582, 501-505.	13.7	350
17	High-efficiency multiphoton boson sampling. Nature Photonics, 2017, 11, 361-365.	15.6	330
18	Boson Sampling with 20 Input Photons and a 60-Mode Interferometer in a<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mn>1</mml:mn><mml:msup><mml:mn>0</mml:mn><mml:mn>14</mml:mn></mml:msup></mml:math>-Dimen Hilbert Space. Physical Review Letters, 2019, 123, 250503.	2.9	313

#	Article	IF	Citations
19	Towards optimal single-photon sources from polarized microcavities. Nature Photonics, 2019, 13, 770-775.	15.6	290
20	Experimental demonstration of a hyper-entangled ten-qubit SchrÃ¶dinger cat state. Nature Physics, 2010, 6, 331-335.	6.5	282
21	18-Qubit Entanglement with Six Photonsâ€™ Three Degrees of Freedom. Physical Review Letters, 2018, 120, 260502.	2.9	274
22	Spin-resolved quantum-dot resonance fluorescence. Nature Physics, 2009, 5, 198-202.	6.5	251
23	12-Photon Entanglement and Scalable Scattershot Boson Sampling with Optimal Entangled-Photon Pairs from Parametric Down-Conversion. Physical Review Letters, 2018, 121, 250505.	2.9	249
24	Quantum Teleportation in High Dimensions. Physical Review Letters, 2019, 123, 070505.	2.9	228
25	On-Demand Semiconductor Source of Entangled Photons Which Simultaneously Has High Fidelity, Efficiency, and Indistinguishability. Physical Review Letters, 2019, 122, 113602.	2.9	219
26	Phase-Programmable Gaussian Boson Sampling Using Stimulated Squeezed Light. Physical Review Letters, 2021, 127, 180502.	2.9	208
27	Quantum walks on a programmable two-dimensional 62-qubit superconducting processor. Science, 2021, 372, 948-952.	6.0	202
28	Demonstration of a Compiled Version of Shorâ€™s Quantum Factoring Algorithm Using Photonic Qubits. Physical Review Letters, 2007, 99, 250504.	2.9	186
29	Satellite-to-Ground Entanglement-Based Quantum Key Distribution. Physical Review Letters, 2017, 119, 200501.	2.9	166
30	Experimental demonstration of topological error correction. Nature, 2012, 482, 489-494.	13.7	162
31	Entanglement-Based Machine Learning on a Quantum Computer. Physical Review Letters, 2015, 114, 110504.	2.9	158
32	The potential and global outlook of integrated photonics for quantum technologies. Nature Reviews Physics, 2022, 4, 194-208.	11.9	151
33	Near-Transform-Limited Single Photons from an Efficient Solid-State Quantum Emitter. Physical Review Letters, 2016, 116, 213601.	2.9	150
34	Highly indistinguishable on-demand resonance fluorescence photons from a deterministic quantum dot micropillar device with 74% extraction efficiency. Optics Express, 2016, 24, 8539.	1.7	143
35	Experimental Quantum Secret Sharing and Third-Man Quantum Cryptography. Physical Review Letters, 2005, 95, 200502.	2.9	137
36	Genuine 12-Qubit Entanglement on a Superconducting Quantum Processor. Physical Review Letters, 2019, 122, 110501.	2.9	136

#	Article	IF	Citations
37	Deterministic and Robust Generation of Single Photons from a Single Quantum Dot with 99.5% Indistinguishability Using Adiabatic Rapid Passage. Nano Letters, 2014, 14, 6515-6519.	4.5	129
38	Time-Bin-Encoded Boson Sampling with a Single-Photon Device. Physical Review Letters, 2017, 118, 190501.	2.9	123
39	Measurement-Device-Independent Quantum Key Distribution over Untrustful Metropolitan Network. Physical Review X, 2016, 6, .	2.8	120
40	Experimental Quantum Computing to Solve Systems of Linear Equations. Physical Review Letters, 2013, 110, 230501.	2.9	114
41	Quantum computational advantage via 60-qubit 24-cycle random circuit sampling. Science Bulletin, 2022, 67, 240-245.	4.3	114
42	Demonstrating Anyonic Fractional Statistics with a Six-Qubit Quantum Simulator. Physical Review Letters, 2009, 102, 030502.	2.9	111
43	Toward Scalable Boson Sampling with Photon Loss. Physical Review Letters, 2018, 120, 230502.	2.9	97
44	Long-Distance Free-Space Measurement-Device-Independent Quantum Key Distribution. Physical Review Letters, 2020, 125, 260503.	2.9	95
45	Realization of an Error-Correcting Surface Code with Superconducting Qubits. Physical Review Letters, 2022, 129, .	2.9	94
46	Toolbox for entanglement detection and fidelity estimation. Physical Review A, 2007, 76, .	1.0	92
47	Experimental Realization of Optimal Asymmetric Cloning and Telecloning via Partial Teleportation. Physical Review Letters, 2005, 95, 030502.	2.9	87
48	Propagation and Localization of Collective Excitations on a 24-Qubit Superconducting Processor. Physical Review Letters, 2019, 123, 050502.	2.9	87
49	Experimental Quantum Generative Adversarial Networks for Image Generation. Physical Review Applied, 2021, 16, .	1.5	87
50	Observation of Topologically Protected Edge States in a Photonic Two-Dimensional Quantum Walk. Physical Review Letters, 2018, 121, 100502.	2.9	86
51	Quantum teleportation between remote atomic-ensemble quantum memories. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 20347-20351.	3.3	85
52	Solving Systems of Linear Equations with a Superconducting Quantum Processor. Physical Review Letters, 2017, 118, 210504.	2.9	76
53	Entangled photons and quantum communication. Physics Reports, 2010, 497, 1-40.	10.3	75
54	Experimental Multiparticle Entanglement Swapping for Quantum Networking. Physical Review Letters, 2009, 103, 020501.	2.9	73

#	Article	IF	Citations
55	Experimental Realization of a Controlled-NOT Gate with Four-Photon Six-Qubit Cluster States. Physical Review Letters, 2010, 104, 020501.	2.9	71
56	Experimental Blind Quantum Computing for a Classical Client. Physical Review Letters, 2017, 119, 050503.	2.9	68
57	Experimental quantum coding against qubit loss error. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 11050-11054.	3.3	63
58	Indistinguishable Tunable Single Photons Emitted by Spin-Flip Raman Transitions in InGaAs Quantum Dots. Physical Review Letters, 2013, 111, 237403.	2.9	60
59	Direct measurement of spin dynamics in InAs/GaAs quantum dots using time-resolved resonance fluorescence. Physical Review B, 2010, 81, .	1.1	58
60	Coherently driving a single quantum two-level system with dichromatic laser pulses. Nature Physics, 2019, 15, 941-946.	6.5	58
61	Multiphoton Interference in Quantum Fourier Transform Circuits and Applications to Quantum Metrology. Physical Review Letters, 2017, 119, 080502.	2.9	57
62	Quantum Interference between Light Sources Separated by 150 Million Kilometers. Physical Review Letters, 2019, 123, 080401.	2.9	57
63	Experimental construction of optical multiqubit cluster states from Bell states. Physical Review A, 2006, 73, .	1.0	56
64	Emulating Anyonic Fractional Statistical Behavior in a Superconducting Quantum Circuit. Physical Review Letters, 2016, 117, 110501.	2.9	55
65	Observation of ten-photon entanglement using thin BiB_3O_6 crystals. Optica, 2017, 4, 77.	4.8	52
66	Experimental Gaussian Boson sampling. Science Bulletin, 2019, 64, 511-515.	4.3	51
67	Temperature-Dependent Mollow Triplet Spectra from a Single Quantum Dot: Rabi Frequency Renormalization and Sideband Linewidth Insensitivity. Physical Review Letters, 2014, 113, 097401.	2.9	48
68	Space-to-Ground Quantum Key Distribution Using a Small-Sized Payload on Tiangong-2 Space Lab. Chinese Physics Letters, 2017, 34, 090302.	1.3	48
69	Dynamically Controlled Resonance Fluorescence Spectra from a Doubly Dressed Single InGaAs Quantum Dot. Physical Review Letters, 2015, 114, 097402.	2.9	47
70	Teleportation-based realization of an optical quantum two-qubit entangling gate. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 20869-20874.	3.3	44
71	Demonstration of Topological Robustness of Anyonic Braiding Statistics with a Superconducting Quantum Circuit. Physical Review Letters, 2018, 121, 030502.	2.9	40
72	Satellite testing of a gravitationally induced quantum decoherence model. Science, 2019, 366, 132-135.	6.0	40

#	Article	IF	Citations
73	Quantum-dot single-photon sources for the quantum internet. Nature Nanotechnology, 2021, 16, 1294-1296.	15.6	40
74	Demonstration of a scheme for the generation of â€œevent-readyâ€•entangled photon pairs from a single-photon source. Physical Review A, 2008, 77, .	1.0	35
75	Quantum State Transfer from a Single Photon to a Distant Quantum-Dot Electron Spin. Physical Review Letters, 2017, 119, 060501.	2.9	35
76	Demonstration of Adiabatic Variational Quantum Computing with a Superconducting Quantum Coprocessor. Physical Review Letters, 2020, 125, 180501.	2.9	33
77	Ruling Out Real-Valued Standard Formalism of Quantum Theory. Physical Review Letters, 2022, 128, 040403.	2.9	31
78	Emergence of classical objectivity of quantum Darwinism in a photonic quantum simulator. Science Bulletin, 2019, 64, 580-585.	4.3	30
79	Demonstration of topological data analysis on a quantum processor. Optica, 2018, 5, 193.	4.8	29
80	Push-button photon entanglement. Nature Photonics, 2014, 8, 174-176.	15.6	25
81	Phase amplification in optical interferometry with weak measurement. Physical Review A, 2018, 97, .	1.0	24
82	Single InAs Quantum Dot Grown at the Junction of Branched Gold-Free GaAs Nanowire. Nano Letters, 2013, 13, 1399-1404.	4.5	23
83	Deterministic generation of bright single resonance fluorescence photons from a Purcell-enhanced quantum dot-micropillar system. Optics Express, 2015, 23, 32977.	1.7	22
84	Micropillar single-photon source design for simultaneous near-unity efficiency and indistinguishability. Physical Review B, 2020, 102, .	1.1	22
85	Quantum teleportation of physical qubits into logical code spaces. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	21
86	Heralded Nondestructive Quantum Entangling Gate with Single-Photon Sources. Physical Review Letters, 2021, 126, 140501.	2.9	20
87	Experimental measurement-based quantum computing beyond the cluster-state model. Nature Photonics, 2011, 5, 117-123.	15.6	19
88	Compatibility of causal hidden-variable theories with a delayed-choice experiment. Physical Review A, 2019, 100, .	1.0	18
89	Demonstration of topologically path-independent anyonic braiding in a nine-qubit planar code. Optica, 2019, 6, 264.	4.8	18
90	Experimental quantum data locking. Physical Review A, 2016, 94, .	1.0	16

#	Article	IF	Citations
91	Efficient Measurement of Multiparticle Entanglement with Embedding Quantum Simulator. Physical Review Letters, 2016, 116, 070502.	2.9	16
92	Multiphoton Graph States from a Solid-State Single-Photon Source. ACS Photonics, 2020, 7, 1603-1610.	3.2	16
93	Proof-of-principle demonstration of compiled Shorâ€™s algorithm using a quantum dot single-photon source. Optics Express, 2020, 28, 18917.	1.7	15
94	A fiber opticâ€“nanophotonic approach to the detection of antibodies and viral particles of COVID-19. Nanophotonics, 2020, 10, 235-246.	2.9	15
95	Quantum State Transfer over 1200Âkm Assisted by Prior Distributed Entanglement. Physical Review Letters, 2022, 128, 170501.	2.9	15
96	Quantum-Teleportation-Inspired Algorithm for Sampling Large Random Quantum Circuits. Physical Review Letters, 2020, 124, 080502.	2.9	14
97	Quantum communication at 7,600km and beyond. Communications of the ACM, 2018, 61, 42-43.	3.3	13
98	Experimental demonstration of quantum pigeonhole paradox. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 1549-1552.	3.3	13
99	Experimental test of generalized Hardyâ€™s paradox. Science Bulletin, 2018, 63, 1611-1615.	4.3	11
100	Observation of Intensity Squeezing in Resonance Fluorescence from a Solid-State Device. Physical Review Letters, 2020, 125, 153601.	2.9	11
101	Bell inequality tests of four-photon six-qubit graph states. Physical Review A, 2010, 82, .	1.0	10
102	Experimental test of the irreducible four-qubit Greenberger-Horne-Zeilinger paradox. Physical Review A, 2017, 95, .	1.0	10
103	Suppression of background emission for efficient single-photon generation in micropillar cavities. Applied Physics Letters, 2021, 118, 114003.	1.5	9
104	Robust Self-Testing of Multiparticle Entanglement. Physical Review Letters, 2021, 127, 230503.	2.9	9
105	Floquet prethermal phase protected by U(1) symmetry on a superconducting quantum processor. Physical Review A, 2022, 105, .	1.0	8
106	Cloning of Quantum Entanglement. Physical Review Letters, 2020, 125, 210502.	2.9	7
107	Directly Measuring a Multiparticle Quantum Wave Function via Quantum Teleportation. Physical Review Letters, 2021, 127, 030402.	2.9	7
108	Greenberger-Horne-Zeilinger-type violation of local realism by mixed states. Physical Review A, 2008, 78, .	1.0	6

#	Article	IF	Citations
109	Closing the Locality and Detection Loopholes in Multiparticle Entanglement Self-Testing. Physical Review Letters, 2022, 128, .	2.9	6
110	Quantum Beat between Sunlight and Single Photons. Nano Letters, 2020, 20, 152-157.	4.5	5
111	Experimental nonlocal measurement of a product observable. Optica, 2019, 6, 1199.	4.8	5
112	Benchmarking 50-Photon Gaussian Boson Sampling on the Sunway TaihuLight. IEEE Transactions on Parallel and Distributed Systems, 2022, 33, 1357-1372.	4.0	4
113	Photonic Quantum Technologies. Advanced Quantum Technologies, 2020, 3, 2000007.	1.8	3
114	Entanglement-free witnessing of quantum incompatibility in a high-dimensional system. Physical Review Research, 2021, 3, .	1.3	3
115	Space-based quantum communication towards global quantum network. , 2017, , .		2
116	Resonance fluorescence from an atomic-quantum-memory compatible single photon source based on GaAs droplet quantum dots. Applied Physics Letters, 2018, 113, 021102.	1.5	2
117	Quantum dot-micropillars: A bright source of coherent single photons. , 2016, , .		0
118	Towards quantum computing and quantum networking with solid-state single spins and single photons. , 2014, , .		0
119	Simultaneous teleportation of composite quantum states. SPIE Newsroom, 0, , .	0.1	0
120	Observation of Ten-photon Entanglement Using Thin BiB3O6 Crystals. , 2017, , .		0
121	Multi-photon quantum boson-sampling machines. , 2018, , .		0
122	Multi-photon quantum boson-sampling machines. , 2018, , .		0
123	Toward â€œquantum supremacyâ€•with photons. , 2019, , .		0
124	High-dimensional Quantum Teleportation, 12-photon Entanglement and Scattershot Boson Sampling based on Spontaneous Parametric Down-Conversion. , 2019, , .		0
125	Quantum computing with 20 photons in 60 modes. , 2020, , .		0
126	High-performance single-photon sources from solid-state quantum emitters. , 2020, , .		0

#	Article	IF	Citations
127	A micropillar single-photon source design numerically optimized for high efficiency and high indistinguishability. , 2020, , .		0