

Sahel Ashhab

List of Publications by Year in descending order

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87
papers

8,423
citations

94433

37
h-index

58581

82
g-index

87
all docs

87
docs citations

87
times ranked

6382
citing authors

#	ARTICLE	IF	CITATIONS
1	Quantum state preparation protocol for encoding classical data into the amplitudes of a quantum information processing register's wave function. <i>Physical Review Research</i> , 2022, 4, .	3.6	5
2	Speed limits for two-qubit gates with weakly anharmonic qubits. <i>Physical Review A</i> , 2022, 105, .	2.5	9
3	Hamiltonian of a flux qubit-LC oscillator circuit in the deep strong-coupling regime. <i>Scientific Reports</i> , 2022, 12, 6764.	3.3	4
4	Band-Gap Tuning in All-Inorganic CsPb _x Sn _{1-x} Br ₃ Perovskites. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 4203-4210.	8.0	24
5	COVID-19 (SARS-CoV-2) outbreak monitoring using wastewater-based epidemiology in Qatar. <i>Science of the Total Environment</i> , 2021, 774, 145608.	8.0	120
6	Enhanced coherence of all-nitride superconducting qubits epitaxially grown on silicon substrate. <i>Communications Materials</i> , 2021, 2, .	6.9	30
7	Nonclassicality of open circuit QED systems in the deep-strong coupling regime. <i>New Journal of Physics</i> , 2021, 23, 103009.	2.9	5
8	Characterization of control in a superconducting qutrit using randomized benchmarking. <i>Physical Review Research</i> , 2021, 3, .	3.6	19
9	Order in the ground state of a simple cubic dipole lattice in an external field. <i>International Journal of Quantum Chemistry</i> , 2020, 120, e26053.	2.0	5
10	Attempt to find the hidden symmetry in the asymmetric quantum Rabi model. <i>Physical Review A</i> , 2020, 101, .	2.5	18
11	Implementation of a Walsh-Hadamard Gate in a Superconducting Qutrit. <i>Physical Review Letters</i> , 2020, 125, 180504.	7.8	42
12	Observation of Structural Phase Transitions and PbI ₂ Formation During the Degradation of Triple-Cation Double-Halide Perovskites. <i>ACS Applied Energy Materials</i> , 2020, 3, 6302-6309.	5.1	11
13	Unusual Bimodal Photovoltaic Performance of Perovskite Solar Cells at Real-World Operating Temperatures. <i>Journal of Physical Chemistry C</i> , 2020, 124, 9118-9125.	3.1	2
14	Spectrum of the Dicke model in a superconducting qubit-oscillator system. <i>Physical Review A</i> , 2019, 99, .	2.5	5
15	Domain boundaries in Luttinger-Tisza ordered dipole lattices. <i>Journal of Applied Physics</i> , 2019, 125, .	2.5	6
16	Quantum Simulation of Resonant Transitions for Solving the Eigenproblem of an Effective Water Hamiltonian. <i>Physical Review Letters</i> , 2019, 122, 090504.	7.8	25
17	A GRASP approach for Symbolic Regression. , 2019, , .		0
18	Solution-processed perovskite-colloidal quantum dot tandem solar cells for photon collection beyond 1000 nm. <i>Journal of Materials Chemistry A</i> , 2019, 7, 26020-26028.	10.3	44

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19	Fast amplification and rephasing of entangled cat states in a qubit-oscillator system. <i>Physical Review A</i> , 2019, 99, .	2.5	6
20	Inversion of Qubit Energy Levels in Qubit-Oscillator Circuits in the Deep-Strong-Coupling Regime. <i>Physical Review Letters</i> , 2018, 120, 183601.	7.8	69
21	Effective hopping strength between supercells in a disordered tight-binding model. <i>Computational Materials Science</i> , 2018, 155, 534-540.	3.0	0
22	Landau-Zener interference with driving fields in the quantum regime. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2017, 50, 134002.	2.1	7
23	Characteristic spectra of circuit quantum electrodynamics systems from the ultrastrong- to the deep-strong-coupling regime. <i>Physical Review A</i> , 2017, 95, .	2.5	60
24	Superradiance phase transition in the presence of parameter fluctuations. <i>Physical Review A</i> , 2017, 95, .	2.5	9
25	Effect of disorder on transport properties in a tight-binding model for lead halide perovskites. <i>Scientific Reports</i> , 2017, 7, 8902.	3.3	25
26	Superconducting qubit-oscillator circuit beyond the ultrastrong-coupling regime. <i>Nature Physics</i> , 2017, 13, 44-47.	16.7	462
27	Dynamics of a two-level system under strong driving: Quantum-gate optimization based on Floquet theory. <i>Physical Review A</i> , 2016, 94, .	2.5	34
28	Fast quantum communication in linear networks. <i>Europhysics Letters</i> , 2016, 114, 40007.	2.0	13
29	Landau-Zener transitions in an open multilevel quantum system. <i>Physical Review A</i> , 2016, 94, .	2.5	24
30	Enhancing the carrier thermalization time in organometallic perovskites by halide mixing. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 5219-5231.	2.8	61
31	Observation of Floquet States in a Strongly Driven Artificial Atom. <i>Physical Review Letters</i> , 2015, 115, 133601.	7.8	92
32	Quantum state transfer in a disordered one-dimensional lattice. <i>Physical Review A</i> , 2015, 92, .	2.5	29
33	Simulating systems of itinerant spin-carrying particles using arrays of superconducting qubits and resonators. <i>New Journal of Physics</i> , 2014, 16, 113006.	2.9	8
34	Landau-Zener transitions in a two-level system coupled to a finite-temperature harmonic oscillator. <i>Physical Review A</i> , 2014, 90, .	2.5	40
35	Quantum simulation. <i>Reviews of Modern Physics</i> , 2014, 86, 153-185.	45.6	1,881
36	Observation of Time-Domain Rabi Oscillations in the Landau-Zener Regime with a Single Electronic Spin. <i>Physical Review Letters</i> , 2014, 112, 010503.	7.8	55

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37	Superradiance transition in a system with a single qubit and a single oscillator. <i>Physical Review A</i> , 2013, 87, .	2.5	120
38	Hybrid quantum circuits: Superconducting circuits interacting with other quantum systems. <i>Reviews of Modern Physics</i> , 2013, 85, 623-653.	45.6	1,212
39	Quantum-criticality-induced strong Kerr nonlinearities in optomechanical systems. <i>Scientific Reports</i> , 2013, 3, 2943.	3.3	150
40	Entanglement amplification via local weak measurements. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2012, 45, 415303.	2.1	24
41	Selective darkening of degenerate transitions for implementing quantum controlled-NOT gates. <i>New Journal of Physics</i> , 2012, 14, 073038.	2.9	18
42	Two-qubit gate operations in superconducting circuits with strong coupling and weak anharmonicity. <i>New Journal of Physics</i> , 2012, 14, 073041.	2.9	19
43	Quantum algorithm for obtaining the energy spectrum of a physical system. <i>Physical Review A</i> , 2012, 85, .	2.5	20
44	Speed limits for quantum gates in multiqubit systems. <i>Physical Review A</i> , 2012, 85, .	2.5	62
45	Amplitude spectroscopy of two coupled qubits. <i>Physical Review B</i> , 2012, 85, .	3.2	37
46	Nonperturbative theory of weak pre- and post-selected measurements. <i>Physics Reports</i> , 2012, 520, 43-133.	25.6	262
47	Inverse Landau-Zener-Stückelberg problem for qubit-resonator systems. <i>Physical Review B</i> , 2012, 85, .	3.2	37
48	Implementing general measurements on linear optical and solid-state qubits. <i>Physical Review A</i> , 2012, 85, .	2.5	19
49	Natural and artificial atoms for quantum computation. <i>Reports on Progress in Physics</i> , 2011, 74, 104401.	20.1	569
50	Quantum algorithm for simulating the dynamics of an open quantum system. <i>Physical Review A</i> , 2011, 83, .	2.5	70
51	Dynamics of interacting qubits in a strong alternating electromagnetic field. <i>Physics of the Solid State</i> , 2010, 52, 2281-2286.	0.6	5
52	Landau-Zener-Stückelberg interferometry. <i>Physics Reports</i> , 2010, 492, 1-30.	25.6	639
53	Selective darkening of degenerate transitions demonstrated with two superconducting quantum bits. <i>Nature Physics</i> , 2010, 6, 763-766.	16.7	61
54	Control-free control: Manipulating a quantum system using only a limited set of measurements. <i>Physical Review A</i> , 2010, 82, .	2.5	48

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55	Using superconducting qubit circuits to engineer exotic lattice systems. <i>Physical Review A</i> , 2010, 82, .	2.5	69
56	Qubit-oscillator systems in the ultrastrong-coupling regime and their potential for preparing nonclassical states. <i>Physical Review A</i> , 2010, 81, .	2.5	292
57	Information about the state of a charge qubit gained by a weakly coupled quantum point contact. <i>Physica Scripta</i> , 2009, T137, 014005.	2.5	18
58	Efficient quantum algorithm for preparing molecular-system-like states on a quantum computer. <i>Physical Review A</i> , 2009, 79, .	2.5	39
59	Bell's experiment with intra- and inter-pair entanglement: Single-particle mode entanglement as a case study. <i>Physical Review A</i> , 2009, 80, .	2.5	16
60	Weak and strong measurement of a qubit using a switching-based detector. <i>Physical Review A</i> , 2009, 79, .	2.5	31
61	The information about the state of a qubit gained by a weakly coupled detector. <i>New Journal of Physics</i> , 2009, 11, 083017.	2.9	30
62	Single-artificial-atom lasing using a voltage-biased superconducting charge qubit. <i>New Journal of Physics</i> , 2009, 11, 023030.	2.9	51
63	Fully connected network of superconducting qubits in a cavity. <i>New Journal of Physics</i> , 2008, 10, 113020.	2.9	47
64	Controllable Coherent Population Transfers in Superconducting Qubits for Quantum Computing. <i>Physical Review Letters</i> , 2008, 100, 113601.	7.8	107
65	Interqubit coupling mediated by a high-excitation-energy quantum object. <i>Physical Review B</i> , 2008, 77, .	3.2	75
66	Lower limit on the achievable temperature in resonator-based sideband cooling. <i>Physical Review B</i> , 2008, 78, .	3.2	46
67	Generation of Macroscopic Entangled States in Coupled Superconducting Phase Qubits. <i>Journal of the Physical Society of Japan</i> , 2007, 76, 054802.	1.6	23
68	Low-decoherence flux qubit. <i>Physical Review B</i> , 2007, 75, .	3.2	203
69	Observing quantum nonlocality in the entanglement between modes of massive particles. <i>Physical Review A</i> , 2007, 75, .	2.5	25
70	Switchable coupling for superconducting qubits using double resonance in the presence of crosstalk. <i>Physical Review B</i> , 2007, 76, .	3.2	24
71	Detecting mode entanglement: The role of coherent states, superselection rules, and particle statistics. <i>Physical Review A</i> , 2007, 76, .	2.5	22
72	Two-level systems driven by large-amplitude fields. <i>Physical Review A</i> , 2007, 75, .	2.5	203

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73	Quantum information processing using frequency control of impurity spins in diamond. Physical Review B, 2007, 76, .	3.2	17
74	Rabi oscillations in a qubit coupled to a quantum two-level system. New Journal of Physics, 2006, 8, 103-103.	2.9	39
75	Decoherence dynamics of a qubit coupled to a quantum two-level system. Physica C: Superconductivity and Its Applications, 2006, 444, 45-52.	1.2	14
76	Decoherence in a scalable adiabatic quantum computer. Physical Review A, 2006, 74, .	2.5	67
77	Quantum Two-Level Systems in Josephson Junctions as Naturally Formed Qubits. Physical Review Letters, 2006, 97, 077001.	7.8	102
78	Generalized switchable coupling for superconducting qubits using double resonance. Physical Review B, 2006, 74, .	3.2	34
79	Superfluid vs Ferromagnetic Behavior in a Bose Gas of Spin-1/2 Atoms. Journal of Low Temperature Physics, 2005, 140, 51-65.	1.4	17
80	Interference between a large number of independent Bose-Einstein condensates. Physical Review A, 2005, 71, .	2.5	8
81	Bose-Einstein condensation of spin-1/2 atoms with conserved total spin. Physical Review A, 2003, 68, .	2.5	51
82	External Josephson effect in Bose-Einstein condensates with a spin degree of freedom. Physical Review A, 2002, 66, .	2.5	61
83	Measurement theory and interference of spinor Bose-Einstein condensates. Physical Review A, 2002, 65, .	2.5	19
84	Red to green rainbow photoluminescence from unoxidized silicon nanocrystallites. Journal of Applied Physics, 1998, 83, 3929-3931.	2.5	52
85	Intermediate-scale Simulations of Lead-halide Perovskites Using Tight-binding and Spin Models. , 0, , .		0
86	Solution-processed Perovskite-colloidal Quantum Dot Tandem Solar Cells for Photon Collection Beyond 1000 nm. , 0, , .		0
87	Intermediate-scale Simulations of Lead-halide Perovskites Using Tight-binding and Spin Models. , 0, , .		0