Andrew Cleland

List of Publications by Year
in descending order

76 papers	14,334 citations	44069 48 h-index	76900 74 g-index
76 all docs	76 docs citations	76 times ranked	8457 citing authors

#	Article	IF	Citations
1	Quantum ground state and single-phonon control of a mechanical resonator. Nature, 2010, 464, 697-703.	27.8	1,677
2	Surface codes: Towards practical large-scale quantum computation. Physical Review A, 2012, 86, .	2.5	1,607
3	Superconducting quantum circuits at the surface code threshold for fault tolerance. Nature, 2014, 508, 500-503.	27.8	1,270
4	Synthesizing arbitrary quantum states in a superconducting resonator. Nature, 2009, 459, 546-549.	27.8	730
5	State preservation by repetitive error detection in a superconducting quantum circuit. Nature, 2015, 519, 66-69.	27.8	682
6	Coherent Josephson Qubit Suitable for Scalable Quantum Integrated Circuits. Physical Review Letters, 2013, 111, 080502.	7.8	536
7	Nanomechanical coupling between microwave and optical photons. Nature Physics, 2013, 9, 712-716.	16.7	485
8	Measurement of the Entanglement of Two Superconducting Qubits via State Tomography. Science, 2006, 313, 1423-1425.	12.6	426
9	Qubit Architecture with High Coherence and Fast Tunable Coupling. Physical Review Letters, 2014, 113, 220502.	7.8	387
10	Violation of Bell's inequality in Josephson phase qubits. Nature, 2009, 461, 504-506.	27.8	357
11	Generation of three-qubit entangled states using superconducting phase qubits. Nature, 2010, 467, 570-573.	27.8	342
12	Planar superconducting resonators with internal quality factors above one million. Applied Physics Letters, 2012, 100, .	3.3	341
13	Fast Accurate State Measurement with Superconducting Qubits. Physical Review Letters, 2014, 112, 190504.	7.8	273
14	Quantum control of surface acoustic-wave phonons. Nature, 2018, 563, 661-665.	27.8	263
15	Computing prime factors with a Josephson phase qubit quantum processor. Nature Physics, 2012, 8, 719-723.	16.7	238
16	The 2019 surface acoustic waves roadmap. Journal Physics D: Applied Physics, 2019, 52, 353001.	2.8	236
17	Process tomography of quantum memory in a Josephson-phase qubit coupled to a two-level state. Nature Physics, 2008, 4, 523-526.	16.7	222
18	Microwave dielectric loss at single photon energies and millikelvin temperatures. Applied Physics Letters, 2008, 92, .	3.3	211

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19	Superconducting Qubit Storage and Entanglement with Nanomechanical Resonators. Physical Review Letters, 2004, 93, 070501.	7.8	210
20	A high-throughput label-free nanoparticle analyser. Nature Nanotechnology, 2011, 6, 308-313.	31.5	191
21	Quantum process tomography of a universal entangling gate implemented with Josephson phase qubits. Nature Physics, 2010, 6, 409-413.	16.7	186
22	Phonon-mediated quantum state transfer and remote qubit entanglement. Science, 2019, 364, 368-371.	12.6	186
23	Minimizing quasiparticle generation from stray infrared light in superconducting quantum circuits. Applied Physics Letters, 2011, 99, .	3.3	184
24	State Tomography of Capacitively Shunted Phase Qubits with High Fidelity. Physical Review Letters, 2006, 97, 050502.	7.8	167
25	Observation of topological transitions in interacting quantum circuits. Nature, 2014, 515, 241-244.	27.8	162
26	Optimal Quantum Control Using Randomized Benchmarking. Physical Review Letters, 2014, 112, 240504.	7.8	160
27	Catch and Release of Microwave Photon States. Physical Review Letters, 2013, 110, 107001.	7.8	159
28	Spinâ€"phonon interactions in silicon carbide addressed by Gaussian acoustics. Nature Physics, 2019, 15, 490-495.	16.7	159
29	Improving the coherence time of superconducting coplanar resonators. Applied Physics Letters, 2009, 95, .	3.3	145
30	Surface loss simulations of superconducting coplanar waveguide resonators. Applied Physics Letters, 2011, 99, .	3.3	130
31	Strong environmental coupling in a Josephson parametric amplifier. Applied Physics Letters, 2014, 104, .	3.3	127
32	Photon shell game in three-resonator circuit quantum electrodynamics. Nature Physics, 2011, 7, 287-293.	16.7	114
33	Bi-directional conversion between microwave and optical frequencies in a piezoelectric optomechanical device. Applied Physics Letters, 2016, 109, .	3.3	111
34	Quantum process tomography of two-qubit controlled-Z and controlled-NOT gates using superconducting phase qubits. Physical Review B, 2010, 82, .	3.2	93
35	Catching Time-Reversed Microwave Coherent State Photons with 99.4% Absorption Efficiency. Physical Review Letters, 2014, 112, .	7.8	92
36	Fabrication and characterization of aluminum airbridges for superconducting microwave circuits. Applied Physics Letters, 2014, 104, .	3.3	89

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37	Characterization and reduction of microfabrication-induced decoherence in superconducting quantum circuits. Applied Physics Letters, 2014, 105, .	3.3	85
38	Measurement of energy decay in superconducting qubits from nonequilibrium quasiparticles. Physical Review B, 2011, 84, .	3.2	81
39	Deterministic multi-qubit entanglement in a quantum network. Nature, 2021, 590, 571-575.	27.8	77
40	Design and characterization of a lumped element single-ended superconducting microwave parametric amplifier with on-chip flux bias line. Applied Physics Letters, 2013, 103, .	3.3	73
41	Multiplexed dispersive readout of superconducting phase qubits. Applied Physics Letters, 2012, 101, .	3.3	67
42	Nanoscale radio-frequency thermometry. Applied Physics Letters, 2003, 83, 1002-1004.	3.3	66
43	Qubit Metrology of Ultralow Phase Noise Using Randomized Benchmarking. Physical Review Applied, 2015, 3, .	3.8	66
44	Quantum state characterization of a fast tunable superconducting resonator. Applied Physics Letters, 2013, 102, .	3.3	61
45	Superconducting phase qubit coupled to a nanomechanical resonator: Beyond the rotating-wave approximation. Physical Review A, 2004, 70, .	2.5	57
46	Superconducting qubits coupled to nanoelectromechanical resonators: An architecture for solid-state quantum-information processing. Physical Review A, 2005, 71, .	2.5	57
47	Violating Bellâ€™s inequality with remotely connected superconducting qubits. Nature Physics, 2019, 15, 741-744.	16.7	50
48	Single-electron transistor as a radio-frequency mixer. Applied Physics Letters, 2002, 81, 532-534.	3.3	49
49	Excitation of Superconducting Qubits from Hot Nonequilibrium Quasiparticles. Physical Review Letters, 2013, 110, 150502.	7.8	48
50	Decoherence Dynamics of Complex Photon States in a Superconducting Circuit. Physical Review Letters, 2009, 103, 200404.	7.8	44
51	Fluctuations from edge defects in superconducting resonators. Applied Physics Letters, 2013, 103, .	3.3	44
52	Deterministic bidirectional communication and remote entanglement generation between superconducting qubits. Npj Quantum Information, 2019, 5, .	6.7	44
53	Quantum Delayed-Choice Experiment with a Beam Splitter in a Quantum Superposition. Physical Review Letters, 2015, 115, 260403.	7.8	32
54	Emulating weak localization using a solid-state quantum circuit. Nature Communications, 2014, 5, 5184.	12.8	30

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55	Hot electrons in low-dimensional phonon systems. Physical Review B, 2005, 72, .	3.2	28
56	Photons refrigerating phonons. Nature Physics, 2009, 5, 458-460.	16.7	28
57	Rolling quantum dice with a superconducting qubit. Physical Review A, 2014, 90, .	2.5	27
58	Proposal for a Nanomechanical Qubit. Physical Review X, 2021, 11, .	8.9	25
59	Entanglement Purification and Protection in a Superconducting Quantum Network. Physical Review Letters, 2022, 128, 080504.	7.8	25
60	Superconducting qubits in a flip-chip architecture. Applied Physics Letters, 2021, 118, .	3.3	24
61	Reducing the impact of intrinsic dissipation in a superconducting circuit by quantum error detection. Nature Communications, 2014, 5, 3135.	12.8	23
62	Remote Entanglement via Adiabatic Passage Using a Tunably Dissipative Quantum Communication System. Physical Review Letters, 2020, 124, 240502.	7.8	23
63	Flux-pumped impedance-engineered broadband Josephson parametric amplifier. Applied Physics Letters, 2021, 118, .	3.3	23
64	Quantum communication with itinerant surface acoustic wave phonons. Npj Quantum Information, 2021, 7, .	6.7	23
65	Quantum Erasure Using Entangled Surface Acoustic Phonons. Physical Review X, 2020, 10, .	8.9	20
66	Simple non-galvanic flip-chip integration method for hybrid quantum systems. Applied Physics Letters, 2019, 114, .	3.3	15
67	A simple microfluidic aggregation analyzer for the specific, sensitive and multiplexed quantification of proteins in a serum environment. Biosensors and Bioelectronics, 2016, 77, 1062-1069.	10.1	14
68	Dynamic quantum Kerr effect in circuit quantum electrodynamics. Physical Review A, 2012, 85, .	2.5	13
69	Continuous and Time-Domain Coherent Signal Conversion between Optical and Microwave Frequencies. Physical Review Applied, 2020, 14, .	3.8	11
70	Unidirectional distributed acoustic reflection transducers for quantum applications. Applied Physics Letters, 2019, 114, .	3.3	10
71	Input-output theory for superconducting and photonic circuits that contain weak retroreflections and other weak pseudocavities. Physical Review A, 2018, 98, .	2.5	9
72	A fast and large bandwidth superconducting variable coupler. Applied Physics Letters, 2020, 117, .	3.3	7

#	Article	IF	Citations
73	Measurements of a quantum bulk acoustic resonator using a superconducting qubit. Applied Physics Letters, 2020, 117, .	3.3	5
74	Mechanical quantum resonators. AIP Conference Proceedings, 2005, , .	0.4	2
75	Pumping up the quantum. Science, 2015, 350, 280-280.	12.6	0
76	Fast frequency discrimination and phoneme recognition using a biomimetic membrane coupled to a neural network. Bioinspiration and Biomimetics, 2021, 16, 026012.	2.9	0