

Mikhail D Lukin

List of Publications by Citations

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297 papers	45,520 citations	113 h-index	210 g-index
315 ext. papers	54,653 ext. citations	11.5 avg, IF	7.62 L-index

#	Paper	IF	Citations
297	Long-distance quantum communication with atomic ensembles and linear optics. <i>Nature</i> , 2001 , 414, 413-8	50.4	2264
296	Dark-state polaritons in electromagnetically induced transparency. <i>Physical Review Letters</i> , 2000 , 84, 5094-7	7.4	1250
295	Nanoscale magnetic sensing with an individual electronic spin in diamond. <i>Nature</i> , 2008 , 455, 644-7	50.4	1227
294	Generation of single optical plasmons in metallic nanowires coupled to quantum dots. <i>Nature</i> , 2007 , 450, 402-6	50.4	1139
293	High-sensitivity diamond magnetometer with nanoscale resolution. <i>Nature Physics</i> , 2008 , 4, 810-816	16.2	1110
292	Nanometre-scale thermometry in a living cell. <i>Nature</i> , 2013 , 500, 54-8	50.4	1075
291	Dipole blockade and quantum information processing in mesoscopic atomic ensembles. <i>Physical Review Letters</i> , 2001 , 87, 037901	7.4	1063
290	Ultralow Group Velocity and Enhanced Nonlinear Optical Effects in a Coherently Driven Hot Atomic Gas. <i>Physical Review Letters</i> , 1999 , 82, 5229-5232	7.4	1037
289	Fast quantum gates for neutral atoms. <i>Physical Review Letters</i> , 2000 , 85, 2208-11	7.4	968
288	A single-photon transistor using nanoscale surface plasmons. <i>Nature Physics</i> , 2007 , 3, 807-812	16.2	928
287	Quantum register based on individual electronic and nuclear spin qubits in diamond. <i>Science</i> , 2007 , 316, 1312-6	33.3	890
286	Coherent dynamics of coupled electron and nuclear spin qubits in diamond. <i>Science</i> , 2006 , 314, 281-5	33.3	868
285	Probing many-body dynamics on a 51-atom quantum simulator. <i>Nature</i> , 2017 , 551, 579-584	50.4	849
284	Robust optical delay lines with topological protection. <i>Nature Physics</i> , 2011 , 7, 907-912	16.2	830
283	Quantum entanglement between an optical photon and a solid-state spin qubit. <i>Nature</i> , 2010 , 466, 730-4	50.4	784
282	Quantum optics with surface plasmons. <i>Physical Review Letters</i> , 2006 , 97, 053002	7.4	605
281	Room-temperature quantum bit memory exceeding one second. <i>Science</i> , 2012 , 336, 1283-6	33.3	580

280	Controlling photons using electromagnetically induced transparency. <i>Nature</i> , 2001 , 413, 273-6	50.4	573
279	Quantum nonlinear optics with single photons enabled by strongly interacting atoms. <i>Nature</i> , 2012 , 488, 57-60	50.4	559
278	Quantum memory for photons: Dark-state polaritons. <i>Physical Review A</i> , 2002 , 65,	2.6	558
277	Nonlinear optics and quantum entanglement of ultraslow single photons. <i>Physical Review Letters</i> , 2000 , 84, 1419-22	7.4	513
276	Observation of discrete time-crystalline order in a disordered dipolar many-body system. <i>Nature</i> , 2017 , 543, 221-225	50.4	468
275	Two-orbital S U(N) magnetism with ultracold alkaline-earth atoms. <i>Nature Physics</i> , 2010 , 6, 289-295	16.2	457
274	Experimental Demonstration of Laser Oscillation without Population Inversion via Quantum Interference in Rb. <i>Physical Review Letters</i> , 1995 , 75, 1499-1502	7.4	453
273	An integrated diamond nanophotonics platform for quantum-optical networks. <i>Science</i> , 2016 , 354, 847-850	33.3	403
272	Quantum nonlinear optics 1-photon by photon. <i>Nature Photonics</i> , 2014 , 8, 685-694	33.9	369
271	Nanophotonic quantum phase switch with a single atom. <i>Nature</i> , 2014 , 508, 241-4	50.4	362
270	A coherent all-electrical interface between polar molecules and mesoscopic superconducting resonators. <i>Nature Physics</i> , 2006 , 2, 636-642	16.2	343
269	Entanglement of atomic ensembles by trapping correlated photon states. <i>Physical Review Letters</i> , 2000 , 84, 4232-5	7.4	334
268	Visible-frequency hyperbolic metasurface. <i>Nature</i> , 2015 , 522, 192-6	50.4	327
267	Atom-by-atom assembly of defect-free one-dimensional cold atom arrays. <i>Science</i> , 2016 , 354, 1024-1027	33.3	325
266	Hybrid quantum processors: molecular ensembles as quantum memory for solid state circuits. <i>Physical Review Letters</i> , 2006 , 97, 033003	7.4	320
265	Fault-tolerant architecture for quantum computation using electrically controlled semiconductor spins. <i>Nature Physics</i> , 2005 , 1, 177-183	16.2	310
264	Coupling a single trapped atom to a nanoscale optical cavity. <i>Science</i> , 2013 , 340, 1202-5	33.3	306
263	A quantum spin transducer based on nanoelectromechanical resonator arrays. <i>Nature Physics</i> , 2010 , 6, 602-608	16.2	285

- 262 Coherent sensing of a mechanical resonator with a single-spin qubit. *Science*, **2012**, 335, 1603-6 33.3 276
- 261 Relaxation, dephasing, and quantum control of electron spins in double quantum dots. *Physical Review B*, **2007**, 76, 3-3 276
- 260 Quantum interference effects induced by interacting dark resonances. *Physical Review A*, **1999**, 60, 3225-3228 275
- 259 Strong magnetic coupling between an electronic spin qubit and a mechanical resonator. *Physical Review B*, **2009**, 79, 3-3 273
- 258 Nuclear magnetic resonance detection and spectroscopy of single proteins using quantum logic. *Science*, **2016**, 351, 836-41 33.3 269
- 257 Deterministic coupling of a single nitrogen vacancy center to a photonic crystal cavity. *Nano Letters*, **2010**, 10, 3922-6 11.5 267
- 256 Nanoscale magnetic imaging of a single electron spin under ambient conditions. *Nature Physics*, **2013**, 9, 215-219 16.2 264
- 255 Experimental demonstration of enhanced index of refraction via quantum coherence in Rb. *Physical Review Letters*, **1996**, 76, 3935-3938 7.4 264
- 254 Attractive photons in a quantum nonlinear medium. *Nature*, **2013**, 502, 71-5 50.4 261
- 253 A quantum network of clocks. *Nature Physics*, **2014**, 10, 582-587 16.2 260
- 252 Photon-photon interactions via Rydberg blockade. *Physical Review Letters*, **2011**, 107, 133602 7.4 260
- 251 Strong coupling of single emitters to surface plasmons. *Physical Review B*, **2007**, 76, 3-3 259
- 250 Near-field electrical detection of optical plasmons and single-plasmon sources. *Nature Physics*, **2009**, 5, 475-479 16.2 256
- 249 Fault-tolerant quantum communication based on solid-state photon emitters. *Physical Review Letters*, **2006**, 96, 070504 7.4 251
- 248 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 11.5 245
- 247 Repetitive readout of a single electronic spin via quantum logic with nuclear spin ancillae. *Science*, **2009**, 326, 267-72 33.3 238
- 246 Indistinguishable photons from separated silicon-vacancy centers in diamond. *Physical Review Letters*, **2014**, 113, 113602 7.4 236
- 245 Dynamical crystallization in the dipole blockade of ultracold atoms. *Physical Review Letters*, **2010**, 104, 043002 7.4 219

244	Coherence of nitrogen-vacancy electronic spin ensembles in diamond. <i>Physical Review B</i> , 2010 , 82,	3.3	194
243	Fault-tolerant quantum repeaters with minimal physical resources and implementations based on single-photon emitters. <i>Physical Review A</i> , 2005 , 72,	2.6	193
242	Generation and manipulation of Schrödinger cat states in Rydberg atom arrays. <i>Science</i> , 2019 , 365, 570-574,	39.3	192
241	Probing dark excitons in atomically thin semiconductors via near-field coupling to surface plasmon polaritons. <i>Nature Nanotechnology</i> , 2017 , 12, 856-860	28.7	191
240	Spectroscopy in Dense Coherent Media: Line Narrowing and Interference Effects. <i>Physical Review Letters</i> , 1997 , 79, 2959-2962	7.4	190
239	Quantum convolutional neural networks. <i>Nature Physics</i> , 2019 , 15, 1273-1278	16.2	189
238	Nanoscale NMR spectroscopy and imaging of multiple nuclear species. <i>Nature Nanotechnology</i> , 2015 , 10, 129-34	28.7	184
237	Fractional quantum Hall effect in optical lattices. <i>Physical Review A</i> , 2007 , 76,	2.6	183
236	Quantum Noise and Correlations in Resonantly Enhanced Wave Mixing Based on Atomic Coherence. <i>Physical Review Letters</i> , 1999 , 82, 1847-1850	7.4	179
235	Phonon-induced spin-spin interactions in diamond nanostructures: application to spin squeezing. <i>Physical Review Letters</i> , 2013 , 110, 156402	7.4	176
234	Silicon-Vacancy Spin Qubit in Diamond: A Quantum Memory Exceeding 10' ms with Single-Shot State Readout. <i>Physical Review Letters</i> , 2017 , 119, 223602	7.4	171
233	High-resolution magnetic resonance spectroscopy using a solid-state spin sensor. <i>Nature</i> , 2018 , 555, 351-354	50.4	167
232	Free-standing mechanical and photonic nanostructures in single-crystal diamond. <i>Nano Letters</i> , 2012 , 12, 6084-9	11.5	167
231	Many-body localization in dipolar systems. <i>Physical Review Letters</i> , 2014 , 113, 243002	7.4	166
230	All-optical initialization, readout, and coherent preparation of single silicon-vacancy spins in diamond. <i>Physical Review Letters</i> , 2014 , 113, 263602	7.4	161
229	Dissipative phase transition in a central spin system. <i>Physical Review A</i> , 2012 , 86,	2.6	159
228	Integrated diamond networks for quantum nanophotonics. <i>Nano Letters</i> , 2012 , 12, 1578-82	11.5	158
227	Quantum error correction for metrology. <i>Physical Review Letters</i> , 2014 , 112, 150802	7.4	157

226	Scalable architecture for a room temperature solid-state quantum information processor. <i>Nature Communications</i> , 2012 , 3, 800	17.4	157
225	Quantum repeater with encoding. <i>Physical Review A</i> , 2009 , 79,	2.6	157
224	Robust quantum state transfer in random unpolarized spin chains. <i>Physical Review Letters</i> , 2011 , 106, 040505	7.4	156
223	Quantum Nonlinear Optics with a Germanium-Vacancy Color Center in a Nanoscale Diamond Waveguide. <i>Physical Review Letters</i> , 2017 , 118, 223603	7.4	155
222	High quality-factor optical nanocavities in bulk single-crystal diamond. <i>Nature Communications</i> , 2014 , 5, 5718	17.4	155
221	Ultrafast and fault-tolerant quantum communication across long distances. <i>Physical Review Letters</i> , 2014 , 112, 250501	7.4	154
220	Photon storage in E-type optically dense atomic media. II. Free-space model. <i>Physical Review A</i> , 2007 , 76,	2.6	153
219	High-Fidelity Control and Entanglement of Rydberg-Atom Qubits. <i>Physical Review Letters</i> , 2018 , 121, 123603	7.4	152
218	Crystallization of strongly interacting photons in a nonlinear optical fibre. <i>Nature Physics</i> , 2008 , 4, 884-888	16.2	147
217	Electron spin decoherence of single nitrogen-vacancy defects in diamond. <i>Physical Review B</i> , 2008 , 78,	3.3	147
216	Resonant Enhancement of Parametric Processes via Radiative Interference and Induced Coherence. <i>Physical Review Letters</i> , 1998 , 81, 2675-2678	7.4	147
215	Quantum Kibble-Zurek mechanism and critical dynamics on a programmable Rydberg simulator. <i>Nature</i> , 2019 , 568, 207-211	50.4	144
214	Electron-phonon processes of the silicon-vacancy centre in diamond. <i>New Journal of Physics</i> , 2015 , 17, 043011	2.9	144
213	Optimal architectures for long distance quantum communication. <i>Scientific Reports</i> , 2016 , 6, 20463	4.9	144
212	Parallel Implementation of High-Fidelity Multiqubit Gates with Neutral Atoms. <i>Physical Review Letters</i> , 2019 , 123, 170503	7.4	144
211	Photon storage in E-type optically dense atomic media. I. Cavity model. <i>Physical Review A</i> , 2007 , 76,	2.6	144
210	Coupling of NV centers to photonic crystal nanobeams in diamond. <i>Nano Letters</i> , 2013 , 13, 5791-6	11.5	143
209	Suppression of spin-bath dynamics for improved coherence of multi-spin-qubit systems. <i>Nature Communications</i> , 2012 , 3, 858	17.4	143

208	Keldysh approach for nonequilibrium phase transitions in quantum optics: Beyond the Dicke model in optical cavities. <i>Physical Review A</i> , 2013 , 87,	2.6	141
207	Single-photon nonlinear optics with graphene plasmons. <i>Physical Review Letters</i> , 2013 , 111, 247401	7.4	140
206	Sensing distant nuclear spins with a single electron spin. <i>Physical Review Letters</i> , 2012 , 109, 137601	7.4	138
205	Realizing fractional Chern insulators in dipolar spin systems. <i>Physical Review Letters</i> , 2013 , 110, 185302	7.4	138
204	Electrical control of interlayer exciton dynamics in atomically thin heterostructures. <i>Science</i> , 2019 , 366, 870-875	33.3	135
203	Coherence and Raman sideband cooling of a single atom in an optical tweezer. <i>Physical Review Letters</i> , 2013 , 110, 133001	7.4	133
202	Experimental demonstration of memory-enhanced quantum communication. <i>Nature</i> , 2020 , 580, 60-64	50.4	132
201	Interferometric probes of many-body localization. <i>Physical Review Letters</i> , 2014 , 113, 147204	7.4	132
200	Distributed quantum computation based on small quantum registers. <i>Physical Review A</i> , 2007 , 76,	2.6	131
199	Coherent optical transitions in implanted nitrogen vacancy centers. <i>Nano Letters</i> , 2014 , 14, 1982-6	11.5	130
198	Nondegenerate Parametric Self-Oscillation via Multiwave Mixing in Coherent Atomic Media. <i>Physical Review Letters</i> , 1999 , 83, 4049-4052	7.4	129
197	Far-field optical imaging and manipulation of individual spins with nanoscale resolution. <i>Nature Physics</i> , 2010 , 6, 912-918	16.2	125
196	Magnetic resonance detection of individual proton spins using quantum reporters. <i>Physical Review Letters</i> , 2014 , 113, 197601	7.4	123
195	Cooperative Resonances in Light Scattering from Two-Dimensional Atomic Arrays. <i>Physical Review Letters</i> , 2017 , 118, 113601	7.4	120
194	Single-cell magnetic imaging using a quantum diamond microscope. <i>Nature Methods</i> , 2015 , 12, 736-738	21.6	120
193	Single-photon nonlinearities in two-mode optomechanics. <i>Physical Review A</i> , 2013 , 87,	2.6	120
192	Many-body dynamics of dipolar molecules in an optical lattice. <i>Physical Review Letters</i> , 2014 , 113, 195302	7.4	119
191	Large Excitonic Reflectivity of Monolayer MoSe ₂ Encapsulated in Hexagonal Boron Nitride. <i>Physical Review Letters</i> , 2018 , 120, 037402	7.4	117

190	Dissipative preparation of spin squeezed atomic ensembles in a steady state. <i>Physical Review Letters</i> , 2013 , 110, 120402	7.4	117
189	Periodic Orbits, Entanglement, and Quantum Many-Body Scars in Constrained Models: Matrix Product State Approach. <i>Physical Review Letters</i> , 2019 , 122, 040603	7.4	116
188	Continuous mode cooling and phonon routers for phononic quantum networks. <i>New Journal of Physics</i> , 2012 , 14, 115004	2.9	115
187	Efficient readout of a single spin state in diamond via spin-to-charge conversion. <i>Physical Review Letters</i> , 2015 , 114, 136402	7.4	114
186	Electrical control of charged carriers and excitons in atomically thin materials. <i>Nature Nanotechnology</i> , 2018 , 13, 128-132	28.7	113
185	Collective atomic scattering and motional effects in a dense coherent medium. <i>Nature Communications</i> , 2016 , 7, 11039	17.4	113
184	Photon-mediated interactions between quantum emitters in a diamond nanocavity. <i>Science</i> , 2018 , 362, 662-665	33.3	112
183	Quantum magnetism with polar alkali-metal dimers. <i>Physical Review A</i> , 2011 , 84,	2.6	111
182	Tailoring light-matter interaction with a nanoscale plasmon resonator. <i>Physical Review Letters</i> , 2012 , 108, 226803	7.4	110
181	Emergent SU(2) Dynamics and Perfect Quantum Many-Body Scars. <i>Physical Review Letters</i> , 2019 , 122, 220603	7.4	107
180	Phase coherence and control of stored photonic information. <i>Physical Review A</i> , 2002 , 65,	2.6	107
179	Scalable focused ion beam creation of nearly lifetime-limited single quantum emitters in diamond nanostructures. <i>Nature Communications</i> , 2017 , 8, 15376	17.4	102
178	Quantum entanglement via optical control of atom-atom interactions. <i>Physical Review Letters</i> , 2000 , 84, 2818-21	7.4	101
177	Quantum control of proximal spins using nanoscale magnetic resonance imaging. <i>Nature Physics</i> , 2011 , 7, 687-692	16.2	100
176	Efficient frequency up-conversion in resonant coherent media. <i>Physical Review A</i> , 2002 , 65,	2.6	98
175	Quantum Metrology Enhanced by Repetitive Quantum Error Correction. <i>Physical Review Letters</i> , 2016 , 116, 230502	7.4	96
174	Topological Quantum Optics in Two-Dimensional Atomic Arrays. <i>Physical Review Letters</i> , 2017 , 119, 023603	7.4	96
173	Nanoplasmonic lattices for ultracold atoms. <i>Physical Review Letters</i> , 2012 , 109, 235309	7.4	96

172	Optical and microwave control of germanium-vacancy center spins in diamond. <i>Physical Review B</i> , 2017 , 96,	3.3	95
171	Nonlinear optics via double dark resonances. <i>Physical Review A</i> , 2003 , 68,	2.6	94
170	Efficient photon detection from color centers in a diamond optical waveguide. <i>Physical Review B</i> , 2012 , 85,	3.3	92
169	Fast and robust approach to long-distance quantum communication with atomic ensembles. <i>Physical Review A</i> , 2007 , 76,	2.6	92
168	Quantum Approximate Optimization Algorithm: Performance, Mechanism, and Implementation on Near-Term Devices. <i>Physical Review X</i> , 2020 , 10,	9.1	91
167	Strain engineering of the silicon-vacancy center in diamond. <i>Physical Review B</i> , 2018 , 97,	3.3	91
166	Quantum electronics. Probing Johnson noise and ballistic transport in normal metals with a single-spin qubit. <i>Science</i> , 2015 , 347, 1129-32	33.3	90
165	Narrow-Linewidth Homogeneous Optical Emitters in Diamond Nanostructures via Silicon Ion Implantation. <i>Physical Review Applied</i> , 2016 , 5,	4.3	90
164	Anyonic interferometry and protected memories in atomic spin lattices. <i>Nature Physics</i> , 2008 , 4, 482-488	16.2	89
163	Phonon Networks with Silicon-Vacancy Centers in Diamond Waveguides. <i>Physical Review Letters</i> , 2018 , 120, 213603	7.4	89
162	Phonon-induced population dynamics and intersystem crossing in nitrogen-vacancy centers. <i>Physical Review Letters</i> , 2015 , 114, 145502	7.4	88
161	Diamond optomechanical crystals. <i>Optica</i> , 2016 , 3, 1404	8.6	87
160	Phonon cooling and lasing with nitrogen-vacancy centers in diamond. <i>Physical Review B</i> , 2013 , 88,	3.3	86
159	Optomechanical transducers for quantum-information processing. <i>Physical Review A</i> , 2011 , 84,	2.6	86
158	Quantum phases of matter on a 256-atom programmable quantum simulator. <i>Nature</i> , 2021 , 595, 227-233	30.4	85
157	Topological flat bands from dipolar spin systems. <i>Physical Review Letters</i> , 2012 , 109, 266804	7.4	84
156	Quasi-Many-Body Localization in Translation-Invariant Systems. <i>Physical Review Letters</i> , 2016 , 117, 240601	9.1	84
155	Efficient fiber-optical interface for nanophotonic devices. <i>Optica</i> , 2015 , 2, 70	8.6	82

- 154 Controlling the coherence of a diamond spin qubit through its strain environment. *Nature Communications*, **2018**, 9, 2012 17.4 82
- 153 Atom-like crystal defects: From quantum computers to biological sensors. *Physics Today*, **2014**, 67, 38-43. 9 80
- 152 Trapping and manipulation of isolated atoms using nanoscale plasmonic structures. *Physical Review Letters*, **2009**, 103, 123004 7.4 80
- 151 Critical Time Crystals in Dipolar Systems. *Physical Review Letters*, **2017**, 119, 010602 7.4 78
- 150 NMR technique for determining the depth of shallow nitrogen-vacancy centers in diamond. *Physical Review B*, **2016**, 93, 3.3 76
- 149 Enhanced solid-state multispin metrology using dynamical decoupling. *Physical Review B*, **2012**, 86, 3.3 75
- 148 Magnetic resonance spectroscopy of an atomically thin material using a single-spin qubit. *Science*, **2017**, 355, 503-507 33.3 74
- 147 Quantum Plasmonic Circuits. *IEEE Journal of Selected Topics in Quantum Electronics*, **2012**, 18, 1781-1791 3.8 74
- 146 Reservoir engineering and dynamical phase transitions in optomechanical arrays. *Physical Review A*, **2012**, 86, 2.6 68
- 145 Critical Thermalization of a Disordered Dipolar Spin System in Diamond. *Physical Review Letters*, **2018**, 121, 023601 7.4 66
- 144 Heisenberg-limited atom clocks based on entangled qubits. *Physical Review Letters*, **2014**, 112, 190403 7.4 66
- 143 Fiber-Coupled Diamond Quantum Nanophotonic Interface. *Physical Review Applied*, **2017**, 8, 4.3 66
- 142 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 11.5 64
- 141 Quantum measurement of a mesoscopic spin ensemble. *Physical Review A*, **2006**, 74, 2.6 64
- 140 State-selective intersystem crossing in nitrogen-vacancy centers. *Physical Review B*, **2015**, 91, 3.3 62
- 139 Scattering resonances and bound states for strongly interacting Rydberg polaritons. *Physical Review A*, **2014**, 90, 2.6 61
- 138 Laser-cooled atoms inside a hollow-core photonic-crystal fiber. *Physical Review A*, **2011**, 83, 2.6 60
- 137 Environment-assisted precision measurement. *Physical Review Letters*, **2011**, 106, 140502 7.4 60

136	Depolarization Dynamics in a Strongly Interacting Solid-State Spin Ensemble. <i>Physical Review Letters</i> , 2017 , 118, 093601	7.4	59
135	Quantum Network Nodes Based on Diamond Qubits with an Efficient Nanophotonic Interface. <i>Physical Review Letters</i> , 2019 , 123, 183602	7.4	59
134	Enhancement of magneto-optic effects via large atomic coherence in optically dense media. <i>Physical Review A</i> , 2000 , 62,	2.6	59
133	Observation of three-photon bound states in a quantum nonlinear medium. <i>Science</i> , 2018 , 359, 783-786	33.3	56
132	Photon storage in E-type optically dense atomic media. III. Effects of inhomogeneous broadening. <i>Physical Review A</i> , 2007 , 76,	2.6	54
131	All-optical nanoscale thermometry with silicon-vacancy centers in diamond. <i>Applied Physics Letters</i> , 2018 , 112, 203102	3.4	52
130	Electrically Tunable Valley Dynamics in Twisted WSe ₂ /WSe ₂ Bilayers. <i>Physical Review Letters</i> , 2020 , 124, 217403	7.4	50
129	Enhanced metrology using preferential orientation of nitrogen-vacancy centers in diamond. <i>Physical Review B</i> , 2012 , 86,	3.3	50
128	Controlling dipole-dipole frequency shifts in a lattice-based optical atomic clock. <i>Physical Review A</i> , 2004 , 69,	2.6	50
127	Symmetry-protected collisions between strongly interacting photons. <i>Nature</i> , 2017 , 542, 206-209	50.4	49
126	Quantum many-body dynamics of coupled double-well superlattices. <i>Physical Review A</i> , 2008 , 78,	2.6	48
125	An integrated nanophotonic quantum register based on silicon-vacancy spins in diamond. <i>Physical Review B</i> , 2019 , 100,	3.3	47
124	Photon storage in E-type optically dense atomic media. IV. Optimal control using gradient ascent. <i>Physical Review A</i> , 2008 , 77,	2.6	47
123	Engineering superfluidity in Bose-Fermi mixtures of ultracold atoms. <i>Physical Review A</i> , 2005 , 72,	2.6	47
122	Quantum Simulators: Architectures and Opportunities. <i>PRX Quantum</i> , 2021 , 2,	6.1	47
121	Quantum metasurfaces with atom arrays. <i>Nature Physics</i> , 2020 , 16, 676-681	16.2	46
120	Coherence of an optically illuminated single nuclear spin qubit. <i>Physical Review Letters</i> , 2008 , 100, 073001	7.4	46
119	Broken mirror symmetry in excitonic response of reconstructed domains in twisted MoSe/MoSe bilayers. <i>Nature Nanotechnology</i> , 2020 , 15, 750-754	28.7	46

118	Integrating Neural Networks with a Quantum Simulator for State Reconstruction. <i>Physical Review Letters</i> , 2019 , 123, 230504	7.4	46
117	Development of Quantum Interconnects (QulCs) for Next-Generation Information Technologies. <i>PRX Quantum</i> , 2021 , 2,	6.1	46
116	Origins of Diamond Surface Noise Probed by Correlating Single-Spin Measurements with Surface Spectroscopy. <i>Physical Review X</i> , 2019 , 9,	9.1	45
115	Excitons in a reconstructed moiré potential in twisted WSe/WSe homobilayers. <i>Nature Materials</i> , 2021 , 20, 480-487	27	44
114	Timekeeping with electron spin states in diamond. <i>Physical Review A</i> , 2013 , 87,	2.6	43
113	Quantum-limited measurements of atomic scattering properties. <i>Physical Review A</i> , 2007 , 76,	2.6	43
112	Quantum correlation in disordered spin systems: Applications to magnetic sensing. <i>Physical Review A</i> , 2009 , 80,	2.6	42
111	Enhanced antiferromagnetic exchange between magnetic impurities in a superconducting host. <i>Physical Review Letters</i> , 2014 , 113, 087202	7.4	40
110	Coulomb Bound States of Strongly Interacting Photons. <i>Physical Review Letters</i> , 2015 , 115, 123601	7.4	40
109	Adiabatic preparation of many-body states in optical lattices. <i>Physical Review A</i> , 2010 , 81,	2.6	40
108	Topological bands with a Chern number $C=2$ by dipolar exchange interactions. <i>Physical Review A</i> , 2015 , 91,	2.6	38
107	Quantum transport of strongly interacting photons in a one-dimensional nonlinear waveguide. <i>Physical Review A</i> , 2012 , 85,	2.6	38
106	Topologically protected quantum state transfer in a chiral spin liquid. <i>Nature Communications</i> , 2013 , 4, 1585	17.4	38
105	Controlling Excitons in an Atomically Thin Membrane with a Mirror. <i>Physical Review Letters</i> , 2020 , 124, 027401	7.4	36
104	Quantum Computer Systems for Scientific Discovery. <i>PRX Quantum</i> , 2021 , 2,	6.1	36
103	Photonic band structure of two-dimensional atomic lattices. <i>Physical Review A</i> , 2017 , 96,	2.6	35
102	Heralded quantum gates with integrated error detection in optical cavities. <i>Physical Review Letters</i> , 2015 , 114, 110502	7.4	35
101	Robustness of quantum memories based on Majorana zero modes. <i>Physical Review B</i> , 2013 , 88,	3.3	35

100	Numerical study of the chiral Z3 quantum phase transition in one spatial dimension. <i>Physical Review A</i> , 2018 , 98,	2.6	32
99	Probing and manipulating embryogenesis via nanoscale thermometry and temperature control. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020 , 117, 14636-14641	11.5	31
98	Optical Interferometry with Quantum Networks. <i>Physical Review Letters</i> , 2019 , 123, 070504	7.4	31
97	Quantum interference between independent reservoirs in open quantum systems. <i>Physical Review A</i> , 2014 , 89,	2.6	31
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