

# Andrew C Doherty

## List of Publications by Year in descending order

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110  
papers

9,536  
citations

44444

50  
h-index

42259

96  
g-index

110  
all docs

110  
docs citations

110  
times ranked

6394  
citing authors

#	ARTICLE	IF	CITATIONS
1	Solving quantum trajectories for systems with linear Heisenberg-picture dynamics and Gaussian measurement noise. <i>Physical Review A</i> , 2020, 102, .	1.0	7
2	Fast spin exchange across a multielectron mediator. <i>Nature Communications</i> , 2019, 10, 1196.	5.8	37
3	Performance of quantum error correction with coherent errors. <i>Physical Review A</i> , 2019, 99, .	1.0	39
4	Tomography of an optomechanical oscillator via parametrically amplified position measurement. <i>New Journal of Physics</i> , 2019, 21, 023020.	1.2	2
5	Spin of a Multielectron Quantum Dot and Its Interaction with a Neighboring Electron. <i>Physical Review X</i> , 2018, 8, .	2.8	26
6	Coupling two spin qubits with a high-impedance resonator. <i>Physical Review B</i> , 2018, 97, .	1.1	33
7	Optimizing practical entanglement distillation. <i>Physical Review A</i> , 2018, 97, .	1.0	66
8	On-Chip Microwave Quantum Hall Circulator. <i>Physical Review X</i> , 2017, 7, .	2.8	63
9	Long-range entanglement for spin qubits via quantum Hall edge modes. <i>Physical Review B</i> , 2017, 96, .	1.1	17
10	Tensor networks with a twist: Anyon-permuting domain walls and defects in projected entangled pair states. <i>Physical Review B</i> , 2017, 96, .	1.1	13
11	Cavity-mediated coherent coupling of magnetic moments. <i>Physical Review A</i> , 2016, 93, .	1.0	70
12	Characterization of an exchange-based two-qubit gate for resonant exchange qubits. <i>Physical Review B</i> , 2016, 93, .	1.1	12
13	Comparing Experiments to the Fault-Tolerance Threshold. <i>Physical Review Letters</i> , 2016, 117, 170502.	2.9	83
14	Multiscale entanglement renormalization ansatz for spin chains with continuously varying criticality. <i>Physical Review B</i> , 2015, 91, .	1.1	21
15	Symmetry-respecting real-space renormalization for the quantum Ashkin-Teller model. <i>Physical Review E</i> , 2015, 92, 042163.	0.8	6
16	Dispersive readout of ferromagnetic resonance for strongly coupled magnons and microwave photons. <i>Physical Review B</i> , 2015, 91, .	1.1	60
17	Detuned mechanical parametric amplification as a quantum non-demolition measurement. <i>New Journal of Physics</i> , 2014, 16, 043023.	1.2	14
18	Perturbative 2-body parent Hamiltonians for projected entangled pair states. <i>New Journal of Physics</i> , 2014, 16, 123056.	1.2	4

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19	Exchange-based two-qubit gate for singlet-triplet qubits. <i>Physical Review B</i> , 2014, 90, .	1.1	36
20	Suppressing qubit dephasing using real-time Hamiltonian estimation. <i>Nature Communications</i> , 2014, 5, 5156.	5.8	150
21	Raman phonon emission in a driven double quantum dot. <i>Nature Communications</i> , 2014, 5, 3716.	5.8	20
22	Mechanical entanglement via detuned parametric amplification. <i>New Journal of Physics</i> , 2014, 16, 063043.	1.2	15
23	Superconducting qubit as a probe of squeezing in a nonlinear resonator. <i>Physical Review A</i> , 2014, 89, .	1.0	9
24	Entanglement and the shareability of quantum states. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2014, 47, 424004.	0.7	8
25	Two-Qubit Gates for Resonant Exchange Qubits. <i>Physical Review Letters</i> , 2013, 111, 050503.	2.9	39
26	Tomography of a spin qubit in a double quantum dot. <i>Physical Review A</i> , 2013, 88, .	1.0	17
27	Dynamical Steady States in Driven Quantum Systems. <i>Physical Review Letters</i> , 2013, 111, 180602.	2.9	22
28	Self-consistent measurement and state tomography of an exchange-only spin qubit. <i>Nature Nanotechnology</i> , 2013, 8, 654-659.	15.6	204
29	Dispersive Readout of a Few-Electron Double Quantum Dot with Fast rf Gate Sensors. <i>Physical Review Letters</i> , 2013, 110, 046805.	2.9	158
30	Topological Entanglement Entropy with a Twist. <i>Physical Review Letters</i> , 2013, 111, 220402.	2.9	31
31	Strong Thermomechanical Squeezing via Weak Measurement. <i>Physical Review Letters</i> , 2013, 110, 184301.	2.9	103
32	Decomposition of any quantum measurement into extremals. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2013, 46, 375302.	0.7	15
33	Minimum Requirements for Feedback Enhanced Force Sensing. <i>Physical Review Letters</i> , 2013, 111, 103603.	2.9	39
34	Microwave absorption by a mesoscopic quantum Hall droplet. <i>Physical Review B</i> , 2013, 88, .	1.1	5
35	Hidden symmetry-breaking picture of symmetry-protected topological order. <i>Physical Review B</i> , 2013, 88, .	1.1	36
36	Quantum Heating of a Nonlinear Resonator Probed by a Superconducting Qubit. <i>Physical Review Letters</i> , 2013, 110, 047001.	2.9	31

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37	Minimum requirements for feedback enhanced force sensing. , 2013, , .		1
38	Position estimation of a parametrically driven optomechanical system. New Journal of Physics, 2012, 14, 095026.	1.2	14
39	Symmetry-Protected Phases for Measurement-Based Quantum Computation. Physical Review Letters, 2012, 103, 240505.	2.9	108
40	Back-action of a driven nonlinear resonator on a superconducting qubit. Physical Review A, 2012, 85, .	1.0	36
41	Symmetry protection of measurement-based quantum computation in ground states. New Journal of Physics, 2012, 14, 113016.	1.2	45
42	The quantum trajectory approach to quantum feedback control of an oscillator revisited. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2012, 370, 5338-5353.	1.6	32
43	Microwave bistability in circuit QED. , 2011, , .		0
44	Multiple-copy state discrimination: Thinking globally, acting locally. Physical Review A, 2011, 83, .	1.0	24
45	Circuit QED with a Nonlinear Resonator: ac-Stark Shift and Dephasing. Physical Review Letters, 2011, 106, 167002.	2.9	75
46	Dynamical decoupling sequence construction as a filter-design problem. Journal of Physics B: Atomic, Molecular and Optical Physics, 2011, 44, 154002.	0.6	140
47	A time-dependent Tsirelson's bound from limits on the rate of information gain in quantum systems. New Journal of Physics, 2011, 13, 073033.	1.2	1
48	Toric codes and quantum doubles from two-body Hamiltonians. New Journal of Physics, 2011, 13, 053039.	1.2	27
49	Mechanical Squeezing via Parametric Amplification and Weak Measurement. Physical Review Letters, 2011, 107, 213603.	2.9	139
50	Continuous quantum nondemolition measurement of Fock states of a nanoresonator using feedback-controlled circuit QED. Physical Review B, 2010, 82, .	1.1	18
51	A network synthesis theorem for linear dynamical quantum stochastic systems. , 2009, , .		0
52	First Order Phase Transition in the Anisotropic Quantum Orbital Compass Model. Physical Review Letters, 2009, 102, 077203.	2.9	77
53	Thresholds for Topological Codes in the Presence of Loss. Physical Review Letters, 2009, 102, 200501.	2.9	95
54	Identifying Phases of Quantum Many-Body Systems That Are Universal for Quantum Computation. Physical Review Letters, 2009, 103, 020506.	2.9	86

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55	Symmetric extension in two-way quantum key distribution. <i>Physical Review A</i> , 2009, 79, .	1.0	19
56	Characterizing measurement-based quantum gates in quantum many-body systems using correlation functions This paper was presented at the Theory CANADA 4 conference, held at Centre de recherches mathématiques, Montréal, Québec, Canada on 4-7 June 2008.. <i>Canadian Journal of Physics</i> , 2009, 87, 219-224.	0.4	7
57	Symmetric extension and its application in QKD. , 2009, , .		1
58	Mixed State Discrimination Using Optimal Control. <i>Physical Review Letters</i> , 2009, 103, 220503.	2.9	29
59	Transitions in the computational power of thermal states for measurement-based quantum computation. <i>Physical Review A</i> , 2009, 80, .	1.0	16
60	Network Synthesis of Linear Dynamical Quantum Stochastic Systems. <i>SIAM Journal on Control and Optimization</i> , 2009, 48, 2686-2718.	1.1	124
61	Quantum control via geometry: An explicit example. <i>Physical Review A</i> , 2008, 78, .	1.0	11
62	The Quantum Moment Problem and Bounds on Entangled Multi-prover Games. , 2008, , .		50
63	Nanomechanical squeezing with detection via a microwave cavity. <i>Physical Review A</i> , 2008, 78, .	1.0	96
64	Applying matrix product operators to model systems with long-range interactions. <i>Physical Review B</i> , 2008, 78, .	1.1	118
65	Convertibility between two-qubit states using stochastic local quantum operations assisted by classical communication. <i>Physical Review A</i> , 2008, 77, .	1.0	12
66	Optimal tracking for pairs of qubit states. <i>Physical Review A</i> , 2008, 78, .	1.0	7
67	Choice of measurement sets in qubit tomography. <i>Physical Review A</i> , 2008, 78, .	1.0	102
68	Lower bound on the dimension of a quantum system given measured data. <i>Physical Review A</i> , 2008, 78, .	1.0	99
69	All Bipartite Entangled States Display Some Hidden Nonlocality. <i>Physical Review Letters</i> , 2008, 100, 090403.	2.9	83
70	Bounds on quantum correlations in Bell-inequality experiments. <i>Physical Review A</i> , 2007, 75, .	1.0	40
71	Entangling a nanomechanical resonator and a superconducting microwave cavity. <i>Physical Review A</i> , 2007, 76, .	1.0	94
72	Quantum control of a single qubit. <i>Physical Review A</i> , 2007, 75, .	1.0	61

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73	Steering, Entanglement, Nonlocality, and the Einstein-Podolsky-Rosen Paradox. <i>Physical Review Letters</i> , 2007, 98, 140402.	2.9	1,124
74	Entanglement, Einstein-Podolsky-Rosen correlations, Bell nonlocality, and steering. <i>Physical Review A</i> , 2007, 76, .	1.0	402
75	Quantum Computation as Geometry. <i>Science</i> , 2006, 311, 1133-1135.	6.0	315
76	Optimal control, geometry, and quantum computing. <i>Physical Review A</i> , 2006, 73, .	1.0	97
77	Entanglement of indistinguishable particles in condensed-matter physics. <i>Physical Review A</i> , 2006, 73, .	1.0	84
78	Entanglement under restricted operations: Analogy to mixed-state entanglement. <i>Physical Review A</i> , 2006, 73, .	1.0	23
79	On the Distributed Compression of Quantum Information. <i>IEEE Transactions on Information Theory</i> , 2006, 52, 4349-4357.	1.5	17
80	Distillability of Werner states using entanglement witnesses and robust semidefinite programs. <i>Physical Review A</i> , 2006, 74, .	1.0	29
81	Better Bell-inequality violation by collective measurements. <i>Physical Review A</i> , 2006, 73, .	1.0	28
82	Detecting multipartite entanglement. <i>Physical Review A</i> , 2005, 71, .	1.0	89
83	Optimal Unravellings for Feedback Control in Linear Quantum Systems. <i>Physical Review Letters</i> , 2005, 94, 070405.	2.9	119
84	Population Inversion of a Driven Two-Level System in a Structureless Bath. <i>Physical Review Letters</i> , 2005, 95, 106801.	2.9	55
85	MIXED-STATE ENTANGLEMENT IN THE LIGHT OF PURE-STATE ENTANGLEMENT CONSTRAINED BY SUPERSELECTION RULES. <i>International Journal of Quantum Information</i> , 2005, 03, 145-153.	0.6	0
86	MIXED-STATE ENTANGLEMENT IN THE LIGHT OF PURE-STATE ENTANGLEMENT CONSTRAINED BY SUPERSELECTION RULES. , 2005, , .		0
87	Complete family of separability criteria. <i>Physical Review A</i> , 2004, 69, .	1.0	272
88	Energy as an entanglement witness for quantum many-body systems. <i>Physical Review A</i> , 2004, 70, .	1.0	86
89	Robust quantum parameter estimation: Coherent magnetometry with feedback. <i>Physical Review A</i> , 2004, 69, .	1.0	87
90	Quantum nondemolition measurement of Fock states of mesoscopic mechanical oscillators. <i>Physical Review B</i> , 2004, 70, .	1.1	89

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91	ATOMS IN MICROCAVITIES: QUANTUM ELECTRODYNAMICS, QUANTUM STATISTICAL MECHANICS, AND QUANTUM INFORMATION SCIENCE. <i>Advanced Series in Applied Physics</i> , 2004, , 367-414.	0.0	1
92	Quantum Kalman Filtering and the Heisenberg Limit in Atomic Magnetometry. <i>Physical Review Letters</i> , 2003, 91, 250801.	2.9	119
93	Symmetric Extensions of Quantum States and Local Hidden Variable Theories. <i>Physical Review Letters</i> , 2003, 90, 157903.	2.9	80
94	Characterizing the entanglement of symmetric many-particle spin-1/2 systems. <i>Physical Review A</i> , 2003, 67, .	1.0	180
95	Quantum Entanglement: A Modern Perspective. <i>Physics Today</i> , 2003, 56, 46-52.	0.3	27
96	Adaptive Homodyne Measurement of Optical Phase. <i>Physical Review Letters</i> , 2002, 89, 133602.	2.9	245
97	Photon Statistics and Dynamics of Fluorescence Resonance Energy Transfer. <i>Physical Review Letters</i> , 2002, 89, 068101.	2.9	67
98	Exact performance of concatenated quantum codes. <i>Physical Review A</i> , 2002, 66, .	1.0	43
99	Continuous quantum error correction via quantum feedback control. <i>Physical Review A</i> , 2002, 65, .	1.0	187
100	Distinguishing Separable and Entangled States. <i>Physical Review Letters</i> , 2002, 88, 187904.	2.9	260
101	Cavity Quantum Electrodynamics: Coherence in Context. <i>Science</i> , 2002, 298, 1372-1377.	6.0	588
102	Information, disturbance, and Hamiltonian quantum feedback control. <i>Physical Review A</i> , 2001, 63, .	1.0	88
103	The Atom-Cavity Microscope: Single Atoms Bound in Orbit by Single Photons. <i>Science</i> , 2000, 287, 1447-1453.	6.0	474
104	Quantum feedback control and classical control theory. <i>Physical Review A</i> , 2000, 62, .	1.0	290
105	Momentum distributions for the quantum $\hat{p}$ -kicked rotor with decoherence. <i>Journal of Optics B: Quantum and Semiclassical Optics</i> , 2000, 2, 605-611.	1.4	17
106	Effects of motion in cavity QED. <i>Journal of Optics B: Quantum and Semiclassical Optics</i> , 1999, 1, 475-482.	1.4	11
107	State determination in continuous measurement. <i>Physical Review A</i> , 1999, 60, 2380-2392.	1.0	52
108	Feedback control of quantum systems using continuous state estimation. <i>Physical Review A</i> , 1999, 60, 2700-2711.	1.0	404

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109	Motional states of atoms in cavity QED. Physical Review A, 1998, 57, 4804-4817.	1.0	30
110	Motion of a two-level atom in an optical cavity. Physical Review A, 1997, 56, 833-844.	1.0	59