Siyuan Han

List of Publications by Year
in descending order

90 papers	4,143 citations	136885 32 h-index	114418 63 g-index
93 all docs	93 docs citations	93 times ranked	2285 citing authors

#	Article	IF	Citations
1	Harnessing fluctuations in thermodynamic computing via time-reversal symmetries. Physical Review Research, 2021, 3, .	1.3	6
2	Nonequilibrium thermodynamics of erasure with superconducting flux logic. Physical Review Research, 2020, 2, .	1.3	24
3	Negative inductance SQUID qubit operating in a quantum regime. Superconductor Science and Technology, 2018, 31, 045003.	1.8	4
4	Coupled superconducting qudit-resonator system: Energy spectrum, state population, and state transition under microwave drive. Physical Review B, 2018, 97, .	1.1	1
5	Single-photon-driven high-order sideband transitions in an ultrastrongly coupled circuit-quantum-electrodynamics system. Physical Review A, 2017, 96, .	1.0	90
6	Absorption spectra of superconducting qubits driven by bichromatic microwave fields. Physical Review B, 2017, 96, .	1.1	14
7	10-Qubit Entanglement and Parallel Logic Operations with a Superconducting Circuit. Physical Review Letters, 2017, 119, 180511.	2.9	313
8	Entangling two oscillators with arbitrary asymmetric initial states. Physical Review A, 2017, 95, .	1.0	28
9	Atomically Thin <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>Al</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></m mathvariant="normal">O</mml:mi></mml:mrow><mml:mrow><mml:mn>3</mml:mn></mml:mrow></mml:msub></mml:mrow></m Films for Tunnel Junctions. Physical Review Applied, 2017, 7, .	1.5	35
10	Coherent population transfer between uncoupled or weakly coupled states in ladder-type superconducting qutrits. Nature Communications, 2016, 7, 11018.	5.8	64
11	Landau-Zener-StÃ¼ckelberg-Majorana interference in a 3D transmon driven by a chirped microwave. Applied Physics Letters, 2016, 108, .	1.5	10
12	Emulating Anyonic Fractional Statistical Behavior in a Superconducting Quantum Circuit. Physical Review Letters, 2016, 117, 110501.	2.9	55
13	Suppression of Dephasing by Qubit Motion in Superconducting Circuits. Physical Review Letters, 2016, 116, 010501.	2.9	27
14	Simulating the Kibble-Zurek mechanism of the Ising model with a superconducting qubit system. Scientific Reports, 2016, 6, 22667.	1.6	37
15	One-step transfer or exchange of arbitrary multipartite quantum states with a single-qubit coupler. Physical Review B, 2015, 92, .	1.1	9
16	Rapid characterization of microscopic two-level systems using Landau-Zener transitions in a superconducting qubit. Applied Physics Letters, 2015, 107, .	1.5	4
17	Observation of coherent oscillation in single-passage Landau-Zener transitions. Scientific Reports, 2015, 5, 8463.	1.6	18
18	Detection of small single-cycle signals by stochastic resonance using a bistable superconducting quantum interference device. Applied Physics Letters, 2015, 106, 172602.	1.5	6

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19	Integrating atomic layer deposition and ultra-high vacuum physical vapor deposition for in situ fabrication of tunnel junctions. Review of Scientific Instruments, 2014, 85, 073904.	0.6	15
20	Observation of quantum stochastic synchronization in a dissipative quantum system. Physical Review B, 2014, 90, .	1.1	8
21	Demonstration of Geometric Landau-Zener Interferometry in a Superconducting Qubit. Physical Review Letters, 2014, 112, 027001.	2.9	47
22	Generating entanglement between microwave photons and qubits in multiple cavities coupled by a superconducting qutrit. Physical Review A, 2013, 87, .	1.0	92
23	Fabrication of $hbox{Nb/Al}_{2}hbox{O}_{3}/hbox{Nb}$ Josephson Junctions Using In Situ Magnetron Sputtering and Atomic Layer Deposition. IEEE Transactions on Applied Superconductivity, 2013, 23, 1100705-1100705.	1.1	16
24	Probing the Nucleation of $hbox{Al}_{2}hbox{O}_{3}$ in Atomic Layer Deposition on Aluminum for Ultrathin Tunneling Barriers in Josephson Junctions. IEEE Transactions on Applied Superconductivity, 2013, 23, 1101405-1101405.	1.1	19
25	A cryogen-free dilution refrigerator based Josephson qubit measurement system. Review of Scientific Instruments, 2012, 83, 033907.	0.6	15
26	A two-step transition description of underdamped phase diffusion. Journal of Physics: Conference Series, 2012, 400, 042079.	0.3	0
27	Generation of Greenberger-Horne-Zeilinger entangled states of photons in multiple cavities via a superconducting qutrit or an atom through resonant interaction. Physical Review A, 2012, 86, .	1.0	70
28	Entanglement dynamics of a superconducting phase qubit coupled to a two-level system. Physical Review B, 2012, 86, .	1.1	12
29	Landau-Zener-StÃ¼ckelberg interference of microwave-dressed states of a superconducting phase qubit. Physical Review B, 2011, 83, .	1.1	31
30	Quantum Phase Diffusion in a Small Underdamped Josephson Junction. Physical Review Letters, 2011, 107, 067004.	2.9	41
31	Quantum logical gates with four-level superconducting quantum interference devices coupled to a superconducting resonator. Physical Review A, 2010, 82, .	1.0	13
32	The temperature dependence of magnetism in dc SQUIDs and an rf SQUID flux qubit in nT fields. Superconductor Science and Technology, 2010, 23, 045027.	1.8	1
33	Quantum and classical resonant escapes of a strongly driven Josephson junction. Physical Review B, 2010, 81, .	1.1	25
34	Experimental demonstration of a robust and scalable flux qubit. Physical Review B, 2010, 81, .	1.1	133
35	Tunable quantum beam splitters for coherent manipulation of a solid-state tripartite qubit system. Nature Communications, 2010, 1, 51.	5.8	96
36	Quantum dynamics of a microwave driven superconducting phase qubit coupled to a two-level system. Physical Review B, 2010, 82, .	1.1	13

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37	Population inversion induced by Landauâ€“Zener transition in a strongly driven rf superconducting quantum interference device. Applied Physics Letters, 2009, 94, .	1.5	46
38	Temperature Dependence of the Energy Relaxation Rate in an RF-SQUID Flux Qubit. IEEE Transactions on Applied Superconductivity, 2009, 19, 977-980.	1.1	5
39	Floquet formulation for the investigation of multiphoton quantum interference in a superconducting qubit driven by a strong ac field. Physical Review A, 2009, 79, .	1.0	73
40	Measurement of Integrated Low Frequency Flux Noise in Superconducting Fluxâˆ•Phase Qubits. , 2008, , .		0
41	Relaxation and decoherence in a resonantly driven qubit. Journal of Physics B: Atomic, Molecular and Optical Physics, 2008, 41, 045506.	0.6	11
42	Quantum Jumps between Macroscopic Quantum States of a Superconducting Qubit Coupled to a Microscopic Two-Level System. Physical Review Letters, 2008, 101, 157001.	2.9	32
43	Relaxation and Decoherence Induced by an External Circuit of a Driven SQUID Flux Qubit. IEEE Transactions on Applied Superconductivity, 2007, 17, 90-93.	1.1	2
44	Observation of Macroscopic Quantum Tunneling in a Single<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>Bi</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi>Sr</mml:mi><mml:mn mathvariant="normal">O</mml:mi><mml:mrow><mml:mn>8</mml:mn><mml:mo>+</mml:mo><mml:mi>Î´</mml:mi></mml:mrow></m Intrinsic Josephson Junction. Physical Review Letters, 2007, 99, 037002.	2.9	50
45	Measurement of Environmental Impedance at Plasma Frequency of Josephson Junction With Microwave Enhanced Thermal Escape. IEEE Transactions on Applied Superconductivity, 2007, 17, 94-96.	1.1	2
46	Local measurement for a set ofn-qubit maximally entangled states in cavity QED. Physical Review A, 2007, 75, .	1.0	6
47	Realization of ann-qubit controlled-Ugate with superconducting quantum interference devices or atoms in cavity QED. Physical Review A, 2006, 73, .	1.0	82
48	Unified approach for universal quantum gates in a coupled superconducting two-qubit system with fixed always-on coupling. Physical Review B, 2006, 73, .	1.1	6
49	Rotation gate for a three-level superconducting quantum interference device qubit with resonant interaction. Physical Review A, 2006, 74, .	1.0	27
50	Generation of Greenbergerâ€“Horneâ€“Zeilinger entangled states with three SQUID qubits: a scheme with tolerance to non-uniform device parameters. Physica A: Statistical Mechanics and Its Applications, 2005, 347, 253-267.	1.2	1
51	A scheme for the teleportation of multiqubit quantum information via the control of many agents in a network. Physics Letters, Section A: General, Atomic and Solid State Physics, 2005, 343, 267-273.	0.9	28
52	Rapid Optimization of Working Parameters of Microwave-Driven Multilevel Qubits for Minimal Gate Leakage. Physical Review Letters, 2005, 95, 120501.	2.9	11
53	Extracting an arbitrary relative phase from a multiqubit two-component entangled state. Physical Review A, 2005, 72, .	1.0	6
54	n-qubit-controlled phase gate with superconducting quantum-interference devices coupled to a resonator. Physical Review A, 2005, 72, .	1.0	89

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55	Quantum Entanglement and Controlled Logical Gates Using Coupled SQUID Flux Qubits. IEEE Transactions on Applied Superconductivity, 2005, 15, 833-836.	1.1	5
56	An energy relaxation tolerant approach to quantum entanglement, information transfer, and gates with superconducting-quantum-interference-device qubits in cavity QED. Journal of Physics Condensed Matter, 2004, 16, 1907-1914.	0.7	17
57	Preparation of Greenberger-Horne-Zeilinger entangled states with multiple superconducting quantum-interference device qubits or atoms in cavity QED. Physical Review A, 2004, 70, .	1.0	30
58	Suppression of energy-relaxation-induced decoherence inÎ›-type three-level SQUID flux qubits: A dark-state approach. Physical Review B, 2004, 70, .	1.1	19
59	Simplified realization of two-qubit quantum phase gate with four-level systems in cavity QED. Physical Review A, 2004, 70, .	1.0	39
60	A small error-correction code for protecting three-qubit quantum information. JETP Letters, 2004, 79, 236-240.	0.4	1
61	Arbitrary single-qubit operations without energy relaxation in aÂthree-level SQUID qubit. Physics Letters, Section A: General, Atomic and Solid State Physics, 2004, 321, 273-279.	0.9	33
62	Quantum Information Transfer and Entanglement with SQUID Qubits in Cavity QED: A Dark-State Scheme with Tolerance for Nonuniform Device Parameter. Physical Review Letters, 2004, 92, 117902.	2.9	179
63	Efficient many-party controlled teleportation of multiqubit quantum information via entanglement. Physical Review A, 2004, 70, .	1.0	206
64	Effects of pulse shape on rf SQUID quantum gates. IEEE Transactions on Applied Superconductivity, 2003, 13, 986-988.	1.1	1
65	Possible realization of entanglement, logical gates, and quantum-information transfer with superconducting-quantum-interference-device qubits in cavity QED. Physical Review A, 2003, 67, .	1.0	248
66	Efficiency of underdamped dc SQUIDs as readout devices for flux qubits. IEEE Transactions on Applied Superconductivity, 2003, 13, 982-985.	1.1	1
67	Resonant Escape over an Oscillating Barrier in Underdamped Josephson Tunnel Junctions. Physical Review Letters, 2003, 91, 127003.	2.9	46
68	Error-prevention scheme with two pairs of qubits. Physical Review A, 2002, 66, .	1.0	6
69	Quantitative Study of Macroscopic Quantum Tunneling in a dc SQUID: A System with Two Degrees of Freedom. Physical Review Letters, 2002, 89, 098301.	2.9	32
70	A scheme for protecting one-qubit information against erasure error. Journal of Optics B: Quantum and Semiclassical Optics, 2002, 4, 256-259.	1.4	0
71	Quantum computing with superconducting devices:â€ƒA three-level SQUID qubit. Physical Review B, 2002, 66, .	1.1	86
72	Observation of the temporal evolution of an unstable macroscopic quantum system with a nanoseconds resolution. Superconductor Science and Technology, 2002, 15, 555-558.	1.8	8

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73	Coherent Temporal Oscillations of Macroscopic Quantum States in a Josephson Junction. Science, 2002, 296, 889-892.	6.0	617
74	Comment on â€œMeasurement of the Intrinsic Dissipation of a Macroscopic System in the Quantum Regimeâ€. Physical Review Letters, 2001, 86, 4191-4191.	2.9	5
75	Observation of Cascaded Two-Photon-Induced Transitions between Fluxoid States of a SQUID. Physical Review Letters, 2000, 84, 1300-1303.	2.9	26
76	Off-chip detection of radiation from a linear array oscillator with a spiral antenna. IEEE Transactions on Applied Superconductivity, 1997, 7, 3107-3110.	1.1	11
77	Generation of a Population Inversion between Quantum States of a Macroscopic Variable. Physical Review Letters, 1996, 76, 3404-3407.	2.9	83
78	Observation of Resonant Tunneling between Macroscopically Distinct Quantum Levels. Physical Review Letters, 1995, 75, 1614-1617.	2.9	200
79	Flux amplification using stochastic superconducting quantum interference devices. Applied Physics Letters, 1995, 66, 108-110.	1.5	67
80	Demonstration of Josephson effect submillimeter wave sources with increased power. Applied Physics Letters, 1994, 64, 1424-1426.	1.5	85
81	Radiation linewidth of phaseâ€locked distributed array in the submillimeter wave range. Applied Physics Letters, 1993, 62, 2745-2747.	1.5	15
82	THERMALLY ACTIVATED BARRIER CROSSINGS IN SUPERCONDUCTING QUANTUM INTERFERENCE DEVICES. , 1993, , 241-267.		6
83	Effect of a two-dimensional potential on the rate of thermally induced escape over the potential barrier. Physical Review B, 1992, 46, 6338-6345.	1.1	37
84	Apparent critical currents and rf steps in a second-order proximity-induced Josephson effect. Physical Review B, 1990, 42, 8682-8685.	1.1	10
85	Comment on â€˜â€˜Microscopic theory of the proximity-induced Josephson effectâ€™â€™. Physical Review Letters, 1989, 62, 2334-2334.	2.9	6
86	Wolf, Millis, and Han Respond. Physical Review Letters, 1987, 58, 2276-2276.	2.9	6
87	Temperature dependence of the critical Josephson current in superconductorâ€“insulatorâ€“normal-metal proximity junctions nearTc. Physical Review B, 1987, 35, 4669-4672.	1.1	12
88	Proximityâ€Josephson effect (PJE) evidence for triplet pairing in UBe13(invited). Journal of Applied Physics, 1987, 61, 3899-3903.	1.1	6
89	Observation of Negatives-Wave Proximity Effect in Superconducting UBe13. Physical Review Letters, 1986, 57, 238-241.	2.9	87
90	Anomalousss-wave proximity-induced Josephson effects inUBe13,CeCu2Si2, andLaBe13: A new probe of heavy-fermion superconductivity. Physical Review B, 1985, 32, 7567-7570.	1.1	38