Michel Devoret

List of Publications by Year
in descending order

Version: 2024-02-01

106 papers	19,341 citations	15495 65 h-index	30058 103 g-index
107 all docs	107 docs citations	107 times ranked	7499 citing authors

#	Article	IF	Citations
1	Model-Free Quantum Control with Reinforcement Learning. Physical Review X, 2022, 12, .	2.8	27
2	Frequency-tunable Kerr-free three-wave mixing with a gradiometric SNAIL. Applied Physics Letters, 2022, 120, .	1.5	5
3	Going with the grains. Science, 2021, 372, 464-464.	6.0	1
4	Quantum Microwave Radiometry with a Superconducting Qubit. Physical Review Letters, 2021, 126, 180501.	2.9	13
5	Does Brian Josephsonâ€™s Gauge-Invariant Phase Difference Live on a Line or a Circle?. Journal of Superconductivity and Novel Magnetism, 2021, 34, 1633-1642.	0.8	6
6	Coherent manipulation of an Andreev spin qubit. Science, 2021, 373, 430-433.	6.0	78
7	Energy-participation quantization of Josephson circuits. Npj Quantum Information, 2021, 7, .	2.8	41
8	Quantum control of bosonic modes with superconducting circuits. Science Bulletin, 2021, 66, 1789-1805.	4.3	45
9	Microwave response of an Andreev bound state. Physical Review B, 2021, 104, .	1.1	12
10	Stabilization and operation of a Kerr-cat qubit. Nature, 2020, 584, 205-209.	13.7	218
11	Quantum error correction of a qubit encoded in grid states of an oscillator. Nature, 2020, 584, 368-372.	13.7	232
12	Quantum Versus Classical Switching Dynamics of Driven Dissipative Kerr Resonators. Physical Review Applied, 2020, 13, .	1.5	16
13	Continuous monitoring of a trapped superconducting spin. Nature Physics, 2020, 16, 1103-1107.	6.5	44
14	Quantum Josephson junction circuits and the dawn of artificial atoms. Nature Physics, 2020, 16, 234-237.	6.5	44
15	Josephson Array-Mode Parametric Amplifier. Physical Review Applied, 2020, 13, .	1.5	31
16	Superconducting circuit protected by two-Cooper-pair tunneling. Npj Quantum Information, 2020, 6, .	2.8	52
17	Proposal for Heralded Generation and Detection of Entangled Microwaveâ€“Optical-Photon Pairs. Physical Review Letters, 2020, 124, 010511.	2.9	57
18	Photon-Assisted Charge-Parity Jumps in a Superconducting Qubit. Physical Review Letters, 2019, 123, 107704.	2.9	33

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19	Structural Instability of Driven Josephson Circuits Prevented by an Inductive Shunt. Physical Review Applied, 2019, 11, .	1.5	27
20	To catch and reverse a quantum jump mid-flight. Nature, 2019, 570, 200-204.	13.7	185
21	Gated Conditional Displacement Readout of Superconducting Qubits. Physical Review Letters, 2019, 122, 080502.	2.9	73
22	Escape of a Driven Quantum Josephson Circuit into Unconfined States. Physical Review Applied, 2019, 11, .	1.5	48
23	On-demand quantum state transfer and entanglement between remote microwave cavity memories. Nature Physics, 2018, 14, 705-710.	6.5	143
24	A CNOT gate between multiphoton qubits encoded in two cavities. Nature Communications, 2018, 9, 652.	5.8	95
25	Coherent Oscillations inside a Quantum Manifold Stabilized by Dissipation. Physical Review X, 2018, 8, .	2.8	73
26	Optimizing the Nonlinearity and Dissipation of a SNAIL Parametric Amplifier for Dynamic Range. Physical Review Applied, 2018, 10, .	1.5	85
27	Hot Nonequilibrium Quasiparticles in Transmon Qubits. Physical Review Letters, 2018, 121, 157701.	2.9	114
28	Deterministic teleportation of a quantum gate between two logical qubits. Nature, 2018, 561, 368-373.	13.7	154
29	Deterministic Remote Entanglement of Superconducting Circuits through Microwave Two-Photon Transitions. Physical Review Letters, 2018, 120, 200501.	2.9	105
30	Driving Forbidden Transitions in the Fluxonium Artificial Atom. Physical Review Applied, 2018, 9, .	1.5	19
31	Simultaneous Monitoring of Fluxonium Qubits in a Waveguide. Physical Review Applied, 2018, 9, .	1.5	21
32	Direct Microwave Measurement of Andreev-Bound-State Dynamics in a Semiconductor-Nanowire Josephson Junction. Physical Review Letters, 2018, 121, 047001.	2.9	119
33	Quantum-limited parametric amplification with Josephson circuits in the regime of pump depletion. Physical Review B, 2018, 98, .	1.1	23
34	Introduction to quantum electromagnetic circuits. International Journal of Circuit Theory and Applications, 2017, 45, 897-934.	1.3	177
35	Implementing a universal gate set on a logical qubit encoded in an oscillator. Nature Communications, 2017, 8, 94.	5.8	183
36	Degeneracy-Preserving Quantum Nondemolition Measurement of Parity-Type Observables for Cat Qubits. Physical Review Letters, 2017, 119, 060503.	2.9	27

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37	3-wave mixing Josephson dipole element. Applied Physics Letters, 2017, 110, .	1.5	121
38	Controlled release of multiphoton quantum states from a microwave cavity memory. Nature Physics, 2017, 13, 882-887.	6.5	101
39	Generating higher-order quantum dissipation from lower-order parametric processes. Quantum Science and Technology, 2017, 2, 024005.	2.6	14
40	Quantization of inductively shunted superconducting circuits. Physical Review B, 2016, 94, .	1.1	30
41	Implementing and Characterizing Precise Multiqubit Measurements. Physical Review X, 2016, 6, .	2.8	27
42	A SchrÃ¶dinger cat living in two boxes. Science, 2016, 352, 1087-1091.	6.0	244
43	Robust Concurrent Remote Entanglement Between Two Superconducting Qubits. Physical Review X, 2016, 6, .	2.8	82
44	Introduction to parametric amplification of quantum signals with Josephson circuits. Comptes Rendus Physique, 2016, 17, 740-755.	0.3	114
45	Extending the lifetime of a quantum bit with error correction in superconducting circuits. Nature, 2016, 536, 441-445.	13.7	603
46	Theory of remote entanglement via quantum-limited phase-preserving amplification. Physical Review A, 2016, 93, .	1.0	22
47	Quantum memory with millisecond coherence in circuit QED. Physical Review B, 2016, 94, .	1.1	237
48	Holonomic Quantum Control with Continuous Variable Systems. Physical Review Letters, 2016, 116, 140502.	2.9	77
49	Planar Multilayer Circuit Quantum Electrodynamics. Physical Review Applied, 2016, 5, .	1.5	30
50	Multilayer microwave integrated quantum circuits for scalable quantum computing. Npj Quantum Information, 2016, 2, .	2.8	121
51	Remote Entanglement by Coherent Multiplication of Concurrent Quantum Signals. Physical Review Letters, 2015, 115, 150503.	2.9	10
52	Single-Photon-Resolved Cross-Kerr Interaction for Autonomous Stabilization of Photon-Number States. Physical Review Letters, 2015, 115, 180501.	2.9	63
53	Surface participation and dielectric loss in superconducting qubits. Applied Physics Letters, 2015, 107, .	1.5	170
54	Characterizing entanglement of an artificial atom and a cavity cat state with Bellâ€™s inequality. Nature Communications, 2015, 6, 8970.	5.8	46

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55	Demonstration of superconducting micromachined cavities. Applied Physics Letters, 2015, 107, .	1.5	39
56	Confining the state of light to a quantum manifold by engineered two-photon loss. Science, 2015, 347, 853-857.	6.0	357
57	Continuous generation and stabilization of mesoscopic field superposition states in a quantum circuit. Physical Review A, 2015, 91, .	1.0	21
58	Asymmetric Frequency Conversion in Nonlinear Systems Driven by a Biharmonic Pump. Physical Review Letters, 2014, 113, 247003.	2.9	22
59	Dynamically protected cat-qubits: a new paradigm for universal quantum computation. New Journal of Physics, 2014, 16, 045014.	1.2	394
60	Non-Poissonian Quantum Jumps of a Fluxonium Qubit due to Quasiparticle Excitations. Physical Review Letters, 2014, 113, 247001.	2.9	98
61	Wireless Josephson amplifier. Applied Physics Letters, 2014, 104, .	1.5	11
62	Measurement and control of quasiparticle dynamics in a superconducting qubit. Nature Communications, 2014, 5, 5836.	5.8	130
63	Coherent suppression of electromagnetic dissipation due to superconducting quasiparticles. Nature, 2014, 508, 369-372.	13.7	201
64	Josephson Directional Amplifier for Quantum Measurement of Superconducting Circuits. Physical Review Letters, 2014, 112, 167701.	2.9	78
65	Tracking photon jumps with repeated quantum non-demolition parity measurements. Nature, 2014, 511, 444-448.	13.7	195
66	Stabilizing a Bell state of two superconducting qubits by dissipation engineering. Physical Review A, 2013, 88, .	1.0	84
67	Autonomously stabilized entanglement between two superconducting quantum bits. Nature, 2013, 504, 419-422.	13.7	267
68	Reaching 10â€‰ms single photon lifetimes for superconducting aluminum cavities. Applied Physics Letters, 2013, 102, .	1.5	168
69	Superconducting Circuits for Quantum Information: An Outlook. Science, 2013, 339, 1169-1174.	6.0	1,529
70	Deterministic protocol for mapping a qubit to coherent state superpositions in a cavity. Physical Review A, 2013, 87, .	1.0	74
71	Nondegenerate three-wave mixing with the Josephson ring modulator. Physical Review B, 2013, 87, .	1.1	88
72	Planar superconducting whispering gallery mode resonators. Applied Physics Letters, 2013, 103, .	1.5	18

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73	Full Coherent Frequency Conversion between Two Propagating Microwave Modes. Physical Review Letters, 2013, 110, 173902.	2.9	55
74	Persistent Control of a Superconducting Qubit by Stroboscopic Measurement Feedback. Physical Review X, 2013, 3, .	2.8	82
75	Demonstrating a Driven Reset Protocol for a Superconducting Qubit. Physical Review Letters, 2013, 110, 120501.	2.9	147
76	Strong measurement and quantum feedback for persistent Rabi oscillations in circuit QED experiments. , 2012, , .		1
77	Gain, directionality, and noise in microwave SQUID amplifiers: Input-output approach. Physical Review B, 2012, 86, .	1.1	18
78	Mesoscopic resistor as a self-calibrating quantum noise source. Applied Physics Letters, 2012, 100, 203507.	1.5	3
79	Widely Tunable, Nondegenerate Three-Wave Mixing Microwave Device Operating near the Quantum Limit. Physical Review Letters, 2012, 108, 147701.	2.9	116
80	Microwave Characterization of Josephson Junction Arrays: Implementing a Low Loss Superinductance. Physical Review Letters, 2012, 109, 137002.	2.9	158
81	Evidence for coherent quantum phase slips across a Josephson junction array. Physical Review B, 2012, 85, .	1.1	103
82	Improving the quality factor of microwave compact resonators by optimizing their geometrical parameters. Applied Physics Letters, 2012, 100, .	1.5	78
83	Black-Box Superconducting Circuit Quantization. Physical Review Letters, 2012, 108, 240502.	2.9	226
84	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
85	Noiseless non-reciprocity in a parametric activeÂdevice. Nature Physics, 2011, 7, 311-315.	6.5	174
86	Introduction to quantum noise, measurement, and amplification. Reviews of Modern Physics, 2010, 82, 1155-1208.	16.4	1,291
87	Detecting highly entangled states with a joint qubit readout. Physical Review A, 2010, 81, .	1.0	82
88	Exponential quantum enhancement for distributed addition with local nonlinearity. Quantum Information Processing, 2010, 9, 47-59.	1.0	0
89	Phase-preserving amplification near the quantum limit with a Josephson ring modulator. Nature, 2010, 465, 64-68.	13.7	357
90	Analog information processing at the quantum limit with a Josephson ring modulator. Nature Physics, 2010, 6, 296-302.	6.5	174

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91	Charging Effects in the Inductively Shunted Josephson Junction. Physical Review Letters, 2009, 103, 217004.	2.9	75
92	Life after charge noise: recent results with transmon qubits. Quantum Information Processing, 2009, 8, 105-115.	1.0	81
93	Nonlinear response of the vacuum Rabi resonance. Nature Physics, 2009, 5, 105-109.	6.5	226
94	Fluxonium: Single Cooper-Pair Circuit Free of Charge Offsets. Science, 2009, 326, 113-116.	6.0	483
95	Suppressing charge noise decoherence in superconducting charge qubits. Physical Review B, 2008, 77, .	1.1	415
96	Controlling the Spontaneous Emission of a Superconducting Transmon Qubit. Physical Review Letters, 2008, 101, 080502.	2.9	336
97	Quantum Information Processing with Superconducting Qubits and Cavities. , 2007, , .		2
98	Charge-insensitive qubit design derived from the Cooper pair box. Physical Review A, 2007, 76, .	1.0	2,184
99	Quantum-information processing with circuit quantum electrodynamics. Physical Review A, 2007, 75, .	1.0	550
100	Qubit-photon interactions in a cavity: Measurement-induced dephasing and number splitting. Physical Review A, 2006, 74, .	1.0	281
101	Direct Observation of Dynamical Bifurcation between Two Driven Oscillation States of a Josephson Junction. Physical Review Letters, 2005, 94, 027005.	2.9	143
102	Nonequilibrium Quasiparticles and2ePeriodicity in Single-Cooper-Pair Transistors. Physical Review Letters, 2004, 92, 066802.	2.9	182
103	Implementing Qubits with Superconducting Integrated Circuits. Quantum Information Processing, 2004, 3, 163-203.	1.0	169
104	Geometric Approach to Digital Quantum Information. Quantum Information Processing, 2004, 3, 351-380.	1.0	8
105	Manipulating the Quantum State of an Electrical Circuit. Science, 2002, 296, 886-889.	6.0	1,425
106	Amplifying quantum signals with the single-electron transistor. Nature, 2000, 406, 1039-1046.	13.7	374