Robert J Lewis-Swan

List of Publications by Year
in descending order

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31 papers	1,268 citations	430874 18 h-index	454955 30 g-index
33 all docs	33 docs citations	33 times ranked	1064 citing authors

#	Article	IF	Citations
1	Engineering infinite-range <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>SU</mml:mi><mml:mo>(</mml:mo><mml:mi>n</mml:mi></mml:mrow></mml:math> interactions with spin-orbit-coupled fermions in an optical lattice. Physical Review A, 2022, 105, .	2.5	10
2	Cavity-QED Quantum Simulator of Dynamical Phases of a Bardeen-Cooper-Schrieffer Superconductor. Physical Review Letters, 2021, 126, 173601.	7.8	19
3	Characterizing the dynamical phase diagram of the Dicke model via classical and quantum probes. Physical Review Research, 2021, 3, .	3.6	13
4	Identifying and harnessing dynamical phase transitions for quantum-enhanced sensing. Physical Review Research, 2021, 3, .	3.6	4
5	Quantum-enhanced sensing of displacements and electric fields with two-dimensional trapped-ion crystals. Science, 2021, 373, 673-678.	12.6	67
6	Tailored generation of quantum states in an entangled spinor interferometer to overcome detection noise. Physical Review A, 2021, 104, .	2.5	6
7	Facilitating spin squeezing generated by collective dynamics with single-particle decoherence. Physical Review A, 2020, 102, .	2.5	7
8	Atom-light entanglement for precise field sensing in the optical domain. Physical Review A, 2020, 102, .	2.5	1
9	Detecting Out-of-Time-Order Correlations via Quasiadiabatic Echoes as a Tool to Reveal Quantum Coherence in Equilibrium Quantum Phase Transitions. Physical Review Letters, 2020, 125, 240605.	7.8	15
10	Protocol for Precise Field Sensing in the Optical Domain with Cold Atoms in a Cavity. Physical Review Letters, 2020, 124, 193602.	7.8	15
11	Exploring dynamical phase transitions with cold atoms inÂan opticalÂ cavity. Nature, 2020, 580, 602-607.	27.8	111
12	Atomic twin beams and violation of a motional-state Bell inequality from a phase-fluctuating quasicondensate source. Physical Review A, 2020, 101, .	2.5	2
13	Dynamics of quantum information. Nature Reviews Physics, 2019, 1, 627-634.	26.6	53
14	Driven-dissipative quantum dynamics in ultra-long-lived dipoles in an optical cavity. Physical Review A, 2019, 99, .	2.5	31
15	Unifying scrambling, thermalization and entanglement through measurement of fidelity out-of-time-order correlators in the Dicke model. Nature Communications, 2019, 10, 1581.	12.8	131
16	Engineering spin squeezing in a 3D optical lattice with interacting spin-orbit-coupled fermions. Physical Review Research, 2019, 1, .	3.6	25
17	Shattered time: can a dissipative time crystal survive many-body correlations?. New Journal of Physics, 2018, 20, 123003.	2.9	61
18	Bang-bang shortcut to adiabaticity in the Dicke model as realized in a Penning trap experiment. New Journal of Physics, 2018, 20, 055013.	2.9	34

#	Article	IF	Citations
19	Verification of a Many-Ion Simulator of the Dicke Model Through Slow Quenches across a Phase Transition. Physical Review Letters, 2018, 121, 040503.	7.8	90
20	Cavity-mediated collective spin-exchange interactions in a strontium superradiant laser. Science, 2018, 361, 259-262.	12.6	124
21	Robust Spin Squeezing via Photon-Mediated Interactions on an Optical Clock Transition. Physical Review Letters, 2018, 121, 070403.	7.8	45
22	Solving the Quantum Many-Body Problem via Correlations Measured with a Momentum Microscope. Physical Review Letters, 2017, 118, 240402.	7.8	34
23	Pumped-Up SU(1,1) Interferometry. Physical Review Letters, 2017, 118, 150401.	7.8	93
24	Approximate particle number distribution from direct stochastic sampling of the Wigner function. Physical Review A, 2016, 94, .	2.5	15
25	Quantum-Enhanced Sensing Based on Time Reversal of Nonlinear Dynamics. Physical Review Letters, 2016, 117, 013001.	7.8	153
26	Ultracold Atoms for Foundational Tests of Quantum Mechanics. Springer Theses, 2016, , .	0.1	6
27	Proposal for a Motional-State Bell Inequality Test with Ultracold Atoms. Springer Theses, 2016, , 57-69.	0.1	0
28	Introduction and Background Physics. Springer Theses, 2016, , 1-43.	0.1	0
29	Proposal for a motional-state Bell inequality test with ultracold atoms. Physical Review A, 2015, 91, .	2.5	26
30	Proposal for demonstrating the Hongâ€“Ouâ€“Mandel effect with matter waves. Nature Communications, 2014, 5, 3752.	12.8	46
31	Sensitivity to thermal noise of atomic Einstein-Podolsky-Rosen entanglement. Physical Review A, 2013, 87, .	2.5	23