Morgan Mitchell

List of Publications by Year
in descending order

189	9,880	71004	40945
papers	citations	43 h-index	97 g-index

192	192	192	6583
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	SU(2)-in-SU(1,1) Nested Interferometer for High Sensitivity, Loss-Tolerant Quantum Metrology. Physical Review Letters, 2022, 128, 033601.	2.9	21
2	Single-domain Bose condensate magnetometer achieves energy resolution per bandwidth below â„. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	5
3	Improving Short-Term Stability in Optical Lattice Clocks by Quantum Nondemolition Measurement. Physical Review Letters, 2022, 128, 153201.	2.9	5
4	Miniature Biplanar Coils for Alkali-Metal-Vapor Magnetometry. Physical Review Applied, 2022, 18, .	1.5	11
5	Laser-written vapor cells for chip-scale atomic sensing and spectroscopy. Optics Express, 2022, 30, 27149.	1.7	7
6	Criticality-enhanced quantum sensing in ferromagnetic Bose-Einstein condensates: Role of readout measurement and detection noise. Physical Review A, 2021, 103, .	1.0	13
7	Autoheterodyne Characterization of Narrow-Band Photon Pairs. Physical Review Letters, 2021, 127, 043601.	2.9	5
8	Unconventional quantum correlations of light emitted by a single atom in free space. Physical Review A, 2021, 104, .	1.0	1
9	Device-independent randomness expansion with entangled photons. Nature Physics, 2021, 17, 452-456.	6.5	39
10	Squeezed-Light Enhancement and Backaction Evasion in a High Sensitivity Optically Pumped Magnetometer. Physical Review Letters, 2021, 127, 193601.	2.9	22
11	Scale-invariant spin dynamics and the quantum limits of field sensing. New Journal of Physics, 2020, 22, 053041.	1.2	7
12	Measurement-induced, spatially-extended entanglement in a hot, strongly-interacting atomic system. Nature Communications, 2020, 11, 2415.	5.8	48
13	Experimental Low-Latency Device-Independent Quantum Randomness. Physical Review Letters, 2020, 124, 010505.	2.9	31
14	Colloquium : Quantum limits to the energy resolution of magnetic field sensors. Reviews of Modern Physics, 2020, 92, .	16.4	53
15	Bose-Einstein Condensate Comagnetometer. Physical Review Letters, 2020, 124, 170401.	2.9	11
16	Loophole-Free Test of Einstein-Podolsky-Rosen Steering with One Bit of Faster-than-Light Communication. , 2020, , .		0
17	Interferometric measurement of interhyperfine scattering lengths in Rb87. Physical Review A, 2019, 100, .	1.0	3
18	Experimental measurement-dependent local Bell test with human free will. Physical Review A, 2019, 99, .	1.0	2

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19	Maltese cross coupling to individual cold atoms in free space. Optics Express, 2019, 27, 31042.	1.7	11
20	Narrowband photon pairs with independent frequency tuning for quantum light-matter interactions. Optics Express, 2019, 27, 38463.	1.7	5
21	Entanglement and extreme planar spin squeezing. Physical Review A, 2018, 97, .	1.0	16
22	Signal Tracking Beyond the Time Resolution of an Atomic Sensor by Kalman Filtering. Physical Review Letters, 2018, 120, 040503.	2.9	34
23	Quantum-enhanced measurements without entanglement. Reviews of Modern Physics, 2018, 90, .	16.4	257
24	Multi-second magnetic coherence in a single domain spinor Boseâ€“Einstein condensate. New Journal of Physics, 2018, 20, 053008.	1.2	15
25	Atom-resonant squeezed light from a tunable monolithic ppRKTP parametric amplifier. Optics Letters, 2018, 43, 643.	1.7	5
26	Challenging local realism with human choices. Nature, 2018, 557, 212-216.	13.7	136
27	Interferometric photodetection in silicon photonics for phase diffusion quantum entropy sources. Optics Express, 2018, 26, 31957.	1.7	15
28	Integrated Quantum Entropy Sources. , 2018, , .		0
29	Simultaneous tracking of spin angle and amplitude beyond classical limits. Nature, 2017, 543, 525-528.	13.7	59
30	Entanglement-Enhanced Radio-Frequency Field Detection and Waveform Sensing. Physical Review Letters, 2017, 119, 043603.	2.9	15
31	Randomness in quantum mechanics: philosophy, physics and technology. Reports on Progress in Physics, 2017, 80, 124001.	8.1	72
32	Entanglement-Enhanced Phase Estimation without Prior Phase Information. Physical Review Letters, 2017, 118, 233603.	2.9	11
33	Sensitivity, quantum limits, and quantum enhancement of noise spectroscopies. Physical Review A, 2017, 95, .	1.0	17
34	Number-unconstrained quantum sensing. Quantum Science and Technology, 2017, 2, 044005.	2.6	8
35	Fully-resonant, tunable, monolithic frequency conversion as a coherent UVA source. Optics Express, 2017, 25, 1142.	1.7	8
36	Floquet theory for atomic light-shift engineering with near-resonant polychromatic fields. Optics Express, 2017, 25, 32550.	1.7	8

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37	Self-tuning optical resonator. Optics Letters, 2017, 42, 5298.	1.7	15
38	A significant-loophole-free test of Bell's theorem with entangled photons. , 2017, , .		0
39	Quantum entropy source on an InP photonic integrated circuit for random number generation. Optica, 2016, 3, 989.	4.8	84
40	Real-time shot-noise-limited differential photodetection for atomic quantum control. Optics Letters, 2016, 41, 2946.	1.7	7
41	Requirements for a loophole-free photonic Bell test using imperfect setting generators. Physical Review A, 2016, 93, .	1.0	52
42	Squeezed-light spin noise spectroscopy. Physical Review A, 2016, 93, .	1.0	50
43	From the first loophole-free Bell test to a Quantum Internet. , 2016, , .		0
44	A strong loophole-free test of local realism. , 2016, , .		1
45	Strong Loophole-Free Test of Local Realism. Physical Review Letters, 2015, 115, 250402.	2.9	910
46	Generation of Fresh and Pure Random Numbers for Loophole-Free Bell Tests. Physical Review Letters, 2015, 115, 250403.	2.9	88
47	Quantum Nondemolition Measurement Enables Macroscopic Leggett-Garg Tests. Physical Review Letters, 2015, 115, 200403.	2.9	38
48	Long-term laser frequency stabilization using fiber interferometers. Review of Scientific Instruments, 2015, 86, 073104.	0.6	9
49	Spontaneous $mathcal{PT}$ symmetry breaking of a ferromagnetic superfluid in a gradient field. Europhysics Letters, 2015, 111, 66001.	0.7	3
50	Passive Decoy-State Quantum Key Distribution with Coherent Light. Entropy, 2015, 17, 4064-4082.	1.1	5
51	Absolute frequency references at 1529 and 1560â€‰â€‰nm using modulation transfer spectroscopy. Optics Letters, 2015, 40, 4731.	1.7	17
52	Significant-Loophole-Free Test of Bellâ€™s Theorem with Entangled Photons. Physical Review Letters, 2015, 115, 250401.	2.9	932
53	Strong experimental guarantees in ultrafast quantum random number generation. Physical Review A, 2015, 91, .	1.0	36
54	Macroscopic Quantum State Analyzed Particle by Particle. Physical Review Letters, 2015, 114, 120402.	2.9	9

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55	Loophole-free Bell inequality violation using electron spins separated by 1.3 kilometres. Nature, 2015, 526, 682-686.	13.7	1,762
56	Generation, Characterization and Use of Atom-Resonant Indistinguishable Photon Pairs. Nano-optics and Nanophotonics, 2015, , 183-213.	0.2	0
57	Extreme spin squeezing for photons. New Journal of Physics, 2014, 16, 073027.	1.2	7
58	Theory of high gain cavity-enhanced spontaneous parametric down-conversion. Physical Review A, 2014, 90, .	1.0	4
59	Shot-noise-limited magnetometer with sub-picotesla sensitivity at room temperature. Review of Scientific Instruments, 2014, 85, 113108.	0.6	36
60	Ultra-fast quantum randomness generation by accelerated phase diffusion in a pulsed laser diode. Optics Express, 2014, 22, 1645.	1.7	114
61	Optimal signal recovery for pulsed balanced detection. Physical Review A, 2014, 90, .	1.0	3
62	Generation of Macroscopic Singlet States in a Cold Atomic Ensemble. Physical Review Letters, 2014, 113, 093601.	2.9	55
63	Atomic filtering for hybrid continuous-variable/discrete-variable quantum optics. Optics Express, 2014, 22, 25307.	1.7	21
64	Interferometric Measurement of the Biphoton Wave Function. Physical Review Letters, 2014, 113, 183602.	2.9	28
65	Ultrasensitive Atomic Spin Measurements with a Nonlinear Interferometer. Physical Review X, 2014, 4, .	2.8	25
66	Ultra-sensitive atomic spin measurements with a nonlinear interferometer. , 2014, , .		0
67	Generation of planar squeezed states in atomic ensembles. , 2014, , .		0
68	Ultrafast Quantum Random Number Generation Using Off-the-shelf Components. , 2014, , .		0
69	Spin cooling via incoherent feedback in an ensemble of cold 87Rb atoms. , 2014, , .		0
70	Certified quantum non-demolition measurement of atomic spins. , 2014, , .		0
71	High-purity atom resonant pairs of indistinguishable photons via filtered down-conversion. , 2014, , .		0
72	Simulation of non-Abelian gauge theories with optical lattices. Nature Communications, 2013, 4, 2615.	5.8	165

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73	Feedback Cooling of an Atomic Spin Ensemble. Physical Review Letters, 2013, 111, 103601.	2.9	30
74	Optical Spin Squeezing: Bright Beams as High-Flux Entangled Photon Sources. Physical Review Letters, 2013, 111, 143601.	2.9	10
75	Entanglement-enhanced probing of a delicate material system. Nature Photonics, 2013, 7, 28-32.	15.6	132
76	Quantum control of spin correlations in ultracold lattice gases. Physical Review A, 2013, 87, .	1.0	30
77	Certified quantum non-demolition measurement of a macroscopic material system. Nature Photonics, 2013, 7, 517-520.	15.6	42
78	Phase-stable source of polarization-entangled photons in a linear double-pass configuration. Optics Express, 2013, 21, 11943.	1.7	37
79	Planar squeezing by quantum non-demolition measurement in cold atomic ensembles. New Journal of Physics, 2013, 15, 103031.	1.2	24
80	Macroscopic singlet states for gradient magnetometry. Physical Review A, 2013, 88, .	1.0	42
81	Fast and non-destructive vector field magnetometry with cold atomic ensembles. , 2013, , .		0
82	A continuous source of cold spin-polarized cold atoms. , 2013, , .		0
83	Real-time vector field tracking with a cold-atom magnetometer. Applied Physics Letters, 2013, 102, 173504.	1.5	48
84	Entanglement-enhanced probing of a delicate material system. , 2013, , .		1
85	Simultaneous observation of super-Heisenberg scaling and spin squeezing in a nonlinear measurement of atomic spins. , 2013, , .		0
86	Ultra-bright source of polarization-entangled photons in a linear double-pass configuration. , 2013, , .		0
87	Near-resonant optical forces beyond the two-level approximation for a continuous source of spin-polarized cold atoms. Physical Review A, 2013, 87, .	1.0	4
88	Spin cooling via incoherent feedback in an ensemble of cold⁸⁷Rb atoms. , 2013, , .		0
89	Quantum control of spin-correlations in ultracold lattice gases. , 2013, , .		0
90	Quantum atomâ€“light interfaces in the Gaussian description for spin-1 systems. New Journal of Physics, 2013, 15, 103007.	1.2	29

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91	Quantum metrology with cold atomic ensembles. EPJ Web of Conferences, 2013, 57, 03004.	0.1	0
92	Quantum control of spin-correlations in ultracold lattice gases. , 2013, , .		0
93	Generation of planar quantum squeezing in an atomic ensemble. , 2013, , .		0
94	Simultaneous observation of super-Heisenberg scaling and spin squeezing in a nonlinear measurement of atomic spins. , 2013, , .		0
95	Entanglement-enhanced probing of a delicate material system. , 2013, , .		0
96	Ultranarrow Faraday rotation filter at the Rb D_1 line. Optics Letters, 2012, 37, 524.	1.7	78
97	A high-brightness source of polarization-entangled photons optimized for applications in free space. Optics Express, 2012, 20, 9640.	1.7	79
98	Fast beam steering with full polarization control using a galvanometric optical scanner and polarization controller. Optics Express, 2012, 20, 12247.	1.7	25
99	Efficient Quantification of Non-Gaussian Spin Distributions. Physical Review Letters, 2012, 108, 183602.	2.9	22
100	Magnetic Sensitivity Beyond the Projection Noise Limit by Spin Squeezing. Physical Review Letters, 2012, 109, 253605.	2.9	217
101	Certified quantum non-demolition measurement of material systems. New Journal of Physics, 2012, 14, 085021.	1.2	7
102	Atomic Quantum Metrology with Polarization-Entangled States of Light. , 2012, , .		2
103	Generation of a macroscopic singlet state in an atomic ensemble. , 2012, , .		0
104	Spin Squeezing of Large-Spin Ensembles via Quantum Non-demolition Measurement. , 2012, , .		0
105	High-performance narrowband filter for atom-resonant quantum light generation. , 2012, , .		0
106	Generation of a macroscopic singlet state in an atomic ensemble. , 2012, , .		0
107	Multipartite photonic entanglement generated from polarization squeezing at 795 nm. , 2012, , .		0
108	Atom-Resonant Heralded Single Photons by Interaction-Free Measurement. Physical Review Letters, 2011, 106, 053602.	2.9	70

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109	Fast optical source for quantum key distribution based on semiconductor optical amplifiers. Optics Express, 2011, 19, 3825.	1.7	11
110	True random numbers from amplified quantum vacuum. Optics Express, 2011, 19, 20665.	1.7	128
111	Collaboration and precision in quantum measurement. Physics Today, 2011, 64, 72-73.	0.3	0
112	Interaction-based quantum metrology showing scaling beyond the Heisenberg limit. Nature, 2011, 471, 486-489.	13.7	185
113	Experimental light-squeezing-enhanced magnetometry. , 2011, , .		0
114	High resolution magnetic vector-field imaging with cold atomic ensembles. Applied Physics Letters, 2011, 98, 074101.	1.5	34
115	Interaction-based quantum metrology giving a scaling beyond the Heisenberg limit. , 2011, , .		0
116	Improvement of an atomic measurement by multi-photon interference. , 2011, , .		0
117	Many-particle pairwise entanglement induced by temporal anti-correlation of a Stokes parameter. , 2011, , .		0
118	Generation of a macroscopic singlet state in an atomic ensemble. , 2011, , .		0
119	Active and passive optical sources for QKD. , 2011, , .		0
120	Generation of a macroscopic singlet state in an atomic ensemble. , 2011, , .		0
121	Quantum-Light-Enhanced Optical Magnetometry. , 2011, , .		0
122	Compact optical sources for quantum communications. , 2011, , .		0
123	Sub-Projection-Noise Sensitivity in Broadband Atomic Magnetometry. Physical Review Letters, 2010, 104, 093602.	2.9	119
124	Resonant interaction of a single atom with single photons from a down-conversion source. Physical Review A, 2010, 81, .	1.0	16
125	Quantum Nondemolition Measurement of Large-Spin Ensembles by Dynamical Decoupling. Physical Review Letters, 2010, 105, 093602.	2.9	65
126	Squeezed-Light Optical Magnetometry. Physical Review Letters, 2010, 105, 053601.	2.9	163

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127	Generation of macroscopic singlet states in atomic ensembles. New Journal of Physics, 2010, 12, 053007.	1.2	53
128	Nonlinear metrology with a quantum interface. New Journal of Physics, 2010, 12, 093016.	1.2	39
129	100 MHz Amplitude and Polarization Modulated Optical Source for Free-Space Quantum Key Distribution at 850 nm. Journal of Lightwave Technology, 2010, 28, 2572-2578.	2.7	23
130	Polarization change induced by a galvanometric optical scanner. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2010, 27, 1946.	0.8	16
131	NOON states from cavity-enhanced down-conversion: high quality and super-resolution. Journal of the Optical Society of America B: Optical Physics, 2010, 27, A25.	0.9	15
132	100 MHz Amplitude and Polarization Modulated Optical Source for Free-Space Quantum Communications at 850 nm. Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, 2010, , 297-304.	0.2	0
133	Parametric down-conversion from a wave-equation approach: Geometry and absolute brightness. Physical Review A, 2009, 79, .	1.0	12
134	Rubidium resonant squeezed light from a diode-pumped optical parametric oscillator. , 2009, , .		1
135	Better-than-Heisenberg scaling of sensitivity with light and cold atomic ensembles. , 2009, , .		0
136	Ultra-sensitive Faraday rotation measurements from an atom-light quantum interface. , 2009, , .		0
137	Polarization-based light-atom quantum interface with an all-optical trap. Physical Review A, 2009, 79, .	1.0	58
138	A single ion interacting with single spontaneous parametric down-conversion photons. , 2009, , .		0
139	Narrow-band filter for quantum light. , 2009, , .		0
140	Unified description of inhomogeneities, dissipation and transport in quantum lightâ€“atom interfaces. Journal of Physics B: Atomic, Molecular and Optical Physics, 2009, 42, 195502.	0.6	21
141	Demonstrating Heisenberg-limited unambiguous phase estimation without adaptive measurements. New Journal of Physics, 2009, 11, 073023.	1.2	99
142	An entangled photon source for resonant single-photonâ€“single-atom interaction. Journal of Physics B: Atomic, Molecular and Optical Physics, 2009, 42, 114002.	0.6	17
143	Tunable narrowband entangled photon pair source for resonant single-photon single-atom interaction. Optics Letters, 2009, 34, 55.	1.7	55
144	Narrowband tunable filter based on velocity-selective optical pumping in an atomic vapor. Optics Letters, 2009, 34, 1012.	1.7	53

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145	Ultra-bright narrow-band down-conversion source for atom-photon interaction. , 2009, , .		0
146	How to perform the most accurate possible phase measurements. Physical Review A, 2009, 80, .	1.0	139
147	Quantum-Enhanced Measurements of Atomic Spin. , 2009, , .		0
148	Ultra-Bright Narrow-Band Down-Conversion Source for Atom-Photon Interaction. , 2009, , .		0
149	Bright filter-free source of indistinguishable photon pairs. Optics Express, 2008, 16, 18145.	1.7	70
150	Spatial entanglement of paired photons generated in cold atomic ensembles. Physical Review A, 2008, 78, .	1.0	8
151	Rubidium resonant squeezed light from a diode-pumped optical-parametric oscillator. Physical Review A, 2008, 78, .	1.0	36
152	Detecting hidden differences via permutation symmetries. Physical Review A, 2008, 78, .	1.0	19
153	Hamiltonian design in atom-light interactions with rubidium ensembles: A quantum-information toolbox. Physical Review A, 2008, 77, .	1.0	29
154	Narrowband ⁸⁷Rb Resonant Downconversion Source for Quantum Memories. , 2007, , .		0
155	Cold ⁸⁷Rb ensembles: non-Gaussian state detection and spin tomography. , 2007, , .		0
156	Spin squeezing experiments in a cold ensemble of ⁸⁷Rb. , 2007, , .		0
157	Multiparticle State Tomography: Hidden Differences. Physical Review Letters, 2007, 98, 043601.	2.9	36
158	Simple Proof of Equivalence between Adiabatic Quantum Computation and the Circuit Model. Physical Review Letters, 2007, 99, 070502.	2.9	161
159	Inhomogeneities in atom-light interfaces and spin squeezing dynamics. , 2007, , .		0
160	A pair photon source for heralded single-photon - single-atom interaction. , 2007, , .		0
161	Classical dispersion-cancellation interferometry. Optics Express, 2007, 15, 8797.	1.7	50
162	A double-slit â€˜which-wayâ€™ experiment on the complementarityâ€“uncertainty debate. New Journal of Physics, 2007, 9, 287-287.	1.2	131

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163	Quantum Light - Matter Interactions with Cold Ensembles. , 2007, , .		0
164	Cold atomic ensembles for quantum interfaces: new interactions.. , 2007, , .		0
165	Interaction Free Spectroscopy with Single Photons. , 2007, , .		0
166	Metrology with entangled states. , 2005, , .		10
167	Limitations of quantum process tomography. , 2005, 5631, 60.		1
168	Indistinguishability of entangled photons generated with achromatic phase matching. Physical Review A, 2005, 71, .	1.0	15
169	Quantum process tomography on vibrational states of atoms in an optical lattice. Physical Review A, 2005, 72, .	1.0	46
170	Conditions for spin squeezing in a cold87Rb ensemble. Journal of Optics B: Quantum and Semiclassical Optics, 2005, 7, S548-S552.	1.4	41
171	Experimental generation of entangled states by post-selected linear-optics operations. , 2004, , IMG5.		0
172	Super-resolving phase measurements with a multiphoton entangled state. Nature, 2004, 429, 161-164.	13.7	720
173	Quantum process tomography and the search for decoherence-free subspaces. , 2004, 5436, 223.		1
174	Diagnosis, Prescription, and Prognosis of a Bell-State Filter by Quantum Process Tomography. Physical Review Letters, 2003, 91, 120402.	2.9	91
175	Scaling considerations in ground-state quantum computation. Physical Review A, 2002, 65, .	1.0	16
176	Entangled photon apparatus for the undergraduate laboratory. American Journal of Physics, 2002, 70, 898-902.	0.3	60
177	Entangled photons, nonlocality, and Bell inequalities in the undergraduate laboratory. American Journal of Physics, 2002, 70, 903-910.	0.3	108
178	Energy barrier to decoherence. Physical Review A, 2001, 63, .	1.0	24
179	Dynamics of atom-mediated photon-photon scattering. Physical Review A, 2000, 62, .	1.0	24
180	Causality and negative group delays in a simple bandpass amplifier. American Journal of Physics, 1998, 66, 14-19.	0.3	146

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181	Negative group delay and â€œfrontsâ€•in a causal system: An experiment with very low frequency bandpass amplifiers. Physics Letters, Section A: General, Atomic and Solid State Physics, 1997, 230, 133-138.	0.9	139
182	Superluminality and amplifiers. Progress in Crystal Growth and Characterization of Materials, 1996, 33, 319-325.	1.8	20
183	Superluminality and parelectricity: The ammonia maser revisited. Applied Physics B: Lasers and Optics, 1995, 60, 259-265.	1.1	13
184	Superluminal and parelectric effects in rubidium vapour and ammonia gas. Quantum and Semiclassical Optics: Journal of the European Optical Society Part B, 1995, 7, 279-295.	1.0	11
185	Quantitative topographic analysis of fractal surfaces by scanning tunneling microscopy. Journal of Materials Research, 1990, 5, 2244-2254.	1.2	147
186	Conditions for a QND measurement of spin in cold /sup 87/Rb. , 0, , .		0
187	Manipulating and measuring single atoms in the Maltese cross geometry. Open Research Europe, 0, 1, 102.	2.0	0
188	Cavity-enhanced atomic polarization rotation measurements. Optics Express, 0, , .	1.7	1
189	Manipulating and measuring single atoms in the Maltese cross geometry. Open Research Europe, 0, 1, 102.	2.0	2