

# Hannes Pichler

## List of Publications by Year in descending order

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47  
papers

7,913  
citations

94381

37  
h-index

197736

49  
g-index

49  
all docs

49  
docs citations

49  
times ranked

5238  
citing authors

#	ARTICLE	IF	CITATIONS
1	Probing many-body dynamics on a 51-atom quantum simulator. <i>Nature</i> , 2017, 551, 579-584.	13.7	1,463
2	Chiral quantum optics. <i>Nature</i> , 2017, 541, 473-480.	13.7	1,007
3	Quantum phases of matter on a 256-atom programmable quantum simulator. <i>Nature</i> , 2021, 595, 227-232.	13.7	458
4	Generation and manipulation of Schrödinger cat states in Rydberg atom arrays. <i>Science</i> , 2019, 365, 570-574.	6.0	375
5	Parallel Implementation of High-Fidelity Multiqubit Gates with Neutral Atoms. <i>Physical Review Letters</i> , 2019, 123, 170503.	2.9	329
6	Measuring Entanglement Growth in Quench Dynamics of Bosons in an Optical Lattice. <i>Physical Review Letters</i> , 2012, 109, 020505.	2.9	303
7	Quantum Kibble-Zurek mechanism and critical dynamics on a programmable Rydberg simulator. <i>Nature</i> , 2019, 568, 207-211.	13.7	298
8	Quantum Approximate Optimization Algorithm: Performance, Mechanism, and Implementation on Near-Term Devices. <i>Physical Review X</i> , 2020, 10, .	2.8	293
9	Probing topological spin liquids on a programmable quantum simulator. <i>Science</i> , 2021, 374, 1242-1247.	6.0	293
10	High-fidelity entanglement and detection of alkaline-earth Rydberg atoms. <i>Nature Physics</i> , 2020, 16, 857-861.	6.5	222
11	Quantum optics of chiral spin networks. <i>Physical Review A</i> , 2015, 91, .	1.0	220
12	A quantum processor based on coherent transport of entangled atom arrays. <i>Nature</i> , 2022, 604, 451-456.	13.7	213
13	Periodic Orbits, Entanglement, and Quantum Many-Body Scars in Constrained Models: Matrix Product State Approach. <i>Physical Review Letters</i> , 2019, 122, 040603.	2.9	208
14	Emergent SU(2) Dynamics and Perfect Quantum Many-Body Scars. <i>Physical Review Letters</i> , 2019, 122, 220603.	2.9	201
15	Photonic Circuits with Time Delays and Quantum Feedback. <i>Physical Review Letters</i> , 2016, 116, 093601.	2.9	153
16	Topological Quantum Optics in Two-Dimensional Atomic Arrays. <i>Physical Review Letters</i> , 2017, 119, 023603.	2.9	145
17	Quantum Spin Dimers from Chiral Dissipation in Cold-Atom Chains. <i>Physical Review Letters</i> , 2014, 113, 237203.	2.9	143
18	Nonequilibrium dynamics of bosonic atoms in optical lattices: Decoherence of many-body states due to spontaneous emission. <i>Physical Review A</i> , 2010, 82, .	1.0	136

#	ARTICLE	IF	CITATIONS
19	Quantum optimization of maximum independent set using Rydberg atom arrays. <i>Science</i> , 2022, 376, 1209-1215.	6.0	124
20	Universal photonic quantum computation via time-delayed feedback. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 11362-11367.	3.3	117
21	Quantum State Transfer via Noisy Photonic and Phononic Waveguides. <i>Physical Review Letters</i> , 2017, 118, 133601.	2.9	100
22	Quantum metasurfaces with atom arrays. <i>Nature Physics</i> , 2020, 16, 676-681.	6.5	98
23	Non-Markovian dynamics in chiral quantum networks with spins and photons. <i>Physical Review A</i> , 2016, 93, .	1.0	91
24	Quantum phases of Rydberg atoms on a kagome lattice. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	3.3	86
25	Measurement Protocol for the Entanglement Spectrum of Cold Atoms. <i>Physical Review X</i> , 2016, 6, .	2.8	80
26	Numerical study of the chiral $Z_3$ quantum phase transition in one spatial dimension. <i>Physical Review A</i> , 2018, 98, .	1.0	64
27	Quantum many-body scars from virtual entangled pairs. <i>Physical Review B</i> , 2020, 101, .	1.1	63
28	Emerging Two-Dimensional Gauge Theories in Rydberg Configurable Arrays. <i>Physical Review X</i> , 2020, 10, .	2.8	63
29	Quantum Hall physics with cold atoms in cylindrical optical lattices. <i>Physical Review A</i> , 2016, 93, .	1.0	61
30	One-Way Quantum Repeater Based on Near-Deterministic Photon-Emitter Interfaces. <i>Physical Review X</i> , 2020, 10, .	2.8	61
31	Photonic band structure of two-dimensional atomic lattices. <i>Physical Review A</i> , 2017, 96, .	1.0	57
32	Nanoscale "Dark State" Optical Potentials for Cold Atoms. <i>Physical Review Letters</i> , 2016, 117, 233001.	2.9	52
33	Thermal versus entanglement entropy: a measurement protocol for fermionic atoms with a quantum gas microscope. <i>New Journal of Physics</i> , 2013, 15, 063003.	1.2	50
34	Complex Density Wave Orders and Quantum Phase Transitions in a Model of Square-Lattice Rydberg Atom Arrays. <i>Physical Review Letters</i> , 2020, 124, 103601.	2.9	46
35	Delayed coherent quantum feedback from a scattering theory and a matrix product state perspective. <i>Quantum Science and Technology</i> , 2017, 2, 044012.	2.6	44
36	Chiral quantum optics with V-level atoms and coherent quantum feedback. <i>Physical Review A</i> , 2016, 94, .	1.0	43

#	ARTICLE	IF	CITATIONS
37	Heating dynamics of bosonic atoms in a noisy optical lattice. <i>Physical Review A</i> , 2013, 87, .	1.0	38
38	Quantum acousto-optic control of light-matter interactions in nanophotonic networks. <i>Physical Review A</i> , 2019, 99, .	1.0	20
39	Quantum Virtual Cooling. <i>Physical Review X</i> , 2019, 9, .	2.8	16
40	Noise- and disorder-resilient optical lattices. <i>Physical Review A</i> , 2012, 86, .	1.0	14
41	Quantum Spin Lenses in Atomic Arrays. <i>Physical Review X</i> , 2017, 7, .	2.8	12
42	Quantum Sampling Algorithms for Near-Term Devices. <i>Physical Review Letters</i> , 2021, 127, 100504.	2.9	10
43	Microscopic characterization of Ising conformal field theory in Rydberg chains. <i>Physical Review B</i> , 2021, 104, .	1.1	10
44	Entropy perspective on the thermal crossover in a fermionic Hubbard chain. <i>Physical Review B</i> , 2013, 88, .	1.1	8
45	Squeezing Quantum Many-Body Scars. <i>Physical Review Letters</i> , 2022, 128, 090606.	2.9	8
46	Entanglement-Optimal Trajectories of Many-Body Quantum Markov Processes. <i>Physical Review Letters</i> , 2022, 128, .	2.9	8
47	Quantum sampling algorithms, phase transitions, and computational complexity. <i>Physical Review A</i> , 2021, 104, .	1.0	6