

Mikhail D Lukin

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/6538703/publications.pdf>

Version: 2024-02-01

313
papers

61,730
citations

509

128
h-index

850

244
g-index

315
all docs

315
docs citations

315
times ranked

24670
citing authors

#	ARTICLE	IF	CITATIONS
1	Long-distance quantum communication with atomic ensembles and linear optics. <i>Nature</i> , 2001, 414, 413-418.	13.7	2,891
2	Nanoscale magnetic sensing with an individual electronic spin in diamond. <i>Nature</i> , 2008, 455, 644-647.	13.7	1,554
3	Probing many-body dynamics on a 51-atom quantum simulator. <i>Nature</i> , 2017, 551, 579-584.	13.7	1,463
4	Nanometre-scale thermometry in a living cell. <i>Nature</i> , 2013, 500, 54-58.	13.7	1,440
5	Dark-State Polaritons in Electromagnetically Induced Transparency. <i>Physical Review Letters</i> , 2000, 84, 5094-5097.	2.9	1,418
6	High-sensitivity diamond magnetometer with nanoscale resolution. <i>Nature Physics</i> , 2008, 4, 810-816.	6.5	1,409
7	Generation of single optical plasmons in metallic nanowires coupled to quantum dots. <i>Nature</i> , 2007, 450, 402-406.	13.7	1,307
8	Dipole Blockade and Quantum Information Processing in Mesoscopic Atomic Ensembles. <i>Physical Review Letters</i> , 2001, 87, 037901.	2.9	1,290
9	Fast Quantum Gates for Neutral Atoms. <i>Physical Review Letters</i> , 2000, 85, 2208-2211.	2.9	1,197
10	Ultraslow Group Velocity and Enhanced Nonlinear Optical Effects in a Coherently Driven Hot Atomic Gas. <i>Physical Review Letters</i> , 1999, 82, 5229-5232.	2.9	1,172
11	Robust optical delay lines with topological protection. <i>Nature Physics</i> , 2011, 7, 907-912.	6.5	1,110
12	A single-photon transistor using nanoscale surface plasmons. <i>Nature Physics</i> , 2007, 3, 807-812.	6.5	1,074
13	Quantum Register Based on Individual Electronic and Nuclear Spin Qubits in Diamond. <i>Science</i> , 2007, 316, 1312-1316.	6.0	1,040
14	Coherent Dynamics of Coupled Electron and Nuclear Spin Qubits in Diamond. <i>Science</i> , 2006, 314, 281-285.	6.0	1,030
15	Quantum entanglement between an optical photon and a solid-state spin qubit. <i>Nature</i> , 2010, 466, 730-734.	13.7	968
16	Room-Temperature Quantum Bit Memory Exceeding One Second. <i>Science</i> , 2012, 336, 1283-1286.	6.0	707
17	Quantum Optics with Surface Plasmons. <i>Physical Review Letters</i> , 2006, 97, 053002.	2.9	701
18	Controlling photons using electromagnetically induced transparency. <i>Nature</i> , 2001, 413, 273-276.	13.7	691

#	ARTICLE	IF	CITATIONS
19	Observation of discrete time-crystalline order in a disordered dipolar many-body system. Nature, 2017, 543, 221-225.	13.7	689
20	Quantum nonlinear optics with single photons enabled by strongly interacting atoms. Nature, 2012, 488, 57-60.	13.7	679
21	Quantum memory for photons: Dark-state polaritons. Physical Review A, 2002, 65, .	1.0	643
22	Two-orbital SU(N) magnetism with ultracold alkaline-earth atoms. Nature Physics, 2010, 6, 289-295.	6.5	572
23	An integrated diamond nanophotonics platform for quantum-optical networks. Science, 2016, 354, 847-850.	6.0	570
24	Nonlinear Optics and Quantum Entanglement of Ultraslow Single Photons. Physical Review Letters, 2000, 84, 1419-1422.	2.9	566
25	Quantum convolutional neural networks. Nature Physics, 2019, 15, 1273-1278.	6.5	554
26	Quantum nonlinear optics—photon by photon. Nature Photonics, 2014, 8, 685-694.	15.6	539
27	Atom-by-atom assembly of defect-free one-dimensional cold atom arrays. Science, 2016, 354, 1024-1027.	6.0	534
28	Experimental Demonstration of Laser Oscillation without Population Inversion via Quantum Interference in Rb. Physical Review Letters, 1995, 75, 1499-1502.	2.9	510
29	Quantum phases of matter on a 256-atom programmable quantum simulator. Nature, 2021, 595, 227-232.	13.7	458
30	Visible-frequency hyperbolic metasurface. Nature, 2015, 522, 192-196.	13.7	453
31	Nanophotonic quantum phase switch with a single atom. Nature, 2014, 508, 241-244.	13.7	448
32	A quantum network of clocks. Nature Physics, 2014, 10, 582-587.	6.5	435
33	Optical magnetic detection of single-neuron action potentials using quantum defects in diamond. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 14133-14138.	3.3	397
34	Coupling a Single Trapped Atom to a Nanoscale Optical Cavity. Science, 2013, 340, 1202-1205.	6.0	393
35	Nuclear magnetic resonance detection and spectroscopy of single proteins using quantum logic. Science, 2016, 351, 836-841.	6.0	387
36	Generation and manipulation of Schrödinger cat states in Rydberg atom arrays. Science, 2019, 365, 570-574.	6.0	375

#	ARTICLE	IF	CITATIONS
37	A coherent all-electrical interface between polar molecules and mesoscopic superconducting resonators. <i>Nature Physics</i> , 2006, 2, 636-642.	6.5	372
38	Entanglement of Atomic Ensembles by Trapping Correlated Photon States. <i>Physical Review Letters</i> , 2000, 84, 4232-4235.	2.9	367
39	Fault-tolerant architecture for quantum computation using electrically controlled semiconductor spins. <i>Nature Physics</i> , 2005, 1, 177-183.	6.5	357
40	Hybrid Quantum Processors: Molecular Ensembles as Quantum Memory for Solid State Circuits. <i>Physical Review Letters</i> , 2006, 97, 033003.	2.9	348
41	A quantum spin transducer based on nanoelectromechanical resonator arrays. <i>Nature Physics</i> , 2010, 6, 602-608.	6.5	346
42	Indistinguishable Photons from Separated Silicon-Vacancy Centers in Diamond. <i>Physical Review Letters</i> , 2014, 113, 113602.	2.9	333
43	Attractive photons in a quantum nonlinear medium. <i>Nature</i> , 2013, 502, 71-75.	13.7	331
44	Nanoscale magnetic imaging of a single electron spin under ambient conditions. <i>Nature Physics</i> , 2013, 9, 215-219.	6.5	330
45	Strong magnetic coupling between an electronic spin qubit and a mechanical resonator. <i>Physical Review B</i> , 2009, 79, .	1.1	329
46	Parallel Implementation of High-Fidelity Multiqubit Gates with Neutral Atoms. <i>Physical Review Letters</i> , 2019, 123, 170503.	2.9	329
47	Coherent Sensing of a Mechanical Resonator with a Single-Spin Qubit. <i>Science</i> , 2012, 335, 1603-1606.	6.0	326
48	Experimental demonstration of memory-enhanced quantum communication. <i>Nature</i> , 2020, 580, 60-64.	13.7	325
49	Deterministic Coupling of a Single Nitrogen Vacancy Center to a Photonic Crystal Cavity. <i>Nano Letters</i> , 2010, 10, 3922-3926.	4.5	309
50	Quantum interference effects induced by interacting dark resonances. <i>Physical Review A</i> , 1999, 60, 3225-3228.	1.0	307
51	Photon-Photon Interactions via Rydberg Blockade. <i>Physical Review Letters</i> , 2011, 107, 133602.	2.9	305
52	Relaxation, dephasing, and quantum control of electron spins in double quantum dots. <i>Physical Review B</i> , 2007, 76, .	1.1	302
53	Silicon-Vacancy Spin Qubit in Diamond: A Quantum Memory Exceeding 10 μ s with Single-Shot State Readout. <i>Physical Review Letters</i> , 2017, 119, 223602.	2.9	300
54	Quantum Kibble-Zurek mechanism and critical dynamics on a programmable Rydberg simulator. <i>Nature</i> , 2019, 568, 207-211.	13.7	298

#	ARTICLE	IF	CITATIONS
55	Fault-Tolerant Quantum Communication Based on Solid-State Photon Emitters. <i>Physical Review Letters</i> , 2006, 96, 070504.	2.9	297
56	Quantum Approximate Optimization Algorithm: Performance, Mechanism, and Implementation on Near-Term Devices. <i>Physical Review X</i> , 2020, 10, .	2.8	293
57	Probing topological spin liquids on a programmable quantum simulator. <i>Science</i> , 2021, 374, 1242-1247.	6.0	293
58	Near-field electrical detection of optical plasmons and single-plasmon sources. <i>Nature Physics</i> , 2009, 5, 475-479.	6.5	290
59	Strong coupling of single emitters to surface plasmons. <i>Physical Review B</i> , 2007, 76, .	1.1	283
60	Repetitive Readout of a Single Electronic Spin via Quantum Logic with Nuclear Spin Ancillae. <i>Science</i> , 2009, 326, 267-272.	6.0	277
61	High-Fidelity Control and Entanglement of Rydberg-Atom Qubits. <i>Physical Review Letters</i> , 2018, 121, 123603.	2.9	274
62	Experimental Demonstration of Enhanced Index of Refraction via Quantum Coherence in Rb. <i>Physical Review Letters</i> , 1996, 76, 3935-3938.	2.9	271
63	Probing dark excitons in atomically thin semiconductors via near-field coupling to surface plasmon polaritons. <i>Nature Nanotechnology</i> , 2017, 12, 856-860.	15.6	270
64	High-resolution magnetic resonance spectroscopy using a solid-state spin sensor. <i>Nature</i> , 2018, 555, 351-354.	18.7	270
65	Optimal architectures for long distance quantum communication. <i>Scientific Reports</i> , 2016, 6, 20463.	1.6	262
66	Electrical control of interlayer exciton dynamics in atomically thin heterostructures. <i>Science</i> , 2019, 366, 870-875.	6.0	255
67	Fault-tolerant quantum repeaters with minimal physical resources and implementations based on single-photon emitters. <i>Physical Review A</i> , 2005, 72, .	1.0	239
68	Coherence of nitrogen-vacancy electronic spin ensembles in diamond. <i>Physical Review B</i> , 2010, 82, .	1.1	238
69	Dynamical Crystallization in the Dipole Blockade of Ultracold Atoms. <i>Physical Review Letters</i> , 2010, 104, 043002.	2.9	236
70	Dissipative phase transition in a central spin system. <i>Physical Review A</i> , 2012, 86, .	1.0	234
71	Quantum Simulators: Architectures and Opportunities. <i>PRX Quantum</i> , 2021, 2, .	3.5	229
72	Phonon-Induced Spin-Spin Interactions in Diamond Nanostructures: Application to Spin Squeezing. <i>Physical Review Letters</i> , 2013, 110, 156402.	2.9	226

#	ARTICLE	IF	CITATIONS
73	Quantum repeater with encoding. <i>Physical Review A</i> , 2009, 79, .	1.0	224
74	Quantum Nonlinear Optics with a Germanium-Vacancy Color Center in a Nanoscale Diamond Waveguide. <i>Physical Review Letters</i> , 2017, 118, 223603.	2.9	218
75	All-Optical Initialization, Readout, and Coherent Preparation of Single Silicon-Vacancy Spins in Diamond. <i>Physical Review Letters</i> , 2014, 113, 263602.	2.9	216
76	Nanoscale NMR spectroscopy and imaging of multiple nuclear species. <i>Nature Nanotechnology</i> , 2015, 10, 129-134.	15.6	215
77	A quantum processor based on coherent transport of entangled atom arrays. <i>Nature</i> , 2022, 604, 451-456.	13.7	213
78	Fractional quantum Hall effect in optical lattices. <i>Physical Review A</i> , 2007, 76, .	1.0	212
79	Free-Standing Mechanical and Photonic Nanostructures in Single-Crystal Diamond. <i>Nano Letters</i> , 2012, 12, 6084-6089.	4.5	210
80	Periodic Orbits, Entanglement, and Quantum Many-Body Scars in Constrained Models: Matrix Product State Approach. <i>Physical Review Letters</i> , 2019, 122, 040603.	2.9	208
81	Spectroscopy in Dense Coherent Media: Line Narrowing and Interference Effects. <i>Physical Review Letters</i> , 1997, 79, 2959-2962.	2.9	206
82	Many-Body Localization in Dipolar Systems. <i>Physical Review Letters</i> , 2014, 113, 243002.	2.9	204
83	Ultrafast and Fault-Tolerant Quantum Communication across Long Distances. <i>Physical Review Letters</i> , 2014, 112, 250501.	2.9	204
84	Electron-phonon processes of the silicon-vacancy centre in diamond. <i>New Journal of Physics</i> , 2015, 17, 043011.	1.2	203
85	Emergent SU(2) Dynamics and Perfect Quantum Many-Body Scars. <i>Physical Review Letters</i> , 2019, 122, 220603.	2.9	201
86	Quantum Noise and Correlations in Resonantly Enhanced Wave Mixing Based on Atomic Coherence. <i>Physical Review Letters</i> , 1999, 82, 1847-1850.	2.9	196
87	High quality-factor optical nanocavities in bulk single-crystal diamond. <i>Nature Communications</i> , 2014, 5, 5718.	5.8	196
88	Cooperative Resonances in Light Scattering from Two-Dimensional Atomic Arrays. <i>Physical Review Letters</i> , 2017, 118, 113601.	2.9	196
89	Robust Quantum State Transfer in Random Unpolarized Spin Chains. <i>Physical Review Letters</i> , 2011, 106, 040505.	2.9	194
90	Photon storage in $\hat{\rho}$ -type optically dense atomic media. II. Free-space model. <i>Physical Review A</i> , 2007, 76, .	1.0	193

#	ARTICLE	IF	CITATIONS
91	Quantum Error Correction for Metrology. Physical Review Letters, 2014, 112, 150802.	2.9	192
92	Scalable architecture for a room temperature solid-state quantum information processor. Nature Communications, 2012, 3, 800.	5.8	190
93	Photon-mediated interactions between quantum emitters in a diamond nanocavity. Science, 2018, 362, 662-665.	6.0	189
94	Distributed quantum computation based on small quantum registers. Physical Review A, 2007, 76, .	1.0	188
95	Controlling quantum many-body dynamics in driven Rydberg atom arrays. Science, 2021, 371, 1355-1359.	6.0	186
96	Integrated Diamond Networks for Quantum Nanophotonics. Nano Letters, 2012, 12, 1578-1582.	4.5	183
97	Photon storage in $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"} \langle \text{mml:mi} \rangle \hat{\rho} \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$ -type optically dense atomic media. I. Cavity model. Physical Review A, 2007, 76, .	1.0	180
98	Suppression of spin-bath dynamics for improved coherence of multi-spin-qubit systems. Nature Communications, 2012, 3, 858.	5.8	177
99	Keldysh approach for nonequilibrium phase transitions in quantum optics: Beyond the Dicke model in optical cavities. Physical Review A, 2013, 87, .	1.0	176
100	Single-Photon Nonlinear Optics with Graphene Plasmons. Physical Review Letters, 2013, 111, 247401.	2.9	172
101	Development of Quantum Interconnects (QICs) for Next-Generation Information Technologies. PRX Quantum, 2021, 2, .	3.5	172
102	Strain engineering of the silicon-vacancy center in diamond. Physical Review B, 2018, 97, .	1.1	171
103	Crystallization of strongly interacting photons in a nonlinear optical fibre. Nature Physics, 2008, 4, 884-889.	6.5	170
104	Coupling of NV Centers to Photonic Crystal Nanobeams in Diamond. Nano Letters, 2013, 13, 5791-5796.	4.5	170
105	Coherent Optical Transitions in Implanted Nitrogen Vacancy Centers. Nano Letters, 2014, 14, 1982-1986.	4.5	169
106	Electron spin decoherence of single nitrogen-vacancy defects in diamond. Physical Review B, 2008, 78, .	1.1	168
107	Resonant Enhancement of Parametric Processes via Radiative Interference and Induced Coherence. Physical Review Letters, 1998, 81, 2675-2678.	2.9	167
108	Realizing Fractional Chern Insulators in Dipolar Spin Systems. Physical Review Letters, 2013, 110, 185302.	2.9	167

#	ARTICLE	IF	CITATIONS
109	Magnetic Resonance Detection of Individual Proton Spins Using Quantum Reporters. Physical Review Letters, 2014, 113, 197601.	2.9	167
110	Coherence and Raman Sideband Cooling of a Single Atom in an Optical Tweezer. Physical Review Letters, 2013, 110, 133001.	2.9	166
111	Large Excitonic Reflectivity of Monolayer MoSe_2 in Hexagonal Boron Nitride. Physical Review Letters, 2018, 120, 037402.	2.9	165
112	Sensing Distant Nuclear Spins with a Single Electron Spin. Physical Review Letters, 2012, 109, 137601.	2.9	162
113	Many-Body Dynamics of Dipolar Molecules in an Optical Lattice. Physical Review Letters, 2014, 113, 195302.	2.9	162
114	Efficient Readout of a Single Spin State in Diamond via Spin-to-Charge Conversion. Physical Review Letters, 2015, 114, 136402.	2.9	162
115	Single-cell magnetic imaging using a quantum diamond microscope. Nature Methods, 2015, 12, 736-738.	9.0	161
116	Interferometric Probes of Many-Body Localization. Physical Review Letters, 2014, 113, 147204.	2.9	153
117	Single-photon nonlinearities in two-mode optomechanics. Physical Review A, 2013, 87, .	1.0	146
118	Collective atomic scattering and motional effects in a dense coherent medium. Nature Communications, 2016, 7, 11039.	5.8	145
119	Topological Quantum Optics in Two-Dimensional Atomic Arrays. Physical Review Letters, 2017, 119, 023603.	2.9	145
120	Continuous mode cooling and phonon routers for phononic quantum networks. New Journal of Physics, 2012, 14, 115004.	1.2	143
121	Far-field optical imaging and manipulation of individual spins with nanoscale resolution. Nature Physics, 2010, 6, 912-918.	6.5	142
122	Quantum magnetism with polar alkali-metal dimers. Physical Review A, 2011, 84, .	1.0	142
123	Electrical control of charged carriers and excitons in atomically thin materials. Nature Nanotechnology, 2018, 13, 128-132.	15.6	142
124	Quantum Computer Systems for Scientific Discovery. PRX Quantum, 2021, 2, .	3.5	142
125	Scalable focused ion beam creation of nearly lifetime-limited single quantum emitters in diamond nanostructures. Nature Communications, 2017, 8, 15376.	5.8	141
126	Nondegenerate Parametric Self-Oscillation via Multiwave Mixing in Coherent Atomic Media. Physical Review Letters, 1999, 83, 4049-4052.	2.9	139

#	ARTICLE	IF	CITATIONS
127	Dissipative Preparation of Spin Squeezed Atomic Ensembles in a Steady State. Physical Review Letters, 2013, 110, 120402.	2.9	139
128	Quantum Network Nodes Based on Diamond Qubits with an Efficient Nanophotonic Interface. Physical Review Letters, 2019, 123, 183602.	2.9	133
129	Narrow-Linewidth Homogeneous Optical Emitters in Diamond Nanostructures via Silicon Ion Implantation. Physical Review Applied, 2016, 5, .	1.5	131
130	Efficient photon detection from color centers in a diamond optical waveguide. Physical Review B, 2012, 85, .	1.1	130
131	Probing Johnson noise and ballistic transport in normal metals with a single-spin qubit. Science, 2015, 347, 1129-1132.	6.0	130
132	Tailoring Light-Matter Interaction with a Nanoscale Plasmon Resonator. Physical Review Letters, 2012, 108, 226803.	2.9	127
133	Phonon-Induced Population Dynamics and Intersystem Crossing in Nitrogen-Vacancy Centers. Physical Review Letters, 2015, 114, 145502.	2.9	127
134	Diamond optomechanical crystals. Optica, 2016, 3, 1404.	4.8	125
135	Quantum Metrology Enhanced by Repetitive Quantum Error Correction. Physical Review Letters, 2016, 116, 230502.	2.9	125
136	Optical and microwave control of germanium-vacancy center spins in diamond. Physical Review B, 2017, 96, .	1.1	125
137	Phonon Networks with Silicon-Vacancy Centers in Diamond Waveguides. Physical Review Letters, 2018, 120, 213603.	2.9	125
138	Quantum optimization of maximum independent set using Rydberg atom arrays. Science, 2022, 376, 1209-1215.	6.0	124
139	Quantum control of proximal spins using nanoscale magnetic resonance imaging. Nature Physics, 2011, 7, 687-692.	6.5	120
140	Controlling the coherence of a diamond spin qubit through its strain environment. Nature Communications, 2018, 9, 2012.	5.8	120
141	Optomechanical transducers for quantum-information processing. Physical Review A, 2011, 84, .	1.0	119
142	Efficient fiber-optical interface for nanophotonic devices. Optica, 2015, 2, 70.	4.8	119
143	Universal photonic quantum computation via time-delayed feedback. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 11362-11367.	3.3	117
144	Efficient frequency up-conversion in resonant coherent media. Physical Review A, 2002, 65, .	1.0	116

#	ARTICLE	IF	CITATIONS
145	Quasi-Many-Body Localization in Translation-Invariant Systems. <i>Physical Review Letters</i> , 2016, 117, 240601.	2.9	116
146	Phase coherence and control of stored photonic information. <i>Physical Review A</i> , 2002, 65, .	1.0	115
147	Phonon cooling and lasing with nitrogen-vacancy centers in diamond. <i>Physical Review B</i> , 2013, 88, .	1.1	115
148	Fiber-Coupled Diamond Quantum Nanophotonic Interface. <i>Physical Review Applied</i> , 2017, 8, .	1.5	115
149	Quantum Entanglement via Optical Control of Atom-Atom Interactions. <i>Physical Review Letters</i> , 2000, 84, 2818-2821.	2.9	114
150	An integrated nanophotonic quantum register based on silicon-vacancy spins in diamond. <i>Physical Review B</i> , 2019, 100, .	1.1	111
151	Magnetic resonance spectroscopy of an atomically thin material using a single-spin qubit. <i>Science</i> , 2017, 355, 503-507.	6.0	110
152	Excitons in a reconstructed moiré potential in twisted WSe ₂ /WSe ₂ homobilayers. <i>Nature Materials</i> , 2021, 20, 480-487.	13.3	109
153	Nanoplasmonic Lattices for Ultracold Atoms. <i>Physical Review Letters</i> , 2012, 109, 235309.	2.9	108
154	NMR technique for determining the depth of shallow nitrogen-vacancy centers in diamond. <i>Physical Review B</i> , 2016, 93, .	1.1	107
155	Critical Time Crystals in Dipolar Systems. <i>Physical Review Letters</i> , 2017, 119, 010602.	2.9	107
156	Critical Thermalization of a Disordered Dipolar Spin System in Diamond. <i>Physical Review Letters</i> , 2018, 121, 023601.	2.9	107
157	Origins of Diamond Surface Noise Probed by Correlating Single-Spin Measurements with Surface Spectroscopy. <i>Physical Review X</i> , 2019, 9, .	2.8	107
158	Broken mirror symmetry in excitonic response of reconstructed domains in twisted MoSe ₂ /MoSe ₂ bilayers. <i>Nature Nanotechnology</i> , 2020, 15, 750-754.	15.6	106
159	Nonlinear optics via double dark resonances. <i>Physical Review A</i> , 2003, 68, .	1.0	105
160	Fast and robust approach to long-distance quantum communication with atomic ensembles. <i>Physical Review A</i> , 2007, 76, .	1.0	104
161	All-optical nanoscale thermometry with silicon-vacancy centers in diamond. <i>Applied Physics Letters</i> , 2018, 112, .	1.5	100
162	Observation of three-photon bound states in a quantum nonlinear medium. <i>Science</i> , 2018, 359, 783-786.	6.0	99

#	ARTICLE	IF	CITATIONS
163	Enhanced solid-state multispin metrology using dynamical decoupling. Physical Review B, 2012, 86, .	1.1	98
164	Quantum metasurfaces with atom arrays. Nature Physics, 2020, 16, 676-681.	6.5	98
165	Bilayer Wigner crystals in a transition metal dichalcogenide heterostructure. Nature, 2021, 595, 48-52.	13.7	98
166	Anyonic interferometry and protected memories in atomic spin lattices. Nature Physics, 2008, 4, 482-488.	6.5	97
167	Atom-like crystal defects: From quantum computers to biological sensors. Physics Today, 2014, 67, 38-43.	0.3	97
168	Trapping and Manipulation of Isolated Atoms Using Nanoscale Plasmonic Structures. Physical Review Letters, 2009, 103, 123004.	2.9	96
169	Topological Flat Bands from Dipolar Spin Systems. Physical Review Letters, 2012, 109, 266804.	2.9	96
170	Heisenberg-Limited Atom Clocks Based on Entangled Qubits. Physical Review Letters, 2014, 112, 190403.	2.9	92
171	State-selective intersystem crossing in nitrogen-vacancy centers. Physical Review B, 2015, 91, .	1.1	91
172	Integrating Neural Networks with a Quantum Simulator for State Reconstruction. Physical Review Letters, 2019, 123, 230504.	2.9	90
173	Electrically Tunable Valley Dynamics in Twisted WS_2 Bilayers. Physical Review Letters, 2020, 124, 217403.	2.9	89
174	Depolarization Dynamics in a Strongly Interacting Solid-State Spin Ensemble. Physical Review Letters, 2017, 118, 093601.	2.9	86
175	Quantum phases of Rydberg atoms on a kagome lattice. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	86
176	Reservoir engineering and dynamical phase transitions in optomechanical arrays. Physical Review A, 2012, 86, .	1.0	81
177	Quantum Plasmonic Circuits. IEEE Journal of Selected Topics in Quantum Electronics, 2012, 18, 1781-1791.	1.9	78
178	Scattering resonances and bound states for strongly interacting Rydberg polaritons. Physical Review A, 2014, 90, .	1.0	78
179	Probing and manipulating embryogenesis via nanoscale thermometry and temperature control. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 14636-14641.	3.3	77
180	Prediction of Toric Code Topological Order from Rydberg Blockade. Physical Review X, 2021, 11, .	2.8	77

#	ARTICLE	IF	CITATIONS
181	Environment-Assisted Precision Measurement. Physical Review Letters, 2011, 106, 140502.	2.9	75
182	Optical Interferometry with Quantum Networks. Physical Review Letters, 2019, 123, 070504.	2.9	74
183	Quantum measurement of a mesoscopic spin ensemble. Physical Review A, 2006, 74, .	1.0	71
184	Laser-cooled atoms inside a hollow-core photonic-crystal fiber. Physical Review A, 2011, 83, .	1.0	70
185	Enhanced metrology using preferential orientation of nitrogen-vacancy centers in diamond. Physical Review B, 2012, 86, .	1.1	68
186	Photon storage in \hat{V} -type optically dense atomic media. III. Effects of inhomogeneous broadening. Physical Review A, 2007, 76, .	1.0	67
187	Topologically protected quantum state transfer in a chiral spin liquid. Nature Communications, 2013, 4, 1585.	5.8	67
188	Enhancement of magneto-optic effects via large atomic coherence in optically dense media. Physical Review A, 2000, 62, .	1.0	66
189	Strong Coupling of Two Individually Controlled Atoms via a Nanophotonic Cavity. Physical Review Letters, 2020, 124, 063602.	2.9	66
190	Symmetry-protected collisions between strongly interacting photons. Nature, 2017, 542, 206-209.	13.7	65
191	Numerical study of the chiral $\langle \mathbb{Z}^3 \rangle$ quantum phase transition in one spatial dimension. Physical Review A, 2018, 98, .	1.0	64
192	Quantum many-body scars from virtual entangled pairs. Physical Review B, 2020, 101, .	1.1	63
193	Emerging Two-Dimensional Gauge Theories in Rydberg Configurable Arrays. Physical Review X, 2020, 10, .	2.8	63
194	Photon storage in \hat{V} -type optically dense atomic media. IV. Optimal control using gradient ascent. Physical Review A, 2008, 77, .	1.0	62
195	One-Way Quantum Repeater Based on Near-Deterministic Photon-Emitter Interfaces. Physical Review X, 2020, 10, .	2.8	61
196	Single-Spin Magnetomechanics with Levitated Micromagnets. Physical Review Letters, 2020, 124, 163604.	2.9	60
197	Controlling dipole-dipole frequency shifts in a lattice-based optical atomic clock. Physical Review A, 2004, 69, .	1.0	59
198	Quantum correlation in disordered spin systems: Applications to magnetic sensing. Physical Review A, 2009, 80, .	1.0	58

#	ARTICLE	IF	CITATIONS
199	Photonic band structure of two-dimensional atomic lattices. Physical Review A, 2017, 96, .	1.0	57
200	Quantum many-body dynamics of coupled double-well superlattices. Physical Review A, 2008, 78, .	1.0	56
201	Topological bands with a Chern number C and dipolar exchange interactions. Physical Review A, 2015, 91, .	1.0	55
202	Coulomb Bound States of Strongly Interacting Photons. Physical Review Letters, 2015, 115, 123601.	2.9	55
203	Controlling Excitons in an Atomically Thin Membrane with a Mirror. Physical Review Letters, 2020, 124, 027401.	2.9	55
204	Engineering superfluidity in Bose-Fermi mixtures of ultracold atoms. Physical Review A, 2005, 72, .	1.0	54
205	A method for directional detection of dark matter using spectroscopy of crystal defects. Physical Review D, 2017, 96, .	1.6	54
206	Robust Dynamic Hamiltonian Engineering of Many-Body Spin Systems. Physical Review X, 2020, 10, .	2.8	54
207	Enhanced Antiferromagnetic Exchange between Magnetic Impurities in a Superconducting Host. Physical Review Letters, 2014, 113, 087202.	2.9	53
208	Topological Quantum Optics Using Atomlike Emitter Arrays Coupled to Photonic Crystals. Physical Review Letters, 2020, 124, 083603.	2.9	53
209	Timekeeping with electron spin states in diamond. Physical Review A, 2013, 87, .	1.0	52
210	Entanglement transport and a nanophotonic interface for atoms in optical tweezers. Science, 2021, 373, 1511-1514.	6.0	52
211	Quantum Metrology with Strongly Interacting Spin Systems. Physical Review X, 2020, 10, .	2.8	52
212	Coherence of an Optically Illuminated Single Nuclear Spin Qubit. Physical Review Letters, 2008, 100, 073001.	2.9	51
213	Adiabatic preparation of many-body states in optical lattices. Physical Review A, 2010, 81, .	1.0	49
214	Quantum-limited measurements of atomic scattering properties. Physical Review A, 2007, 76, .	1.0	48
215	Electron-phonon instability in graphene revealed by global and local noise probes. Science, 2019, 364, 154-157.	6.0	47
216	Complex Density Wave Orders and Quantum Phase Transitions in a Model of Square-Lattice Rydberg Atom Arrays. Physical Review Letters, 2020, 124, 103601.	2.9	46

#	ARTICLE	IF	CITATIONS
217	Quantum transport of strongly interacting photons in a one-dimensional nonlinear waveguide. <i>Physical Review A</i> , 2012, 85, .	1.0	43
218	Unforgeable noise-tolerant quantum tokens. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 16079-16082.	3.3	42
219	Superresolution optical magnetic imaging and spectroscopy using individual electronic spins in diamond. <i>Optics Express</i> , 2017, 25, 11048.	1.7	42
220	Heralded Quantum Gates with Integrated Error Detection in Optical Cavities. <i>Physical Review Letters</i> , 2015, 114, 110502.	2.9	41
221	Robustness of quantum memories based on Majorana zero modes. <i>Physical Review B</i> , 2013, 88, .	1.1	39
222	Quantum Nonlinear Optics in Atomically Thin Materials. <i>Physical Review Letters</i> , 2018, 121, 123606.	2.9	39
223	Large-scale uniform optical focus array generation with a phase spatial light modulator. <i>Optics Letters</i> , 2019, 44, 3178.	1.7	39
224	Polaronic model of two-level systems in amorphous solids. <i>Physical Review B</i> , 2013, 87, .	1.1	38
225	Dicke phase transition without total spin conservation. <i>Physical Review A</i> , 2016, 94, .	1.0	37
226	Magnetic noise spectroscopy as a probe of local electronic correlations in two-dimensional systems. <i>Physical Review B</i> , 2017, 95, .	1.1	37
227	Hardware-Efficient, Fault-Tolerant Quantum Computation with Rydberg Atoms. <i>Physical Review X</i> , 2022, 12, .	2.8	37
228	Dynamical Engineering of Interactions in Qudit Ensembles. <i>Physical Review Letters</i> , 2017, 119, 183603.	2.9	36
229	Quantum logic between remote quantum registers. <i>Physical Review A</i> , 2013, 87, .	1.0	35
230	Quantum interference between independent reservoirs in open quantum systems. <i>Physical Review A</i> , 2014, 89, .	1.0	35
231	Effective Field Theory for Rydberg Polaritons. <i>Physical Review Letters</i> , 2016, 117, 113601.	2.9	35
232	Quantum-assisted telescope arrays. <i>Physical Review A</i> , 2019, 100, .	1.0	35
233	Hyperpolarization-Enhanced NMR Spectroscopy with Femtomole Sensitivity Using Quantum Defects in Diamond. <i>Physical Review X</i> , 2020, 10, .	2.8	34
234	Threshold and Linewidth of a Mirrorless Parametric Oscillator. <i>Physical Review Letters</i> , 2000, 84, 3558-3561.	2.9	33

#	ARTICLE	IF	CITATIONS
235	Breakdown of the local density approximation in interacting systems of cold fermions in strongly anisotropic traps. <i>Physical Review A</i> , 2006, 74, .	1.0	33
236	Probing Quantum Thermalization of a Disordered Dipolar Spin Ensemble with Discrete Time-Crystalline Order. <i>Physical Review Letters</i> , 2019, 122, 043603.	2.9	33
237	Electrically Tunable Exciton-Plasmon Coupling in a WSe_2 Monolayer Embedded in a Plasmonic Crystal Cavity. <i>Nano Letters</i> , 2019, 19, 3543-3547.	4.5	32
238	Electromagnetically induced transparency with noisy lasers. <i>Physical Review A</i> , 2009, 80, .	1.0	31
239	Measuring mechanical motion with a single spin. <i>New Journal of Physics</i> , 2012, 14, 125004.	1.2	31
240	Phase diagram and excitations of a Shiba molecule. <i>Physical Review B</i> , 2014, 90, .	1.1	31
241	Diamond nanophotonics and applications in quantum science and technology. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2012, 209, 1619-1630.	0.8	30
242	Gain without inversion in the frequency up-conversion regime. <i>Physical Review A</i> , 1998, 57, 3858-3868.	1.0	29
243	Effects of molecular resonances on Rydberg blockade. <i>Physical Review A</i> , 2015, 92, .	1.0	29
244	Quantum Network of Atom Clocks: A Possible Implementation with Neutral Atoms. <i>Physical Review Letters</i> , 2016, 117, 060506.	2.9	29
245	Long-distance entanglement distribution using individual atoms in optical cavities. <i>Physical Review A</i> , 2015, 92, .	1.0	28
246	Noise-resistant optimal spin squeezing via quantum control. <i>Physical Review A</i> , 2016, 93, .	1.0	28
247	Discrete Time-Crystalline Order Enabled by Quantum Many-Body Scars: Entanglement Steering via Periodic Driving. <i>Physical Review Letters</i> , 2021, 127, 090602.	2.9	28
248	Micron-Scale NV-NMR Spectroscopy with Signal Amplification by Reversible Exchange. <i>PRX Quantum</i> , 2021, 2, .	3.5	27
249	Formation of deeply bound molecules via chainwise adiabatic passage. <i>Physical Review A</i> , 2008, 78, .	1.0	26
250	Remapping the quantum frontier. <i>Physics World</i> , 2008, 21, 32-39.	0.0	26
251	Repulsive photons in a quantum nonlinear medium. <i>Nature Physics</i> , 2020, 16, 921-925.	6.5	26
252	Electrically controlled emission from singlet and triplet exciton species in atomically thin light-emitting diodes. <i>Physical Review B</i> , 2021, 103, .	1.1	26

#	ARTICLE	IF	CITATIONS
253	One-shot entanglement generation over long distances in noisy quantum networks. Physical Review A, 2008, 78, .	1.0	25
254	Fast Preparation and Detection of a Rydberg Qubit Using Atomic Ensembles. Physical Review Letters, 2021, 127, 050501.	2.9	25
255	Dephasing of Quantum Bits by a Quasi-Static Mesoscopic Environment. Quantum Information Processing, 2006, 5, 503-536.	1.0	24
256	All-optical control of a single electron spin in diamond. Physical Review A, 2015, 91, .	1.0	24
257	Dynamics of quantum information in many-body localized systems. Physical Review B, 2017, 96, .	1.1	24
258	Collectively Enhanced Interactions in Solid-State Spin Qubits. Physical Review Letters, 2013, 110, 067601.	2.9	23
259	Controlling Interactions between Quantum Emitters Using Atom Arrays. Physical Review Letters, 2021, 126, 223602.	2.9	22
260	Long-lived memory for electronic spin in a quantum dot: Numerical analysis. Physical Review B, 2006, 73, .	1.1	21
261	Preparation of decoherence-free cluster states with optical superlattices. Physical Review A, 2009, 79, .	1.0	21
262	Adiabatic Quantum Search in Open Systems. Physical Review Letters, 2016, 117, 150501.	2.9	21
263	Theory of dipole radiation near a Dirac photonic crystal. Physical Review A, 2020, 101, .	1.0	21
264	Realization of coherent optically dense media via buffer-gas cooling. Physical Review A, 2009, 79, .	1.0	20
265	Quantum acousto-optic control of light-matter interactions in nanophotonic networks. Physical Review A, 2019, 99, .	1.0	20
266	Environment-assisted metrology with spin qubits. Physical Review A, 2012, 85, .	1.0	19
267	Hybrid architecture for engineering magnonic quantum networks. Physical Review A, 2019, 100, .	1.0	19
268	Quantum optomechanics of a two-dimensional atomic array. Physical Review A, 2020, 101, .	1.0	18
269	Higgs-Mediated Optical Amplification in a Nonequilibrium Superconductor. Physical Review X, 2021, 11, .	2.8	18
270	Probing one-dimensional systems via noise magnetometry with single spin qubits. Physical Review B, 2018, 98, .	1.1	17

#	ARTICLE	IF	CITATIONS
271	Fast entanglement distribution with atomic ensembles and fluorescent detection. Physical Review A, 2010, 81, .	1.0	16
272	Fermionic formalism for driven-dissipative multilevel systems. Physical Review A, 2020, 101, .	1.0	16
273	Bulk and boundary quantum phase transitions in a square Rydberg atom array. Physical Review B, 2022, 105, .	1.1	15
274	Preparation of nonequilibrium nuclear spin states in double quantum dots. Physical Review B, 2013, 88, .	1.1	14
275	Sensing Coherent Dynamics of Electronic Spin Clusters in Solids. Physical Review Letters, 2018, 120, 243604.	2.9	14
276	Characterizing two-dimensional superconductivity via nanoscale noise magnetometry with single-spin qubits. Physical Review B, 2022, 105, .	1.1	14
277	Dynamically induced many-body localization. Physical Review B, 2018, 97, .	1.1	13
278	Optical Control of a Single Nuclear Spin in the Solid State. Physical Review Letters, 2020, 124, 153203.	2.9	13
279	Enhancing Generative Models via Quantum Correlations. Physical Review X, 2022, 12, .	2.8	13
280	GENERATION OF NARROW-BANDWIDTH SINGLE PHOTONS USING ELECTROMAGNETICALLY INDUCED TRANSPARENCY IN ATOMIC ENSEMBLES. International Journal of Quantum Information, 2007, 05, 51-62.	0.6	12
281	Single-spin qubit magnetic spectroscopy of two-dimensional superconductivity. Physical Review Research, 2022, 4, .	1.3	12
282	Quantum optics in Maxwell's fish eye lens with single atoms and photons. Physical Review A, 2018, 98, .	1.0	11
283	Rotons in optical excitation spectra of monolayer semiconductors. Physical Review B, 2020, 101, .	1.1	11
284	Efficient Entanglement of Spin Qubits Mediated by a Hot Mechanical Oscillator. Physical Review Letters, 2021, 126, 250505.	2.9	11
285	Quantum Sampling Algorithms for Near-Term Devices. Physical Review Letters, 2021, 127, 100504.	2.9	10
286	Switching and Counting With Atomic Vapors in Photonic-Crystal Fibers. IEEE Journal of Selected Topics in Quantum Electronics, 2012, 18, 1747-1753.	1.9	9
287	Cross Modulation of Two Laser Beams at the Individual-Photon Level. Physical Review Letters, 2014, 113, 113603.	2.9	8
288	Wigner crystals in two-dimensional transition-metal dichalcogenides: Spin physics and readout. Physical Review B, 2020, 101, .	1.1	8

#	ARTICLE	IF	CITATIONS
289	Dispersive optical systems for scalable Raman driving of hyperfine qubits. <i>Physical Review A</i> , 2022, 105, .	1.0	8
290	Quantum simulation and optimization in hot quantum networks. <i>Physical Review B</i> , 2019, 99, .	1.1	7
291	Quantum systems under control. <i>Science</i> , 2014, 345, 272-273.	6.0	6
292	Quantum sampling algorithms, phase transitions, and computational complexity. <i>Physical Review A</i> , 2021, 104, .	1.0	6
293	Beam steering at the nanosecond time scale with an atomically thin reflector. <i>Nature Communications</i> , 2022, 13, .	5.8	6
294	Efficient quantum computation in a network with probabilistic gates and logical encoding. <i>Physical Review A</i> , 2017, 95, .	1.0	5
295	Decay of Supercurrents in Condensates in Optical Lattices. <i>Journal of Superconductivity and Novel Magnetism</i> , 2004, 17, 577-584.	0.5	4
296	Quantum leaps in the solid state. <i>Nature</i> , 2010, 467, 278-279.	13.7	3
297	SCALABLE QUANTUM NETWORKS BASED ON FEW-QUBIT REGISTERS. <i>International Journal of Quantum Information</i> , 2010, 08, 93-104.	0.6	3
298	Resonantly enhanced polariton wave mixing and parametric instability in a Floquet medium. <i>Journal of Chemical Physics</i> , 2022, 156, 174110.	1.2	3
299	Solid-state magnetic traps and lattices. <i>Physical Review B</i> , 2018, 97, .	1.1	2
300	Asymmetric photoelectric effect: Auger-assisted hot hole photocurrents in transition metal dichalcogenides. <i>Nanophotonics</i> , 2020, 10, 105-113.	2.9	2
301	Quantum Control of Light using Coherent Atomic Memory. <i>AIP Conference Proceedings</i> , 2005, , .	0.3	1
302	Quantum control of electron and nuclear spin qubits in the solid-state. <i>AIP Conference Proceedings</i> , 2006, , .	0.3	0
303	Group theoretical analysis of nitrogen-vacancy centerâ€™s energy levels and selection rules. <i>Materials Research Society Symposia Proceedings</i> , 2011, 1282, 95.	0.1	0
304	Back Cover: Diamond nanophotonics and applications in quantum science and technology (Phys.) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	0.8	0
305	Optimized architectures for long distance quantum communication. , 2017, , .		0
306	A low-noise telecom interface for silicon-vacancy quantum network nodes. , 2021, , .		0

#	ARTICLE	IF	CITATIONS
307	PHOTONIC INFORMATION STORAGE AND QUANTUM INFORMATION PROCESSING IN ATOMIC ENSEMBLES. , 2002, , .		0
308	Toward Manipulating Quantum Information with Atomic Ensembles. , 2003, , .		0
309	QUANTUM CONTROL OF SPINS AND PHOTONS AT NANOSCALES. , 2009, , .		0
310	Quantum interference of electromechanically stabilized emitters in nanophotonic devices. , 2019, , .		0
311	An integrated quantum network node in diamond. , 2019, , .		0
312	Strain control of silicon-vacancy centers in diamond nanophotonic devices. , 2019, , .		0
313	A nanophotonic interface to long-lived quantum memories in diamond. , 2019, , .		0