Christopher Monroe

List of Publications by Year
in descending order

76	15,206	43973 48	88477 70
papers	citations	h-index	g-index

77	77	77	8215
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Control of Transverse Motion for Quantum Gates on Individually Addressed Atomic Qubits. PRX Quantum, 2022, 3, .	3.5	23
2	Quantum Computer Systems for Scientific Discovery. PRX Quantum, 2021, 2, .	3.5	142
3	Probing many-body localization on a noisy quantum computer. Physical Review A, 2021, 103, .	1.0	17
4	Domain-wall confinement and dynamics in a quantum simulator. Nature Physics, 2021, 17, 742-747.	6.5	56
5	Programmable quantum simulations of spin systems with trapped ions. Reviews of Modern Physics, 2021, 93, .	16.4	316
6	Observation of a prethermal discrete time crystal. Science, 2021, 372, 1192-1196.	6.0	93
7	Many-body thermodynamics on quantum computers via partition function zeros. Science Advances, 2021, 7, .	4.7	22
8	Comparison of cloud-based ion trap and superconducting quantum computer architectures. AVS Quantum Science, 2021, 3, .	1.8	9
9	Character of motional modes for entanglement and sympathetic cooling of mixed-species trapped-ion chains. Physical Review A, 2021, 103, .	1.0	15
10	Fault-tolerant control of an error-corrected qubit. Nature, 2021, 598, 281-286.	13.7	170
11	Observation of Stark many-body localization without disorder. Nature, 2021, 599, 393-398.	13.7	69
12	Quantum circuits for the realization of equivalent forms of one-dimensional discrete-time quantum walks on near-term quantum hardware. Physical Review A, 2021, 104, .	1.0	5
13	Generation of thermofield double states and critical ground states with a quantum computer. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 25402-25406.	3.3	66
14	Efficient Ground-State Cooling of Large Trapped-Ion Chains with an Electromagnetically-Induced-Transparency Tripod Scheme. Physical Review Letters, 2020, 125, 053001.	2.9	36
15	Quantum walks and Dirac cellular automata on a programmable trapped-ion quantum computer. Nature Communications, 2020, 11, 3720.	5.8	28
16	Many-Body Dephasing in a Trapped-Ion Quantum Simulator. Physical Review Letters, 2020, 125, 120605.	2.9	23
17	Discrete Time Crystals. Annual Review of Condensed Matter Physics, 2020, 11, 467-499.	5.2	146
18	Ground-state energy estimation of the water molecule on a trapped-ion quantum computer. Npj Quantum Information, 2020, 6, .	2.8	184

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19	Towards analog quantum simulations of lattice gauge theories with trapped ions. Physical Review Research, 2020, 2, .	1.3	78
20	Training of quantum circuits on a hybrid quantum computer. Science Advances, 2019, 5, eaaw9918.	4.7	134
21	Two-qubit entangling gates within arbitrarily long chains of trapped ions. Physical Review A, 2019, 100, .	1.0	59
22	The U.S. National Quantum Initiative: From Act to action. Science, 2019, 364, 440-442.	6.0	31
23	Verified quantum information scrambling. Nature, 2019, 567, 61-65.	13.7	219
24	Toward convergence of effective-field-theory simulations on digital quantum computers. Physical Review A, 2019, 100, .	1.0	28
25	Benchmarking an 11-qubit quantum computer. Nature Communications, 2019, 10, 5464.	5.8	307
26	Cryogenic trapped-ion system for large scale quantum simulation. Quantum Science and Technology, 2019, 4, 014004.	2.6	90
27	High purity single photons entangled with an atomic qubit. Optics Express, 2019, 27, 28143.	1.7	23
28	Observation of Hopping and Blockade of Bosons in a Trapped Ion Spin Chain. Physical Review Letters, 2018, 120, 073001.	2.9	35
29	Robust 2-Qubit Gates in a Linear Ion Crystal Using a Frequency-Modulated Driving Force. Physical Review Letters, 2018, 120, 020501.	2.9	86
30	Measuring the RÃ©nyi entropy of a two-site Fermi-Hubbard model on a trapped ion quantum computer. Physical Review A, 2018, 98, .	1.0	77
31	Quantum Repeaters Based on Two-Species Trapped Ions. , 2018, , .		2
32	Observation of a discrete time crystal. Nature, 2017, 543, 217-220.	13.7	764
33	Experimental comparison of two quantum computing architectures. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 3305-3310.	3.3	326
34	Ultrafast creation of large SchrÃ¶dinger cat states of an atom. Nature Communications, 2017, 8, 697.	5.8	43
35	Demonstration of Two-Atom Entanglement with Ultrafast Optical Pulses. Physical Review Letters, 2017, 119, 230501.	2.9	54
36	Multispecies Trapped-Ion Node for Quantum Networking. Physical Review Letters, 2017, 118, 250502.	2.9	66

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37	Complete 3-Qubit Grover search on a programmable quantum computer. Nature Communications, 2017, 8, 1918.	5.8	153
38	Engineering large Stark shifts for control of individual clock state qubits. Physical Review A, 2016, 94, .	1.0	29
39	Demonstration of a small programmable quantum computer with atomic qubits. Nature, 2016, 536, 63-66.	13.7	549
40	High-resolution adaptive imaging of a single atom. Nature Photonics, 2016, 10, 606-610.	15.6	24
41	Many-body localization in a quantum simulator with programmable random disorder. Nature Physics, 2016, 12, 907-911.	6.5	657
42	Modular entanglement of atomic qubits using photons and phonons. Nature Physics, 2015, 11, 37-42.	6.5	225
43	Large-scale modular quantum-computer architecture with atomic memory and photonic interconnects. Physical Review A, 2014, 89, .	1.0	400
44	Quantum control of qubits and atomic motion using ultrafast laser pulses. Applied Physics B: Lasers and Optics, 2014, 114, 45-61.	1.1	46
45	Coherent imaging spectroscopy of a quantum many-body spin system. Science, 2014, 345, 430-433.	6.0	72
46	Optimal Quantum Control of Multimode Couplings between Trapped Ion Qubits for Scalable Entanglement. Physical Review Letters, 2014, 112, 190502.	2.9	122
47	Scaling the Ion Trap Quantum Processor. Science, 2013, 339, 1164-1169.	6.0	529
48	Photon collection from a trapped ion-cavity system. Physical Review A, 2012, 85, .	1.0	49
49	Trapped ions for testing foundations of quantum theory. , 2012, , .		0
50	Private random number generation through remote atom entanglement. , 2011, , .		0
51	Colloquium: Quantum networks with trapped ions. Reviews of Modern Physics, 2010, 82, 1209-1224.	16.4	421
52	Entanglement of Atomic Qubits Using an Optical Frequency Comb. Physical Review Letters, 2010, 104, 140501.	2.9	123
53	Entanglement and Tunable Spin-Spin Couplings between Trapped Ions Using Multiple Transverse Modes. Physical Review Letters, 2009, 103, 120502.	2.9	248
54	Protocols and techniques for a scalable atomâ€“photon quantum network. Fortschritte Der Physik, 2009, 57, 1133-1152.	1.5	39

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55	Magneto-optical trapping of cadmium. Physical Review A, 2007, 76, .	1.0	40
56	Manipulation and detection of a trapped<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msup><mml:mi>Yb</mml:mi><mml:mo>+</mml:mo></mml:msup></mml:mrow></mml:math>hype qubit. Physical Review A, 2007, 76, .	1.0	351
57	Quantum interference of photon pairs from two remote trapped atomic ions. Nature Physics, 2007, 3, 538-541.	6.5	219
58	Entanglement of single-atom quantum bits at a distance. Nature, 2007, 449, 68-71.	13.7	635
59	Ion trap in a semiconductor chip. Nature Physics, 2006, 2, 36-39.	6.5	194
60	Arbitrary-speed quantum gates within large ion crystals through minimum control of laser beams. Europhysics Letters, 2006, 73, 485-491.	0.7	90
61	Scalable quantum computation with photons and trapped ions. , 2006, , .		0
62	Trapped Ion Quantum Computation with Transverse Phonon Modes. Physical Review Letters, 2006, 97, 050505.	2.9	151
63	ION TRAP NETWORKING: COLD, FAST, AND SMALL. , 2005, , .		1
64	Ion trap transducers for quantum electromechanical oscillators. Physical Review A, 2005, 72, .	1.0	107
65	Observation of entanglement between a single trapped atom and a single photon. Nature, 2004, 428, 153-157.	13.7	563
66	Quantum Computing with Trapped Ion Hyperfine Qubits. Quantum Information Processing, 2004, 3, 45-59.	1.0	47
67	Planar ion trap geometry for microfabrication. Applied Physics B: Lasers and Optics, 2004, 78, 639-651.	1.1	77
68	Quantum dynamics of single trapped ions. Reviews of Modern Physics, 2003, 75, 281-324.	16.4	2,029
69	Quantum information processing with atoms and photons. Nature, 2002, 416, 238-246.	13.7	495
70	Heating of trapped ions from the quantum ground state. Physical Review A, 2000, 61, .	1.0	432
71	Decoherence and decay of motional quantum states of a trapped atom coupled to engineered reservoirs. Physical Review A, 2000, 62, .	1.0	239
72	Cooling the Collective Motion of Trapped Ions to Initialize a Quantum Register. Physical Review Letters, 1998, 81, 1525-1528.	2.9	255

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73	Experimental issues in coherent quantum-state manipulation of trapped atomic ions. Journal of Research of the National Institute of Standards and Technology, 1998, 103, 259.	0.4	1,142
74	Resolved-Sideband Raman Cooling of a Bound Atom to the 3D Zero-Point Energy. Physical Review Letters, 1995, 75, 4011-4014.	2.9	597
75	Quantum Networking with Trapped Atomic Ions. , 0, , .		0
76	Resource-Optimized Fermionic Local-Hamiltonian Simulation on a Quantum Computer for Quantum Chemistry. Quantum - the Open Journal for Quantum Science, 0, 5, 509.	0.0	12