

# Gregor Weihs

## List of Publications by Year in descending order

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154  
papers

11,889  
citations

81743

39  
h-index

29081

104  
g-index

159  
all docs

159  
docs citations

159  
times ranked

7701  
citing authors

#	ARTICLE	IF	CITATIONS
1	Entanglement of the orbital angular momentum states of photons. <i>Nature</i> , 2001, 412, 313-316.	13.7	2,735
2	Violation of Bell's Inequality under Strict Einstein Locality Conditions. <i>Physical Review Letters</i> , 1998, 81, 5039-5043.	2.9	1,150
3	Quantum Cryptography with Entangled Photons. <i>Physical Review Letters</i> , 2000, 84, 4729-4732.	2.9	763
4	Condensation of Semiconductor Microcavity Exciton Polaritons. <i>Science</i> , 2002, 298, 199-202.	6.0	732
5	Experimental Two-Photon, Three-Dimensional Entanglement for Quantum Communication. <i>Physical Review Letters</i> , 2002, 89, 240401.	2.9	558
6	Experimental Demonstration of Four-Photon Entanglement and High-Fidelity Teleportation. <i>Physical Review Letters</i> , 2001, 86, 4435-4438.	2.9	482
7	Experimental entanglement purification of arbitrary unknown states. <i>Nature</i> , 2003, 423, 417-422.	13.7	423
8	Polariton lasing vs. photon lasing in a semiconductor microcavity. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003, 100, 15318-15323.	3.3	362
9	A fast and compact quantum random number generator. <i>Review of Scientific Instruments</i> , 2000, 71, 1675-1680.	0.6	339
10	Experimental quantum cryptography with qutrits. <i>New Journal of Physics</i> , 2006, 8, 75-75.	1.2	329
11	Photonic entanglement for fundamental tests and quantum communication. <i>Quantum Information and Computation</i> , 2001, 1, 3-56.	0.1	247
12	Concentration of Higher Dimensional Entanglement: Qutrits of Photon Orbital Angular Momentum. <i>Physical Review Letters</i> , 2003, 91, 227902.	2.9	240
13	Experimental Nonlocality Proof of Quantum Teleportation and Entanglement Swapping. <i>Physical Review Letters</i> , 2001, 88, 017903.	2.9	215
14	High-Efficiency Quantum Interrogation Measurements via the Quantum Zeno Effect. <i>Physical Review Letters</i> , 1999, 83, 4725-4728.	2.9	178
15	Ruling Out Multi-Order Interference in Quantum Mechanics. <i>Science</i> , 2010, 329, 418-421.	6.0	176
16	Superpositions of the orbital angular momentum for applications in quantum experiments. <i>Journal of Optics B: Quantum and Semiclassical Optics</i> , 2002, 4, S47-S51.	1.4	174
17	Optimal Quantum Cloning via Stimulated Emission. <i>Physical Review Letters</i> , 2000, 84, 2993-2996.	2.9	149
18	Deterministic Photon Pairs and Coherent Optical Control of a Single Quantum Dot. <i>Physical Review Letters</i> , 2013, 110, 135505.	2.9	131

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19	Time-bin entangled photons from a quantum dot. Nature Communications, 2014, 5, 4251.	5.8	127
20	Happy centenary, photon. Nature, 2005, 433, 230-238.	13.7	116
21	Monolithic Source of Photon Pairs. Physical Review Letters, 2012, 108, 153605.	2.9	109
22	Experimental three-photon quantum nonlocality under strict locality conditions. Nature Photonics, 2014, 8, 292-296.	15.6	104
23	Implementation of quantum and classical discrete fractional Fourier transforms. Nature Communications, 2016, 7, 11027.	5.8	81
24	Inherent polarization entanglement generated from a monolithic semiconductor chip. Scientific Reports, 2013, 3, 2314.	1.6	78
25	Space-quest, experiments with quantum entanglement in space. Europhysics News, 2009, 40, 26-29.	0.1	77
26	All-fiber three-path Mach-Zehnder interferometer. Optics Letters, 1996, 21, 302.	1.7	75
27	Polarization Entangled Photons from Quantum Dots Embedded in Nanowires. Nano Letters, 2014, 14, 7107-7114.	4.5	73
28	Self-Directed Growth of AlGaAs Core-Shell Nanowires for Visible Light Applications. Nano Letters, 2007, 7, 2584-2589.	4.5	71
29	Entangled quantum key distribution over two free-space optical links. Optics Express, 2008, 16, 16840.	1.7	71
30	Semiconductor microcavity as a spin-dependent optoelectronic device. Physical Review B, 2004, 70, .	1.1	68
31	Studying free-space transmission statistics and improving free-space quantum key distribution in the turbulent atmosphere. New Journal of Physics, 2012, 14, 123018.	1.2	65
32	Observation of Genuine Three-Photon Interference. Physical Review Letters, 2017, 118, 153602.	2.9	64
33	Coherence measures for heralded single-photon sources. Physical Review A, 2009, 79, .	1.0	59
34	Universal Sign Control of Coupling in Tight-Binding Lattices. Physical Review Letters, 2016, 116, 213901.	2.9	56
35	Quantum non-Gaussian Depth of Single-Photon States. Physical Review Letters, 2014, 113, 223603.	2.9	52
36	Testing Born's Rule in Quantum Mechanics for Three Mutually Exclusive Events. Foundations of Physics, 2012, 42, 742-751.	0.6	44

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37	Hyperentanglement of Photons Emitted by a Quantum Dot. <i>Physical Review Letters</i> , 2018, 121, 110503.	2.9	43
38	An experimental implementation of oblivious transfer in the noisy storage model. <i>Nature Communications</i> , 2014, 5, 3418.	5.8	42
39	Two-photon interference in optical fiber multiports. <i>Physical Review A</i> , 1996, 54, 893-897.	1.0	39
40	Efficiency vs multi-photon contribution test for quantum dots. <i>Optics Express</i> , 2014, 22, 4789.	1.7	39
41	Obtaining tight bounds on higher-order interferences with a 5-path interferometer. <i>New Journal of Physics</i> , 2017, 19, 033017.	1.2	37
42	Space QUEST mission proposal: experimentally testing decoherence due to gravity. <i>New Journal of Physics</i> , 2018, 20, 063016.	1.2	36
43	Pulsed Sagnac source of polarization entangled photon pairs. <i>Optics Express</i> , 2012, 20, 25022.	1.7	35
44	A solid state source of photon triplets based on quantum dot molecules. <i>Nature Communications</i> , 2017, 8, 15716.	5.8	35
45	Cluster-State Quantum Computing Enhanced by High-Fidelity Generalized Measurements. <i>Physical Review Letters</i> , 2009, 103, 240504.	2.9	31
46	Characterizing heralded single-photon sources with imperfect measurement devices. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2009, 42, 114013.	0.6	31
47	Optimal excitation conditions for indistinguishable photons from quantum dots. <i>New Journal of Physics</i> , 2015, 17, 123025.	1.2	31
48	Totally Destructive Many-Particle Interference. <i>Physical Review Letters</i> , 2018, 120, 240404.	2.9	31
49	Optimal photon cloning. <i>Physical Review A</i> , 2000, 62, .	1.0	26
50	Multiple Quantum Well AlGaAs Nanowires. <i>Nano Letters</i> , 2008, 8, 495-499.	4.5	25
51	No time loophole in Bell's theorem: The Hess-Philipp model is nonlocal. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002, 99, 14632-14635.	3.3	24
52	Testing Born's Rule in Quantum Mechanics with a Triple Slit Experiment. , 2009, , .		24
53	QEYSSAT: a mission proposal for a quantum receiver in space. , 2014, , .		24
54	Exciton-polariton lasing in a microcavity. <i>Semiconductor Science and Technology</i> , 2003, 18, S386-S394.	1.0	23

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55	Coherence and degree of time-bin entanglement from quantum dots. <i>Physical Review B</i> , 2016, 93, .	1.1	23
56	Many-body quantum interference on hypercubes. <i>Quantum Science and Technology</i> , 2017, 2, 015003.	2.6	23
57	Entangled quantum key distribution with a biased basis choice. <i>New Journal of Physics</i> , 2009, 11, 045025.	1.2	20
58	Totally destructive interference for permutation-symmetric many-particle states. <i>Physical Review A</i> , 2018, 97, .	1.0	20
59	Growth and Characterization of GaAs Nanowires on Carbon Nanotube Composite Films: Toward Flexible Nanodevices. <i>Nano Letters</i> , 2008, 8, 4075-4080.	4.5	19
60	Measurement and modification of biexciton-exciton time correlations. <i>Optics Express</i> , 2013, 21, 9890.	1.7	19
61	Direct measurement of second-order coupling in a waveguide lattice. <i>Applied Physics Letters</i> , 2015, 107, 241104.	1.5	19
62	Broadband indistinguishability from bright parametric downconversion in a semiconductor waveguide. <i>Journal of Optics (United Kingdom)</i> , 2015, 17, 125201.	1.0	19
63	SUPER Scheme in Action: Experimental Demonstration of Red-Detuned Excitation of a Quantum Emitter. <i>Nano Letters</i> , 2022, 22, 6567-6572.	4.5	19
64	Comment on "Exclusion of time in the theorem of Bell" by K. Hess and W. Philipp. <i>Europhysics Letters</i> , 2003, 61, 282-283.	0.7	16
65	Polariton lasing in a microcavity. <i>Physica Status Solidi A</i> , 2004, 201, 625-632.	1.7	16
66	Generation of hyper-entangled photon pairs in coupled microcavities. <i>New Journal of Physics</i> , 2014, 16, 063030.	1.2	16
67	Invited Article: Time-bin entangled photon pairs from Bragg-reflection waveguides. <i>APL Photonics</i> , 2018, 3, 080804.	3.0	14
68	Optimal quantum cloning and universal NOT without quantum gates. <i>Journal of Modern Optics</i> , 2000, 47, 233-246.	0.6	13
69	The truth about reality. <i>Nature</i> , 2007, 445, 723-724.	13.7	13
70	Preface of the Special Issue Quantum Foundations: Theory and Experiment. <i>Foundations of Physics</i> , 2012, 42, 721-724.	0.6	13
71	Measurement and modeling of the nonlinearity of photovoltaic and Geiger-mode photodiodes. <i>Review of Scientific Instruments</i> , 2014, 85, 063102.	0.6	13
72	Mode-resolved Fabry-Perot experiment in low-loss Bragg-reflection waveguides. <i>Optics Express</i> , 2015, 23, 33608.	1.7	13

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73	Temporally versatile polarization entanglement from Bragg reflection waveguides. Optics Letters, 2017, 42, 2102.	1.7	13
74	Cloning of symmetric level photonic states in physical systems. Physical Review A, 2002, 66, .	1.0	12
75	Hybrid waveguide-bulk multi-path interferometer with switchable amplitude and phase. APL Photonics, 2016, 1, 081302.	3.0	12
76	Many-particle interference in a two-component bosonic Josephson junction: an all-optical simulation. New Journal of Physics, 2017, 19, 125015.	1.2	12
77	Wave-Particle Duality of Many-Body Quantum States. Physical Review X, 2021, 11, .	2.8	12
78	Quantum Dots: Multidimensional Quantum States of the Angular. Optics and Photonics News, 2002, 13, 54.	0.4	11
79	Quantum entanglement distribution with 810 nm photons through telecom fibers. Applied Physics Letters, 2010, 97, 031117.	1.5	11
80	A Test of Bell's Inequality with Spacelike Separation. AIP Conference Proceedings, 2007, , .	0.3	10
81	Semi-automatic engineering and tailoring of high-efficiency Bragg-reflection waveguide samples for quantum photonic applications. Quantum Science and Technology, 2018, 3, 024002.	2.6	10
82	Uncovering dispersion properties in semiconductor waveguides to study photon-pair generation. Nanotechnology, 2016, 27, 434003.	1.3	9
83	Fast and efficient demultiplexing of single photons from a quantum dot with resonantly enhanced electro-optic modulators. APL Photonics, 2022, 7, .	3.0	9
84	Probabilistic instantaneous quantum computation. Physical Review A, 2003, 67, .	1.0	8
85	Symmetry Allows for Distinguishability in Totally Destructive Many-Particle Interference. PRX Quantum, 2021, 2, .	3.5	8
86	Experimental extract and empirical formulas of refractive indices of GaAs and AlAs at high temperature by HRXRD and optical reflectivity measurement. Journal of Crystal Growth, 2003, 251, 777-781.	0.7	6
87	Optical Stark shift to control the dark exciton occupation of a quantum dot in a tilted magnetic field. Physical Review B, 2021, 104, .	1.1	6
88	Entanglement Based Quantum Key Distribution Using a Bright Sagnac Entangled Photon Source. Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, 2010, , 108-116.	0.2	6
89	PARAMETRIC DOWN-CONVERSION IN PHOTONIC CRYSTAL WAVEGUIDES. International Journal of Modern Physics B, 2006, 20, 1543-1550.	1.0	5
90	Foucault's method for measuring the speed of light with modern apparatus. European Journal of Physics, 2015, 36, 035013.	0.3	5

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91	Interfacing a quantum dot with a spontaneous parametric down-conversion source. <i>Quantum Science and Technology</i> , 2017, 2, 034016.	2.6	5
92	Demonstration and modeling of time-bin entangled photons from a quantum dot in a nanowire. <i>AIP Advances</i> , 2022, 12, 055115.	0.6	5
93	Photon Statistics and Quantum Teleportation Experiments. <i>Journal of the Physical Society of Japan</i> , 2003, 72, 168-173.	0.7	4
94	Polarization entanglement generation in microcavity polariton devices. <i>Physica Status Solidi (B): Basic Research</i> , 2015, 252, 1749-1756.	0.7	4
95	Effects of photo-neutralization on the emission properties of quantum dots. <i>Optics Express</i> , 2016, 24, 21794.	1.7	4
96	Optimizing the spectro-temporal properties of photon pairs from Bragg-reflection waveguides. <i>Journal of Optics (United Kingdom)</i> , 2019, 21, 054001.	1.0	4
97	Understanding photoluminescence in semiconductor Bragg-reflection waveguides. <i>Journal of Optics (United Kingdom)</i> , 2021, 23, 035801.	1.0	4
98	Towards probing for hypercomplex quantum mechanics in a waveguide interferometer. <i>New Journal of Physics</i> , 2021, 23, 093038.	1.2	4
99	Approaching the Tsirelson bound with a Sagnac source of polarization-entangled photons. <i>SciPost Physics</i> , 2021, 10, .	1.5	4
100	Photon-number parity of heralded single photons from a Bragg-reflection waveguide reconstructed loss-tolerantly via moment generating function. <i>New Journal of Physics</i> , 2019, 21, 103025.	1.2	3
101	Difference-frequency generation in an AlGaAs Bragg-reflection waveguide using an on-chip electrically-pumped quantum dot laser. <i>Journal of Optics (United Kingdom)</i> , 2021, 23, 085802.	1.0	3
102	Entangled free-space quantum key distribution. , 2007, , .		2
103	Multi-dimensional laser spectroscopy of exciton polaritons with spatial light modulators. <i>Applied Physics Letters</i> , 2012, 100, 072109.	1.5	2
104	Liquid-nitrogen cooled, free-running single-photon sensitive detector at telecommunication wavelengths. <i>Applied Physics B: Lasers and Optics</i> , 2015, 118, 489-495.	1.1	2
105	Observation of Genuine Three-Photon Interference. , 2017, , .		2
106	Loopholes in Experiments. , 2009, , 348-355.		2
107	Quantum communication and entanglement. , 0, , .		1
108	Coherence by measurement. <i>Nature Physics</i> , 2007, 3, 687-688.	6.5	1

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109	Entanglement based free-space quantum key distribution. , 2008, , .		1
110	Entanglement-based quantum key distribution with biased basis choice. , 2009, , .		1
111	Improving entangled free-space quantum key distribution in the turbulent atmosphere. , 2011, , .		1
112	Experimental Implementation of Oblivious Transfer in the Noisy Storage Model. , 2012, , .		1
113	Hyper-Entanglement of Photons Emitted by a Quantum Dot. , 2017, , .		1
114	Approaching the Tsirelson bound with a Sagnac source of polarization-entangled photons. , 2020, , .		1
115	Bell's Theorem for Space-Like Separation. , 2002, , 155-162.		1
116	HIGH-FIDELITY EXPERIMENTAL QUANTUM TELEPORTATION AND ENTANGLEMENT SWAPPING. , 2002, , .		1
117	Experimental extract and experienced formulas of refractive indices of GaAs and AlAs at high temperature by high resolution x-ray diffraction and optical reflectivity measurement. , 0, , .		0
118	Dynamic condensation of microcavity exciton polaritons. , 0, , .		0
119	Violation of higher dimensional Bell inequalities with orbital angular momentum entangled photons. , 0, , .		0
120	Towards single time-bin entangled photons using quantum dots. , 2008, , .		0
121	Testing Born's rule in quantum mechanics for three mutually exclusive events. , 2009, , .		0
122	Bestätigung für Bornsche Regel. Physik in Unserer Zeit, 2010, 41, 267-268.	0.0	0
123	Type-0 Spontaneous Parametric Down Conversion in AlGaAs Bragg Reflection Waveguides. , 2011, , .		0
124	Multi-order interference and Born's rule. , 2011, , .		0
125	Pulsed sagnac source of polarisation entangled photon pairs. , 2011, , .		0
126	Complete phase-space control of photoexcitation of microcavity polaritons using spatial light modulators. , 2011, , .		0



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127	Triple photons and triple slits, a new frontier in quantum mechanics tests. , 2011, , .		0
128	Measurement and modification of biexciton-exciton time correlation from an InAs quantum dot. , 2011, , .		0
129	Towards the generation of entangled microcavity polaritons. , 2011, , .		0
130	Deterministic photon cascade from resonant two-photon excitation of a single InAs quantum dot. , 2012, , .		0
131	Single quantum dots as photon pair emitters. , 2013, , .		0
132	Notes on evanescent wave Bragg-reflection waveguides. , 2013, , .		0
133	Measuring higher-order interferences with a five-path interferometer. , 2013, , .		0
134	Parametric polariton scattering as a source of entangled light. , 2013, , .		0
135	Parametric polariton scattering in quantum wires and coupled planar microcavities. , 2013, , .		0
136	Experimental test of the robustness of the non-classicality of single photons. , 2013, , .		0
137	Semiconductor sources of photon pairs. Proceedings of SPIE, 2013, , .	0.8	0
138	Rayleigh scattering in coupled microcavities: theory. Journal of Physics Condensed Matter, 2014, 26, 485303.	0.7	0
139	Entanglement in a Bragg ReflectionWaveguide. , 2014, , .		0
140	User Friendly Photon Pairs. Physics Magazine, 2014, 7, .	0.1	0
141	Coherent two-photon excitation of quantum dots. , 2016, , .		0
142	Side excitation of polaritonic molecules. , 2017, , .		0
143	Hyperentanglement of photons emitted by a quantum dot. , 2017, , .		0
144	Correlated photons from microcavity polariton parametric scattering. , 2017, , .		0

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145	Individually shuttered waveguide multi-path interferometer. , 2017, , .		0
146	Integrated Semiconductor Quantum Photonics. , 2019, , .		0
147	Dynamic condensation of cavity polaritons. , 2003, , .		0
148	A Bell Experiment under Strict Einstein Locality Conditions. , 1999, , 267-269.		0
149	Universal sign-control of evanescent coupling. , 2016, , .		0
150	An Early Long-Distance Quantum Experiment. The Frontiers Collection, 2017, , 425-432.	0.1	0
151	Implementation of quantum discrete fractional Fourier transform. , 2017, , .		0
152	Hyperentanglement of Photons Emitted by a Quantum Dot. , 2017, , .		0
153	A Solid State Source of Photon Triplets based on Quantum Dot Molecules. , 2018, , .		0
154	Analysis of (hyper-) entanglement in quantum dot systems. , 2018, , .		0