

Wolfgang Tittel

List of Publications by Year in descending order

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125
papers

17,727
citations

66250

44
h-index

25983

112
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125
all docs

125
docs citations

125
times ranked

9066
citing authors

#	ARTICLE	IF	CITATIONS
1	Quantum cryptography. <i>Reviews of Modern Physics</i> , 2002, 74, 145-195.	16.4	6,731
2	Optical quantum memory. <i>Nature Photonics</i> , 2009, 3, 706-714.	15.6	1,107
3	Violation of Bell Inequalities by Photons More Than 10 km Apart. <i>Physical Review Letters</i> , 1998, 81, 3563-3566.	2.9	716
4	Pulsed Energy-Time Entangled Twin-Photon Source for Quantum Communication. <i>Physical Review Letters</i> , 1999, 82, 2594-2597.	2.9	555
5	Quantum Cryptography Using Entangled Photons in Energy-Time Bell States. <i>Physical Review Letters</i> , 2000, 84, 4737-4740.	2.9	493
6	Broadband waveguide quantum memory for entangled photons. <i>Nature</i> , 2011, 469, 512-515.	13.7	481
7	Long-distance teleportation of qubits at telecommunication wavelengths. <i>Nature</i> , 2003, 421, 509-513.	13.7	411
8	“Plug and play” systems for quantum cryptography. <i>Applied Physics Letters</i> , 1997, 70, 793-795.	1.5	394
9	Quantum cryptography using larger alphabets. <i>Physical Review A</i> , 2000, 61, .	1.0	360
10	Experimental demonstration of quantum secret sharing. <i>Physical Review A</i> , 2001, 63, .	1.0	356
11	Photon-echo quantum memory in solid state systems. <i>Laser and Photonics Reviews</i> , 2010, 4, 244-267.	4.4	351
12	A photonic quantum information interface. <i>Nature</i> , 2005, 437, 116-120.	13.7	350
13	Highly efficient photon-pair source using periodically poled lithium niobate waveguide. <i>Electronics Letters</i> , 2001, 37, 26.	0.5	302
14	Real-World Two-Photon Interference and Proof-of-Principle Quantum Key Distribution Immune to Detector Attacks. <i>Physical Review Letters</i> , 2013, 111, 130501.	2.9	282
15	Distribution of Time-Bin Entangled Qubits over 50 km of Optical Fiber. <i>Physical Review Letters</i> , 2004, 93, 180502.	2.9	251
16	Photonic entanglement for fundamental tests and quantum communication. <i>Quantum Information and Computation</i> , 2001, 1, 3-56.	0.1	247
17	Quantum memory for nonstationary light fields based on controlled reversible inhomogeneous broadening. <i>Physical Review A</i> , 2006, 73, .	1.0	218
18	Prospective applications of optical quantum memories. <i>Journal of Modern Optics</i> , 2013, 60, 1519-1537.	0.6	218

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19	Spectral Multiplexing for Scalable Quantum Photonics using an Atomic Frequency Comb Quantum Memory and Feed-Forward Control. <i>Physical Review Letters</i> , 2014, 113, 053603.	2.9	214
20	Quantum storage of entangled telecom-wavelength photons in an erbium-doped optical fibre. <i>Nature Photonics</i> , 2015, 9, 83-87.	15.6	190
21	Quantum teleportation across a metropolitan fibre network. <i>Nature Photonics</i> , 2016, 10, 676-680.	15.6	184
22	Time-bin entangled qubits for quantum communication created by femtosecond pulses. <i>Physical Review A</i> , 2002, 66, .	1.0	182
23	Experimental demonstration of quantum correlations over more than 10 km. <i>Physical Review A</i> , 1998, 57, 3229-3232.	1.0	169
24	Long Distance Quantum Teleportation in a Quantum Relay Configuration. <i>Physical Review Letters</i> , 2004, 92, 047904.	2.9	160
25	Long-distance entanglement swapping with photons from separated sources. <i>Physical Review A</i> , 2005, 71, .	1.0	140
26	Interferometry with Faraday mirrors for quantum cryptography. <i>Electronics Letters</i> , 1997, 33, 586.	0.5	107
27	Long-distance Bell-type tests using energy-time entangled photons. <i>Physical Review A</i> , 1999, 59, 4150-4163.	1.0	104
28	Experimental test of nonlocal quantum correlation in relativistic configurations. <i>Physical Review A</i> , 2001, 63, .	1.0	103
29	Quantum interference with photon pairs created in spatially separated sources. <i>Physical Review A</i> , 2003, 67, .	1.0	93
30	Rate-loss analysis of an efficient quantum repeater architecture. <i>Physical Review A</i> , 2015, 92, .	1.0	91
31	Tailoring photonic entanglement in high-dimensional Hilbert spaces. <i>Physical Review A</i> , 2004, 69, .	1.0	87
32	Experimental investigation of the robustness of partially entangled qubits over 11 km. <i>Physical Review A</i> , 2002, 66, .	1.0	85
33	Fidelity of an Optical Memory Based on Stimulated Photon Echoes. <i>Physical Review Letters</i> , 2007, 98, 113601.	2.9	80
34	Space-quest, experiments with quantum entanglement in space. <i>Europhysics News</i> , 2009, 40, 26-29.	0.1	77
35	Two independent photon pairs versus four-photon entangled states in parametric down conversion. <i>Journal of Modern Optics</i> , 2004, 51, 1637-1649.	0.6	75
36	A multiplexed light-matter interface for fibre-based quantum networks. <i>Nature Communications</i> , 2016, 7, 11202.	5.8	65

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37	Heralded Single Photons Based on Spectral Multiplexing and Feed-Forward Control. Physical Review Letters, 2017, 119, 083601.	2.9	62
38	Quantum-noise-limited interferometric measurement of atomic noise: Towards spin squeezing on the Cs clock transition. Physical Review A, 2005, 71, .	1.0	60
39	The speed of quantum information and the preferred frame: analysis of experimental data. Physics Letters, Section A: General, Atomic and Solid State Physics, 2000, 276, 1-7.	0.9	59
40	Proof-of-concept of real-world quantum key distribution with quantum frames. New Journal of Physics, 2009, 11, 095001.	1.2	54
41	Performing private database queries in a real-world environment using a quantum protocol. Scientific Reports, 2014, 4, 5233.	1.6	51
42	An integrated processor for photonic quantum states using a broadband light-matter interface. New Journal of Physics, 2014, 16, 065019.	1.2	50
43	Spectroscopic investigations of a waveguide for photon-echo quantum memory. Journal of Luminescence, 2010, 130, 1586-1593.	1.5	48
44	Telecom-Wavelength Atomic Quantum Memory in Optical Fiber for Heralded Polarization Qubits. Physical Review Letters, 2015, 115, 140501.	2.9	46
45	Measurement-device-independent quantum key distribution: from idea towards application. Journal of Modern Optics, 2015, 62, 1141-1150.	0.6	45
46	Practical Aspects of Quantum Cryptographic Key Distribution. Journal of Cryptology, 2000, 13, 207-220.	2.1	43
47	Long-distance practical quantum key distribution by entanglement swapping. Optics Express, 2011, 19, 3004.	1.7	41
48	Conditional Detection of Pure Quantum States of Light after Storage in a Tm-Doped Waveguide. Physical Review Letters, 2012, 108, 083602.	2.9	41
49	Practical quantum repeaters with parametric down-conversion sources. Applied Physics B: Lasers and Optics, 2016, 122, 1.	1.1	41
50	Digitally Linearized Radio-Over Fiber Transmitter Architecture for Cloud Radio Access Network's Downlink. IEEE Transactions on Microwave Theory and Techniques, 2018, 66, 3564-3574.	2.9	40
51	Storage and Reemission of Heralded Telecommunication-Wavelength Photons Using a Crystal Waveguide. Physical Review Applied, 2019, 11, .	1.5	40
52	Investigations of optical coherence properties in an erbium-doped silicate fiber for quantum state storage. Optics Communications, 2006, 266, 720-726.	1.0	37
53	Controlled Stark shifts in Er ³⁺ -doped crystalline and amorphous waveguides for quantum state storage. Optics Communications, 2006, 266, 716-719.	1.0	34
54	Practical quantum random number generation based on sampling vacuum fluctuations. Quantum Engineering, 2019, 1, e8.	1.2	33

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55	Experimental loss-tolerant quantum coin flipping. Nature Communications, 2011, 2, 561.	5.8	32
56	Properties of a Rare-Earth-Ion-Doped Waveguide at Sub-Kelvin Temperatures for Quantum Signal Processing. Physical Review Letters, 2017, 118, 100504.	2.9	31
57	Impossibility of faithfully storing single photons with the three-pulse photon echo. Physical Review A, 2010, 81, .	1.0	30
58	Measuring and analyzing excitation-induced decoherence in rare-earth-doped optical materials. Laser Physics, 2014, 24, 106002.	0.6	29
59	Improved light-matter interaction for storage of quantum states of light in a thulium-doped crystal cavity. Physical Review A, 2020, 101, .	1.0	29
60	Long-Lived Solid-State Optical Memory for High-Rate Quantum Repeaters. Physical Review Letters, 2021, 127, 220502.	2.9	29
61	Microstructured fiber source of photon pairs at widely separated wavelengths. Optics Letters, 2010, 35, 499.	1.7	28
62	Modeling a measurement-device-independent quantum key distribution system. Optics Express, 2014, 22, 12716.	1.7	27
63	Quantum Information. Optics and Photonics News, 2005, 16, 40.	0.4	25
64	Tm ³⁺ :Y ₃ Ga ₅ O ₁₂ Materials for Spectrally Multiplexed Quantum Memories. Physical Review Letters, 2014, 113, 160501.	2.9	25
65	A cost-effective measurement-device-independent quantum key distribution system for quantum networks. Quantum Science and Technology, 2017, 2, 04LT01.	2.6	25
66	Optical quantum memory with generalized time-reversible atom–light interaction. New Journal of Physics, 2011, 13, 063035.	1.2	24
67	Quantum states prepared by realistic entanglement swapping. Physical Review A, 2009, 80, .	1.0	23
68	Two-photon interference of weak coherent laser pulses recalled from separate solid-state quantum memories. Nature Communications, 2013, 4, 2386.	5.8	23
69	Measurement-device-independent quantum key distribution coexisting with classical communication. Quantum Science and Technology, 2019, 4, 045002.	2.6	22
70	Efficient Bell state analyzer for time-bin qubits with fast-recovery WSi superconducting single photon detectors. Optics Express, 2014, 22, 24497.	1.7	21
71	Entanglement between more than two hundred macroscopic atomic ensembles in a solid. Nature Communications, 2017, 8, 906.	5.8	21
72	Proposal and proof-of-principle demonstration of non-destructive detection of photonic qubits using a Tm:LiNbO ₃ waveguide. Nature Communications, 2016, 7, 13454.	5.8	20

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73	Fast and simple characterization of a photon pair source. Optics Express, 2008, 16, 17060.	1.7	19
74	Efficient and long-lived Zeeman-sublevel atomic population storage in an erbium-doped glass fiber. Physical Review B, 2015, 92, .	1.1	19
75	Temporal compression of quantum-information-carrying photons using a photon-echo quantum memory approach. Physical Review A, 2010, 82, .	1.0	18
76	Experimental Bound on the Maximum Predictive Power of Physical Theories. Physical Review Letters, 2012, 109, 020402.	2.9	18
77	Flexible source of nondegenerate entangled photons based on a two-crystal Sagnac interferometer. Physical Review A, 2013, 88, .	1.0	18
78	Entanglement and nonlocality between disparate solid-state quantum memories mediated by photons. Physical Review Research, 2020, 2, .	1.3	18
79	Optical tests of quantum nonlocality: from EPR-Bell tests towards experiments with moving observers. Annalen Der Physik, 2000, 9, 831-841.	0.9	17
80	Testing nonlocality over 12.4 km of underground fiber with universal time-bin qubit analyzers. Physical Review A, 2010, 81, .	1.0	15
81	Optical decoherence studies of Tm^{3+} in $Y_3Al_5O_{12}$ powders studied using spectral hole burning. Physical Review B, 2014, 89, .	1.0	14
82	Optical decoherence studies of Tm^{3+} in $Y_3Al_5O_{12}$ powders studied using spectral hole burning for a quantum light storage application. Physical Review B, 2008, 77, .	1.0	14
83	Efficiency of an enhanced linear optical Bell-state measurement scheme with realistic imperfections. Physical Review A, 2016, 94, .	1.0	14
84	Optical decoherence and spectral diffusion in an erbium-doped silica glass fiber featuring long-lived spin sublevels. Physical Review B, 2016, 94, .	1.1	14
85	Experimental test of relativistic quantum state collapse with moving reference frames. Journal of Physics A, 2001, 34, 7103-7109.	1.6	13
86	Controllable-dipole quantum memory. Physical Review A, 2012, 86, .	1.0	13
87	Proposal for Inverting the Quantum Cloning of Photons. Physical Review Letters, 2012, 108, 120404.	2.9	13
88	Carrier Aggregated Radio-Over-Fiber Downlink for Achieving 2Gbps for 5G Applications. IEEE Access, 2019, 7, 3136-3142.	2.6	13
89	Practical long-distance quantum communication using concatenated entanglement swapping. Physical Review A, 2013, 88, .	1.0	12
90	Effects of fabrication methods on spin relaxation and crystallite quality in Tm^{3+} -doped $Y_3Al_5O_{12}$ powders studied using spectral hole burning. Science and Technology of Advanced Materials, 2016, 17, 63-70.	2.8	12

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91	Quadratic Zeeman effect and spin-lattice relaxation of Tm^{3+} :YAG at high magnetic fields. Physical Review B, 2016, 94, .		
92	Two independent photon pairs versus four-photon entangled states in parametric down conversion. , 0, .		11
93	Device-dependent and device-independent quantum key distribution without a shared reference frame. New Journal of Physics, 2014, 16, 043002.	1.2	10
94	Modification of phonon processes in nanostructured rare-earth-ion-doped crystals. Physical Review A, 2016, 94, .	1.0	10
95	Effects of mechanical processing and annealing on optical coherence properties of Er^{3+} :LiNbO ₃ powders. Journal of Luminescence, 2017, 191, 2-12.	1.5	10
96	Persistent atomic frequency comb based on Zeeman sub-levels of an erbium-doped crystal waveguide. Journal of the Optical Society of America B: Optical Physics, 2020, 37, 352.	0.9	10
97	Non-local two-photon correlations using interferometers physically separated by 35 meters. Europhysics Letters, 1997, 40, 595-600.	0.7	9
98	Deployed measurement-device independent quantum key distribution and Bell-state measurements coexisting with standard internet data and networking equipment. Communications Physics, 2022, 5, .	2.0	9
99	Entanglement swapping with quantum-memory-compatible photons. Physical Review A, 2015, 92, .	1.0	8
100	Quantum key distribution breaking limits. Nature Photonics, 2019, 13, 310-311.	15.6	7
101	Compact energy- and time entanglement source using cascaded nonlinear interactions. Journal of the Optical Society of America B: Optical Physics, 2021, 38, 1380.	0.9	5
102	Quantum Information: Long Distance Quantum Teleportation. Optics and Photonics News, 2003, 14, 39.	0.4	4
103	Time-cost analysis of a quantum key distribution system clocked at 100 MHz. Optics Express, 2011, 19, 17729.	1.7	4
104	Measurement of the thulium ion spin Hamiltonian in an yttrium gallium garnet host crystal. Physical Review B, 2021, 104, .	1.1	4
105	Gisin, Tittel, and Zbinden Reply:. Physical Review Letters, 2001, 86, 1393-1393.	2.9	3
106	Quantum Optics: Quantum Correlations With Moving Observers. Optics and Photonics News, 2002, 13, 51.	0.4	3
107	Experimental realization of a quantum relay over a significant distance. Journal of Modern Optics, 2004, 51, 1011-1018.	0.6	3
108	Teleportation for two. Nature, 2015, 518, 491-492.	13.7	3

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109	Optical coherence and energy level properties of a Tm -doped $LiNbO_3$ waveguide at subkelvin temperatures. Physical Review B, 2021, 103, .	1.1	3
110	Plug and Play Quantum Cryptography. Optics and Photonics News, 1997, 8, 38.	0.4	2
111	Causality, relativity and quantum correlation experiments with moving reference frames. Pramana - Journal of Physics, 2001, 56, 349-355.	0.9	1
112	Photon echo quantum memory and state transformation. Proceedings of SPIE, 2008, , .	0.8	1
113	Real-world two-photon interference and proof-of-principle QKD immune to detector attacks. , 2013, , .		1
114	Quantum light. Europhysics News, 2015, 46, 36-40.	0.1	1
115	Broadband Waveguide Quantum Memory for Entangled Photons. , 2011, , .		1
116	Studies of femtosecond time-bin entangled qubits for quantum communications. Fortschritte Der Physik, 2003, 51, 428-434.	1.5	0
117	Towards high-rate quantum key distribution using quantum frames. , 2010, , .		0
118	Verschränkte Photonen auf Eis gelegt. Physik in Unserer Zeit, 2011, 42, 113-114.	0.0	0
119	Broadband waveguide quantum memory for entangled photons. , 2011, , .		0
120	Frequency multiplexed quantum memories with read-out on demand for quantum repeaters. , 2013, , .		0
121	Quantenteleportation im städtischen Glasfasernetzwerk. Physik in Unserer Zeit, 2017, 48, 8-9.	0.0	0
122	Modification of relaxation dynamics in $TbAlO_3$ nanopowders. Physical Review B, 2018, 98, .		0
123	Long range quantum key distribution using frequency multiplexing in broadband solid state memories. , 2014, , .		0
124	Spectrally multiplexed solid-state memories for quantum repeaters. , 2014, , .		0
125	High-Q Diamond Microdisks for Coupling to SiV Quantum Emitters. , 2017, , .		0