Eugene Polzik

List of Publications by Year in descending order

Source: https://exaly.com/author-pdf/2327165/publications.pdf

Version: 2024-02-01

181 papers 15,929 citations

51
h-index

21521 114 g-index

185 all docs

185 docs citations

times ranked

185

7009 citing authors

#	Article	IF	CITATIONS
1	Trajectories Without Quantum Uncertainties in Composite Systems with Disparate Energy Spectra. PRX Quantum, 2022, 3, .	3.5	1
2	Entanglement between distant macroscopic mechanical and spin systems. Nature Physics, 2021, 17, 228-233.	6.5	71
3	High-frequency broadband laser phase noise cancellation using a delay line. Optics Express, 2021, 29, 6935.	1.7	4
4	Room-temperature single-photon source with near-millisecond built-in memory. Nature Communications, $2021,12,3699.$	5.8	27
5	Single-Photon Source with Near-Millisecond Memory based on Room-Temperature Atomic Vapour., 2021,,.		О
6	Dissipative optomechanical coupling with a membrane outside of an optical cavity. Physical Review A, 2021, 103, .	1.0	3
7	Calibration of spin-light coupling by coherently induced Faraday rotation. Optics Express, 2021, 29, 23637.	1.7	1
8	Long-Lived Entanglement Generation of Nuclear Spins Using Coherent Light. Physical Review Letters, 2020, 124, 043602.	2.9	30
9	Measurement and simulation of atomic motion in nanoscale optical trapping potentials. Applied Physics B: Lasers and Optics, 2020, $126,1.$	1.1	5
10	Cavity-enhanced sum-frequency generation of blue light with near-unity conversion efficiency. Optics Express, 2020, 28, 3975.	1.7	7
11	Phonon counting thermometry of an ultracoherent membrane resonator near its motional ground state. Optica, 2020, 7, 718.	4.8	20
12	The Copenhagen Conference: Quantum Limits of Knowledge. Quantum Studies: Mathematics and Foundations, 2020, 7, 195-195.	0.4	0
13	Double-Resonant Sum-Frequency Generation of Blue Light with Near-Unity Quantum Conversion Efficiency. , 2020, , .		О
14	Gravitational wave detection beyond the standard quantum limit using a negative-mass spin system and virtual rigidity. Physical Review D, 2019, 100 , .	1.6	17
15	Magnetic resonance imaging with optical preamplification and detection. Scientific Reports, 2019, 9, 18173.	1.6	13
16	Detection of low-conductivity objects using eddy current measurements with an optical magnetometer. Physical Review Research, 2019, 1, .	1.3	19
17	Sensitive optomechanical transduction of electric and magnetic signals to the optical domain. Optics Express, 2019, 27, 18561.	1.7	13
18	Magnetocardiography on an isolated animal heart with a room-temperature optically pumped magnetometer. Scientific Reports, 2018, 8, 16218.	1.6	53

#	Article	IF	CITATIONS
19	Long-lived non-classical correlations towards quantum communication at room temperature. Communications Physics, 2018, 1 , .	2.0	26
20	Carrier-mediated optomechanical forces in semiconductor nanomembranes with coupled quantum wells. Physical Review B, 2018, 98, .	1.1	6
21	Unconditional Steady-State Entanglement in Macroscopic Hybrid Systems by Coherent Noise Cancellation. Physical Review Letters, 2018, 121, 103602.	2.9	19
22	Overcoming the Standard Quantum Limit in Gravitational Wave Detectors Using Spin Systems with a Negative Effective Mass. Physical Review Letters, 2018, 121, 031101.	2.9	37
23	Dissipative versus dispersive coupling in quantum optomechanics: Squeezing ability and stability. Physical Review A, 2018, 97, .	1.0	18
24	Ultracoherent nanomechanical resonators via soft clamping and dissipation dilution. Nature Nanotechnology, 2017, 12, 776-783.	15.6	293
25	Multimode optomechanical system in the quantum regime. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 62-66.	3.3	89
26	Quantum back-action-evading measurement of motion in a negative mass reference frame. Nature, 2017, 547, 191-195.	13.7	153
27	Dipole force free optical control and cooling of nanofiber trapped atoms. Optics Letters, 2017, 42, 4315.	1.7	12
28	Quantum Back Action Evading Measurements in a Spin-Mechanics Hybrid System., 2017,,.		0
29	Multimode Quantum Optomechanics with Ultra-coherent Nanomechanical Resonators. , 2017, , .		0
30	Semi-classical dynamics of superradiant Rayleigh scattering in a Bose–Einstein condensate. Journal of Modern Optics, 2016, 63, 1886-1897.	0.6	8
31	Coherent Backscattering of Light Off One-Dimensional Atomic Strings. Physical Review Letters, 2016, 117, 133604.	2.9	112
32	Non-invasive detection of animal nerve impulses with an atomic magnetometer operating near quantum limited sensitivity. Scientific Reports, 2016, 6, 29638.	1.6	52
33	Entanglement and spin squeezing in a network of distant optical lattice clocks. Physical Review A, 2016, 93, .	1.0	21
34	Scalable photonic network architecture based on motional averaging in room temperature gas. Nature Communications, 2016, 7, 11356.	5.8	34
35	On-chip RF-to-optical transducer (Conference Presentation). , 2016, , .		0
36	A dynamic operation of a PIN photodiode. Applied Physics Letters, 2015, 106, 031115.	1.5	7

#	Article	IF	Citations
37	Generation of a squeezed state of an oscillator by stroboscopic back-action-evading measurement. Nature Physics, 2015, 11, 389-392.	6.5	92
38	Trajectories without quantum uncertainties. Annalen Der Physik, 2015, 527, A15.	0.9	41
39	Generation and Detection of a Sub-Poissonian Atom Number Distribution in a One-Dimensional Optical Lattice. Physical Review Letters, 2014, 113, 263603.	2.9	68
40	Cavity enhanced quantum limited magnetometry., 2014,,.		1
41	Demonstration of suppressed phonon tunneling losses in phononic bandgap shielded membrane resonators for high-Q optomechanics. Optics Express, 2014, 22, 6810.	1.7	49
42	Quantum interference of a single spin excitation with a macroscopic atomic ensemble. Physical Review A, 2014, 89, .	1.0	24
43	Optical detection of radio waves through a nanomechanical transducer. Nature, 2014, 507, 81-85.	13.7	382
44	Heater Self-Calibration Technique for Shape Prediction of Fiber Tapers. Journal of Lightwave Technology, 2014, 32, 1886-1891.	2.7	13
45	Single-layer graphene on silicon nitride micromembrane resonators. Journal of Applied Physics, 2014, 115, 054513.	1.1	33
46	Optical Detection of Radio Waves Through a Nanomechanical Transducer. , 2014, , .		3
47	Quantum Teleportation of Dynamics and Effective Interactions between Remote Systems. Physical Review Letters, 2013, 111, 020501.	2.9	9
48	Deterministic quantum teleportation between distant atomic objects. Nature Physics, 2013, 9, 400-404.	6.5	162
49	Optical readout of coupling between a nanomembrane and an LC circuit at room temperature. , 2013, , .		0
50	Toward quantum state tomography of a single polariton state of an atomic ensemble. New Journal of Physics, 2013, 15, 015002.	1.2	19
51	Exciton-mediated photothermal cooling in GaAs membranes. New Journal of Physics, 2012, 14, 085024.	1.2	10
52	Effect of Light Assisted Collisions on Matter Wave Coherence in Superradiant Bose-Einstein Condensates. Physical Review Letters, 2012, 108, 090401.	2.9	20
53	Quantum Memory Assisted Probing of Dynamical Spin Correlations. Physical Review Letters, 2012, 108, 065302.	2.9	10
54	Breakdown of the Classical Description of a Local System. Physical Review Letters, 2012, 108, 233601.	2.9	8

#	Article	IF	Citations
55	Atomic nonclassicality quasiprobabilities. Physical Review A, 2012, 86, .	1.0	24
56	Optical cavity cooling of mechanical modes of a semiconductor nanomembrane. Nature Physics, 2012, 8, 168-172.	6.5	79
57	Robust entanglement generation by reservoir engineering. Journal of Physics B: Atomic, Molecular and Optical Physics, 2012, 45, 124021.	0.6	20
58	In-situ dual-port polarization contrast imaging of FaradayÂrotation in a high optical depth ultracold 87Rb atomic ensemble. European Physical Journal D, 2012, 66, 1.	0.6	14
59	Dissipatively driven entanglement of two macroscopic atomic ensembles. Physical Review A, 2011, 83, .	1.0	130
60	Quantum memory, entanglement and sensing with room temperature atoms. Journal of Physics: Conference Series, 2011, 264, 012022.	0.3	0
61	Fock-state view of weak-value measurements and implementation with photons and atomic ensembles. Physical Review A, 2011, 83, .	1.0	26
62	Entanglement Generated by Dissipation and Steady State Entanglement of Two Macroscopic Objects. Physical Review Letters, 2011, 107, 080503.	2.9	465
63	Quantum memory for entangled continuous-variable states. Nature Physics, 2011, 7, 13-16.	6.5	130
64	Atoms, Photons and Entanglement for Quantum Information Technologies. Procedia Computer Science, 2011, 7, 52-55.	1.2	2
65	Quantum information at the interface of light with atomic ensembles and micromechanical oscillators. Quantum Information Processing, 2011, 10, 839-863.	1.0	21
66	Entanglement Generated by Dissipation. , 2011, , .		1
67	Directly Estimating Nonclassicality. Physical Review Letters, 2011, 106, 010403.	2.9	75
68	Laser Cooling and Optical Detection of Excitations in aLCElectrical Circuit. Physical Review Letters, 2011, 107, 273601.	2.9	68
69	Heralded amplification for precision measurements with spin ensembles. Physical Review A, 2011, 84, .	1.0	5
70	High-Q optomechanical GaAs nanomembranes. Applied Physics Letters, 2011, 99, 243102.	1.5	29
71	Optoelectronic cooling of mechanical modes in a semiconductor nanomembrane. , 2011, , .		0
72	Quantum optical interface for atoms and electro-mechanical systems. , 2011, , .		О

#	Article	IF	Citations
73	ROOM-TEMPERATURE ATOMIC ENSEMBLES FOR QUANTUM MEMORY AND MAGNETOMETRY. , 2010, , .		O
74	Quantum memories. European Physical Journal D, 2010, 58, 1-22.	0.6	420
75	Quantum state transfer between light and matter via teleportation. Laser and Photonics Reviews, 2010, 4, 685-696.	4.4	1
76	Quantum Noise Limited and Entanglement-Assisted Magnetometry. , 2010, , .		0
77	Entanglement-assisted atomic clock beyond the projection noise limit. New Journal of Physics, 2010, 12, 065032.	1.2	135
78	High quality anti-relaxation coating material for alkali atom vapor cells. Optics Express, 2010, 18, 5825.	1.7	64
79	Quantum interface between light and atomic ensembles. Reviews of Modern Physics, 2010, 82, 1041-1093.	16.4	969
80	Quantum Noise Limited and Entanglement-Assisted Magnetometry. Physical Review Letters, 2010, 104, 133601.	2.9	328
81	Hybrid Long-Distance Entanglement Distribution Protocol. Physical Review Letters, 2010, 105, 160501.	2.9	89
82	Quantum volume hologram. Physical Review A, 2010, 81, .	1.0	19
83	Spin squeezing of atomic ensembles by multicolor quantum nondemolition measurements. Physical Review A, 2009, 79, .	1.0	45
84	Polarization-based light-atom quantum interface with an all-optical trap. Physical Review A, 2009, 79, .	1.0	58
85	Mesoscopic atomic entanglement for precision measurements beyond the standard quantum limit. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 10960-10965.	3.3	322
86	Entanglement of multiparty stabilizer, symmetric, and antisymmetric states., 2009,,.		0
87	Ultra low-noise differential ac-coupled photodetector for sensitive pulse detection applications. Measurement Science and Technology, 2009, 20, 055301.	1.4	13
88	Squeezing of atomic quantum projection noise. Journal of Modern Optics, 2009, 56, 1993-1998.	0.6	6
89	Quantum memory for images with feedback. Optics and Spectroscopy (English Translation of Optika I) Tj ETQq 1	1 0.78431 	.4 rgBT /Ove
90	Establishing Einstein-Poldosky-Rosen Channels between Nanomechanics and Atomic Ensembles. Physical Review Letters, 2009, 102, 020501.	2.9	155

#	Article	IF	Citations
91	Time gating of heralded single photons for atomic memories. Optics Letters, 2009, 34, 3872.	1.7	17
92	Generation of two-mode squeezed and entangled light in a single temporal and spatial mode. Optics Express, 2009, 17, 14444.	1.7	38
93	Cavity-assisted squeezing of a mechanical oscillator. Physical Review A, 2009, 79, .	1.0	178
94	Entanglement for Metrology with Atomic Ensembles. , 2009, , .		0
95	Echo spectroscopy of atomic dynamics in a Gaussian trap via phase imprints. European Physical Journal D, 2008, 50, 67-73.	0.6	6
96	The squeeze goes on. Nature, 2008, 453, 45-46.	13.7	53
97	Quantum non-demolition detection of strongly correlated systems. Nature Physics, 2008, 4, 50-54.	6.5	144
98	Nondestructive Probing of Rabi Oscillations on the Cesium Clock Transition near the Standard Quantum Limit. Physical Review Letters, 2008, 100, 103601.	2.9	56
99	Squeezing the limit: quantum benchmarks for the teleportation and storage of squeezed states. New Journal of Physics, 2008, 10, 113014.	1.2	50
100	Inhomogeneous light shift effects on atomic quantum state evolution in non-destructive measurements. New Journal of Physics, 2008, 10, 053032.	1.2	22
101	Quantum memory and teleportation using macroscopic gas samples. Journal of Physics B: Atomic, Molecular and Optical Physics, 2008, 41, 223001.	0.6	14
102	Quantum memory for images: A quantum hologram. Physical Review A, 2008, 77, .	1.0	52
103	Rayleigh superradiance and dynamic Bragg gratings in an end-pumped Bose-Einstein condensate. Physical Review A, 2008, 78, .	1.0	35
104	Spin Squeezing of Atomic Ensembles via Nuclear-Electronic Spin Entanglement. Physical Review Letters, 2008, 101, 073601.	2.9	119
105	Quantum teleportation between light and matter., 2007,,.		0
106	Quantum teleportation between light and matter. , 2007, , .		0
107	Spin squeezing experiments in a cold ensemble of ⁸⁷ Rb., 2007,,.		0
108	Quantum Polarization Spectroscopy of Ultracold Spinor Gases. Physical Review Letters, 2007, 98, 100404.	2.9	42

#	Article	IF	CITATIONS
109	Nondestructive interferometric characterization of an optical dipole trap. Physical Review A, 2007, 75,	1.0	24
110	Spectral theory of quantum memory and entanglement via Raman scattering of light by an atomic ensemble. Physical Review A, 2007, 75, .	1.0	21
111	High purity bright single photon source. Optics Express, 2007, 15, 7940.	1.7	149
112	Deterministic Atom–Light Quantum Interface. Advances in Atomic, Molecular and Optical Physics, 2007, 54, 81-130.	2.3	29
113	Deterministic Quantum Interface between Light and Atomic Ensembles. , 2007, , 513-551.		4
114	Quantum Information with Continuous Variables of Atoms and Light. , 2007, , .		141
115	Quantum Light - Matter Interactions with Cold Ensembles. , 2007, , .		0
116	Deterministic Quantum Interface between Light and Room Temperature Atomic Ensembles. , 2007, , .		0
117	Quantum Atom Optics with Spin Polarized Atomic Ensembles. , 2007, , .		0
118	Generation of a Superposition of Odd Photon Number States for Quantum Information Networks. Physical Review Letters, 2006, 97, 083604.	2.9	496
119	High-fidelity teleportation between light and atoms. Physical Review A, 2006, 74, .	1.0	14
120	Quantum teleportation between light and matter. Nature, 2006, 443, 557-560.	13.7	644
121	Efficient quantum memory and entanglement between light and an atomic ensemble using magnetic fields. Physical Review A, 2006, 73, .	1.0	53
122	Single-passage readout of atomic quantum memory. Physical Review A, 2006, 73, .	1.0	19
123	Light qubit storage and retrieval using macroscopic atomic ensembles. Physical Review A, 2006, 74, .	1.0	39
124	Teleportation and spin squeezing utilizing multimode entanglement of light with atoms. Physical Review A, 2005, 72, .	1.0	44
125	Quantum-noise-limited interferometric measurement of atomic noise: Towards spin squeezing on the Cs clock transition. Physical Review A, 2005, 71 , .	1.0	60
126	Multimode entanglement of light and atomic ensembles via off-resonant coherent forward scattering. Physical Review A, 2005, 71, .	1.0	44

#	Article	IF	Citations
127	Diffraction effects on light–atomic-ensemble quantum interface. Physical Review A, 2005, 71, .	1.0	11
128	Quantum Benchmark for Storage and Transmission of Coherent States. Physical Review Letters, 2005, 94, 150503.	2.9	147
129	Conditions for spin squeezing in a cold87Rb ensemble. Journal of Optics B: Quantum and Semiclassical Optics, 2005, 7, S548-S552.	1.4	41
130	Distant Entanglement of Macroscopic Gas Samples. , 2005, , 353-372.		2
131	Quantum Cloning of a Coherent Light State into an Atomic Quantum Memory. Physical Review Letters, 2004, 93, 180501.	2.9	24
132	Characterizing the spin state of an atomic ensemble using the magneto-optical resonance method. Journal of Optics B: Quantum and Semiclassical Optics, 2004, 6, 5-14.	1.4	49
133	Experimental demonstration of quantum memory for light. Nature, 2004, 432, 482-486.	13.7	727
134	Flight of the qubit. Nature, 2004, 428, 129-130.	13.7	6
135	Light-matter quantum interface. Physical Review A, 2004, 70, .	1.0	95
136	Quantum limits encountered in atomic spin measurements. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2003, 58, 999-1010.	1.5	2
137	Generating a Superposition of Spin States in an Atomic Ensemble. Physical Review Letters, 2003, 91, 060401.	2.9	29
138	Entanglement and quantum teleportation with multi-atom ensembles. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2003, 361, 1391-1399.	1.6	8
139	Atomic Continuous Variable Processing and Light-Atoms Quantum Interface., 2003,, 231-265.		6
140	Narrow-band frequency tunable light source of continuous quadrature entanglement. Physical Review A, 2002, 66, .	1.0	114
141	Atomic entanglement on a grand scale. Physics World, 2002, 15, 33-37.	0.0	3
142	Quantum Teleportation with Atomic Ensembles and Coherent Light., 2002,, 351-357.		2
143	Recording Quantum Properties of Light in a Long-Lived Atomic Spin State: TowardsQuantum Memory. Physical Review Letters, 2002, 89, 057903.	2.9	79
144	Experimental quantum key distribution with proven security against realistic attacks. Journal of Modern Optics, 2001, 48, 1921-1942.	0.6	16

#	Article	IF	CITATIONS
145	Experimental long-lived entanglement of two macroscopic objects. Nature, 2001, 413, 400-403.	13.7	980
146	Mapping a quantum state of light onto atoms. Journal of Optics B: Quantum and Semiclassical Optics, 2001, 3, S83-S92.	1.4	19
147	Experimental quantum key distribution with proven security against realistic attacks. Journal of Modern Optics, 2001, 48, 1921-1942.	0.6	8
148	Atomic Quantum State Teleportation and Swapping. Physical Review Letters, 2000, 85, 5639-5642.	2.9	142
149	Entanglement transfer from light to atoms. Journal of Modern Optics, 2000, 47, 2599-2614.	0.6	31
150	Quantum Communication between Atomic Ensembles Using Coherent Light. Physical Review Letters, 2000, 85, 5643-5646.	2.9	268
151	Entanglement transfer from light to atoms. Journal of Modern Optics, 2000, 47, 2599-2614.	0.6	4
152	Einstein-Podolsky-Rosen-correlated atomic ensembles. Physical Review A, 1999, 59, 4202-4205.	1.0	38
153	Quantum interference in two-photon excitation with squeezed and coherent fields. Physical Review A, 1999, 59, 676-690.	1.0	22
154	Spin Squeezed Atoms: A Macroscopic Entangled Ensemble Created by Light. Physical Review Letters, 1999, 83, 1319-1322.	2.9	459
155	Quantum Noise of an Atomic Spin Polarization Measurement. Physical Review Letters, 1998, 80, 3487-3490.	2.9	130
156	Spectroscopy on a modulated magneto-optical trap. Optics Letters, 1998, 23, 25.	1.7	4
157	Quantum noise of cold atomic spins illuminated with non-classical light. Optics Express, 1998, 2, 93.	1.7	3
158	Unconditional Quantum Teleportation., 1998, 282, 706-709.		2,440
159	Squeezing with for atomic physics and spectroscopy. Quantum and Semiclassical Optics: Journal of the European Optical Society Part B, 1997, 9, 239-246.	1.0	6
160	Spin Squeezing in an Ensemble of Atoms Illuminated with Squeezed Light. Physical Review Letters, 1997, 79, 4782-4785.	2.9	229
161	Atoms as nonlinear mixers for detection of quantum correlations at ultrahigh frequencies. Physical Review A, 1997, 55, R1605-R1608.	1.0	49
162	Fundamental noise of an atomic spin measurement. Journal of Modern Optics, 1997, 44, 1917-1928.	0.6	6

#	Article	IF	CITATIONS
163	High efficiency second harmonic generation with a low power diode laser. Applied Physics B: Lasers and Optics, 1997, 64, 383-386.	1.1	20
164	Transient optical absorption in KNbO3 crystals irradiated with pulsed electron beam. Solid State Communications, 1997, 104, 327-330.	0.9	26
165	Frequency metrology by use of quantum interference. Optics Letters, 1996, 21, 1688.	1.7	28
166	Two-photon excitation of three-level atoms in a squeezed vacuum. Progress in Crystal Growth and Characterization of Materials, 1996, 33, 335-338.	1.8	0
167	Nonclassical Excitation for Atoms in a Squeezed Vacuum. Physical Review Letters, 1995, 75, 3426-3429.	2.9	260
168	Inhibited light-induced absorption in KNbO_3. Optics Letters, 1995, 20, 2270.	1.7	34
169	Quantum Measurement in Quantum Opticsa. Annals of the New York Academy of Sciences, 1995, 755, 87-90.	1.8	3
170	Quantum Optics With Strong Coupling. , 1994, , .		4
171	Two-photon spectroscopy of the 6S_1/2 \hat{a} † 6D_5/2 transition of trapped atomic cesium. Optics Letters, 1994, 19, 1474.	1.7	50
172	Blue-light-induced infrared absorption in KNbO_3. Journal of the Optical Society of America B: Optical Physics, 1994, 11, 2023.	0.9	76
173	Spectroscopy with nonclassical light. AIP Conference Proceedings, 1993, , .	0.3	O
174	Spectroscopy with squeezed light. Physical Review Letters, 1992, 68, 3020-3023.	2.9	361
175	85% efficiency for cw frequency doubling from 108 to 054 \hat{l} 4m. Optics Letters, 1992, 17, 640.	1.7	138
176	Atomic spectroscopy with squeezed light for sensitivity beyond the vacuum-state limit. Applied Physics B, Photophysics and Laser Chemistry, 1992, 55, 279-290.	1.5	148
177	Effect of coherent blue light on fetal pig xenotransplants. Transplantation Proceedings, 1992, 24, 549-50.	0.3	1
178	Frequency doubling with KNbO_3 in an external cavity. Optics Letters, 1991, 16, 1400.	1.7	140
179	Squeezing produced by the nth harmonic generation inside a laser resonator. Optics Communications, 1990, 77, 247-252.	1.0	2
180	Quantum Interface Between Light and Atomic Ensembles. , 0, , 515-535.		0

ARTICLE IF CITATIONS

181 Quantum noise, squeezing, and entanglement in radiofrequency optical magnetometers. , 0, , 40-59. o