

Alexandre Blais

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

110
papers

16,318
citations

52
h-index

120
g-index

120
ext. papers

19,302
ext. citations

9.8
avg. IF

6.47
L-index

#	Paper	IF	Citations
110	Strong coupling of a single photon to a superconducting qubit using circuit quantum electrodynamics. <i>Nature</i> , 2004 , 431, 162-7	50.4	2755
109	Cavity quantum electrodynamics for superconducting electrical circuits: An architecture for quantum computation. <i>Physical Review A</i> , 2004 , 69,	2.6	1927
108	Charge-insensitive qubit design derived from the Cooper pair box. <i>Physical Review A</i> , 2007 , 76,	2.6	1530
107	Coupling superconducting qubits via a cavity bus. <i>Nature</i> , 2007 , 449, 443-7	50.4	940
106	Demonstration of two-qubit algorithms with a superconducting quantum processor. <i>Nature</i> , 2009 , 460, 240-4	50.4	773
105	Resolving photon number states in a superconducting circuit. <i>Nature</i> , 2007 , 445, 515-8	50.4	571
104	Quantum-information processing with circuit quantum electrodynamics. <i>Physical Review A</i> , 2007 , 75,	2.6	461
103	Approaching unit visibility for control of a superconducting qubit with dispersive readout. <i>Physical Review Letters</i> , 2005 , 95, 060501	7.4	386
102	Climbing the Jaynes-Cummings ladder and observing its nonlinearity in a cavity QED system. <i>Nature</i> , 2008 , 454, 315-8	50.4	340
101	Photon-mediated interactions between distant artificial atoms. <i>Science</i> , 2013 , 342, 1494-6	33.3	304
100	ac Stark shift and dephasing of a superconducting qubit strongly coupled to a cavity field. <i>Physical Review Letters</i> , 2005 , 94, 123602	7.4	287
99	Observation of Berry's phase in a solid-state qubit. <i>Science</i> , 2007 , 318, 1889-92	33.3	278
98	Observation of resonant photon blockade at microwave frequencies using correlation function measurements. <i>Physical Review Letters</i> , 2011 , 106, 243601	7.4	243
97	Dipole coupling of a double quantum dot to a microwave resonator. <i>Physical Review Letters</i> , 2012 , 108, 046807	7.4	241
96	Dressed collective qubit states and the Tavis-Cummings model in circuit QED. <i>Physical Review Letters</i> , 2009 , 103, 083601	7.4	232
95	Dissipation and ultrastrong coupling in circuit QED. <i>Physical Review A</i> , 2011 , 84,	2.6	216
94	Qubit-photon interactions in a cavity: Measurement-induced dephasing and number splitting. <i>Physical Review A</i> , 2006 , 74,	2.6	207

93	Ultrastrong coupling regime of cavity QED with phase-biased flux qubits. <i>Physical Review A</i> , 2009 , 80,	2.6	205
92	Quantum trajectory approach to circuit QED: Quantum jumps and the Zeno effect. <i>Physical Review A</i> , 2008 , 77,	2.6	186
91	Antibunching of microwave-frequency photons observed in correlation measurements using linear detectors. <i>Nature Physics</i> , 2011 , 7, 154-158	16.2	173
90	Strong spin-photon coupling in silicon. <i>Science</i> , 2018 , 359, 1123-1127	33.3	168
89	Dispersive regime of circuit QED: Photon-dependent qubit dephasing and relaxation rates. <i>Physical Review A</i> , 2009 , 79,	2.6	165
88	Tunable coupling of superconducting qubits. <i>Physical Review Letters</i> , 2003 , 90, 127901	7.4	155
87	Input-output theory for waveguide QED with an ensemble of inhomogeneous atoms. <i>Physical Review A</i> , 2013 , 88,	2.6	143
86	Measurement of Autler-Townes and Mollow transitions in a strongly driven superconducting qubit. <i>Physical Review Letters</i> , 2009 , 102, 243602	7.4	136
85	Two-qubit state tomography using a joint dispersive readout. <i>Physical Review Letters</i> , 2009 , 102, 200402	7.4	124
84	Josephson-junction-embedded transmission-line resonators: From Kerr medium to in-line transmon. <i>Physical Review A</i> , 2012 , 86,	2.6	112
83	Deterministic quantum state transfer and remote entanglement using microwave photons. <i>Nature</i> , 2018 , 558, 264-267	50.4	104
82	Correlations, indistinguishability and entanglement in HongOuMandel experiments at microwave frequencies. <i>Nature Physics</i> , 2013 , 9, 345-348	16.2	103
81	First-order sideband transitions with flux-driven asymmetric transmon qubits. <i>Physical Review B</i> , 2013 , 87,	3.3	103
80	Coherent spin-photon coupling using a resonant exchange qubit. <i>Nature</i> , 2018 , 560, 179-184	50.4	101
79	Engineering the quantum states of light in a Kerr-nonlinear resonator by two-photon driving. <i>Npj Quantum Information</i> , 2017 , 3,	8.6	98
78	Superconducting qubit with Purcell protection and tunable coupling. <i>Physical Review Letters</i> , 2011 , 106, 030502	7.4	94
77	Circuit quantum electrodynamics. <i>Reviews of Modern Physics</i> , 2021 , 93,	40.5	92
76	Protocol for Universal Gates in Optimally Biased Superconducting Qubits. <i>Physical Review Letters</i> , 2005 , 94,	7.4	89

75	Control and tomography of a three level superconducting artificial atom. <i>Physical Review Letters</i> , 2010 , 105, 223601	7.4	88
74	Schemes for the observation of photon correlation functions in circuit QED with linear detectors. <i>Physical Review A</i> , 2010 , 82,	2.6	88
73	Quantum information processing and quantum optics with circuit quantum electrodynamics. <i>Nature Physics</i> , 2020 , 16, 247-256	16.2	86
72	Resolving vacuum fluctuations in an electrical circuit by measuring the Lamb shift. <i>Science</i> , 2008 , 322, 1357-60	33.3	82
71	Fast Quantum Nondemolition Readout by Parametric Modulation of Longitudinal Qubit-Oscillator Interaction. <i>Physical Review Letters</i> , 2015 , 115, 203601	7.4	80
70	Operation of universal gates in a solid-state quantum computer based on clean Josephson junctions between d-wave superconductors. <i>Physical Review A</i> , 2000 , 61,	2.6	78
69	Sideband transitions and two-tone spectroscopy of a superconducting qubit strongly coupled to an on-chip cavity. <i>Physical Review Letters</i> , 2007 , 99, 050501	7.4	75
68	Quantum annealing with all-to-all connected nonlinear oscillators. <i>Nature Communications</i> , 2017 , 8, 15785	7.4	72
67	Improved superconducting qubit readout by qubit-induced nonlinearities. <i>Physical Review Letters</i> , 2010 , 105, 100504	7.4	72
66	On-Chip Superconducting Microwave Circulator from Synthetic Rotation. <i>Physical Review Applied</i> , 2015 , 4,	4.3	70
65	Measurement-induced qubit state mixing in circuit QED from up-converted dephasing noise. <i>Physical Review Letters</i> , 2012 , 109, 153601	7.4	68
64	Circuit QED with a nonlinear resonator: ac-Stark shift and dephasing. <i>Physical Review Letters</i> , 2011 , 106, 167002	7.4	66
63	Electromagnetically induced transparency with amplification in superconducting circuits. <i>Physical Review Letters</i> , 2010 , 105, 073601	7.4	64
62	Nonlinear dispersive regime of cavity QED: The dressed dephasing model. <i>Physical Review A</i> , 2008 , 77,	2.6	60
61	Tunable joint measurements in the dispersive regime of cavity QED. <i>Physical Review A</i> , 2010 , 81,	2.6	53
60	Fast and Unconditional All-Microwave Reset of a Superconducting Qubit. <i>Physical Review Letters</i> , 2018 , 121, 060502	7.4	52
59	Dynamics of dispersive single-qubit readout in circuit quantum electrodynamics. <i>Physical Review A</i> , 2009 , 80,	2.6	52
58	Effect of noise on geometric logic gates for quantum computation. <i>Physical Review A</i> , 2003 , 67,	2.6	49

57	Resonance Fluorescence from an Artificial Atom in Squeezed Vacuum. <i>Physical Review X</i> , 2016 , 6,	9.1	48
56	Widely Tunable On-Chip Microwave Circulator for Superconducting Quantum Circuits. <i>Physical Review X</i> , 2017 , 7,	9.1	45
55	First-order sidebands in circuit QED using qubit frequency modulation. <i>Physical Review A</i> , 2012 , 86,	2.6	39
54	Coherence properties of the 0-qubit. <i>New Journal of Physics</i> , 2018 , 20, 043053	2.9	37
53	Quantum Zeno effect in the strong measurement regime of circuit quantum electrodynamics. <i>New Journal of Physics</i> , 2016 , 18, 053031	2.9	37
52	Nanowire Superinductance Fluxonium Qubit. <i>Physical Review Letters</i> , 2019 , 122, 010504	7.4	35
51	Quantum walks on circles in phase space via superconducting circuit quantum electrodynamics. <i>Physical Review A</i> , 2008 , 78,	2.6	34
50	Heisenberg-Limited Qubit Read-Out with Two-Mode Squeezed Light. <i>Physical Review Letters</i> , 2015 , 115, 093604	7.4	31
49	Quantum trajectory equation for multiple qubits in circuit QED: Generating entanglement by measurement This paper was presented at the Theory CANADA 4 conference, held at Centre de recherches mathématiques, Montréal, Québec, Canada on 4 th June 2008.. <i>Canadian Journal of Physics</i> , 2009 , 87, 225-231	1.1	30
48	Squeezing and quantum state engineering with Josephson travelling wave amplifiers. <i>Npj Quantum Information</i> , 2017 , 3,	8.6	28
47	Detection and manipulation of Majorana fermions in circuit QED. <i>Physical Review B</i> , 2013 , 88,	3.3	28
46	Quantum heating of a nonlinear resonator probed by a superconducting qubit. <i>Physical Review Letters</i> , 2013 , 110, 047001	7.4	28
45	Effect of Higher-Order Nonlinearities on Amplification and Squeezing in Josephson Parametric Amplifiers. <i>Physical Review Applied</i> , 2017 , 8,	4.3	27
44	Back-action of a driven nonlinear resonator on a superconducting qubit. <i>Physical Review A</i> , 2012 , 85,	2.6	27
43	Fast and high-fidelity entangling gate through parametrically modulated longitudinal coupling. <i>Quantum - the Open Journal for Quantum Science</i> , 1, 11		27
42	High-Fidelity Resonator-Induced Phase Gate with Single-Mode Squeezing. <i>Physical Review Letters</i> , 2016 , 116, 180501	7.4	26
41	Perfect squeezing by damping modulation in circuit quantum electrodynamics. <i>Physical Review A</i> , 2014 , 89,	2.6	26
40	Bias-preserving gates with stabilized cat qubits. <i>Science Advances</i> , 2020 , 6,	14.3	25

39	Quantum Optics Theory of Electronic Noise in Coherent Conductors. <i>Physical Review Letters</i> , 2016 , 116, 043602	7.4	24
38	Microwave Quantum Link between Superconducting Circuits Housed in Spatially Separated Cryogenic Systems. <i>Physical Review Letters</i> , 2020 , 125, 260502	7.4	23
37	Comment on "Vacuum Rabi splitting in a semiconductor circuit QED system". <i>Physical Review Letters</i> , 2013 , 111, 249701	7.4	22
36	Ultrastrong coupling dynamics with a transmon qubit. <i>New Journal of Physics</i> , 2017 , 19, 023022	2.9	21
35	Resonator reset in circuit QED by optimal control for large open quantum systems. <i>Physical Review A</i> , 2017 , 96,	2.6	20
34	Improving the Performance of Deep Quantum Optimization Algorithms with Continuous Gate Sets. <i>PRX Quantum</i> , 2020 , 1,	6.1	20
33	Quantum Canada. <i>Quantum Science and Technology</i> , 2019 , 4, 020503	5.5	18
32	Coherent microwave-photon-mediated coupling between a semiconductor and a superconducting qubit. <i>Nature Communications</i> , 2019 , 10, 3011	17.4	18
31	Itinerant Microwave Photon Detector. <i>Physical Review Letters</i> , 2018 , 120, 203602	7.4	18
30	Experimental Realization of a Protected Superconducting Circuit Derived from the 0 π Qubit. <i>PRX Quantum</i> , 2021 , 2,	6.1	16
29	Multiplexed readout of transmon qubits with Josephson bifurcation amplifiers. <i>Physical Review A</i> , 2014 , 90,	2.6	15
28	Thermal excitation of multi-photon dressed states in circuit quantum electrodynamics. <i>Physica Scripta</i> , 2009 , T137, 014013	2.6	15
27	Signatures of HongOuMandel interference at microwave frequencies. <i>New Journal of Physics</i> , 2013 , 15, 105025	2.9	14
26	Control and coherence time enhancement of the 0 π qubit. <i>New Journal of Physics</i> , 2019 , 21, 043002	2.9	13
25	Bifluxon: Fluxon-Parity-Protected Superconducting Qubit. <i>PRX Quantum</i> , 2020 , 1,	6.1	13
24	Qubit parity measurement by parametric driving in circuit QED. <i>Science Advances</i> , 2018 , 4, eaau1695	14.3	13
23	Quantum Communication with Time-Bin Encoded Microwave Photons. <i>Physical Review Applied</i> , 2019 , 12,	4.3	12
22	Hamiltonian engineering for robust quantum state transfer and qubit readout in cavity QED. <i>New Journal of Physics</i> , 2017 , 19, 023041	2.9	11

21	Quantum network optimization. <i>Physical Review A</i> , 2001 , 64,	2.6	11
20	Improved qubit bifurcation readout in the straddling regime of circuit QED. <i>Physical Review A</i> , 2012 , 86,	2.6	10
19	Multi-terminal superconducting phase qubit. <i>Physica C: Superconductivity and Its Applications</i> , 2002 , 368, 310-314	1.3	10
18	Quantum Codes for Simplifying Design and Suppressing Decoherence in Superconducting Phase-Qubits. <i>Quantum Information Processing</i> , 2002 , 1, 155-182	1.6	10
17	Superconducting qubit as a probe of squeezing in a nonlinear resonator. <i>Physical Review A</i> , 2014 , 89,	2.6	9
16	Electron field emission from diamond-like carbon, a correlation with surface modifications. <i>Journal of Applied Physics</i> , 2000 , 87, 1356-1360	2.5	9
15	Demonstration of an All-Microwave Controlled-Phase Gate between Far-Detuned Qubits. <i>Physical Review Applied</i> , 2020 , 14,	4.3	9
14	Realizing repeated quantum error correction in a distance-three surface code. <i>Nature</i> , 2022 , 605, 669-674	10.4	8
13	Variational quantum simulation of ultrastrong light-matter coupling. <i>Physical Review Research</i> , 2020 , 2,	3.9	7
12	Quantum Metamaterial for Broadband Detection of Single Microwave Photons. <i>Physical Review Applied</i> , 2021 , 15,	4.3	7
11	Quantum-optimal-control-inspired ansatz for variational quantum algorithms. <i>Physical Review Research</i> , 2021 , 3,	3.9	7
10	Parametric amplification and squeezing with an ac- and dc-voltage biased superconducting junction. <i>Physical Review Applied</i> , 2019 , 11,	4.3	5
9	Correlation measurements of individual microwave photons emitted from a symmetric cavity. <i>Journal of Physics: Conference Series</i> , 2011 , 264, 012024	0.3	5
8	Quantum-error-correction benchmarks for continuous weak-parity measurements. <i>Physical Review A</i> , 2012 , 86,	2.6	5
7	Moving beyond the Transmon: Noise-Protected Superconducting Quantum Circuits. <i>PRX Quantum</i> , 2021 , 2,	6.1	4
6	Circuit quantum electrodynamics with a nonlinear resonator 2012 , 1-32		3
5	Efficient modeling of superconducting quantum circuits with tensor networks. <i>Npj Quantum Information</i> , 2021 , 7,	8.6	3
4	Quantum Versus Classical Switching Dynamics of Driven Dissipative Kerr Resonators. <i>Physical Review Applied</i> , 2020 , 13,	4.3	2

- 3 Publisher's Note: Cavity quantum electrodynamics for superconducting electrical circuits: An architecture for quantum computation [Phys. Rev. A 69, 062320 (2004)]. *Physical Review A*, **2004**, 70, 2.6 2
- 2 Algorithmes et architectures pour ordinateurs quantiques supraconducteurs. *Annales De Physique*, **2003**, 28, 1-148 2
- 1 Prospects for Strong Cavity Quantum Electrodynamics with Superconducting Circuits. *Les Houches Summer School Proceedings*, **2004**, 79, 591-608