Mario Krenn

List of Publications by Year
in descending order

58 papers	5,279 citations	159358 30 h-index	189595 50 g-index
64 all docs	64 docs citations	64 times ranked	3992 citing authors

#	Article	IF	Citations
1	Quantum Entanglement of High Angular Momenta. Science, 2012, 338, 640-643.	6.0	622
2	Twisted photons: new quantum perspectives in high dimensions. Light: Science and Applications, 2018, 7, 17146-17146.	7.7	412
3	Communication with spatially modulated light through turbulent air across Vienna. New Journal of Physics, 2014, 16, 113028.	1.2	405
4	Twisted light transmission over 143 km. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 13648-13653.	3.3	276
5	Self-referencing embedded strings (SELFIES): A 100% robust molecular string representation. Machine Learning: Science and Technology, 2020, 1, 045024.	2.4	272
6	Multi-photon entanglement in high dimensions. Nature Photonics, 2016, 10, 248-252.	15.6	253
7	Generation and confirmation of a (100 Ã— 100)-dimensional entangled quantum system. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 6243-6247.	3.3	252
8	Advances in high-dimensional quantum entanglement. Nature Reviews Physics, 2020, 2, 365-381.	11.9	234
9	Quantum Teleportation in High Dimensions. Physical Review Letters, 2019, 123, 070505.	2.9	228
10	Active learning machine learns to create new quantum experiments. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 1221-1226.	3.3	208
11	Automated Search for new Quantum Experiments. Physical Review Letters, 2016, 116, 090405.	2.9	177
12	Data-Driven Strategies for Accelerated Materials Design. Accounts of Chemical Research, 2021, 54, 849-860.	7.6	168
13	Twisted photon entanglement through turbulent air across Vienna. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 14197-14201.	3.3	147
14	High-Dimensional Single-Photon Quantum Gates: Concepts and Experiments. Physical Review Letters, 2017, 119, 180510.	2.9	142
15	Real-Time Imaging of Quantum Entanglement. Scientific Reports, 2013, 3, 1914.	1.6	114
16	Experimental Greenbergerâ€"Horneâ€"Zeilinger entanglement beyond qubits. Nature Photonics, 2018, 12, 759-764.	15.6	109
17	Orbital angular momentum of photons and the entanglement of Laguerreâ€"Gaussian modes. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2017, 375, 20150442.	1.6	104
18	Physical meaning of the radial index of Laguerre-Gauss beams. Physical Review A, 2015, 92, .	1.0	85

#	Article	IF	Citations
19	Entanglement by Path Identity. Physical Review Letters, 2017, 118, 080401.	2.9	81
20	Gouy Phase Radial Mode Sorter for Light: Concepts and Experiments. Physical Review Letters, 2018, 120, 103601.	2.9	74
21	Entangled singularity patterns of photons in Ince-Gauss modes. Physical Review A, 2013, 87, .	1.0	70
22	Beyond generative models: superfast traversal, optimization, novelty, exploration and discovery (STONED) algorithm for molecules using SELFIES. Chemical Science, 2021, 12, 7079-7090.	3.7	64
23	Quantum Experiments and Graphs: Multiparty States as Coherent Superpositions of Perfect Matchings. Physical Review Letters, 2017, 119, 240403.	2.9	57
24	Quantum orbital angular momentum of elliptically symmetric light. Physical Review A, 2013, 87, .	1.0	53
25	Generation of the complete four-dimensional Bell basis. Optica, 2017, 4, 1462.	4.8	51
26	Predicting research trends with semantic and neural networks with an application in quantum physics. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 1910-1916.	3.3	48
27	Computer-inspired quantum experiments. Nature Reviews Physics, 2020, 2, 649-661.	11.9	48
28	Experimental High-Dimensional Greenberger-Horne-Zeilinger Entanglement with Superconducting Transmon Qutrits. Physical Review Applied, 2022, 17, .	1.5	41
29	Computer-Inspired Concept for High-Dimensional Multipartite Quantum Gates. Physical Review Letters, 2020, 125, 050501.	2.9	37
30	Cyclic transformation of orbital angular momentum modes. New Journal of Physics, 2016, 18, 043019.	1.2	36
31	Quantifying high dimensional entanglement with two mutually unbiased bases. Quantum - the Open Journal for Quantum Science, 0, 1, 22.	0.0	34
32	Quantum Communication with Photons. , 2016, , 455-482.		32
33	Quantum experiments and graphs II: Quantum interference, computation, and state generation. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 4147-4155.	3.3	30
34	Arbitrary <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>d</mml:mi></mml:math> -dimensional Pauli <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>X</mml:mi></mml:math> gates of a flying qudit. Physical Review A, 2019, 99, .	1.0	29
35	Quantum indistinguishability by path identity and with undetected photons. Reviews of Modern Physics, 2022, 94, .	16.4	27
36	Quantum optical rotatory dispersion. Science Advances, 2016, 2, e1601306.	4.7	26

#	Article	IF	Citations
37	Phenomenology of complex structured light in turbulent air. Optics Express, 2020, 28, 11033.	1.7	25
38	Scientific intuition inspired by machine learning-generated hypotheses. Machine Learning: Science and Technology, 2021, 2, 025027.	2.4	23
39	Path identity as a source of high-dimensional entanglement. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 26118-26122.	3.3	22
40	Deep molecular dreaming: inverse machine learning for de-novo molecular design and interpretability with surjective representations. Machine Learning: Science and Technology, 2021, 2, 03LT02.	2.4	22
41	On small beams with large topological charge. New Journal of Physics, 2016, 18, 033012.	1.2	21
42	Quantum experiments and graphs. III. High-dimensional and multiparticle entanglement. Physical Review A, 2019, 99, .	1.0	20
43	Conceptual Understanding through Efficient Automated Design of Quantum Optical Experiments. Physical Review X, 2021, 11, .	2.8	17
44	Quantum experiments and hypergraphs: Multiphoton sources for quantum interference, quantum computation, and quantum entanglement. Physical Review A, 2020, 101, .	1.0	13
45	Quantum computer-aided design of quantum optics hardware. Quantum Science and Technology, 2021, 6, 035010.	2.6	13
46	Learning interpretable representations of entanglement in quantum optics experiments using deep generative models. Nature Machine Intelligence, 2022, 4, 544-554.	8.3	12
47	The sounds of scienceâ€"a symphony for many instruments and voices. Physica Scripta, 2020, 95, 062501.	1.2	9
48	On small beams with large topological charge: II. Photons, electrons and gravitational waves. New Journal of Physics, 2018, 20, 063006.	1.2	7
49	Quantum Optical Experiments Modeled by Long Short-Term Memory. Photonics, 2021, 8, 535.	0.9	7
50	Curiosity in exploring chemical spaces: intrinsic rewards for molecular reinforcement learning. Machine Learning: Science and Technology, 2022, 3, 035008.	2.4	7
51	Quantum gate description for induced coherence without induced emission and its applications. Physical Review A, 2017, 96, .	1.0	3
52	Multi-Photon Entanglement in High Dimensions. , 2016, , .		3
53	Questions on the Structure of Perfect Matchings Inspired by Quantum Physics. , 2019, , .		2
54	A Quantum Router for High-dimensional Entanglement: Concepts and Applications. , 2017, , .		1

#	Article	IF	Citations
55	Physical meaning of the radial index of Laguerre-Gauss beams. , 2017, , .		1
56	Coincidence Imaging of Photonic Quantum Entanglement with Complex Mode Structures. , 2013, , .		0
57	Compact Greenbergerâ€"Horneâ€"Zeilinger state generation via frequency combs and graph theory. Frontiers of Physics, 2020, 15, 1.	2.4	0
58	Increasing the Quantum Number, Dimensionality and Complexity of Entanglement. , 2015, , .		0