

Frank K Wilhelm

List of Publications by Year in descending order

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76
papers

6,386
citations

147801

31
h-index

79698

73
g-index

76
all docs

76
docs citations

76
times ranked

4536
citing authors

#	ARTICLE	IF	CITATIONS
1	Superconducting quantum bits. <i>Nature</i> , 2008, 453, 1031-1042.	27.8	1,572
2	Quantum Superposition of Macroscopic Persistent-Current States. <i>Science</i> , 2000, 290, 773-777.	12.6	875
3	Training Schrödinger's cat: quantum optimal control. <i>European Physical Journal D</i> , 2015, 69, 1.	1.3	550
4	Simple Pulses for Elimination of Leakage in Weakly Nonlinear Qubits. <i>Physical Review Letters</i> , 2009, 103, 110501.	7.8	476
5	Quasiclassical Green's function approach to mesoscopic superconductivity. <i>Superlattices and Microstructures</i> , 1999, 25, 1251-1288.	3.1	430
6	The quantum technologies roadmap: a European community view. <i>New Journal of Physics</i> , 2018, 20, 080201.	2.9	358
7	Microwave Photon Counter Based on Josephson Junctions. <i>Physical Review Letters</i> , 2011, 107, 217401.	7.8	184
8	Mesoscopic Superconducting "Normal Metal" Superconducting Transistor. <i>Physical Review Letters</i> , 1998, 81, 1682-1685.	7.8	132
9	Tunable, Flexible, and Efficient Optimization of Control Pulses for Practical Qubits. <i>Physical Review Letters</i> , 2018, 120, 150401.	7.8	115
10	Coherent charge transport in metallic proximity structures. <i>Physical Review B</i> , 1997, 55, 1123-1137.	3.2	103
11	Adaptive Hybrid Optimal Quantum Control for Imprecisely Characterized Systems. <i>Physical Review Letters</i> , 2014, 112, 240503.	7.8	101
12	Decoherence and gate performance of coupled solid-state qubits. <i>Physical Review A</i> , 2003, 67, .	2.5	97
13	Supercurrent-carrying density of states in diffusive mesoscopic Josephson weak links. <i>Physical Review B</i> , 2002, 66, .	3.2	96
14	The $B\rightarrow K$ penguin transformation: Properties and applications. <i>International Journal of Quantum Chemistry</i> , 2015, 115, 1431-1441.	2.0	93
15	Generation and detection of NOON states in superconducting circuits. <i>New Journal of Physics</i> , 2010, 12, 093036.	2.9	63
16	Supercurrent in a mesoscopic proximity wire. <i>Journal of Low Temperature Physics</i> , 1997, 106, 305-310.	1.4	50
17	Optimal Qubit Control Using Single-Flux Quantum Pulses. <i>Physical Review Applied</i> , 2016, 6, .	3.8	49
18	The spin-boson model with a structured environment: a comparison of approaches. <i>Chemical Physics</i> , 2004, 296, 345-353.	1.9	48

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19	Non-equilibrium supercurrent through mesoscopic ferromagnetic weak links. Europhysics Letters, 2000, 51, 434-440.	2.0	47
20	Integrated Tool Set for Control, Calibration, and Characterization of Quantum Devices Applied to Superconducting Qubits. Physical Review Applied, 2021, 15, .	3.8	45
21	Multimode Circuit Quantum Electrodynamics with Hybrid Metamaterial Transmission Lines. Physical Review Letters, 2013, 111, 163601.	7.8	42
22	Observation of a controllable π -junction in a 3-terminal Josephson device. Physical Review B, 2002, 66, .	3.2	41
23	Optimized cross-resonance gate for coupled transmon systems. Physical Review A, 2018, 97, .	2.5	40
24	Measuring Non-Gaussian Fluctuations through Incoherent Cooper-Pair Current. Physical Review Letters, 2004, 93, 247005.	7.8	37
25	Compensation of decoherence from telegraph noise by means of an open-loop quantum-control technique. Physical Review A, 2005, 71, .	2.5	37
26	Dynamical Tunneling in Macroscopic Systems. Physical Review Letters, 2007, 99, 137001.	7.8	36
27	Stationary and Transient Leakage Current in the Pauli Spin Blockade. Physical Review Letters, 2009, 102, 176806.	7.8	36
28	High-fidelity qubit measurement with a microwave-photon counter. Physical Review A, 2014, 90, .	2.5	36
29	Long-range coupling and scalable architecture for superconducting flux qubits. Physical Review B, 2007, 76, .	3.2	35
30	Quantum trajectory equation for multiple qubits in circuit QED: Generating entanglement by measurement This paper was presented at the Theory CANADA 4 conference, held at Centre de recherches mathématiques, Montréal, Québec, Canada on 4-7 June 2008.. Canadian Journal of Physics, 2009, 87, 225-231.	1.1	34
31	Intrinsic phonon decoherence and quantum gates in coupled lateral quantum-dot charge qubits. Physical Review B, 2005, 72, .	3.2	33
32	The size of macroscopic superposition states in flux qubits. Europhysics Letters, 2010, 89, 30003.	2.0	29
33	Quantum gates and architecture for the quantum simulation of the Fermi-Hubbard model. Physical Review A, 2016, 94, .	2.5	29
34	Theory of Josephson photomultipliers: Optimal working conditions and back action. Physical Review A, 2012, 86, .	2.5	27
35	Efficient Estimation of Resonant Coupling between Quantum Systems. Physical Review Letters, 2014, 113, 210404.	7.8	27
36	Ohmic and Step Noise from a Single Trapping Center Hybridized with a Fermi Sea. Physical Review Letters, 2005, 95, 247006.	7.8	26

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37	Method to efficiently simulate the thermodynamic properties of the Fermi-Hubbard model on a quantum computer. <i>Physical Review A</i> , 2016, 93, .	2.5	26
38	Microscopic model of critical current noise in Josephson-junction qubits: Subgap resonances and Andreev bound states. <i>Physical Review B</i> , 2009, 80, .	3.2	23
39	Unitary-Feedback-Improved Qubit Initialization in the Dispersive Regime. <i>Physical Review Applied</i> , 2015, 4, .	3.8	21
40	Entanglement generated by the dispersive interaction: The dressed coherent state. <i>Physical Review A</i> , 2016, 93, .	2.5	19
41	Characterization of decohering quantum systems: Machine learning approach. <i>Physical Review A</i> , 2016, 93, .	2.5	18
42	Superconducting Single-Charge Transistor in a Tunable Dissipative Environment. <i>Physical Review Letters</i> , 2001, 87, 136802.	7.8	17
43	Tunable coupling between three qubits as a building block for a superconducting quantum computer. <i>Physical Review B</i> , 2011, 84, .	3.2	17
44	Electronic structure of superposition states in flux qubits. <i>Physica Scripta</i> , 2009, T137, 014022.	2.5	16
45	Generating nonclassical states from classical radiation by subtraction measurements. <i>New Journal of Physics</i> , 2014, 16, 045011.	2.9	16
46	Supercurrent-induced Peltier-like effect in superconductor/normal-metal weak links. <i>Physical Review B</i> , 2003, 67, .	3.2	15
47	Scalable two- and four-qubit parity measurement with a threshold photon counter. <i>Physical Review A</i> , 2015, 92, .	2.5	12
48	Hybrid benchmarking of arbitrary quantum gates. <i>Physical Review A</i> , 2017, 95, .	2.5	12
49	Coupling a Superconducting Qubit to a Left-Handed Metamaterial Resonator. <i>Physical Review Applied</i> , 2020, 14, .	3.8	12
50	General solution of the time evolution of two interacting harmonic oscillators. <i>Physical Review A</i> , 2021, 103, .	2.5	12
51	Coherent Electron Transport in Superconducting-Normal Metallic Films. <i>Physical Review Letters</i> , 1998, 80, 4289-4292.	7.8	11
52	Design of realistic switches for coupling superconducting solid-state qubits. <i>Applied Physics Letters</i> , 2003, 83, 2387-2389.	3.3	11
53	Bang?Bang Refocusing of a Qubit Exposed to Telegraph Noise. <i>Quantum Information Processing</i> , 2004, 3, 247-272.	2.2	11
54	Transient Dynamics of a Superconducting Nonlinear Oscillator. <i>Physical Review Applied</i> , 2016, 5, .	3.8	10

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55	The effect of environmental coupling on tunneling of quasiparticles in Josephson junctions. Superconductor Science and Technology, 2013, 26, 125013.	3.5	8
56	Quantum simulation of a quantum stochastic walk. Quantum Science and Technology, 2017, 2, 015002.	5.8	8
57	Mesoscopic proximity effect probed through superconducting tunneling contacts. Physical Review B, 2000, 62, 5353-5356.	3.2	7
58	Nonlinear cotunneling through an artificial molecule. Physical Review B, 2003, 67, .	3.2	6
59	Adaptive identification of coherent states. Physical Review A, 2015, 92, .	2.5	6
60	Strong coupling of a qubit to shot noise. Physical Review B, 2007, 75, .	3.2	5
61	Roadmap for quantum simulation of the fractional quantum Hall effect. Physical Review A, 2020, 102, .	2.5	5
62	Superconducting Detector That Counts Microwave Photons Up to Two. Physical Review Applied, 2020, 14, .	3.8	5
63	Superconducting current in narrow proximity wires. European Physical Journal D, 1996, 46, 2395-2396.	0.4	4
64	Nonequilibrium stabilization of charge states in double quantum dots. Physical Review B, 2004, 69, .	3.2	4
65	The nonequilibrium mesoscopic SNS transistor. Physica B: Condensed Matter, 2000, 280, 418-419.	2.7	3
66	Publisher's Note: Decoherence and gate performance of coupled solid-state qubits [Phys. Rev. A 67, 042319 (2003)]. Physical Review A, 2003, 67, .	2.5	3
67	Simultaneous model selection and parameter estimation: A superconducting qubit coupled to a bath of incoherent two-level systems. Physical Review A, 2016, 94, .	2.5	3
68	Physical realizability of continuous-time quantum stochastic walks. Physical Review A, 2018, 97, .	2.5	3
69	A shift in spectroscopy. Nature, 2008, 455, 41-43.	27.8	2
70	Improving high- T_c dc SQUID performance by means of junction asymmetry. Superconductor Science and Technology, 2009, 22, 055002.	3.5	2
71	Quantum simulation of particle creation in curved space-time. PLoS ONE, 2020, 15, e0229382.	2.5	2
72	Superconducting single-charge transistor in a tunable dissipative environment. Physica B: Condensed Matter, 2000, 284-288, 1810-1811.	2.7	1

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73	Photon lab in a circuit. Nature, 2007, 445, 500-500.	27.8	1
74	Coherent transport in a normal wire between reservoirs. European Physical Journal D, 1996, 46, 2393-2394.	0.4	0
75	Transport in mesoscopic proximity systems: A quasiclassical perspective. Physica C: Superconductivity and Its Applications, 2000, 341-348, 2569-2572.	1.2	0
76	Efficient Read-out of Flux Qubits at Flux Degeneracy. Quantum Information Processing, 2006, 5, 563-575.	2.2	0