

# Andrew Daley

## List of Publications by Year in descending order

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112  
papers

6,551  
citations

94381

37  
h-index

64755

79  
g-index

113  
all docs

113  
docs citations

113  
times ranked

4208  
citing authors

#	ARTICLE	IF	CITATIONS
1	Many-Body Quantum State Diffusion for Non-Markovian Dynamics in Strongly Interacting Systems. Physical Review Letters, 2022, 128, 063601.	2.9	17
2	Tunable Geometries in Sparse Clifford Circuits. Symmetry, 2022, 14, 666.	1.1	3
3	Measurement-induced phase transitions in sparse nonlocal scramblers. Physical Review Research, 2022, 4, .	1.3	12
4	Non-Markovian Quantum Dynamics in Strongly Coupled Multimode Cavities Conditioned on Continuous Measurement. PRX Quantum, 2022, 3, .	3.5	8
5	Density Matrix Renormalization Group for Continuous Quantum Systems. Physical Review Letters, 2022, 128, .	2.9	2
6	One-dimensional Kronig-Penney superlattices at the LaAlO <sub>3</sub> /SrTiO <sub>3</sub> interface. Nature Physics, 2021, 17, 782-787.	6.5	9
7	Deterministic Fast Scrambling with Neutral Atom Arrays. Physical Review Letters, 2021, 126, 200603.	2.9	9
8	Hubbard models and state preparation in an optical Lieb lattice. New Journal of Physics, 2021, 23, 083014.	1.2	6
9	Spin-orbit-assisted electron pairing in one-dimensional waveguides. Physical Review B, 2021, 104, .	1.1	3
10	Measurement of Identical Particle Entanglement and the Influence of Antisymmetrization. Physical Review Letters, 2020, 125, 180402.	2.9	18
11	Collisionally Inhomogeneous Bose-Einstein Condensates with a Linear Interaction Gradient. Physical Review Letters, 2020, 125, 183602.	2.9	11
12	Dynamics of rotated spin states and magnetic ordering with two-component bosonic atoms in optical lattices. Physical Review A, 2020, 102, .	1.0	3
13	Dissipative dynamics and cooling rates of trapped impurity atoms immersed in a reservoir gas. Physical Review A, 2020, 101, .	1.0	8
14	Quantum Speedup for Aerospace and Engineering. AIAA Journal, 2020, 58, 3715-3727.	1.5	14
15	Enhanced Superexchange in a Tilted Mott Insulator. Physical Review Letters, 2020, 124, 043204.	2.9	26
16	Randomized benchmarking in the analogue setting. Quantum Science and Technology, 2020, 5, 034001.	2.6	5
17	Adiabatic preparation of entangled, magnetically ordered states with cold bosons in optical lattices. Quantum Science and Technology, 2020, 5, 045013.	2.6	8
18	Enhanced repulsively bound atom pairs in topological optical lattice ladders. Quantum Science and Technology, 2020, 5, 045017.	2.6	7

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19	Interplay between coherent and dissipative dynamics of bosonic doublons in an optical lattice. <i>Physical Review Research</i> , 2020, 2, .	1.3	8
20	Interspecies entanglement with impurity atoms in a lattice gas. <i>New Journal of Physics</i> , 2020, 22, 083017.	1.2	4
21	Quantum magnetism with ultracold bosons carrying orbital angular momentum. <i>Physical Review A</i> , 2019, 100, .	1.0	6
22	Controlling Quantum Transport via Dissipation Engineering. <i>Physical Review Letters</i> , 2019, 123, 180402.	2.9	32
23	Spin Models, Dynamics, and Criticality with Atoms in Tilted Optical Superlattices. <i>Physical Review Letters</i> , 2019, 123, 090401.	2.9	8
24	Resonant two-site tunneling dynamics of bosons in a tilted optical superlattice. <i>Physical Review A</i> , 2019, 100, .	1.0	4
25	Enhanced localization and protection of topological edge states due to geometric frustration. <i>Physical Review B</i> , 2019, 100, .	1.1	12
26	Excitation Modes of Bright Matter-Wave Solitons. <i>Physical Review Letters</i> , 2019, 123, 123602.	2.9	40
27	Treelike Interactions and Fast Scrambling with Cold Atoms. <i>Physical Review Letters</i> , 2019, 123, 130601.	2.9	58
28	Quantum algorithm for the computation of the reactant conversion rate in homogeneous turbulence. <i>Combustion Theory and Modelling</i> , 2019, 23, 1090-1104.	1.0	9
29	Nonreciprocal quantum transport at junctions of structured leads. <i>Physical Review B</i> , 2019, 99, .	1.1	14
30	Atom-only descriptions of the driven-dissipative Dicke model. <i>Physical Review A</i> , 2019, 99, .	1.0	33
31	Topological edge states with ultracold atoms carrying orbital angular momentum in a diamond chain. <i>Physical Review A</i> , 2019, 99, .	1.0	36
32	Topological edge states and Aharonov-Bohm caging with ultracold atoms carrying orbital angular momentum. <i>Physical Review A</i> , 2019, 99, .	1.0	25
33	Reservoir engineering of Cooper-pair-assisted transport with cold atoms. <i>New Journal of Physics</i> , 2019, 21, 115001.	1.2	12
34	Measurement and feedback for cooling heavy levitated particles in low-frequency traps. <i>Physical Review A</i> , 2019, 100, .	1.0	8
35	Observation of nonequilibrium motion and equilibration in polariton rings. <i>Physical Review B</i> , 2019, 100, .	1.1	19
36	Dynamical Disentangling and Cooling of Atoms in Bilayer Optical Lattices. <i>Physical Review Letters</i> , 2018, 120, 060401.	2.9	19

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37	Dynamics of many-body localization in the presence of particle loss. Quantum Science and Technology, 2018, 3, 01LT02.	2.6	21
38	Turbulent Mixing Simulation via a Quantum Algorithm. AIAA Journal, 2018, 56, 687-699.	1.5	22
39	Particle statistics and lossy dynamics of ultracold atoms in optical lattices. Physical Review A, 2018, 97, .	1.0	4
40	Signatures of Many-Body Localization in a Controlled Open Quantum System. Physical Review X, 2017, 7, .	2.8	169
41	Andreev molecules in semiconductor nanowire double quantum dots. Nature Communications, 2017, 8, 585.	5.8	54
42	Efficient tomography of a quantum many-body system. Nature Physics, 2017, 13, 1158-1162.	6.5	153
43	Tunable Electron-Electron Interactions in LaAlO <sub>3</sub> /SrTiO <sub>3</sub> Nanostructures. Physical Review X, 2016, 6, .	2.8	29
44	Entanglement growth and correlation spreading with variable-range interactions in spin and fermionic tunneling models. Physical Review A, 2016, 93, .	1.0	104
45	Floquet Engineering of Correlated Tunneling in the Bose-Hubbard Model with Ultracold Atoms. Physical Review Letters, 2016, 116, 205301.	2.9	134
46	Adiabatic cooling of bosons in lattices to magnetically ordered quantum states. Physical Review A, 2015, 92, .	1.0	18
47	Thermalization of strongly interacting bosons after spontaneous emissions in optical lattices. EPJ Quantum Technology, 2015, 2, .	2.9	10
48	A new type of half-quantum circulation in a macroscopic polariton spinor ring condensate. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 2676-2681.	3.3	54
49	Quantum optics of chiral spin networks. Physical Review A, 2015, 91, .	1.0	220
50	Focus on out-of-equilibrium dynamics in strongly interacting one-dimensional systems. New Journal of Physics, 2014, 16, 095006.	1.2	9
51	Light scattering and dissipative dynamics of many fermionic atoms in an optical lattice. Physical Review A, 2014, 90, .	1.0	25
52	Quantum Spin Dimers from Chiral Dissipation in Cold-Atom Chains. Physical Review Letters, 2014, 113, 237203.	2.9	143
53	Effective three-body interactions via photon-assisted tunneling in an optical lattice. Physical Review A, 2014, 89, .	1.0	51
54	Spontaneous emission and thermalization of cold bosons in optical lattices. Physical Review A, 2014, 89, .	1.0	32

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55	Quantum trajectories and open many-body quantum systems. <i>Advances in Physics</i> , 2014, 63, 77-149.	35.9	477
56	Observation of many-body dynamics in long-range tunneling after a quantum quench. <i>Science</i> , 2014, 344, 1259-1262.	6.0	75
57	Dynamics of an impurity in a one-dimensional lattice. <i>New Journal of Physics</i> , 2013, 15, 045018.	1.2	34
58	Rotating molecules as quantum magnets. <i>Nature</i> , 2013, 501, 497-498.	13.7	1
59	Heating dynamics of bosonic atoms in a noisy optical lattice. <i>Physical Review A</i> , 2013, 87, .	1.0	38
60	Introduction to One-Dimensional Many-Body Calculations with the Time-Evolving Block Decimation Algorithm. <i>Cold Atoms</i> , 2013, , 333-343.	0.3	0
61	Thermal versus entanglement entropy: a measurement protocol for fermionic atoms with a quantum gas microscope. <i>New Journal of Physics</i> , 2013, 15, 063003.	1.2	50
62	Entanglement Growth in Quench Dynamics with Variable Range Interactions. <i>Physical Review X</i> , 2013, 3, .	2.8	154
63	Quantum Quench in an Atomic One-Dimensional Ising Chain. <i>Physical Review Letters</i> , 2013, 111, 053003.	2.9	168
64	Noise- and disorder-resilient optical lattices. <i>Physical Review A</i> , 2012, 86, .	1.0	14
65	Preparation and Spectroscopy of a Metastable Mott-Insulator State with Attractive Interactions. <i>Physical Review Letters</i> , 2012, 108, 215302.	2.9	49
66	Steady-State Many-Body Entanglement of Hot Reactive Fermions. <i>Physical Review Letters</i> , 2012, 109, 230501.	2.9	32
67	Driven-dissipative many-body pairing states for cold fermionic atoms in an optical lattice. <i>New Journal of Physics</i> , 2012, 14, 055002.	1.2	31
68	Measuring Entanglement Growth in Quench Dynamics of Bosons in an Optical Lattice. <i>Physical Review Letters</i> , 2012, 109, 020505.	2.9	303
69	Precision Measurements on a Tunable Mott Insulator of Ultracold Atoms. <i>Physical Review Letters</i> , 2011, 107, 175301.	2.9	72
70	State-dependent lattices for quantum computing with alkaline-earth-metal atoms. <i>European Physical Journal D</i> , 2011, 65, 207-217.	0.6	23
71	Quantum computing and quantum simulation with group-II atoms. <i>Quantum Information Processing</i> , 2011, 10, 865-884.	1.0	73
72	Dynamical crystal creation with polar molecules or Rydberg atoms in optical lattices. <i>New Journal of Physics</i> , 2011, 13, 059503.	1.2	5

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73	Magnetism and domain formation in SU(3)-symmetric multi-species Fermi mixtures. <i>New Journal of Physics</i> , 2011, 13, 035013.	1.2	24
74	Spatial Pauli blocking of spontaneous emission in optical lattices. <i>Physical Review A</i> , 2011, 84, .	1.0	20
75	Loss-induced phase separation and pairing for three-species atomic lattice fermions. <i>Physical Review A</i> , 2011, 84, .	1.0	13
76	Atomic matter-wave revivals with definite atom number in an optical lattice. <i>Physical Review A</i> , 2011, 83, .	1.0	21
77	Quantum field theory for the three-body constrained lattice Bose gas. I. Formal developments. <i>Physical Review B</i> , 2010, 82, .	1.1	28
78	Quantum field theory for the three-body constrained lattice Bose gas. II. Application to the many-body problem. <i>Physical Review B</i> , 2010, 82, .	1.1	29
79	A single trapped atom in front of an oscillating mirror. <i>Optics Communications</i> , 2010, 283, 758-765.	1.0	36
80	$\hat{\Gamma}$ -Condensate of Fermionic Atom Pairs via Adiabatic State Preparation. <i>Physical Review Letters</i> , 2010, 104, 240406.	2.9	18
81	Nonequilibrium dynamics of bosonic atoms in optical lattices: Decoherence of many-body states due to spontaneous emission. <i>Physical Review A</i> , 2010, 82, .	1.0	136
82	Observability of Quantum Criticality and a Continuous Supersolid in Atomic Gases. <i>Physical Review Letters</i> , 2010, 104, 165301.	2.9	49
83	Dynamical crystal creation with polar molecules or Rydberg atoms in optical lattices. <i>New Journal of Physics</i> , 2010, 12, 103044.	1.2	104
84	Interference of interacting matter waves. <i>New Journal of Physics</i> , 2010, 12, 065029.	1.2	26
85	Time-dependent currents of one-dimensional bosons in an optical lattice. <i>New Journal of Physics</i> , 2010, 12, 025014.	1.2	14
86	Dissipation-Induced $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"} \langle \text{mml:mi} \rangle \text{d} \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$ -Wave Pairing of Fermionic Atoms in an Optical Lattice. <i>Physical Review Letters</i> , 2010, 105, 227001.	2.9	62
87	Statistics of Schmidt coefficients and the simulability of complex quantum systems. <i>Physical Review E</i> , 2009, 79, 056223.	0.8	15
88	Alkaline-Earth-Metal Atoms as Few-Qubit Quantum Registers. <i>Physical Review Letters</i> , 2009, 102, 110503.	2.9	135
89	Stabilization of the $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"} \langle \text{mml:mi} \rangle \text{p} \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$ -Wave Superfluid State in an Optical Lattice. <i>Physical Review Letters</i> , 2009, 103, 070404.	2.9	45
90	Atomic Color Superfluid via Three-Body Loss. <i>Physical Review Letters</i> , 2009, 103, 240401.	2.9	55

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91	Atomic Three-Body Loss as a Dynamical Three-Body Interaction. <i>Physical Review Letters</i> , 2009, 102, 040402.	2.9	200
92	State-dependent, addressable subwavelength lattices with cold atoms. <i>New Journal of Physics</i> , 2008, 10, 073015.	1.2	65
93	Physical replicas and the Bose glass in cold atomic gases. <i>New Journal of Physics</i> , 2008, 10, 073032.	1.2	20
94	Andreev-Like Reflections with Cold Atoms. <i>Physical Review Letters</i> , 2008, 100, 110404.	2.9	21
95	Quantum Computing with Alkaline-Earth-Metal Atoms. <i>Physical Review Letters</i> , 2008, 101, 170504.	2.9	218
96	Dissipative dynamics of atomic Hubbard models coupled to a phonon bath: dark state cooling of atoms within a Bloch band of an optical lattice. <i>New Journal of Physics</i> , 2007, 9, 44-44.	1.2	29
97	Atomic lattice excitons: from condensates to crystals. <i>New Journal of Physics</i> , 2007, 9, 407-407.	1.2	10
98	Dark-State Cooling of Atoms by Superfluid Immersion. <i>Physical Review Letters</i> , 2006, 97, 220403.	2.9	68
99	Repulsively Bound Atom Pairs: Overview, Simulations and Links. <i>AIP Conference Proceedings</i> , 2006, , .	0.3	1
100	Repulsively bound atom pairs in an optical lattice. <i>Nature</i> , 2006, 441, 853-856.	13.7	491
101	Fault-tolerant dissipative preparation of atomic quantum registers with fermions. <i>Physical Review A</i> , 2005, 72, .	1.0	16
102	Numerical analysis of coherent many-body currents in a single atom transistor. <i>Physical Review A</i> , 2005, 72, .	1.0	39
103	Measurements of diffusion resonances for the atom optics quantum kicked rotor. <i>Journal of Optics B: Quantum and Semiclassical Optics</i> , 2004, 6, 28-33.	1.4	16
104	Single Atom Transistor in a 1D Optical Lattice. <i>Physical Review Letters</i> , 2004, 93, 140408.	2.9	106
105	Single-atom cooling by superfluid immersion: A nondestructive method for qubits. <i>Physical Review A</i> , 2004, 69, .	1.0	68
106	Time-dependent density-matrix renormalization-group using adaptive effective Hilbert spaces. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2004, 2004, P04005.	0.9	839
107	SPECTROSCOPY OF STRONGLY CORRELATED COLD ATOMS. , 2004, , .		0
108	Defect-Suppressed Atomic Crystals in an Optical Lattice. <i>Physical Review Letters</i> , 2003, 91, 110403.	2.9	102

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109	Early time diffusion for the quantum kicked rotor with narrow initial momentum distributions. Physical Review E, 2002, 66, 056210.	0.8	15
110	Diffusion resonances in action space for an atom optics kicked rotor with decoherence. Physical Review E, 2002, 65, 035201.	0.8	13
111	Simulation of a Chemical Autonomous Agent. Zeitschrift Fur Physikalische Chemie, 2002, 216, .	1.4	6
112	The Question of Spontaneous Symmetry Breaking in Condensates. , 0, , 79-98.		0