Anton Frisk Kockum

List of Publications by Year in Descending Order

42 papers	2,545 citations	23 h-index	50 g-index
52 ext. papers	3,700 ext. citations	7.5 avg, IF	5.73 L-index

#	Paper	IF	Citations
42	Chiral quantum optics with giant atoms. *Physical Review A*, **2022**, 105,	2.6	1
41	Error-rate-agnostic decoding of topological stabilizer codes. *Physical Review A*, **2022**, 105,	2.6	1
40	Quantum Optics with Giant Atoms—the First Five Years. *Mathematics for Industry*, **2021**, 125-146	0.1	4
39	Engineering the level structure of a giant artificial atom in waveguide quantum electrodynamics. *Physical Review A*, **2021**, 103,	2.6	9
38	Characterizing decoherence rates of a superconducting qubit by direct microwave scattering. *Npj Quantum Information*, **2021**, 7,	8.6	2
37	Quantum State Tomography with Conditional Generative Adversarial Networks. *Physical Review Letters*, **2021**, 127, 140502	7.4	14
36	Classification and reconstruction of optical quantum states with deep neural networks. *Physical Review Research*, **2021**, 3,	3.9	6
35	Tunable Chiral Bound States with Giant Atoms. *Physical Review Letters*, **2021**, 126, 043602	7.4	15
34	Deep Q-learning decoder for depolarizing noise on the toric code. *Physical Review Research*, **2020**, 2,	3.9	9
33	Oscillating bound states for a giant atom. *Physical Review Research*, **2020**, 2,	3.9	21
32	Waveguide quantum electrodynamics with superconducting artificial giant atoms. *Nature*, **2020**, 583, 775-779	50.4	40
31	Improved Success Probability with Greater Circuit Depth for the Quantum Approximate Optimization Algorithm. *Physical Review Applied*, **2020**, 14,	4.3	20
30	Simulating ultrastrong-coupling processes breaking parity conservation in Jaynes-Cummings systems. *Physical Review A*, **2020**, 102,	2.6	8
29	Interaction of Mechanical Oscillators Mediated by the Exchange of Virtual Photon Pairs. *Physical Review Letters*, **2019**, 122, 030402	7.4	27
28	Quantum Bits with Josephson Junctions. *Springer Series in Materials Science*, **2019**, 703-741	0.9	16
27	Large Collective Lamb Shift of Two Distant Superconducting Artificial Atoms. *Physical Review Letters*, **2019**, 123, 233602	7.4	20
26	Ultrastrong coupling between light and matter. *Nature Reviews Physics*, **2019**, 1, 19-40	23.6	482

25	Nonperturbative Dynamical Casimir Effect in Optomechanical Systems: Vacuum Casimir-Rabi Splittings. *Physical Review X*, **2018**, 8,	9.1	28
24	Decoherence-Free Interaction between Giant Atoms in Waveguide Quantum Electrodynamics. *Physical Review Letters*, **2018**, 120, 140404	7.4	75
23	Reflective Amplification without Population Inversion from a Strongly Driven Superconducting Qubit. *Physical Review Letters*, **2018**, 120, 063603	7.4	19
22	Dissipation and thermal noise in hybrid quantum systems in the ultrastrong-coupling regime. *Physical Review A*, **2018**, 98,	2.6	25
21	Simple preparation of Bell and Greenberger-Horne-Zeilinger states using ultrastrong-coupling circuit QED. *Physical Review A*, **2018**, 98,	2.6	29
20	Photodetection probability in quantum systems with arbitrarily strong light-matter interaction. *Scientific Reports*, **2018**, 8, 17825	4.9	9
19	Microwave photonics with superconducting quantum circuits. *Physics Reports*, **2017**, 718-719, 1-102	27.7	523
18	Feynman-diagrams approach to the quantum Rabi model for ultrastrong cavity QED: stimulated emission and reabsorption of virtual particles dressing a physical excitation. *New Journal of Physics*, **2017**, 19, 053010	2.9	42
17	Circuit quantum acoustodynamics with surface acoustic waves. *Nature Communications*, **2017**, 8, 975	17.4	99
16	Frequency conversion in ultrastrong cavity QED. *Scientific Reports*, **2017**, 7, 5313	4.9	38
15	Quantum nonlinear optics without photons. *Physical Review A*, **2017**, 96,	2.6	45
14	Giant acoustic atom: A single quantum system with a deterministic time delay. *Physical Review A*, **2017**, 95,	2.6	48
13	Deterministic quantum nonlinear optics with single atoms and virtual photons. *Physical Review A*, **2017**, 95,	2.6	78
12	Leggett-Garg inequality violations with a large ensemble of qubits. *Physical Review A*, **2016**, 94,	2.6	32
11	Quantum Acoustics with Surface Acoustic Waves. *Quantum Science and Technology*, **2016**, 217-244	1.2	11
10	Probing the quantum vacuum with an artificial atom in front of a mirror. *Nature Physics*, **2015**, 11, 1045-1049	19.2	72
9	Multiphoton quantum Rabi oscillations in ultrastrong cavity QED. *Physical Review A*, **2015**, 92,	2.6	96
8	Quantum nondemolition detection of a propagating microwave photon. *Physical Review Letters*, **2014**, 112, 093601	7.4	60

7	Designing frequency-dependent relaxation rates and Lamb shifts for a giant artificial atom. *Physical Review A*, **2014**, 90,	2.6	62
6	Propagating phonons coupled to an artificial atom. *Science*, **2014**, 346, 207-11	33.3	233
5	Giant cross-Kerr effect for propagating microwaves induced by an artificial atom. *Physical Review Letters*, **2013**, 111, 053601	7.4	138
4	Breakdown of the cross-Kerr scheme for photon counting. *Physical Review Letters*, **2013**, 110, 053601	7.4	41
3	Detailed modelling of the susceptibility of a thermally populated, strongly driven circuit-QED system. *Journal of Physics B: Atomic, Molecular and Optical Physics*, **2013**, 46, 224014	1.3	6
2	Undoing measurement-induced dephasing in circuit QED. *Physical Review A*, **2012**, 85,	2.6	24
1	The XYZ2 hexagonal stabilizer code. *Quantum - the Open Journal for Quantum Science*,6, 698		1