Robert J Schoelkopf

List of Publications by Year
in descending order

118 papers	33,168 citations	76 h-index	116 g-index
118 all docs	118 docs citations	118 times ranked	13809 citing authors

9428

23173

#	Article	IF	Citations
1	Single-shot number-resolved detection of microwave photons with error mitigation. Physical Review A, 2021, 103, .	1.0	9
2	Quantum control of bosonic modes with superconducting circuits. Science Bulletin, 2021, 66, 1789-1805.	4.3	45
3	High-Fidelity Measurement of Qubits Encoded in Multilevel Superconducting Circuits. Physical Review X, 2020, 10, .	2.8	45
4	Path-Independent Quantum Gates with Noisy Ancilla. Physical Review Letters, 2020, 125, 110503.	2.9	26
5	Quantum error correction of a qubit encoded in grid states of an oscillator. Nature, 2020, 584, 368-372.	13.7	232
6	High coherence superconducting microwave cavities with indium bump bonding. Applied Physics Letters, 2020, 116, .	1.5	27
7	Efficient Multiphoton Sampling of Molecular Vibronic Spectra on a Superconducting Bosonic Processor. Physical Review X, 2020, 10, .	2.8	73
8	Error-corrected gates on an encoded qubit. Nature Physics, 2020, 16, 822-826.	6.5	50
9	Free-standing silicon shadow masks for transmon qubit fabrication. AIP Advances, 2020, 10, .	0.6	14
10	To catch and reverse a quantum jump mid-flight. Nature, 2019, 570, 200-204.	13.7	185
11	Entanglement of bosonic modes through an engineered exchange interaction. Nature, 2019, 566, 509-512.	13.7	88
12	Hardware-Efficient Quantum Random Access Memory with Hybrid Quantum Acoustic Systems. Physical Review Letters, 2019, 123, 250501.	2.9	86
13	Engineering bilinear mode coupling in circuit QED: Theory and experiment. Physical Review A, 2019, 99, .	1.0	34
14	On-demand quantum state transfer and entanglement between remote microwave cavity memories. Nature Physics, 2018, 14, 705-710.	6.5	143
15	A CNOT gate between multiphoton qubits encoded in two cavities. Nature Communications, 2018, 9, 652.	5.8	95
16	Creation and control of multi-phonon Fock states in a bulk acoustic-wave resonator. Nature, 2018, 563, 666-670.	13.7	176
17	Deterministic teleportation of a quantum gate between two logical qubits. Nature, 2018, 561, 368-373.	13.7	154
18	Deterministic Remote Entanglement of Superconducting Circuits through Microwave Two-Photon Transitions. Physical Review Letters, 2018, 120, 200501.	2.9	105

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19	Ultra-high-<i>Q</i>phononic resonators on-chip at cryogenic temperatures. APL Photonics, 2018, 3, 066101.	3.0	32
20	Programmable Interference between Two Microwave Quantum Memories. Physical Review X, 2018, 8, .	2.8	56
21	Robust readout of bosonic qubits in the dispersive coupling regime. Physical Review A, 2018, 98, .	1.0	15
22	Fault-tolerant detection of a quantum error. Science, 2018, 361, 266-270.	6.0	113
23	Faithful conversion of propagating quantum information to mechanical motion. Nature Physics, 2017, 13, 1163-1167.	6.5	92
24	Quantum acoustics with superconducting qubits. Science, 2017, 358, 199-202.	6.0	284
25	Implementing a universal gate set on a logical qubit encoded in an oscillator. Nature Communications, 2017, 8, 94.	5.8	183
26	Controlled release of multiphoton quantum states from a microwave cavity memory. Nature Physics, 2017, 13, 882-887.	6.5	101
27	An architecture for integrating planar and 3D cQED devices. Applied Physics Letters, 2016, 109, .	1.5	55
28	Quantization of inductively shunted superconducting circuits. Physical Review B, 2016, 94, .	1.1	30
29	Suspending superconducting qubits by silicon micromachining. Applied Physics Letters, 2016, 109, .	1.5	34
30	A SchrÃ¶dinger cat living in two boxes. Science, 2016, 352, 1087-1091.	6.0	244
31	Normal-metal quasiparticle traps for superconducting qubits. Physical Review B, 2016, 94, .	1.1	47
32	Continuous Quantum Nondemolition Measurement of the Transverse Component of a Qubit. Physical Review Letters, 2016, 117, 133601.	2.9	35
33	Extending the lifetime of a quantum bit with error correction in superconducting circuits. Nature, 2016, 536, 441-445.	13.7	603
34	Holonomic Quantum Control with Continuous Variable Systems. Physical Review Letters, 2016, 116, 140502.	2.9	77
35	Multilayer microwave integrated quantum circuits for scalable quantum computing. Npj Quantum Information, 2016, 2, .	2.8	121
36	Optimized tomography of continuous variable systems using excitation counting. Physical Review A, 2016, 94, .	1.0	9

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37	Universal control of an oscillator with dispersive coupling to a qubit. Physical Review A, 2015, 92, .	1.0	99
38	Cavity State Manipulation Using Photon-Number Selective Phase Gates. Physical Review Letters, 2015, 115, 137002.	2.9	121
39	Single-Photon-Resolved Cross-Kerr Interaction for Autonomous Stabilization of Photon-Number States. Physical Review Letters, 2015, 115, 180501.	2.9	63
40	Surface participation and dielectric loss in superconducting qubits. Applied Physics Letters, 2015, 107, .	1.5	170
41	Characterizing entanglement of an artificial atom and a cavity cat state with Bellâ€™s inequality. Nature Communications, 2015, 6, 8970.	5.8	46
42	Demonstration of superconducting micromachined cavities. Applied Physics Letters, 2015, 107, .	1.5	39
43	Confining the state of light to a quantum manifold by engineered two-photon loss. Science, 2015, 347, 853-857.	6.0	357
44	Dynamically protected cat-qubits: a new paradigm for universal quantum computation. New Journal of Physics, 2014, 16, 045014.	1.2	394
45	Non-Poissonian Quantum Jumps of a Fluxonium Qubit due to Quasiparticle Excitations. Physical Review Letters, 2014, 113, 247001.	2.9	98
46	Wireless Josephson amplifier. Applied Physics Letters, 2014, 104, .	1.5	11
47	Measurement and control of quasiparticle dynamics in a superconducting qubit. Nature Communications, 2014, 5, 5836.	5.8	130
48	Coherent suppression of electromagnetic dissipation due to superconducting quasiparticles. Nature, 2014, 508, 369-372.	13.7	201
49	Josephson Directional Amplifier for Quantum Measurement of Superconducting Circuits. Physical Review Letters, 2014, 112, 167701.	2.9	78
50	Tracking photon jumps with repeated quantum non-demolition parity measurements. Nature, 2014, 511, 444-448.	13.7	195
51	Deterministically Encoding Quantum Information Using 100-Photon SchrÃ¶dinger Cat States. Science, 2013, 342, 607-610.	6.0	455
52	Hardware-Efficient Autonomous Quantum Memory Protection. Physical Review Letters, 2013, 111, 120501.	2.9	189
53	Reaching 10â€‰ms single photon lifetimes for superconducting aluminum cavities. Applied Physics Letters, 2013, 102, .	1.5	168
54	Observation of quantum state collapse and revival due to the single-photon Kerr effect. Nature, 2013, 495, 205-209.	13.7	394

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55	Superconducting Circuits for Quantum Information: An Outlook. Science, 2013, 339, 1169-1174.	6.0	1,529
56	Deterministic protocol for mapping a qubit to coherent state superpositions in a cavity. Physical Review A, 2013, 87, .	1.0	74
57	Quantum Back-Action of an Individual Variable-Strength Measurement. Science, 2013, 339, 178-181.	6.0	215
58	Demonstrating a Driven Reset Protocol for a Superconducting Qubit. Physical Review Letters, 2013, 110, 120501.	2.9	147
59	Measurements of Quasiparticle Tunneling Dynamics in a Band-Gap-Engineered Transmon Qubit. Physical Review Letters, 2012, 108, 230509.	2.9	78
60	Realization of three-qubit quantum error correction with superconducting circuits. Nature, 2012, 482, 382-385.	13.7	481
61	Improving the quality factor of microwave compact resonators by optimizing their geometrical parameters. Applied Physics Letters, 2012, 100, .	1.5	78
62	Black-Box Superconducting Circuit Quantization. Physical Review Letters, 2012, 108, 240502.	2.9	226
63	Observation of High Coherence in Josephson Junction Qubits Measured in a Three-Dimensional Circuit QED Architecture. Physical Review Letters, 2011, 107, 240501.	2.9	830
64	Optimized driving of superconducting artificial atoms for improved single-qubit gates. Physical Review A, 2010, 82, .	1.0	144
65	Introduction to quantum noise, measurement, and amplification. Reviews of Modern Physics, 2010, 82, 1155-1208.	16.4	1,291
66	Detecting highly entangled states with a joint qubit readout. Physical Review A, 2010, 81, .	1.0	82
67	Phase-preserving amplification near the quantum limit with a Josephson ring modulator. Nature, 2010, 465, 64-68.	13.7	357
68	Preparation and measurement of three-qubit entanglement in a superconducting circuit. Nature, 2010, 467, 574-578.	13.7	476
69	Analog information processing at the quantum limit with a Josephson ring modulator. Nature Physics, 2010, 6, 296-302.	6.5	174
70	Quantum non-demolition detection of single microwave photons in a circuit. Nature Physics, 2010, 6, 663-667.	6.5	233
71	High-Fidelity Readout in Circuit Quantum Electrodynamics Using the Jaynes-Cummings Nonlinearity. Physical Review Letters, 2010, 105, 173601.	2.9	218
72	Fast reset and suppressing spontaneous emission of a superconducting qubit. Applied Physics Letters, 2010, 96, .	1.5	200

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73	Storage of Multiple Coherent Microwave Excitations in an Electron Spin Ensemble. Physical Review Letters, 2010, 105, 140503.	2.9	156
74	High-Cooperativity Coupling of Electron-Spin Ensembles to Superconducting Cavities. Physical Review Letters, 2010, 105, 140501.	2.9	398
75	Life after charge noise: recent results with transmon qubits. Quantum Information Processing, 2009, 8, 105-115.	1.0	81
76	Demonstration of two-qubit algorithms with a superconducting quantum processor. Nature, 2009, 460, 240-244.	13.7	923
77	Nonlinear response of the vacuum Rabi resonance. Nature Physics, 2009, 5, 105-109.	6.5	226
78	Wiring up quantum systems. Nature, 2008, 451, 664-669.	13.7	786
79	Suppressing charge noise decoherence in superconducting charge qubits. Physical Review B, 2008, 77, .	1.1	415
80	Systematic errors in shot noise thermometer measurements. , 2008, , .		0
81	Ultrasensitive Quantum-Limited Far-Infrared STJ Detectors. IEEE Transactions on Applied Superconductivity, 2007, 17, 241-245.	1.1	8
82	Quantum Information Processing with Superconducting Qubits and Cavities. , 2007, , .		2
83	Protocols for optimal readout of qubits using a continuous quantum nondemolition measurement. Physical Review A, 2007, 76, .	1.0	106
84	Observation of Berry's Phase in a Solid-State Qubit. Science, 2007, 318, 1889-1892.	6.0	321
85	Charge-insensitive qubit design derived from the Cooper pair box. Physical Review A, 2007, 76, .	1.0	2,184
86	Quantum-information processing with circuit quantum electrodynamics. Physical Review A, 2007, 75, .	1.0	550
87	Circuit-QED: How strong can the coupling between a Josephson junction atom and a transmission line resonator be?. Annalen Der Physik, 2007, 16, 767-779.	0.9	211
88	Resolving photon number states in a superconducting circuit. Nature, 2007, 445, 515-518.	13.7	685
89	Generating single microwave photons in a circuit. Nature, 2007, 449, 328-331.	13.7	378
90	Coupling superconducting qubits via a cavity bus. Nature, 2007, 449, 443-447.	13.7	1,109

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91	Shot noise thermometry down to 10mK. Applied Physics Letters, 2006, 89, 183123.	1.5	41
92	Qubit-photon interactions in a cavity: Measurement-induced dephasing and number splitting. Physical Review A, 2006, 74, .	1.0	281
93	A coherent all-electrical interface between polar molecules and mesoscopic superconducting resonators. Nature Physics, 2006, 2, 636-642.	6.5	372
94	ac Stark Shift and Dephasing of a Superconducting Qubit Strongly Coupled to a Cavity Field. Physical Review Letters, 2005, 94, 123602.	2.9	351
95	Single-electron transistor backaction on the single-electron box. Physical Review B, 2005, 71, .	1.1	20
96	Noise performance of the radio-frequency single-electron transistor. Journal of Applied Physics, 2004, 95, 1274-1286.	1.1	50
97	Cavity quantum electrodynamics for superconducting electrical circuits: An architecture for quantum computation. Physical Review A, 2004, 69, .	1.0	2,317
98	Strong coupling of a single photon to a superconducting qubit using circuit quantum electrodynamics. Nature, 2004, 431, 162-167.	13.7	3,195
99	Cryogenics on a Chip. Physics Today, 2004, 57, 41-47.	0.3	20
100	Microwave oscillations of a nanomagnet driven by a spin-polarized current. Nature, 2003, 425, 380-383.	13.7	1,837
101	Primary Electronic Thermometry Using the Shot Noise of a Tunnel Junction. Science, 2003, 300, 1929-1932.	6.0	147
102	Quantum Charge Fluctuations and the Polarizability of the Single-Electron Box. Physical Review Letters, 2003, 91, 106801.	2.9	27
103	Multiplexing of radio-frequency single-electron transistors. Applied Physics Letters, 2002, 80, 3012-3014.	1.5	38
104	A high-performance cryogenic amplifier based on a radio-frequency single electron transistor. Applied Physics Letters, 2002, 81, 4859-4861.	1.5	19
105	Radio-Frequency Single-Electron Transistor as Readout Device for Qubits: Charge Sensitivity and Backaction. Physical Review Letters, 2001, 86, 3376-3379.	2.9	187
106	Amplifying quantum signals with the single-electron transistor. Nature, 2000, 406, 1039-1046.	13.7	374
107	Shot Noise Measurements in Diffusive Normal Metal-Superconductor (N-S) Junctions. Journal of Low Temperature Physics, 2000, 118, 671-678.	0.6	7
108	Observation of Photon-Assisted Noise in a Diffusive Normal Metalâ€"Superconductor Junction. Physical Review Letters, 2000, 84, 3398-3401.	2.9	129

#	ARTICLE	IF	CITATIONS
109	Title is missing!. Journal of Superconductivity and Novel Magnetism, 1999, 12, 741-746.	0.5	3
110	Mixing and noise in diffusion and phonon cooled superconducting hot-electron bolometers. Journal of Applied Physics, 1999, 85, 1644-1653.	1.1	40
111	The Radio-Frequency Single-Electron Transistor (RF-SET): A Fast and Ultrasensitive Electrometer. Science, 1998, 280, 1238-1242.	6.0	675
112	Spectrum of thermal fluctuation noise in diffusion and phonon cooled hot-electron mixers. Applied Physics Letters, 1998, 72, 1516-1518.	1.5	6
113	Observation of â€œPhoton-Assistedâ€• Shot Noise in a Phase-Coherent Conductor. Physical Review Letters, 1998, 80, 2437-2440.	2.9	97
114	Optical antenna: Towards a unity efficiency near-field optical probe. Applied Physics Letters, 1997, 70, 1354-1356.	1.5	309
115	Frequency Dependence of Shot Noise in a Diffusive Mesoscopic Conductor. Physical Review Letters, 1997, 78, 3370-3373.	2.9	187
116	Length scaling of bandwidth and noise in hotâ€electron superconducting mixers. Applied Physics Letters, 1996, 68, 3344-3346.	1.5	65
117	Large bandwidth and low noise in a diffusionâ€cooled hotâ€electron bolometer mixer. Applied Physics Letters, 1996, 68, 1558-1560.	1.5	61
118	Detection of coherent 7.6 HZ oscillations during a burst from Aquila X-1. Astrophysical Journal, 1991, 375, 696.	1.6	15