Andreas J Wallraff

List of Publications by Year
in descending order

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151	21,168	15466 65	9073 144
papers	citations	h-index	g-index

157	157	157	8712
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Realization of a Universal Quantum Gate Set for Itinerant Microwave Photons. Physical Review X, 2022, 12, .	2.8	10
2	Realizing repeated quantum error correction in a distance-three surface code. Nature, 2022, 605, 669-674.	13.7	203
3	Realizing quantum convolutional neural networks on a superconducting quantum processor to recognize quantum phases. Nature Communications, 2022, 13, .	5.8	25
4	In situ Tuning of the Electric-Dipole Strength of a Double-Dot Charge Qubit: Charge-Noise Protection and Ultrastrong Coupling. Physical Review X, 2022, 12, .	2.8	20
5	Charge qubit in a triple quantum dot with tunable coherence. Physical Review Research, 2021, 3, .	1.3	9
6	Circuit quantum electrodynamics. Reviews of Modern Physics, 2021, 93, .	16.4	634
7	Realizing a deterministic source of multipartite-entangled photonic qubits. Nature Communications, 2020, 11, 4877.	5.8	43
8	Demonstration of an All-Microwave Controlled-Phase Gate between Far-Detuned Qubits. Physical Review Applied, 2020, 14, .	1.5	26
9	Benchmarking Coherent Errors in Controlled-Phase Gates due to Spectator Qubits. Physical Review Applied, 2020, 14, .	1.5	41
10	Implementation of Conditional Phase Gates Based on Tunable <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>Z</mml:mi><mml:mi>Z</mml:mi></mml:mrow></mml:math> Interactions. Physical Review Letters, 2020, 125, 240502.	2.9	76
11	Primary Thermometry of Propagating Microwaves in the Quantum Regime. Physical Review X, 2020, 10, .	2.8	18
12	Strong photon coupling to the quadrupole moment of an electron in a solid-state qubit. Nature Physics, 2020, 16, 642-646.	6.5	23
13	Repeated quantum error detection in a surface code. Nature Physics, 2020, 16, 875-880.	6.5	159
14	Parity Detection of Propagating Microwave Fields. Physical Review X, 2020, 10, .	2.8	20
15	Radiative cooling of a spin ensemble. Nature Physics, 2020, 16, 751-755.	6.5	15
16	Microwave Quantum Link between Superconducting Circuits Housed in Spatially Separated Cryogenic Systems. Physical Review Letters, 2020, 125, 260502.	2.9	91
17	Improving the Performance of Deep Quantum Optimization Algorithms with Continuous Gate Sets. PRX Quantum, 2020, 1, .	3.5	53
18	Coherent microwave-photon-mediated coupling between a semiconductor and a superconducting qubit. Nature Communications, 2019, 10, 3011.	5.8	40

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19	Virtual-photon-mediated spin-qubitâ€“transmon coupling. Nature Communications, 2019, 10, 5037.	5.8	39
20	Single-Shot Nondestructive Detection of Rydberg-Atom Ensembles by Transmission Measurement of a Microwave Cavity. Physical Review Letters, 2019, 123, 193201.	2.9	11
21	Quantum Communication with Time-Bin Encoded Microwave Photons. Physical Review Applied, 2019, 12, .	1.5	29
22	Two-photon resonance fluorescence of a ladder-type atomic system. Physical Review A, 2019, 100, .	1.0	10
23	Entanglement stabilization using ancilla-based parity detection and real-time feedback in superconducting circuits. Npj Quantum Information, 2019, 5, .	2.8	60
24	Engineering cryogenic setups for 100-qubit scale superconducting circuit systems. EPJ Quantum Technology, 2019, 6, .	2.9	152
25	Microwave-Cavity-Detected Spin Blockade in a Few-Electron Double Quantum Dot. Physical Review Letters, 2019, 122, 213601.	2.9	18
26	All-Microwave Control and Dispersive Readout of Gate-Defined Quantum Dot Qubits in Circuit Quantum Electrodynamics. Physical Review Letters, 2019, 122, 206802.	2.9	44
27	Observation of the Crossover from Photon Ordering to Delocalization in Tunably Coupled Resonators. Physical Review Letters, 2019, 122, 183601.	2.9	35
28	Studying light-harvesting models with superconducting circuits. Nature Communications, 2018, 9, 904.	5.8	74
29	Single-Shot Quantum Nondemolition Detection of Individual Itinerant Microwave Photons. Physical Review X, 2018, 8, .	2.8	69
30	Observation of topological Uhlmann phases with superconducting qubits. Npj Quantum Information, 2018, 4, .	2.8	59
31	Low-Latency Digital Signal Processing for Feedback and Feedforward in Quantum Computing and Communication. Physical Review Applied, 2018, 9, .	1.5	46
32	Microwave Photon-Mediated Interactions between Semiconductor Qubits. Physical Review X, 2018, 8, .	2.8	42
33	Rapid High-fidelity Multiplexed Readout of Superconducting Qubits. Physical Review Applied, 2018, 10, .	1.5	145
34	Fast and Unconditional All-Microwave Reset of a Superconducting Qubit. Physical Review Letters, 2018, 121, 060502.	2.9	96
35	Floquet Spectroscopy of a Strongly Driven Quantum Dot Charge Qubit with a Microwave Resonator. Physical Review Letters, 2018, 121, 043603.	2.9	35
36	Coherent spinâ€“photon coupling using a resonant exchange qubit. Nature, 2018, 560, 179-184.	13.7	169

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37	The quantum technologies roadmap: a European community view. New Journal of Physics, 2018, 20, 080201.	1.2	358
38	Applying electric and magnetic field bias in a 3D superconducting waveguide cavity with high quality factor. Quantum Science and Technology, 2018, 3, 045007.	2.6	16
39	Deterministic quantum state transfer and remote entanglement using microwave photons. Nature, 2018, 558, 264-267.	13.7	175
40	Observation of the Photon-Blockade Breakdown Phase Transition. Physical Review X, 2017, 7, .	2.8	109
41	Strong Coupling Cavity QED with Gate-Defined Double Quantum Dots Enabled by a High Impedance Resonator. Physical Review X, 2017, 7, .	2.8	168
42	Energy-dependent path of dissipation in nanomechanical resonators. Nature Nanotechnology, 2017, 12, 631-636.	15.6	127
43	The engineering challenges in quantum computing. , 2017, , .		51
44	Correlations and Entanglement of Microwave Photons Emitted in a Cascade Decay. Physical Review Letters, 2017, 119, 140504.	2.9	28
45	Superconducting quantum simulator for topological order and the toric code. Physical Review A, 2017, 95, .	1.0	33
46	Measuring the dispersive frequency shift of a rectangular microwave cavity induced by an ensemble of Rydberg atoms. Physical Review A, 2017, 95, .	1.0	16
47	Measuring the polarization of electromagnetic fields using Rabi-rate measurements with spatial resolution: Experiment and theory. Physical Review A, 2017, 95, .	1.0	11
48	Rapid High-Fidelity Single-Shot Dispersive Readout of Superconducting Qubits. Physical Review Applied, 2017, 7, .	1.5	200
49	Realization of a Quantum Random Generator Certified with the Kochen-Specker Theorem. Physical Review Letters, 2017, 119, 240501.	2.9	16
50	Characterizing the attenuation of coaxial and rectangular microwave-frequency waveguides at cryogenic temperatures. EPJ Quantum Technology, 2017, 4, 8.	2.9	23
51	Superconducting Switch for Fast On-Chip Routing of Quantum Microwave Fields. Physical Review Applied, 2016, 6, .	1.5	53
52	Contextuality without nonlocality in a superconducting quantum system. Nature Communications, 2016, 7, 12930.	5.8	38
53	Measurement of a vacuum-induced geometric phase. Science Advances, 2016, 2, e1501732.	4.7	20
54	Shot Noise of a Quantum Dot Measured with Gigahertz Impedance Matching. Physical Review Applied, 2015, 4, .	1.5	14

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55	Microwave Emission from Hybridized States in a Semiconductor Charge Qubit. Physical Review Letters, 2015, 115, 046802.	2.9	61
56	Imaging electric fields in the vicinity of cryogenic surfaces using Rydberg atoms. Physical Review A, 2015, 92, .	1.0	30
57	Digital Quantum Simulation of Spin Models with Circuit Quantum Electrodynamics. Physical Review X, 2015, 5, .	2.8	152
58	Exploring Interacting Quantum Many-Body Systems by Experimentally Creating Continuous Matrix Product States in Superconducting Circuits. Physical Review X, 2015, 5, .	2.8	32
59	Microwave-induced amplitude- and phase-tunable qubit-resonator coupling in circuit quantum electrodynamics. Physical Review A, 2015, 91, .	1.0	67
60	Clean carbon nanotubes coupled to superconducting impedance-matching circuits. Nature Communications, 2015, 6, 7165.	5.8	37
61	Measurement of geometric dephasing using a superconducting qubit. Nature Communications, 2015, 6, 8757.	5.8	16
62	The role of titanium in electromigrated tunnel junctions. Applied Physics Letters, 2014, 105, .	1.5	6
63	Evaluating charge noise acting on semiconductor quantum dots in the circuit quantum electrodynamics architecture. Applied Physics Letters, 2014, 105, .	1.5	27
64	Microwave-Controlled Generation of Shaped Single Photons in Circuit Quantum Electrodynamics. Physical Review X, 2014, 4, .	2.8	89
65	Controlling the dynamic range of a Josephson parametric amplifier. EPJ Quantum Technology, 2014, 1, .	2.9	95
66	Electrolyte gate dependent high-frequency measurement of graphene field-effect transistor for sensing applications. Applied Physics Letters, 2014, 104, 013102.	1.5	18
67	Observation of Dicke superradiance for two artificial atoms in a cavity with high decay rate. Nature Communications, 2014, 5, 5186.	5.8	194
68	Manipulating Rydberg atoms close to surfaces at cryogenic temperatures. Physical Review A, 2014, 90, .	1.0	32
69	Reversing Quantum Trajectories with Analog Feedback. Physical Review Letters, 2014, 112, .	2.9	72
70	Quantum-Limited Amplification and Entanglement in Coupled Nonlinear Resonators. Physical Review Letters, 2014, 113, 110502.	2.9	142
71	Digital Quantum Simulation of Spin Systems in Superconducting Circuits. Physical Review Letters, 2014, 112, .	2.9	85
72	Exploring the effect of noise on the Berry phase. Physical Review A, 2013, 87, .	1.0	81

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73	Deterministic quantum teleportation with feed-forward in a solid state system. Nature, 2013, 500, 319-322.	13.7	201
74	Input-output theory for waveguide QED with an ensemble of inhomogeneous atoms. Physical Review A, 2013, 88, .	1.0	196
75	Experimental realization of non-Abelian non-adiabatic geometric gates. Nature, 2013, 496, 482-485.	13.7	279
76	Correlations, indistinguishability and entanglement in Hongâ€“Ouâ€“Mandel experiments at microwave frequencies. Nature Physics, 2013, 9, 345-348.	6.5	126
77	Collective Suppression of Linewidths in Circuit QED. Physical Review Letters, 2013, 110, 203602.	2.9	15
78	Photon-Mediated Interactions Between Distant Artificial Atoms. Science, 2013, 342, 1494-1496.	6.0	409
79	Comment on â€œVacuum Rabi Splitting in a Semiconductor Circuit QED Systemâ€• Physical Review Letters, 2013, 111, 249701.	2.9	22
80	Single-electron double quantum dot dipole-coupled to a single photonic mode. Physical Review B, 2013, 88, .	1.1	54
81	Signatures of Hongâ€“Ouâ€“Mandel interference at microwave frequencies. New Journal of Physics, 2013, 15, 105025.	1.2	19
82	Realization of gigahertz-frequency impedance matching circuits for nano-scale devices. Applied Physics Letters, 2012, 101, 053108.	1.5	16
83	Benchmarking a Quantum Teleportation Protocol in Superconducting Circuits Using Tomography and an Entanglement Witness. Physical Review Letters, 2012, 108, 040502.	2.9	65
84	Optimization of sample-chip design for stub-matched radio-frequency reflectometry measurements. Applied Physics Letters, 2012, 101, 042112.	1.5	12
85	Experimental MonteÂCarlo Quantum Process Certification. Physical Review Letters, 2012, 108, 260506.	2.9	13
86	Demonstrating<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>W</mml:mi></mml:math>-type entanglement of Dicke states in resonant cavity quantum electrodynamics. Physical Review A, 2012, 86, .	1.0	38
87	Quantum dot admittance probed at microwave frequencies with an on-chip resonator. Physical Review B, 2012, 86, .	1.1	56
88	Characterizing quantum microwave radiation and its entanglement with superconducting qubits using linear detectors. Physical Review A, 2012, 86, .	1.0	96
89	Dipole Coupling of a Double Quantum Dot to a Microwave Resonator. Physical Review Letters, 2012, 108, 046807.	2.9	287
90	Geometric phases in superconducting qubits beyond the two-level approximation. Physical Review B, 2012, 85, .	1.1	27

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91	Driving Rydberg-Rydberg Transitions from a Coplanar Microwave Waveguide. Physical Review Letters, 2012, 108, 063004.	2.9	90
92	Geometric Phase and Nonadiabatic Effects in an Electronic Harmonic Oscillator. Physical Review Letters, 2012, 108, 170401.	2.9	48
93	Observation of Entanglement between Itinerant Microwave Photons and a Superconducting Qubit. Physical Review Letters, 2012, 109, 240501.	2.9	88
94	Quantum-control approach to realizing a Toffoli gate in circuit QED. Physical Review B, 2012, 85, .	1.1	48
95	Implementation of a Toffoli gate with superconducting circuits. Nature, 2012, 481, 170-172.	13.7	296
96	Characterization of a microwave frequency resonator via a nearby quantum dot. Applied Physics Letters, 2011, 98, .	1.5	23
97	Correlation measurements of individual microwave photons emitted from a symmetric cavity. Journal of Physics: Conference Series, 2011, 264, 012024.	0.3	5
98	Observation of Resonant Photon Blockade at Microwave Frequencies Using Correlation Function Measurements. Physical Review Letters, 2011, 106, 243601.	2.9	305
99	Observation of Two-Mode Squeezing in the Microwave Frequency Domain. Physical Review Letters, 2011, 107, 113601.	2.9	184
100	Antibunching of microwave-frequency photons observed in correlation measurements using linear detectors. Nature Physics, 2011, 7, 154-158.	6.5	196
101	Fabrication and heating rate study of microscopic surface electrode ion traps. New Journal of Physics, 2011, 13, 013032.	1.2	80
102	Preparation of subradiant states using local qubit control in circuit QED. Physical Review A, 2011, 84, .	1.0	37
103	Multimode mediated qubit-qubit coupling and dark-state symmetries in circuit quantum electrodynamics. Physical Review A, 2011, 83, .	1.0	67
104	Experimental State Tomography of Itinerant Single Microwave Photons. Physical Review Letters, 2011, 106, 220503.	2.9	154
105	Quantum-To-Classical Transition in Cavity Quantum Electrodynamics. Physical Review Letters, 2010, 105, 163601.	2.9	65
106	Control and Tomography of a Three Level Superconducting Artificial Atom. Physical Review Letters, 2010, 105, 223601.	2.9	119
107	Schemes for the observation of photon correlation functions in circuit QED with linear detectors. Physical Review A, 2010, 82, .	1.0	107
108	Cavity Quantum Electrodynamics with Separate Photon Storage and Qubit Readout Modes. Physical Review Letters, 2010, 104, 100504.	2.9	121

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109	Dynamics of dispersive single-qubit readout in circuit quantum electrodynamics. Physical Review A, 2009, 80, .	1.0	62
110	Measurement of Autler-Townes and Mollow Transitions in a Strongly Driven Superconducting Qubit. Physical Review Letters, 2009, 102, 243602.	2.9	158
111	Using sideband transitions for two-qubit operations in superconducting circuits. Physical Review B, 2009, 79, .	1.1	169
112	Thermal excitation of multi-photon dressed states in circuit quantum electrodynamics. Physica Scripta, 2009, T137, 014013.	1.2	16
113	Two-Qubit State Tomography Using a Joint Dispersive Readout. Physical Review Letters, 2009, 102, 200402.	2.9	145
114	Dressed Collective Qubit States and the Tavis-Cummings Model in Circuit QED. Physical Review Letters, 2009, 103, 083601.	2.9	283
115	Climbing the Jaynesâ€“Cummings ladder and observing its nonlinearity in a cavity QED system. Nature, 2008, 454, 315-318.	13.7	414
116	Quantum leaps in small steps. Nature Physics, 2008, 4, 2-3.	6.5	7
117	Coplanar waveguide resonators for circuit quantum electrodynamics. Journal of Applied Physics, 2008, 104, .	1.1	246
118	Resolving Vacuum Fluctuations in an Electrical Circuit by Measuring the Lamb Shift. Science, 2008, 322, 1357-1360.	6.0	96
119	Quantum Information Processing with Superconducting Qubits and Cavities. , 2007, , .		2
120	Protocols for optimal readout of qubits using a continuous quantum nondemolition measurement. Physical Review A, 2007, 76, .	1.0	106
121	Sideband Transitions and Two-Tone Spectroscopy of a Superconducting Qubit Strongly Coupled to an On-Chip Cavity. Physical Review Letters, 2007, 99, 050501.	2.9	86
122	Observation of Berry's Phase in a Solid-State Qubit. Science, 2007, 318, 1889-1892.	6.0	321
123	Quantum-information processing with circuit quantum electrodynamics. Physical Review A, 2007, 75, .	1.0	550
124	Resolving photon number states in a superconducting circuit. Nature, 2007, 445, 515-518.	13.7	685
125	Coupling superconducting qubits via a cavity bus. Nature, 2007, 449, 443-447.	13.7	1,109
126	Qubit-photon interactions in a cavity: Measurement-induced dephasing and number splitting. Physical Review A, 2006, 74, .	1.0	281

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127	ac Stark Shift and Dephasing of a Superconducting Qubit Strongly Coupled to a Cavity Field. Physical Review Letters, 2005, 94, 123602.	2.9	351
128	Backaction Effects of a SSET Measuring a Qubit Spectroscopy and Ground State Measurement. IEEE Transactions on Applied Superconductivity, 2005, 15, 880-883.	1.1	1
129	Approaching Unit Visibility for Control of a Superconducting Qubit with Dispersive Readout. Physical Review Letters, 2005, 95, 060501.	2.9	456
130	Fabrication and Characterization of Superconducting Circuit QED Devices for Quantum Computation. IEEE Transactions on Applied Superconductivity, 2005, 15, 860-863.	1.1	142
131	Course 16 Prospects for strong cavity quantum electrodynamics with superconducting circuits. Les Houches Summer School Proceedings, 2004, 79, 591-608.	0.2	0
132	Cavity quantum electrodynamics for superconducting electrical circuits: An architecture for quantum computation. Physical Review A, 2004, 69, .	1.0	2,317
133	Strong coupling of a single photon to a superconducting qubit using circuit quantum electrodynamics. Nature, 2004, 431, 162-167.	13.7	3,195
134	Quantum dynamics of a single vortex. Nature, 2003, 425, 155-158.	13.7	154
135	Quantum Dissociation of a Vortex-Antivortex Pair in a Long Josephson Junction. Physical Review Letters, 2003, 91, 257004.	2.9	31
136	Multiphoton Transitions between Energy Levels in a Current-Biased Josephson Tunnel Junction. Physical Review Letters, 2003, 90, 037003.	2.9	96
137	Switching current measurements of large area Josephson tunnel junctions. Review of Scientific Instruments, 2003, 74, 3740-3748.	0.6	59
138	Quantum escape of the phase in a strongly driven Josephson junction. Physical Review B, 2003, 68, .	1.1	28
139	Josephson Vortex Qubit: Design, Preparation and Read-Out. Physica Status Solidi (B): Basic Research, 2002, 233, 472-481.	0.7	41
140	Testing a state preparation and read-out protocol for the vortex qubit. Physica C: Superconductivity and Its Applications, 2002, 368, 324-327.	0.6	17
141	Magnetic field penetration in a long Josephson junction imbedded in a wide stripline. Journal of Applied Physics, 2001, 89, 471-476.	1.1	20
142	Observation of whispering gallery resonances in annular Josephson junctions. Physica B: Condensed Matter, 2000, 284-288, 575-576.	1.3	2
143	Title is missing!. Journal of Low Temperature Physics, 2000, 118, 543-553.	0.6	49
144	Cherenkov Radiation from Fluxon in a Stack of Coupled Long Josephson Junctions. Journal of Low Temperature Physics, 2000, 119, 589-614.	0.6	24

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145	Measurements of critical-current diffraction patterns in annular Josephson junctions. Physical Review B, 2000, 62, 119-122.	1.1	6
146	Whispering Vortices. Physical Review Letters, 2000, 84, 151-154.	2.9	24
147	Narrow long Josephson junctions. IEEE Transactions on Applied Superconductivity, 1999, 9, 3957-3961.	1.1	18
148	Cherenkov radiation from Josephson fluxons. , 1999, , 521-531.		0
149	Cherenkov radiation in coupled long Josephson junctions. Physical Review B, 1998, 57, 130-133.	1.1	67
150	Delocking of flux-flow states in dc-driven magnetically coupled Josephson junctions. Physics Letters, Section A: General, Atomic and Solid State Physics, 1997, 224, 191-195.	0.9	1
151	Numerical analysis of the coherent radiation emission by two stacked Josephson fluxâ€flow oscillators. Journal of Applied Physics, 1996, 80, 6523-6535.	1.1	18