

Norman Y Yao

List of Publications by Year in descending order

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94
papers

9,809
citations

41344

49
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39675

94
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all docs

95
docs citations

95
times ranked

7950
citing authors

#	ARTICLE	IF	CITATIONS
1	Nanometre-scale thermometry in a living cell. <i>Nature</i> , 2013, 500, 54-58.	27.8	1,440
2	Observation of a discrete time crystal. <i>Nature</i> , 2017, 543, 217-220.	27.8	764
3	Room-Temperature Quantum Bit Memory Exceeding One Second. <i>Science</i> , 2012, 336, 1283-1286.	12.6	707
4	Observation of discrete time-crystalline order in a disordered dipolar many-body system. <i>Nature</i> , 2017, 543, 221-225.	27.8	689
5	Discrete Time Crystals: Rigidity, Criticality, and Realizations. <i>Physical Review Letters</i> , 2017, 118, 030401.	7.8	393
6	Programmable quantum simulations of spin systems with trapped ions. <i>Reviews of Modern Physics</i> , 2021, 93, .	45.6	316
7	Phonon-Induced Spin-Spin Interactions in Diamond Nanostructures: Application to Spin Squeezing. <i>Physical Review Letters</i> , 2013, 110, 156402.	7.8	226
8	Verified quantum information scrambling. <i>Nature</i> , 2019, 567, 61-65.	27.8	219
9	Many-Body Localization in Dipolar Systems. <i>Physical Review Letters</i> , 2014, 113, 243002.	7.8	204
10	Robust Quantum State Transfer in Random Unpolarized Spin Chains. <i>Physical Review Letters</i> , 2011, 106, 040505.	7.8	194
11	Scalable architecture for a room temperature solid-state quantum information processor. <i>Nature Communications</i> , 2012, 3, 800.	12.8	190
12	Realizing Fractional Chern Insulators in Dipolar Spin Systems. <i>Physical Review Letters</i> , 2013, 110, 185302.	7.8	167
13	Origins of Elasticity in Intermediate Filament Networks. <i>Physical Review Letters</i> , 2010, 104, 058101.	7.8	165
14	Many-Body Dynamics of Dipolar Molecules in an Optical Lattice. <i>Physical Review Letters</i> , 2014, 113, 195302.	7.8	162
15	Interferometric Probes of Many-Body Localization. <i>Physical Review Letters</i> , 2014, 113, 147204.	7.8	153
16	Discrete Time Crystals. <i>Annual Review of Condensed Matter Physics</i> , 2020, 11, 467-499.	14.5	146
17	Imaging stress and magnetism at high pressures using a nanoscale quantum sensor. <i>Science</i> , 2019, 366, 1349-1354.	12.6	129
18	Phonon-Induced Population Dynamics and Intersystem Crossing in Nitrogen-Vacancy Centers. <i>Physical Review Letters</i> , 2015, 114, 145502.	7.8	127

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19	Quantum Information Scrambling on a Superconducting Qutrit Processor. <i>Physical Review X</i> , 2021, 11, .	8.9	126
20	Cross-Link-Governed Dynamics of Biopolymer Networks. <i>Physical Review Letters</i> , 2010, 105, 238101.	7.8	124
21	Quasi-Many-Body Localization in Translation-Invariant Systems. <i>Physical Review Letters</i> , 2016, 117, 240601.	7.8	116
22	Critical Thermalization of a Disordered Dipolar Spin System in Diamond. <i>Physical Review Letters</i> , 2018, 121, 023601.	7.8	107
23	Topological Flat Bands from Dipolar Spin Systems. <i>Physical Review Letters</i> , 2012, 109, 266804.	7.8	96
24	Floquet Symmetry-Protected Topological Phases in Cold-Atom Systems. <i>Physical Review Letters</i> , 2017, 119, 123601.	7.8	94
25	Observation of a prethermal discrete time crystal. <i>Science</i> , 2021, 372, 1192-1196.	12.6	93
26	Observing Topological Invariants Using Quantum Walks in Superconducting Circuits. <i>Physical Review X</i> , 2017, 7, .	8.9	92
27	State-selective intersystem crossing in nitrogen-vacancy centers. <i>Physical Review B</i> , 2015, 91, .	3.2	91
28	Dicke time crystals in driven-dissipative quantum many-body systems. <i>New Journal of Physics</i> , 2019, 21, 073028.	2.9	90
29	Depolarization Dynamics in a Strongly Interacting Solid-State Spin Ensemble. <i>Physical Review Letters</i> , 2017, 118, 093601.	7.8	86
30	Classical discrete time crystals. <i>Nature Physics</i> , 2020, 16, 438-447.	16.7	85
31	Imaging the Local Charge Environment of Nitrogen-Vacancy Centers in Diamond. <i>Physical Review Letters</i> , 2018, 121, 246402.	7.8	84
32	Measurement-Induced Transition in Long-Range Interacting Quantum Circuits. <i>Physical Review Letters</i> , 2022, 128, 010604.	7.8	82
33	Many-body“localized discrete time crystal with a programmable spin-based quantum simulator. <i>Science</i> , 2021, 374, 1474-1478.	12.6	80
34	Direct Probe of Topological Invariants Using Bloch Oscillating Quantum Walks. <i>Physical Review Letters</i> , 2017, 118, 130501.	7.8	78
35	Quantum gas microscopy of Kardar-Parisi-Zhang superdiffusion. <i>Science</i> , 2022, 376, 716-720.	12.6	76
36	Long coherence times for edge spins. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2017, 2017, 063105.	2.3	69

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37	Disentangling Scrambling and Decoherence via Quantum Teleportation. <i>Physical Review X</i> , 2019, 9, .	8.9	68
38	Topologically protected quantum state transfer in a chiral spin liquid. <i>Nature Communications</i> , 2013, 4, 1585.	12.8	67
39	A quantum dipolar spin liquid. <i>Nature Physics</i> , 2018, 14, 405-410.	16.7	62
40	Probing Scrambling Using Statistical Correlations between Randomized Measurements. <i>Physical Review X</i> , 2019, 9, .	8.9	62
41	Spin transport of weakly disordered Heisenberg chain at infinite temperature. <i>Physical Review B</i> , 2016, 93, .	3.2	61
42	Long-Range Prethermal Phases of Nonequilibrium Matter. <i>Physical Review X</i> , 2020, 10, .	8.9	61
43	Interferometric measurements of many-body topological invariants using mobile impurities. <i>Nature Communications</i> , 2016, 7, 11994.	12.8	58
44	Topologically protected excitons in porphyrin thin films. <i>Nature Materials</i> , 2014, 13, 1026-1032.	27.5	55
45	Topological bands with a Chern number C and dipolar exchange interactions. <i>Physical Review A</i> , 2015, 91, .		
46	Time crystals in periodically driven systems. <i>Physics Today</i> , 2018, 71, 40-47.	0.3	54
47	Enhanced Antiferromagnetic Exchange between Magnetic Impurities in a Superconducting Host. <i>Physical Review Letters</i> , 2014, 113, 087202.	7.8	53
48	Many-Body Chaos in the Sachdev-Ye-Kitaev Model. <i>Physical Review Letters</i> , 2021, 126, 030602.	7.8	53
49	Elasticity in Ionically Cross-Linked Neurofilament Networks. <i>Biophysical Journal</i> , 2010, 98, 2147-2153.	0.5	52
50	Timekeeping with electron spin states in diamond. <i>Physical Review A</i> , 2013, 87, .	2.5	52
51	Stress-Enhanced Gelation: A Dynamic Nonlinearity of Elasticity. <i>Physical Review Letters</i> , 2013, 110, 018103.	7.8	52
52	Improved Lieb-Robinson bound for many-body Hamiltonians with power-law interactions. <i>Physical Review A</i> , 2020, 101, .	2.5	45
53	Probing nonlinear rheology with inertio-elastic oscillations. <i>Journal of Rheology</i> , 2008, 52, 1013-1025.	2.6	44
54	Nonlinear Viscoelasticity of Actin Transiently Cross-linked with Mutant $\hat{\pm}$ -Actinin-4. <i>Journal of Molecular Biology</i> , 2011, 411, 1062-1071.	4.2	42

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55	Unforgeable noise-tolerant quantum tokens. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 16079-16082.	7.1	42
56	Fractional quantum Hall states of Rydberg polaritons. Physical Review A, 2015, 91, .	2.5	42
57	Exponentially slow heating in short and long-range interacting Floquet systems. Physical Review Research, 2019, 1, .	3.6	40
58	Emergent hydrodynamics in a strongly interacting dipolar spin ensemble. Nature, 2021, 597, 45-50.	27.8	37
59	Dynamical Engineering of Interactions in Qudit Ensembles. Physical Review Letters, 2017, 119, 183603.	7.8	36
60	Quantum logic between remote quantum registers. Physical Review A, 2013, 87, .	2.5	35
61	Scrambling and complexity in phase space. Physical Review A, 2019, 99, .	2.5	35
62	Phase diagram and excitations of a Shiba molecule. Physical Review B, 2014, 90, .	3.2	31
63	Continuous Preparation of a Fractional Chern Insulator. Physical Review Letters, 2015, 115, 026802.	7.8	30
64	Emergent Hydrodynamics in Nonequilibrium Quantum Systems. Physical Review Letters, 2020, 125, 030601.	7.8	27
65	Floquet Phases of Matter via Classical Prethermalization. Physical Review Letters, 2021, 127, 140603.	7.8	26
66	Dynamics of quantum information in many-body localized systems. Physical Review B, 2017, 96, .	3.2	24
67	Floquet Hopf Insulators. Physical Review Letters, 2019, 123, 266803.	7.8	24
68	Collectively Enhanced Interactions in Solid-State Spin Qubits. Physical Review Letters, 2013, 110, 067601.	7.8	23
69	Optically Enhanced Electric Field Sensing Using Nitrogen-Vacancy Ensembles. Physical Review Applied, 2021, 16, .	3.8	22
70	Long-Range Quantum Gates using Dipolar Crystals. Physical Review Letters, 2012, 108, 100501.	7.8	21
71	Adiabatic Quantum Search in Open Systems. Physical Review Letters, 2016, 117, 150501.	7.8	21
72	Symmetric Bloch oscillations of matter waves. Physical Review A, 2020, 102, .	2.5	21

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73	Proposal for the detection of magnetic monopoles in spin ice via nanoscale magnetometry. Physical Review B, 2018, 97, .	3.2	19
74	Emergent Ergodicity at the Transition between Many-Body Localized Phases. Physical Review Letters, 2021, 126, 100604.	7.8	19
75	Realizing Hopf Insulators in Dipolar Spin Systems. Physical Review Letters, 2021, 127, 015301.	7.8	18
76	Detection and characterization of many-body localization in central spin models. Physical Review B, 2018, 98, .	3.2	15
77	Dynamic Tuning of Moiré Excitons in a WSe_2/WSe_2 Heterostructure via Mechanical Deformation. Nano Letters, 2021, 21, 8910-8916.	9.1	15
78	Characterizing two-dimensional superconductivity via nanoscale noise magnetometry with single-spin qubits. Physical Review B, 2022, 105, .	3.2	14
79	Floquet engineering ultracold polar molecules to simulate topological insulators. Physical Review A, 2021, 103, .	2.5	13
80	Single-spin qubit magnetic spectroscopy of two-dimensional superconductivity. Physical Review Research, 2022, 4, .	3.6	12
81	Symmetry-Enhanced Boundary Qubits at Infinite Temperature. Physical Review Letters, 2020, 125, 200506.	7.8	10
82	Controllable quantum spin glasses with magnetic impurities embedded in quantum solids. Physical Review B, 2013, 88, .	3.2	9
83	Bilayer fractional quantum Hall states with dipoles. Physical Review A, 2015, 92, .	2.5	9
84	Topological polarons, quasiparticle invariants, and their detection in one-dimensional symmetry-protected phases. Physical Review B, 2019, 100, .	3.2	9
85	Spatial coherence of a strongly interacting Bose gas in the trimerized kagome lattice. Physical Review A, 2020, 101, .	2.5	7
86	Preparation of Low Entropy Correlated Many-Body States via Conformal Cooling Quenches. Physical Review Letters, 2021, 126, 103401.	7.8	6
87	Chlorophyll Detection and Mapping of Shallow Water Impoundments Using Image Spectrometry. Research Letters in Ecology, 2008, 2008, 1-4.	0.6	5
88	Performance of the rigorous renormalization group for first-order phase transitions and topological phases. Physical Review B, 2021, 103, .	3.2	5
89	Probing and dressing magnetic impurities in a superconductor. Physical Review Research, 2019, 1, .	3.6	5
90	A Scalable Matrix-Free Iterative Eigensolver for Studying Many-Body Localization. , 2020, , .		2

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91	Characterizing the Non-Linear Rheology of Biopolymer Networks Using Inertio-Elastic Oscillations. AIP Conference Proceedings, 2008, , .	0.4	1
92	Localization goes long. Nature Physics, 2016, 12, 894-895.	16.7	1
93	Adiabatic ground state preparation in an expanding lattice. Physical Review B, 2020, 101, .	3.2	1
94	Enhancing scalability of a matrix-free eigensolver for studying many-body localization. International Journal of High Performance Computing Applications, 2022, 36, 307-319.	3.7	1