Aashish A Clerk

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/1099776/publications.pdf

Version: 2024-02-01

133 papers	12,505 citations	29994 54 h-index	24179 110 g-index
136 all docs	136 docs citations	136 times ranked	6042 citing authors

#	Article	IF	Citations
1	Exact Solutions of Interacting Dissipative Systems via Weak Symmetries. Physical Review Letters, 2022, 128, 033602.	2.9	21
2	Reservoir-Engineered Spin Squeezing: Macroscopic Even-Odd Effects and Hybrid-Systems Implementations. Physical Review X, 2022, 12, .	2.8	12
3	Nonequilibrium stationary states of quantum non-Hermitian lattice models. Physical Review B, 2022, 105, .	1.1	36
4	Distinguishing between Quantum and Classical Markovian Dephasing Dissipation. Physical Review Letters, 2022, 128, 070402.	2.9	12
5	Stabilizing two-qubit entanglement by mimicking a squeezed environment. Physical Review Research, 2022, 4, .	1.3	9
6	Stabilizing volume-law entangled states of fermions and qubits using local dissipation. Physical Review B, 2022, 105, .	1.1	8
7	Positive- and negative-frequency noise from an ensemble of two-level fluctuators. Physical Review Research, 2021, 3, .	1.3	17
8	Engineering fast high-fidelity quantum operations with constrained interactions. Npj Quantum Information, 2021, 7, .	2.8	12
9	Nondispersing Wave Packets in Lattice Floquet Systems. Physical Review Letters, 2021, 126, 100601.	2.9	1
10	Macroscale entanglement and measurement. Science, 2021, 372, 570-571.	6.0	3
11	Simple approach to characterizing band topology in bosonic pairing Hamiltonians. Physical Review B, 2021, 103, .	1.1	4
12	Dynamical Mean-Field Theory for Markovian Open Quantum Many-Body Systems. Physical Review X, 2021, 11, .	2.8	17
13	Analytic Design of Accelerated Adiabatic Gates in Realistic Qubits: General Theory and Applications to Superconducting Circuits. PRX Quantum, 2021, 2, .	3.5	13
14	Unconditional Fock state generation using arbitrarily weak photonic nonlinearities. Science Advances, 2021, 7, eabj1916.	4.7	11
15	Intrinsic and induced quantum quenches for enhancing qubit-based quantum noise spectroscopy. Nature Communications, 2021, 12, 6528.	5.8	9
16	Intrinsic mechanisms for drive-dependent Purcell decay in superconducting quantum circuits. Physical Review Research, 2021, 3, .	1.3	8
17	Low-Loss Ferrite Circulator as a Tunable Chiral Quantum System. Physical Review Applied, 2021, 16, .	1.5	7
18	Exponentially-enhanced quantum sensing with non-Hermitian lattice dynamics. Nature Communications, 2020, 11, 5382.	5.8	75

#	Article	IF	Citations
19	Heisenberg-Limited Spin Squeezing via Bosonic Parametric Driving. Physical Review Letters, 2020, 125, 203601.	2.9	18
20	Ground-State Cooling and High-Fidelity Quantum Transduction via Parametrically Driven Bad-Cavity Optomechanics. Physical Review Letters, 2020, 124, 103602.	2.9	49
21	Hybrid quantum systems with circuit quantum electrodynamics. Nature Physics, 2020, 16, 257-267.	6.5	236
22	Driven-Dissipative Quantum Kerr Resonators: New Exact Solutions, Photon Blockade and Quantum Bistability. Physical Review X, 2020, 10, .	2.8	37
23	Spectral characterization of non-Gaussian quantum noise: Keldysh approach and application to photon shot noise. Physical Review Research, 2020, 2, .	1.3	11
24	Accelerated adiabatic quantum gates: Optimizing speed versus robustness. Physical Review A, 2019, 100, .	1.0	10
25	Non-Hermitian dynamics without dissipation in quantum systems. Physical Review A, 2019, 99, .	1.0	49
26	High-fidelity bosonic quantum state transfer using imperfect transducers and interference. Npj Quantum Information, 2019, 5, .	2.8	23
27	Spectral functions and negative density of states of a driven-dissipative nonlinear quantum resonator. New Journal of Physics, 2019, 21, 043040.	1.2	25
28	Initialization of Single Spin Dressed States using Shortcuts to Adiabaticity. Physical Review Letters, 2019, 122, 090502.	2.9	42
29	Nonreciprocal control and cooling of phonon modes in an optomechanical system. Nature, 2019, 568, 65-69.	13.7	125
30	High-Efficiency Measurement of an Artificial Atom Embedded in a Parametric Amplifier. Physical Review X, 2019, 9, .	2.8	21
31	Nanomechanical pumpâ€“probe measurements of insulating electronic states in a carbon nanotube. Nature Nanotechnology, 2019, 14, 161-167.	15.6	39
32	Quantitative Tomography for Continuous Variable Quantum Systems. Physical Review Letters, 2018, 120, 090501.	2.9	18
33	Enhancing Cavity Quantum Electrodynamics via Antisqueezing: Synthetic Ultrastrong Coupling. Physical Review Letters, 2018, 120, 093602.	2.9	97
34	Stabilized entanglement of massive mechanical oscillators. Nature, 2018, 556, 478-482.	13.7	388
35	Stroboscopic Qubit Measurement with Squeezed Illumination. Physical Review Letters, 2018, 120, 040505.	2.9	30
36	Phase-Dependent Chiral Transport and Effective Non-Hermitian Dynamics in a Bosonic Kitaev-Majorana Chain. Physical Review X, 2018, 8, .	2.8	109

#	Article	IF	Citations
37	Fundamental limits and non-reciprocal approaches in non-Hermitian quantum sensing. Nature Communications, 2018, 9, 4320.	5.8	191
38	Reservoir engineering of bosonic lattices using chiral symmetry and localized dissipation. Physical Review A, 2018, 98, .	1.0	21
39	Generalized non-reciprocity in an optomechanical circuit via synthetic magnetism and reservoir engineering. Nature Physics, 2017, 13, 465-471.	6.5	360
40	Nonreciprocal quantum interactions and devices via autonomous feedforward. Physical Review A, 2017, 95, .	1.0	45
41	Enhanced qubit readout using locally generated squeezing and inbuilt Purcell-decay suppression. New Journal of Physics, 2017, 19, 023044.	1.2	15
42	Shortcuts to adiabaticity in the presence of a continuum: Applications to itinerant quantum state transfer. Physical Review A, 2017, 96, .	1.0	21
43	Shelving-style QND phonon-number detection in quantum optomechanics. New Journal of Physics, 2017, 19, 033014.	1.2	8
44	Accelerated quantum control using superadiabatic dynamics in a solid-state lambda system. Nature Physics, 2017, 13, 330-334.	6.5	194
45	Enhanced nonlinear interactions in quantum optomechanics via mechanical amplification. Nature Communications, 2016, 7, 11338.	5.8	124
46	Optomechanics with two-phonon driving. New Journal of Physics, 2016, 18, 093014.	1.2	45
47	Quantum Backaction Evading Measurement of Collective Mechanical Modes. Physical Review Letters, 2016, 117, 140401.	2.9	88
48	Quantum Nondemolition Measurement of a Quantum Squeezed State Beyond the 3ÂdB Limit. Physical Review Letters, 2016, 117, 100801.	2.9	94
49	Quantum heat engine based on photon-assisted Cooper pair tunneling. Physical Review B, 2016, 93, .	1.1	82
50	Negative Full Counting Statistics Arise from Interference Effects. Physical Review Letters, 2016, 116, 013603.	2.9	35
51	Speeding up Adiabatic Quantum State Transfer by Using Dressed States. Physical Review Letters, 2016, 116, 230503.	2.9	196
52	Fock-state stabilization and emission in superconducting circuits using dc-biased Josephson junctions. Physical Review A, 2016, 93, .	1.0	31
53	Quantum backaction and noise interference in asymmetric two-cavity optomechanical systems. Physical Review A, 2016, 93, .	1.0	24
54	Topological phase transitions and chiral inelastic transport induced by the squeezing of light. Nature Communications, 2016, 7, 10779.	5.8	92

#	Article	IF	Citations
55	Topological Quantum Fluctuations and Traveling Wave Amplifiers. Physical Review X, 2016, 6, .	2.8	81
56	Quantum Kibble-Zurek physics in the presence of spatially correlated dissipation. Physical Review B, 2015, 92, .	1.1	36
57	Nonreciprocal Photon Transmission and Amplification via Reservoir Engineering. Physical Review X, 2015, 5, .	2.8	280
58	Heisenberg-Limited Qubit Read-Out with Two-Mode Squeezed Light. Physical Review Letters, 2015, 115, 093604.	2.9	39
59	Broadband parametric amplification with impedance engineering: Beyond the gain-bandwidth product. Applied Physics Letters, 2015, 107, .	1.5	115
60	Bipartite and tripartite output entanglement in three-mode optomechanical systems. Physical Review A, 2015, 91, .	1.0	91
61	Real photons from vacuum fluctuations in optomechanics: The role of polariton interactions. Physical Review A, 2015, 91, .	1.0	23
62	Quantum squeezing of motion in a mechanical resonator. Science, 2015, 349, 952-955.	6.0	504
63	Detuned mechanical parametric amplification as a quantum non-demolition measurement. New Journal of Physics, 2014, 16, 043023.	1.2	14
64	Basic Theory of Cavity Optomechanics. , 2014, , 5-23.		6
65	Antibunching and unconventional photon blockade with Gaussian squeezed states. Physical Review A, 2014, 90, .	1.0	95
66	Laser Theory for Optomechanics: Limit Cycles in the Quantum Regime. Physical Review X, 2014, 4, .	2.8	51
67	Photon-assisted tunnelling with nonclassical light. Nature Communications, 2014, 5, 5562.	5.8	31
68	Quantum-Limited Amplification via Reservoir Engineering. Physical Review Letters, 2014, 112, 133904.	2.9	94
69	Observation and Interpretation of Motional Sideband Asymmetry in a Quantum Electromechanical Device. Physical Review X, 2014, 4, .	2.8	68
70	Large gain quantum-limited qubit measurement using a two-mode nonlinear cavity. New Journal of Physics, 2014, 16, 113032.	1.2	1
71	Mechanically detecting and avoiding the quantum fluctuations of a microwave field. Science, 2014, 344, 1262-1265.	6.0	123
72	Photon propagation in a one-dimensional optomechanical lattice. Physical Review A, 2014, 89, .	1.0	36

#	Article	IF	Citations
73	Dissipative optomechanical squeezing of light. New Journal of Physics, 2014, 16, 063058.	1.2	64
74	Mechanical entanglement via detuned parametric amplification. New Journal of Physics, 2014, 16, 063043.	1.2	15
75	Two-mode squeezed states in cavity optomechanics via engineering of a single reservoir. Physical Review A, 2014, 89, .	1.0	175
76	Two-mode back-action-evading measurements in cavity optomechanics. Physical Review A, 2013, 87, .	1.0	97
77	Nonlinear Interaction Effects in a Strongly Driven Optomechanical Cavity. Physical Review Letters, 2013, 111, 053602.	2.9	124
78	Measurement of the Electronic Thermal Conductance Channels and Heat Capacity of Graphene at Low Temperature. Physical Review X, 2013, 3, .	2.8	54
79	Reservoir-Engineered Entanglement in Optomechanical Systems. Physical Review Letters, 2013, 110, 253601.	2.9	346
80	Arbitrarily large steady-state bosonic squeezing via dissipation. Physical Review A, 2013, 88, .	1.0	193
81	Using dark modes for high-fidelity optomechanical quantum state transfer. New Journal of Physics, 2012, 14, 105010.	1.2	89
82	Weak Qubit Measurement with a Nonlinear Cavity: Beyond Perturbation Theory. Physical Review Letters, 2012, 109, 123602.	2.9	20
83	Electron-phonon mediated heat flow in disordered graphene. Physical Review B, 2012, 86, .	1.1	54
84	Quantum Signatures of the Optomechanical Instability. Physical Review Letters, 2012, 109, 253601.	2.9	103
85	Excited-State Spectroscopy on an Individual Quantum Dot Using Atomic Force Microscopy. Nano Letters, 2012, 12, 709-713.	4.5	21
86	To see a SAW. Nature Physics, 2012, 8, 256-257.	6.5	3
87	Using Interference for High Fidelity Quantum State Transfer in Optomechanics. Physical Review Letters, 2012, 108, 153603.	2.9	376
88	Seeing the â€œQuantumâ€•in Quantum Zero-Point Fluctuations. Physics Magazine, 2012, 5, .	0.1	2
89	Quantum interference and phonon-mediated back-action in lateral quantum-dot circuits. Nature Physics, 2012, 8, 522-527.	6.5	50
90	Quantum-limited amplification with a nonlinear cavity detector. Physical Review A, 2011, 83, .	1.0	39

#	Article	IF	Citations
91	Mechanically probing coherent tunneling in a double quantum dot. Physical Review B, 2011, 84, .	1.1	11
92	Full counting statistics of energy fluctuations in a driven quantum resonator. Physical Review A, 2011, 84, .	1.0	36
93	High Q electromechanics with InAs nanowire quantum dots. Applied Physics Letters, 2011, 99, .	1.5	9
94	Introduction to quantum noise, measurement, and amplification. Reviews of Modern Physics, 2010, 82, 1155-1208.	16.4	1,291
95	Preparation and detection of a mechanical resonator near the ground state of motion. Nature, 2010, 463, 72-75.	13.7	456
96	Back-action-evading measurements of nanomechanical motion. Nature Physics, 2010, 6, 213-217.	6.5	197
97	The Physics of a Dissipative Optomechanical Coupling. , 2010, , .		0
98	Inelastic Backaction due to Quantum Point Contact Charge Fluctuations. Physical Review Letters, 2010, 104, 186803.	2.9	23
99	Scattering Approach to Backaction in Coherent Nanoelectromechanical Systems. Physical Review Letters, 2010, 105, 217206.	2.9	17
100	Strong Electromechanical Coupling of an Atomic Force Microscope Cantilever to a Quantum Dot. Physical Review Letters, 2010, 104, 017203.	2.9	72
101	Energy levels of few-electron quantum dots imaged and characterized by atomic force microscopy. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 9496-9501.	3.3	75
102	Quantum Measurement of Phonon Shot Noise. Physical Review Letters, 2010, 104, 213603.	2.9	89
103	Theory of nonequilibrium transport in the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mtext>SU</mml:mtext><mml:mrow><mml:mo>(</mml:mo><mml:mi>N</mml:mi><mml:mo>)</mml:mo></mml:mrow></mml:mrow></mml:math> regime. Physical Review B, 2009, 80, .	1.1	72
104	Quantum Noise Interference and Backaction Cooling in Cavity Nanomechanics. Physical Review Letters, 2009, 102, 207209.	2.9	184
105	Facing Heisenberg at the nanoscale. Nature Nanotechnology, 2009, 4, 796-798.	15.6	5
106	Dispersive optomechanics: a membrane inside a cavity. New Journal of Physics, 2008, 10, 095008.	1.2	331
107	Back-action evasion and squeezing of a mechanical resonator using a cavity detector. New Journal of Physics, 2008, 10, 095010.	1.2	261
108	Full counting statistics and conditional evolution in a nanoelectromechanical system. Physical Review B, 2008, 78, .	1.1	9

#	Article	IF	Citations
109	Entanglement dynamics in a dispersively coupled qubit-oscillator system. Physical Review A, 2008, 78, .	1.0	15
110	Effects of Fermi Liquid Interactions on the Shot Noise of an<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>SU</mml:mi><mml:mo stretchy="false">(</mml:mo><mml:mi>N</mml:mi><mml:mo) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 697 Td (stretchy="false"></mml:mo></mml:math>. Physical Review Letters, 2008, 100, 036603.	2.9	37
111	Using a qubit to measure photon-number statistics of a driven thermal oscillator. Physical Review A, 2007, 75, .	1.0	69
112	Quantum Theory of Cavity-Assisted Sideband Cooling of Mechanical Motion. Physical Review Letters, 2007, 99, 093902.	2.9	957
113	Cooling a nanomechanical resonator with quantum back-action. Nature, 2006, 443, 193-196.	13.7	501
114	Backaction Noise in Strongly Interacting Systems: The dc SQUID and the Interacting Quantum Point Contact. Physical Review Letters, 2006, 96, 056801.	2.9	15
115	Laser-like instabilities in quantum nano-electromechanical systems. Physical Review B, 2006, 74, .	1.1	32
116	Quantum nanoelectromechanics with electrons, quasi-particles and Cooper pairs: effective bath descriptions and strong feedback effects. New Journal of Physics, 2005, 7, 238-238.	1.2	94
117	Noise and measurement efficiency of a partially coherent mesoscopic detector. Physical Review B, 2004, 69, .	1.1	24
118	Quantum-limited position detection and amplification: A linear response perspective. Physical Review B, 2004, 70, .	1.1	90
119	Shot noise of a tunnel junction displacement detector. Physical Review B, 2004, 70, .	1.1	43
120	Quantum-limited measurement and information in mesoscopic detectors. Physical Review B, 2003, 67, .	1.1	115
121	Noise and measurement backaction in superconducting circuits: qubits as spectrometers of quantum noise. , 2003, 5115, 356.		7
122	Resonant Cooper-Pair Tunneling: Counting Statistics and Frequency-Dependent Current Noise. , 2003, , 325-337.		3
123	Qubits as Spectrometers of Quantum Noise. , 2003, , 175-203.		55
124	Resonant Cooper-Pair Tunneling: Quantum Noise and Measurement Characteristics. Physical Review Letters, 2002, 89, 176804.	2.9	80
125	Fano Resonances as a Probe of Phase Coherence in Quantum Dots. Physical Review Letters, 2001, 86, 4636-4639.	2.9	168
126	Interaction-Induced Restoration of Phase Coherence. Physical Review Letters, 2001, 87, .	2.9	14

#	Article	IF	Citations
127	Loss ofï€-junction behavior in an interacting impurity Josephson junction. Physical Review B, 2000, 61, 9109-9112.	1.1	95
128	Andreev conductance of chaotic and integrable quantum dots. Physical Review B, 2000, 62, 10226-10237.	1.1	17
129	Andreev scattering and the Kondo effect. Physical Review B, 2000, 61, 3555-3562.	1.1	91
130	Entropy and time. American Journal of Physics, 1999, 67, 1068-1073.	0.3	15
131	Nonlocality and the Rotating Wave Approximation. Foundations of Physics, 1998, 28, 639-651.	0.6	6
132	Dissipative stabilization of entangled cat states using a driven Bose-Hubbard dimer. Quantum - the Open Journal for Quantum Science, 0, 2, 58.	0.0	24
133	Introduction to quantum non-reciprocal interactions: from non-Hermitian Hamiltonians to quantum master equations and quantum feedforward schemes. SciPost Physics Lecture Notes, 0, , .	0.0	9