

# Xiao Yuan

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/7279036/publications.pdf>

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71  
papers

5,763  
citations

186209

28  
h-index

91828

69  
g-index

72  
all docs

72  
docs citations

72  
times ranked

3085  
citing authors

#	ARTICLE	IF	CITATIONS
1	Variational quantum algorithms. <i>Nature Reviews Physics</i> , 2021, 3, 625-644.	11.9	930
2	Quantum computational chemistry. <i>Reviews of Modern Physics</i> , 2020, 92, .	16.4	726
3	An integrated space-to-ground quantum communication network over 4,600 kilometres. <i>Nature</i> , 2021, 589, 214-219.	13.7	415
4	Intrinsic randomness as a measure of quantum coherence. <i>Physical Review A</i> , 2015, 92, .	1.0	320
5	Variational ansatz-based quantum simulation of imaginary time evolution. <i>Npj Quantum Information</i> , 2019, 5, .	2.8	285
6	Hybrid Quantum-Classical Algorithms and Quantum Error Mitigation. <i>Journal of the Physical Society of Japan</i> , 2021, 90, 032001.	0.7	263
7	Theory of variational quantum simulation. <i>Quantum - the Open Journal for Quantum Science</i> , 0, 3, 191.	0.0	245
8	Quantum random number generation. <i>Npj Quantum Information</i> , 2016, 2, .	2.8	233
9	Variational quantum algorithms for discovering Hamiltonian spectra. <i>Physical Review A</i> , 2019, 99, .	1.0	164
10	Error-Mitigated Digital Quantum Simulation. <i>Physical Review Letters</i> , 2019, 122, 180501.	2.9	157
11	Device-independent quantum random-number generation. <i>Nature</i> , 2018, 562, 548-551.	13.7	154
12	Variational Quantum Simulation of General Processes. <i>Physical Review Letters</i> , 2020, 125, 010501.	2.9	137
13	Challenging local realism with human choices. <i>Nature</i> , 2018, 557, 212-216.	13.7	136
14	Single ion qubit with estimated coherence time exceeding one hour. <i>Nature Communications</i> , 2021, 12, 233.	5.8	125
15	Operational resource theory of quantum channels. <i>Physical Review Research</i> , 2020, 2, .	1.3	88
16	High-Speed Device-Independent Quantum Random Number Generation without a Detection Loophole. <i>Physical Review Letters</i> , 2018, 120, 010503.	2.9	85
17	Source-Independent Quantum Random Number Generation. <i>Physical Review X</i> , 2016, 6, .	2.8	81
18	Variational algorithms for linear algebra. <i>Science Bulletin</i> , 2021, 66, 2181-2188.	4.3	72

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19	One-Shot Coherence Dilution. <i>Physical Review Letters</i> , 2018, 120, 070403.	2.9	63
20	Quantum uncertainty relation using coherence. <i>Physical Review A</i> , 2017, 96, .	1.0	54
21	Mitigating Realistic Noise in Practical Noisy Intermediate-Scale Quantum Devices. <i>Physical Review Applied</i> , 2021, 15, .	1.5	53
22	Observation of ten-photon entanglement using thin BiB <sub>3</sub> O <sub>6</sub> crystals. <i>Optica</i> , 2017, 4, 77.	4.8	52
23	Digital quantum simulation of molecular vibrations. <i>Chemical Science</i> , 2019, 10, 5725-5735.	3.7	52
24	Quantum Simulation with Hybrid Tensor Networks. <i>Physical Review Letters</i> , 2021, 127, 040501.	2.9	47
25	Implementation of a Measurement-Device-Independent Entanglement Witness. <i>Physical Review Letters</i> , 2014, 112, 140506.	2.9	44
26	One-Shot Coherence Distillation: Towards Completing the Picture. <i>IEEE Transactions on Information Theory</i> , 2019, 65, 6441-6453.	1.5	40
27	Mitigating algorithmic errors in a Hamiltonian simulation. <i>Physical Review A</i> , 2019, 99, .	1.0	40
28	Implementation of a 46-node quantum metropolitan area network. <i>Npj Quantum Information</i> , 2021, 7, .	2.8	39
29	Randomness generation based on spontaneous emissions of lasers. <i>Physical Review A</i> , 2015, 91, .	1.0	35
30	Efficient Measure for the Expressivity of Variational Quantum Algorithms. <i>Physical Review Letters</i> , 2022, 128, 080506.	2.9	35
31	Demonstration of Adiabatic Variational Quantum Computing with a Superconducting Quantum Coprocessor. <i>Physical Review Letters</i> , 2020, 125, 180501.	2.9	33
32	Low-depth quantum state preparation. <i>Physical Review Research</i> , 2021, 3, .	1.3	33
33	Detecting multipartite entanglement structure with minimal resources. <i>Npj Quantum Information</i> , 2019, 5, .	2.8	29
34	Dynamic crotonylation of EB1 by TIP60 ensures accurate spindle positioning in mitosis. <i>Nature Chemical Biology</i> , 2021, 17, 1314-1323.	3.9	29
35	Operational interpretation of coherence in quantum key distribution. <i>Physical Review A</i> , 2019, 99, .	1.0	27
36	Entanglement Structure: Entanglement Partitioning in Multipartite Systems and Its Experimental Detection Using Optimizable Witnesses. <i>Physical Review X</i> , 2018, 8, .	2.8	23

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37	Experimental Quantum State Measurement with Classical Shadows. <i>Physical Review Letters</i> , 2021, 127, 200501.	2.9	23
38	Acetylation of ACAP4 regulates CCL18-elicited breast cancer cell migration and invasion. <i>Journal of Molecular Cell Biology</i> , 2018, 10, 559-572.	1.5	22
39	Experimental exploration of five-qubit quantum error-correcting code with superconducting qubits. <i>National Science Review</i> , 2022, 9, nwab011.	4.6	22
40	Bridging the gap between general probabilistic theories and the device-independent framework for nonlocality and contextuality. <i>Information and Computation</i> , 2016, 250, 15-49.	0.5	21
41	Simulating single photons with realistic photon sources. <i>Physical Review A</i> , 2016, 94, .	1.0	20
42	Practical round-robin differential-phase-shift quantum key distribution. <i>New Journal of Physics</i> , 2017, 19, 033013.	1.2	20
43	Coherence as a resource for source-independent quantum random-number generation. <i>Physical Review A</i> , 2019, 99, .	1.0	20
44	Randomness requirement on the Clauser-Horne-Shimony-Holt Bell test in the multiple-run scenario. <i>Physical Review A</i> , 2015, 91, .	1.0	19
45	Quantum random number generation with uncharacterized laser and sunlight. <i>Npj Quantum Information</i> , 2019, 5, .	2.8	19
46	Experimental Quantum Randomness Processing Using Superconducting Qubits. <i>Physical Review Letters</i> , 2016, 117, 010502.	2.9	18
47	Universal and operational benchmarking of quantum memories. <i>Npj Quantum Information</i> , 2021, 7, .	2.8	18
48	Hypothesis testing and entropies of quantum channels. <i>Physical Review A</i> , 2019, 99, .	1.0	17
49	A quantum-computing advantage for chemistry. <i>Science</i> , 2020, 369, 1054-1055.	6.0	17
50	Variational Circuit Compiler for Quantum Error Correction. <i>Physical Review Applied</i> , 2021, 15, .	1.5	16
51	Replicating the benefits of Deutschian closed timelike curves without breaking causality. <i>Npj Quantum Information</i> , 2015, 1, .	2.8	13
52	Efficient measurement-device-independent detection of multipartite entanglement structure. <i>Physical Review A</i> , 2016, 94, .	1.0	13
53	Quantum Coherence and Intrinsic Randomness. <i>Advanced Quantum Technologies</i> , 2019, 2, 1900053.	1.8	13
54	Unification of nonclassicality measures in interferometry. <i>Physical Review A</i> , 2018, 97, .	1.0	11

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55	High-Threshold Code for Modular Hardware With Asymmetric Noise. <i>Physical Review Applied</i> , 2019, 12, .	1.5	11
56	Quantum coherence via conditional entropy. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2018, 51, 414018.	0.7	10
57	Mps1 dimerization and multisite interactions with Ndc80 complex enable responsive spindle assembly checkpoint signaling. <i>Journal of Molecular Cell Biology</i> , 2020, 12, 486-498.	1.5	10
58	Reliable and robust entanglement witness. <i>Physical Review A</i> , 2016, 93, .	1.0	9
59	Unification of quantum resources in distributed scenarios. <i>Physical Review A</i> , 2019, 99, .	1.0	8
60	LED-based fiber quantum key distribution: toward low-cost applications. <i>Photonics Research</i> , 2019, 7, 1169.	3.4	8
61	Efficient estimation of multipartite quantum coherence. <i>Physical Review Research</i> , 2021, 3, .	1.3	7
62	Clauser-Horne Bell test with imperfect random inputs. <i>Physical Review A</i> , 2015, 92, .	1.0	6
63	Polynomial measure of coherence. <i>New Journal of Physics</i> , 2017, 19, 123033.	1.2	6
64	Efficient and robust detection of multipartite Greenberger-Horne-Zeilinger-like states. <i>Physical Review A</i> , 2019, 99, .	1.0	6
65	Quantum theory from quantum information: the purification route. <i>Canadian Journal of Physics</i> , 2013, 91, 475-478.	0.4	3
66	Detecting entanglement of quantum channels. <i>Communications in Theoretical Physics</i> , 2021, 73, 115101.	1.1	3
67	Experimental Investigation of Quantum Uncertainty Relations With Classical Shadows. <i>Frontiers in Physics</i> , 2022, 10, .	1.0	3
68	Experimental measurement-dependent local Bell test with human free will. <i>Physical Review A</i> , 2019, 99, .	1.0	2
69	Exploiting anticommutation in Hamiltonian simulation. <i>Quantum - the Open Journal for Quantum Science</i> , 0, 5, 534.	0.0	2
70	Experimental random-party entanglement distillation via weak measurement. <i>Physical Review Research</i> , 2020, 2, .	1.3	2
71	Estimating Coherence Measures with Untrusted Devices. <i>Advanced Quantum Technologies</i> , 2021, 4, 2000153.	1.8	1