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	Experimental High-Dimensional Greenberger-Horne-Zeilinger Entanglement with Superconducting Transmon Qutrits. Physical Review Applied, 2022, 17, .	1.5	41
2	Quantum indistinguishability by path identity and with undetected photons. Reviews of Modern Physics, 2022, 94, .	16.4	27
3	Learning interpretable representations of entanglement in quantum optics experiments using deep generative models. Nature Machine Intelligence, 2022, 4, 544-554.	8.3	12
4	Curiosity in exploring chemical spaces: intrinsic rewards for molecular reinforcement learning. Machine Learning: Science and Technology, 2022, 3, 035008.	2.4	7
5	Data-Driven Strategies for Accelerated Materials Design. Accounts of Chemical Research, 2021, 54, 849-860.	7.6	168
6	Scientific intuition inspired by machine learning-generated hypotheses. Machine Learning: Science and Technology, 2021, 2, 025027.	2.4	23
7	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
8	Quantum computer-aided design of quantum optics hardware. Quantum Science and Technology, 2021, 6, 035010.	2.6	13
9	Conceptual Understanding through Efficient Automated Design of Quantum Optical Experiments. Physical Review X, 2021, 11, .	2.8	17
10	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
11	Quantum Optical Experiments Modeled by Long Short-Term Memory. Photonics, 2021, 8, 535.	0.9	7
12	Compact Greenbergerâ€"Horneâ€"Zeilinger state generation via frequency combs and graph theory. Frontiers of Physics, 2020, 15, 1.	2.4	0
13	Computer-Inspired Concept for High-Dimensional Multipartite Quantum Gates. Physical Review Letters, 2020, 125, 050501.	2.9	37
14	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
15	Quantum experiments and hypergraphs: Multiphoton sources for quantum interference, quantum computation, and quantum entanglement. Physical Review A, 2020, 101, .	1.0	13
16	Advances in high-dimensional quantum entanglement. Nature Reviews Physics, 2020, 2, 365-381.	11.9	234
17	The sounds of scienceâ€"a symphony for many instruments and voices. Physica Scripta, 2020, 95, 062501.	1.2	9
18	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

#	Article	IF	Citations
19	Computer-inspired quantum experiments. Nature Reviews Physics, 2020, 2, 649-661.	11.9	48
20	Self-referencing embedded strings (SELFIES): A 100% robust molecular string representation. Machine Learning: Science and Technology, 2020, 1, 045024.	2.4	272
21	Phenomenology of complex structured light in turbulent air. Optics Express, 2020, 28, 11033.	1.7	25
22	Quantum Teleportation in High Dimensions. Physical Review Letters, 2019, 123, 070505.	2.9	228
23	Quantum experiments and graphs. III. High-dimensional and multiparticle entanglement. Physical Review A, 2019, 99, .	1.0	20
24	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
25	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
26	Questions on the Structure of Perfect Matchings Inspired by Quantum Physics. , 2019, , .		2
27	Gouy Phase Radial Mode Sorter for Light: Concepts and Experiments. Physical Review Letters, 2018, 120, 103601.	2.9	74
28	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
29	Twisted photons: new quantum perspectives in high dimensions. Light: Science and Applications, 2018, 7, 17146-17146.	7.7	412
30	On small beams with large topological charge: II. Photons, electrons and gravitational waves. New Journal of Physics, 2018, 20, 063006.	1.2	7
31	Experimental Greenbergerâ€“Horneâ€“Zeilinger entanglement beyond qubits. Nature Photonics, 2018, 12, 759-764.	15.6	109
32	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
33	Entanglement by Path Identity. Physical Review Letters, 2017, 118, 080401.	2.9	81
34	Quantum gate description for induced coherence without induced emission and its applications. Physical Review A, 2017, 96, .	1.0	3
35	Quantum Experiments and Graphs: Multiparty States as Coherent Superpositions of Perfect Matchings. Physical Review Letters, 2017, 119, 240403.	2.9	57
36	High-Dimensional Single-Photon Quantum Gates: Concepts and Experiments. Physical Review Letters, 2017, 119, 180510.	2.9	142

#	Article	IF	Citations
37	Generation of the complete four-dimensional Bell basis. Optica, 2017, 4, 1462.	4.8	51
38	A Quantum Router for High-dimensional Entanglement: Concepts and Applications. , 2017, , .		1
39	Physical meaning of the radial index of Laguerre-Gauss beams. , 2017, , .		1
40	On small beams with large topological charge. New Journal of Physics, 2016, 18, 033012.	1.2	21
41	Cyclic transformation of orbital angular momentum modes. New Journal of Physics, 2016, 18, 043019.	1.2	36
42	Quantum optical rotatory dispersion. Science Advances, 2016, 2, e1601306.	4.7	26
43	Quantum Communication with Photons. , 2016, , 455-482.		32
44	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
45	Multi-photon entanglement in high dimensions. Nature Photonics, 2016, 10, 248-252.	15.6	253
46	Automated Search for new Quantum Experiments. Physical Review Letters, 2016, 116, 090405.	2.9	177
47	Multi-Photon Entanglement in High Dimensions. , 2016, , .		3
48	Physical meaning of the radial index of Laguerre-Gauss beams. Physical Review A, 2015, 92, .	1.0	85
49	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
50	Increasing the Quantum Number, Dimensionality and Complexity of Entanglement. , 2015, , .		0
51	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
52	Communication with spatially modulated light through turbulent air across Vienna. New Journal of Physics, 2014, 16, 113028.	1.2	405
53	Entangled singularity patterns of photons in Ince-Gauss modes. Physical Review A, 2013, 87, .	1.0	70
54	Real-Time Imaging of Quantum Entanglement. Scientific Reports, 2013, 3, 1914.	1.6	114

#	Article	IF	Citations
55	Quantum orbital angular momentum of elliptically symmetric light. Physical Review A, 2013, 87, .	1.0	53
56	Coincidence Imaging of Photonic Quantum Entanglement with Complex Mode Structures. , 2013, , .		0
57	Quantum Entanglement of High Angular Momenta. Science, 2012, 338, 640-643.	6.0	622
58	Quantifying high dimensional entanglement with two mutually unbiased bases. Quantum - the Open Journal for Quantum Science, 0, 1, 22.	0.0	34