

Observation of a discrete time crystal

Nature

543, 217-220

DOI: [10.1038/nature21413](https://doi.org/10.1038/nature21413)

Citation Report

#	ARTICLE	IF	CITATIONS
1	Marching to a different quantum beat. Nature, 2017, 543, 185-186.	13.7	9
2	Equilibration and order in quantum Floquet matter. Nature Physics, 2017, 13, 424-428.	6.5	190
3	Particle Models with Self Sustained Current. Journal of Statistical Physics, 2017, 167, 1081-1111.	0.5	21
4	Colloquium: Atomic quantum gases in periodically driven optical lattices. Reviews of Modern Physics, 2017, 89, .	16.4	737
5	Many-Body Localization with Long-Range Interactions. Physical Review X, 2017, 7, .	2.8	80
6	Asymptotic Floquet states of non-Markovian systems. Physical Review A, 2017, 96, .	1.0	10
7	High-Temperature Nonequilibrium Bose Condensation Induced by a Hot Needle. Physical Review Letters, 2017, 119, 140602.	2.9	12
8	Quantum time crystal by decoherence: Proposal with an incommensurate charge density wave ring. Physical Review B, 2017, 96, .	1.1	16
9	Accurate determination of black-body radiation shift, magic and tune-out wavelengths for the $6S_{1/2} \rightarrow 5D_{3/2}$ clock transition in Yb^{+} . Journal of Physics B: Atomic, Molecular and Optical Physics, 2017, 50, 205201.	0.6	18
10	Emergent eigenstate solution and emergent Gibbs ensemble for expansion dynamics in optical lattices. Physical Review A, 2017, 96, .	1.0	20
11	Trial wave functions for ring-trapped ions and neutral atoms: Microscopic description of the quantum space-time crystal. Physical Review A, 2017, 96, .	1.0	2
12	Dynamically enriched topological orders in driven two-dimensional systems. Physical Review B, 2017, 95, .	1.1	47
13	Many-body localization caused by temporal disorder. Physical Review B, 2017, 96, .	1.1	36
14	Towards properties on demand in quantum materials. Nature Materials, 2017, 16, 1077-1088.	13.3	560
15	Direct Observation of Dynamical Quantum Phase Transitions in an Interacting Many-Body System. Physical Review Letters, 2017, 119, 080501.	2.9	365
16	Scaling Theory of Entanglement at the Many-Body Localization Transition. Physical Review Letters, 2017, 119, 110604.	2.9	84
17	Defining time crystals via representation theory. Physical Review B, 2017, 96, .	1.1	42
18	Prethermal time crystals in a one-dimensional periodically driven Floquet system. Physical Review B, 2017, 96, .	1.1	44

#	ARTICLE	IF	CITATIONS
19	Spectroscopy of a Synthetic Trapped Ion Qubit. <i>Physical Review Letters</i> , 2017, 119, 100501.	2.9	25
20	Floquet time crystal in the Lipkin-Meshkov-Glick model. <i>Physical Review B</i> , 2017, 95, .	1.1	150
21	Anderson localization of a Rydberg electron along a classical orbit. <i>Physical Review A</i> , 2017, 95, .	1.0	27
22	Nonlinear, nonequilibrium and collective dynamics in a periodically modulated cold atom system. <i>Physics Reports</i> , 2017, 698, 1-30.	10.3	8
23	Time symmetry breaking in Bose-Einstein condensates. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2017, 50, 355501.	0.7	2
24	The resolution of ambiguity as the basis for life: A cellular bridge between Western reductionism and Eastern holism. <i>Progress in Biophysics and Molecular Biology</i> , 2017, 131, 288-297.	1.4	48
25	Extreme Quantum Advantage when Simulating Classical Systems with Long-Range Interaction. <i>Scientific Reports</i> , 2017, 7, 6735.	1.6	16
26	Recent progress in many-body localization. <i>Annalen Der Physik</i> , 2017, 529, 1700169.	0.9	249
27	Spin and topological order in a periodically driven spin chain. <i>Physical Review B</i> , 2017, 96, .	1.1	23
28	Disorder-induced transitions in resonantly driven Floquet topological insulators. <i>Physical Review B</i> , 2017, 96, .	1.1	23
29	Coherent Many-Body Spin Dynamics in a Long-Range Interacting Ising Chain. <i>Physical Review X</i> , 2017, 7, .	2.8	156
30	Non-thermalization in trapped atomic ion spin chains. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2017, 375, 20170107.	1.6	29
31	Photonic time crystals. <i>Scientific Reports</i> , 2017, 7, 17165.	1.6	18
32	Three-Dimensional Localized-Delocalized Anderson Transition in the Time Domain. <i>Physical Review Letters</i> , 2017, 119, 230404.	2.9	28
33	Interaction Dependent Heating and Atom Loss in a Periodically Driven Optical Lattice. <i>Physical Review Letters</i> , 2017, 119, 200402.	2.9	73
34	Time-translation-symmetry breaking in a driven oscillator: From the quantum coherent to the incoherent regime. <i>Physical Review A</i> , 2017, 96, .	1.0	30
35	Ion trap architectures and new directions. <i>Quantum Information Processing</i> , 2017, 16, 1.	1.0	19
36	Fluctuating hydrodynamics, current fluctuations, and hyperuniformity in boundary-driven open quantum chains. <i>Physical Review E</i> , 2017, 96, 052118.	0.8	35

#	ARTICLE	IF	CITATIONS
37	Dynamical quantum phase transitions in systems with continuous symmetry breaking. Physical Review B, 2017, 96, .	1.1	44
38	Localization length versus level repulsion in one-dimensional driven disordered quantum wires. Physical Review B, 2017, 96, .	1.1	7
39	Breakdown of ergodicity in quantum systems: from solids to synthetic matter. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2017, 375, 20170264.	1.6	1
40	Absence of Ergodicity without Quenched Disorder: From Quantum Disentangled Liquids to Many-Body Localization. Physical Review Letters, 2017, 119, 176601.	2.9	86
41	Integrability and chemical potential in the (3 + 1)-dimensional Skyrme model. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2017, 773, 401-407.	1.5	35
42	Dynamical Engineering of Interactions in Qudit Ensembles. Physical Review Letters, 2017, 119, 183603.	2.9	36
43	Quantized Magnetization Density in Periodically Driven Systems. Physical Review Letters, 2017, 119, 186801.	2.9	48
44	Quantum information processing with superconducting circuits: a review. Reports on Progress in Physics, 2017, 80, 106001.	8.1	628
45	Localization and transport in a strongly driven Anderson insulator. Physical Review B, 2017, 96, .	1.1	21
46	Floquet topological phases with symmetry in all dimensions. Physical Review B, 2017, 95, .	1.1	86
47	Disorder-Free Localization. Physical Review Letters, 2017, 118, 266601.	2.9	167
48	Critical Time Crystals in Dipolar Systems. Physical Review Letters, 2017, 119, 010602.	2.9	107
49	Preparing quasienergy states on demand: A parametric oscillator. Physical Review A, 2017, 95, .	1.0	30
50	Fate of a discrete time crystal in an open system. Physical Review B, 2017, 95, .	1.1	60
51	Controlling the Floquet state population and observing micromotion in a periodically driven two-body quantum system. Physical Review A, 2017, 96, . Analytic topologically nontrivial solutions of the (T_j ETQq] 1 0.784314 rgBT jOverlock 10 Tf 50 162 Td (ymlns:mml="http/	1.0	45
52	U 1	1.6	26
53	Time Crystal Behavior of Excited Eigenstates. Physical Review Letters, 2017, 119, 250602.	2.9	44
54	Field patterns: A new type of wave with infinitely degenerate band structure. Europhysics Letters, 2017, 120, 54003.	0.7	6

#	ARTICLE	IF	CITATIONS
55	Spatio-Temporal Symmetryâ€™Point Groups with Time Translations. <i>Symmetry</i> , 2017, 9, 187.	1.1	5
56	The quest to crystallize time. <i>Nature</i> , 2017, 543, 164-166.	13.7	9
57	Connecting dynamical quantum phase transitions and topological steady-state transitions by tuning the energy gap. <i>Physical Review A</i> , 2018, 97, .	1.0	9
58	Counting local integrals of motion in disordered spinless-fermion and Hubbard chains. <i>Physical Review B</i> , 2018, 97, .	1.1	40
59	Setting Boundaries with Memory: Generation of Topological Boundary States in Floquet-Induced Synthetic Crystals. <i>Physical Review Letters</i> , 2018, 120, 106402.	2.9	17
60	Dynamical quantum phase transitions: a review. <i>Reports on Progress in Physics</i> , 2018, 81, 054001.	8.1	411
61	Relationship between the transverse-field Ising model and the XY model via the rotating-wave approximation. <i>Physical Review A</i> , 2018, 97, .	1.0	6
62	Photoinduced High-Frequency Charge Oscillations in Dimerized Systems. <i>Journal of the Physical Society of Japan</i> , 2018, 87, 044708.	0.7	4
63	Light, the universe and everything â€™ 12 Herculean tasks for quantum cowboys and black diamond skiers. <i>Journal of Modern Optics</i> , 2018, 65, 1261-1308.	0.6	6
64	Topological energy conversion through the bulk or the boundary of driven systems. <i>Physical Review B</i> , 2018, 97, .	1.1	22
65	A Brain-like Computer Made of Time Crystal: Could a Metric of Prime Alone Replace a User and Alleviate Programming Forever?. <i>Studies in Computational Intelligence</i> , 2018, , 1-43.	0.7	20
66	Spreading of correlations in the Falicov-Kimball model. <i>Physical Review B</i> , 2018, 97, .	1.1	9
67	Analogies of the classical Euler top with a rotor to spin squeezing and quantum phase transitions in a generalized Lipkin-Meshkov-Glick model. <i>Scientific Reports</i> , 2018, 8, 1984.	1.6	9
68	Logarithmically Slow Relaxation in Quasiperiodically Driven Random Spin Chains. <i>Physical Review Letters</i> , 2018, 120, 070602.	2.9	55
69	Dynamics of interacting fermions under spinâ€™orbit coupling in an optical lattice clock. <i>Nature Physics</i> , 2018, 14, 399-404.	6.5	53
70	Symmetry breaking in linear multipole traps. <i>Journal of Modern Optics</i> , 2018, 65, 529-537.	0.6	10
71	Symmetry-breaking dynamics of the finite-size Lipkin-Meshkov-Glick model near ground state. <i>Physical Review A</i> , 2018, 97, .	1.0	28
72	Quantum Mechanics predicts evolutionary biology. <i>Progress in Biophysics and Molecular Biology</i> , 2018, 135, 11-15.	1.4	30

#	ARTICLE	IF	CITATIONS
73	Absence of thermalization in finite isolated interacting Floquet systems. <i>Physical Review B</i> , 2018, 97, .	1.1	35
74	Discrete Time-Crystalline Order in Cavity and Circuit QED Systems. <i>Physical Review Letters</i> , 2018, 120, 040404.	2.9	150
75	Drive-induced delocalization in the Aubry-Andr� model. <i>Physical Review E</i> , 2018, 97, 010101.	0.8	36
76	³¹ P NMR study of discrete time-crystalline signatures in an ordered crystal of ammonium dihydrogen phosphate. <i>Physical Review B</i> , 2018, 97, .	1.1	56
77	Temporal Order in Periodically Driven Spins in Star-Shaped Clusters. <i>Physical Review Letters</i> , 2018, 120, 180602.	2.9	119
78	Observation of Discrete-Time-Crystal Signatures in an Ordered Dipolar Many-Body System. <i>Physical Review Letters</i> , 2018, 120, 180603.	2.9	189
79	Time Crystal Platform: From Quasicrystal Structures in Time to Systems with Exotic Interactions. <i>Physical Review Letters</i> , 2018, 120, 140401.	2.9	49
80	Detecting many-body-localization lengths with cold atoms. <i>Physical Review A</i> , 2018, 97, .	1.0	1
81	On the number of Bose-selected modes in driven-dissipative ideal Bose gases. <i>Physical Review E</i> , 2018, 97, 032136.	0.8	11
82	Periodically Driven Array of Single Rydberg Atoms. <i>Physical Review Letters</i> , 2018, 120, 123204.	2.9	27
83	Dynamically induced many-body localization. <i>Physical Review B</i> , 2018, 97, .	1.1	13
84	Clean Floquet Time Crystals: Models and Realizations in Cold Atoms. <i>Physical Review Letters</i> , 2018, 120, 110603.	2.9	86
85	Time crystals: a review. <i>Reports on Progress in Physics</i> , 2018, 81, 016401.	8.1	322
86	Shattered time: can a dissipative time crystal survive many-body correlations?. <i>New Journal of Physics</i> , 2018, 20, 123003.	1.2	61
87	Charge Oscillations Emerging after Application of an Intense Light Field to Superconductors on a Dimer Lattice. <i>Journal of the Physical Society of Japan</i> , 2018, 87, 124703.	0.7	6
88	Strong-disorder renormalization group for periodically driven systems. <i>Physical Review B</i> , 2018, 98, .	1.1	10
89	Hong��Ou��Mandel-like two-droplet correlations. <i>Chaos</i> , 2018, 28, 096104.	1.0	14
90	Observation of Floquet Raman Transition in a Driven Solid-State Spin System. <i>Physical Review Letters</i> , 2018, 121, 210501.	2.9	28

#	ARTICLE	IF	CITATIONS
91	Space-time quasicrystal structures and inflationary and late time evolution dynamics in accelerating cosmology. <i>Classical and Quantum Gravity</i> , 2018, 35, 245009.	1.5	11
92	Discrete Lorentz symmetry and discrete time translational symmetry. <i>New Journal of Physics</i> , 2018, 20, 023042.	1.2	3
93	Correcting symmetry imperfections in linear multipole traps. <i>Review of Scientific Instruments</i> , 2018, 89, 123101.	0.6	5
94	Interaction-induced time-symmetry breaking in driven quantum oscillators. <i>Physical Review B</i> , 2018, 98, .	1.1	29
95	Floquet perturbation theory: formalism and application to low-frequency limit. <i>New Journal of Physics</i> , 2018, 20, 093022.	1.2	45
96	Multiphoton Raman transitions and Rabi oscillations in driven spin systems. <i>Physical Review A</i> , 2018, 98, .	1.0	19
97	Many-body localization and quantum thermalization. <i>Nature Physics</i> , 2018, 14, 979-983.	6.5	69
98	New horizons towards thermalization. <i>Nature Physics</i> , 2018, 14, 969-969.	6.5	1
99	Topological Phases of Non-Hermitian Systems. <i>Physical Review X</i> , 2018, 8, .	2.8	792
100	ac conductivity crossover in localized superconductors. <i>Physical Review B</i> , 2018, 98, .	1.1	0
101	Configuration-controlled many-body localization and the mobility emulsion. <i>Physical Review B</i> , 2018, 98, .	1.1	16
102	Analytic ($\langle mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" \rangle T_j ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 312 Td (d sp$) D. 2018, 98, .	1.6	24
103	Generation of atypical hopping and interactions by kinetic driving. <i>New Journal of Physics</i> , 2018, 20, 073045.	1.2	7
104	Observation of a Space-Time Crystal in a Superfluid Quantum Gas. <i>Physical Review Letters</i> , 2018, 121, 185301.	2.9	104
105	Dynamical quantum phase transition for mixed states in open systems. <i>Physical Review B</i> , 2018, 98, .	1.1	21
106	Observation of Topologically Protected Edge States in a Photonic Two-Dimensional Quantum Walk. <i>Physical Review Letters</i> , 2018, 121, 100502.	2.9	86
107	Floquet many-body engineering: topology and many-body physics in phase space lattices. <i>New Journal of Physics</i> , 2018, 20, 023043.	1.2	32
108	Concluding Remarks and Outlook. <i>Springer Theses</i> , 2018, , 165-172.	0.0	0

#	ARTICLE	IF	CITATIONS
109	Stability and pre-thermalization in chains of classical kicked rotors. Journal of Physics A: Mathematical and Theoretical, 2018, 51, 465001.	0.7	25
110	Floquet prethermalization in periodically driven classical spin systems. Physical Review B, 2018, 98, .	1.1	38
111	Coffee stains, cell receptors, and time crystals: Lessons from the old literature. Physics Today, 2018, 71, 32-38.	0.3	26
112	Time crystals in periodically driven systems. Physics Today, 2018, 71, 40-47.	0.3	54
113	Floquet quantum criticality. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 9491-9496.	3.3	33
114	Glassy dynamics due to a trajectory phase transition in dissipative Rydberg gases. Physical Review A, 2018, 98, .	1.0	12
115	Structural Nonequilibrium Forces in Driven Colloidal Systems. Physical Review Letters, 2018, 121, 098002.	2.9	24
116	Dynamical quantum phase transitions in discrete time crystals. Physical Review A, 2018, 97, .	1.0	51
117	Bounds on Energy Absorption and Prethermalization in Quantum Systems with Long-Range Interactions. Physical Review Letters, 2018, 120, 200601.	2.9	23
118	Thermalization and prethermalization in isolated quantum systems: a theoretical overview. Journal of Physics B: Atomic, Molecular and Optical Physics, 2018, 51, 112001.	0.6	283
119	Emergent phases and critical behavior in a non-Markovian open quantum system. Physical Review A, 2018, 97, .	1.0	5
120	Floquet Supersymmetry. Physical Review Letters, 2018, 120, 210603.	2.9	9
121	Dynamical potentials for nonequilibrium quantum many-body phases. Physical Review B, 2018, 97, .	1.1	4
122	Semiclassical approach to finite-temperature quantum annealing with trapped ions. Physical Review A, 2018, 97, .	1.0	4
123	Exact results for the Floquet coin toss for driven integrable models. Physical Review B, 2018, 97, .	1.1	13
124	Observation of a Time Quasicrystal and Its Transition to a Superfluid Time Crystal. Physical Review Letters, 2018, 120, 215301.	2.9	113
125	Out of step with time. Nature Materials, 2018, 17, 569-569.	13.3	0
126	Many-body localization transition with power-law interactions: Statistics of eigenstates. Physical Review B, 2018, 97, .	1.1	61

#	ARTICLE	IF	CITATIONS
127	Dynamical localization-delocalization crossover in the Aubry-Andr�-Harper model. Physical Review A, 2018, 98, .	1.0	16
128	Remnants of Anderson localization in prethermalization induced by white noise. Physical Review B, 2018, 98, .	1.1	13
129	Verification of a Many-Ion Simulator of the Dicke Model Through Slow Quenches across a Phase Transition. Physical Review Letters, 2018, 121, 040503.	2.9	90
130	Cosmological time crystal: Cyclic universe with a small cosmological constant in a toy model approach. Physical Review D, 2018, 98, .	1.6	22
131	Boundary Time Crystals. Physical Review Letters, 2018, 121, 035301.	2.9	162
132	Many-Body Dynamics and Gap Opening in Interacting Periodically Driven Systems. Physical Review Letters, 2018, 121, 036801.	2.9	13
133	Making rare events typical in Markovian open quantum systems. Physical Review A, 2018, 98, .	1.0	67
134	Critical Thermalization of a Disordered Dipolar Spin System in Diamond. Physical Review Letters, 2018, 121, 023601.	2.9	107
135	Time crystals: Analysis of experimental conditions. Physical Review A, 2018, 98, .	1.0	54
136	Interacting Floquet topological phases in three dimensions. Physical Review B, 2018, 98, .	1.1	10
137	Cavity-mediated collective spin-exchange interactions in a strontium superradiant laser. Science, 2018, 361, 259-262.	6.0	124
138	Universal Fluctuations of Floquet Topological Invariants at Low Frequencies. Physical Review Letters, 2018, 121, 036402.	2.9	36
139	Dynamical quantum phase transitions in systems with broken continuous time and space translation symmetries. Physical Review A, 2018, 98, .	1.0	25
140	Nonequilibrium quantum order at infinite temperature: Spatiotemporal correlations and their generating functions. Physical Review B, 2018, 98, .	1.1	4
141	Spatial-Translation-Induced Discrete Time Crystals. Physical Review Letters, 2018, 121, 093001.	2.9	26
142	Learning phase transitions from dynamics. Physical Review B, 2018, 98, .	1.1	43
143	String order parameters for one-dimensional Floquet symmetry protected topological phases. Physical Review B, 2018, 97, .	1.1	10
144	Many-body localization, symmetry and topology. Reports on Progress in Physics, 2018, 81, 082501.	8.1	69

#	ARTICLE	IF	CITATIONS
145	Simulation of Non-Abelian Braiding in Majorana Time Crystals. <i>Physical Review Letters</i> , 2018, 120, 230405.	2.9	69
146	Onset of Floquet thermalization. <i>Physical Review B</i> , 2018, 97, .	1.1	66
147	Spin Subdiffusion in the Disordered Hubbard Chain. <i>Physical Review Letters</i> , 2018, 120, 246602.	2.9	41
148	Many-body localization: An introduction and selected topics. <i>Comptes Rendus Physique</i> , 2018, 19, 498-525.	0.3	388
149	Quantized transport and steady states of Floquet topological insulators. <i>Physical Review B</i> , 2018, 97, .	1.1	41
150	Spatio-temporal symmetry " crystallographic point groups with time translations and time inversion. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2018, 74, 399-402.	0.0	6
151	Machine Learning Out-of-Equilibrium Phases of Matter. <i>Physical Review Letters</i> , 2018, 120, 257204.	2.9	104
152	The Singularity of nature. <i>Progress in Biophysics and Molecular Biology</i> , 2019, 142, 23-31.	1.4	40
153	Discrete dynamical stabilization of a naturally diverging mass in a harmonically time-varying potential. <i>Physica D: Nonlinear Phenomena</i> , 2019, 386-387, 1-7.	1.3	2
154	Tunable space-time crystal in room-temperature magnetodielectrics. <i>Physical Review B</i> , 2019, 100, .	1.1	25
155	High-frequency expansion for Floquet prethermal phases with emergent symmetries: Application to time crystals and Floquet engineering. <i>Physical Review B</i> , 2019, 100, .	1.1	12
156	Subharmonic oscillations in stochastic systems under periodic driving. <i>Physical Review E</i> , 2019, 100, 012135.	0.8	10
157	Analog of Hamilton-Jacobi theory for the time-evolution operator. <i>Physical Review A</i> , 2019, 100, .	1.0	13
158	Selective frequency conversion with coupled time-modulated cavities. <i>Physical Review B</i> , 2019, 100, .	1.1	3
159	Observation of dynamical phase transitions in a topological nanomechanical system. <i>Physical Review B</i> , 2019, 100, .	1.1	43
160	Efficiently solving the dynamics of many-body localized systems at strong disorder. <i>Physical Review B</i> , 2019, 99, .	1.1	39
161	Observation of a transition between dynamical phases in a quantum degenerate Fermi gas. <i>Science Advances</i> , 2019, 5, eaax1568.	4.7	69
162	Time fractals and discrete scale invariance with trapped ions. <i>Physical Review A</i> , 2019, 100, .	1.0	5

#	ARTICLE	IF	CITATIONS
163	Strong frequency dependence of transport in the driven disordered central-site model. <i>Physical Review B</i> , 2019, 100, .	1.1	2
164	Suppressed energy transport in the strongly disordered Hubbard chain. <i>Physical Review B</i> , 2019, 99, .	1.1	5
165	Discrete time symmetry breaking in quantum circuits: exact solutions and tunneling. <i>New Journal of Physics</i> , 2019, 21, 093035.	1.2	11
166	Period- $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"} \langle \text{mml:mrow} \langle \text{mml:mi} \rangle n \langle \text{mml:mi} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:math} \rangle$ Discrete Time Crystals and Quasicrystals with Ultracold Bosons. <i>Physical Review Letters</i> , 2019, 123, 150601.	2.9	51
167	Squeezed state metrology with Bragg interferometers operating in a cavity. <i>Quantum Science and Technology</i> , 2019, 4, 045010.	2.6	18
168	Algebraic localization from power-law couplings in disordered quantum wires. <i>Physical Review B</i> , 2019, 100, .	1.1	16
169	Monitoring the Physiological and Biochemical Indicators of Teenage Male Rowers during Winter Training. <i>IOP Conference Series: Earth and Environmental Science</i> , 2019, 252, 022038.	0.2	0
170	Periodic thermodynamics of the Rabi model with circular polarization for arbitrary spin quantum numbers. <i>Physical Review E</i> , 2019, 100, 042141.	0.8	10
171	Time-crystalline behavior in an engineered spin chain. <i>Physical Review B</i> , 2019, 100, .	1.1	6
172	Quantifying and Controlling Prethermal Nonergodicity in Interacting Floquet Matter. <i>Physical Review X</i> , 2019, 9, .	2.8	36
173	Dynamical phase transition in the transverse field Ising chain characterized by the transverse magnetization spectral function. <i>Physical Review B</i> , 2019, 100, .	1.1	4
174	Synthetic chiral light for efficient control of chiral light-matter interaction. <i>Nature Photonics</i> , 2019, 13, 866-871.	15.6	132
175	Floquet time spirals and stable discrete-time quasicrystals in quasiperiodically driven quantum many-body systems. <i>Physical Review B</i> , 2019, 100, .	1.1	22
176	Probing the many-body localization phase transition with superconducting circuits. <i>Physical Review B</i> , 2019, 100, .	1.1	38
177	Integrable Many-Body Quantum Floquet-Thouless Pumps. <i>Physical Review Letters</i> , 2019, 123, 170603.	2.9	34
178	Subharmonic Entrainment of Kerr Breather Solitons. <i>Physical Review Letters</i> , 2019, 123, 173904.	2.9	30
179	Time crystal minimizes its energy by performing Sisyphus motion. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 18755-18756.	3.3	1
180	Dynamics of quantum information. <i>Nature Reviews Physics</i> , 2019, 1, 627-634.	11.9	53

#	ARTICLE	IF	CITATIONS
181	Regularizations of time-crystal dynamics. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 18772-18776.	3.3	16
182	Emergent Prethermalization Signatures in Out-of-Time Ordered Correlations. Physical Review Letters, 2019, 123, 090605.	2.9	48
183	Describing many-body localized systems in thermal environments. New Journal of Physics, 2019, 21, 063026.	1.2	15
184	Dicke time crystals in driven-dissipative quantum many-body systems. New Journal of Physics, 2019, 21, 073028.	1.2	90
185	Exploring nonequilibrium phases of the generalized Dicke model with a trapped Rydberg-ion quantum simulator. Physical Review A, 2019, 100, .	1.0	13
187	Floquet heating in interacting atomic gases with an oscillating force. Physical Review A, 2019, 100, .	1.0	9
188	Quantum Kibble-Zurek physics in long-range transverse-field Ising models. Physical Review A, 2019, 100, .	1.0	26
189	Schrödinger cat states and steady states in subharmonic generation with Kerr nonlinearities. Physical Review A, 2019, 100, .	1.0	15
190	Classical Many-Body Time Crystals. Physical Review Letters, 2019, 123, 124301.	2.9	46
191	Anomalous Goos-Hänchen shift in the Floquet scattering of Dirac fermions. Physical Review A, 2019, 100, .	1.0	10
192	Integrable Floquet Hamiltonian for a Periodically Tilted 1D Gas. Physical Review Letters, 2019, 123, 130401.	2.9	9
193	Prethermal quantum many-body Kapitza phases of periodically driven spin systems. Physical Review B, 2019, 100, .	1.1	35
194	Coherent multiple-period states of periodically modulated qubits. Physical Review A, 2019, 100, .	1.0	5
195	A review of modeling interacting transient phenomena with non-equilibrium Green functions. Reports on Progress in Physics, 2019, 82, 046001.	8.1	19
196	Dynamics of a space-time crystal in an atomic Bose-Einstein condensate. Physical Review A, 2019, 99, .	1.0	19
197	Periodic Orbits, Entanglement, and Quantum Many-Body Scars in Constrained Models: Matrix Product State Approach. Physical Review Letters, 2019, 122, 040603.	2.9	208
198	Time-Domain Grating with a Periodically Driven Qutrit. Physical Review Applied, 2019, 11, .	1.5	20
199	Steady states of interacting Floquet insulators. Physical Review B, 2019, 99, .	1.1	27

#	ARTICLE	IF	CITATIONS
200	Rare earth elements: Mendeleev's bane, modern marvels. <i>Science</i> , 2019, 363, 489-493.	6.0	270
201	Probing Quantum Thermalization of a Disordered Dipolar Spin Ensemble with Discrete Time-Crystalline Order. <i>Physical Review Letters</i> , 2019, 122, 043603.	2.9	33
202	Fibonacci steady states in a driven integrable quantum system. <i>Physical Review B</i> , 2019, 99, .	1.1	15
203	Stabilization and manipulation of multispin states in quantum-dot time crystals with Heisenberg interactions. <i>Physical Review B</i> , 2019, 99, .	1.1	15
204	Floquet dynamics of classical and quantum cavity fields. <i>Annals of Physics</i> , 2019, 405, 101-129.	1.0	11
205	Flow Equation Approach to Periodically Driven Quantum Systems. <i>Physical Review X</i> , 2019, 9, .	2.8	44
206	Integrability-Protected Adiabatic Reversibility in Quantum Spin Chains. <i>Physical Review Letters</i> , 2019, 122, 240606.	2.9	29
207	Topological time crystals. <i>New Journal of Physics</i> , 2019, 21, 052003.	1.2	38
208	Discrete time quasicrystals. <i>Physical Review B</i> , 2019, 99, .	1.1	46
209	Topology and localization of a periodically driven Kitaev model. <i>Physical Review B</i> , 2019, 99, .	1.1	16
210	Many-body localization in the presence of long-range interactions and long-range hopping. <i>Physical Review B</i> , 2019, 99, .	1.1	50
211	Individual control and readout of qubits in a sub-diffraction volume. <i>Npj Quantum Information</i> , 2019, 5, .	2.8	21
212	Ultrafast variational simulation of nontrivial quantum states with long-range interactions. <i>Physical Review A</i> , 2019, 99, .	1.0	22
213	<i>Colloquium</i> : Many-body localization, thermalization, and entanglement. <i>Reviews of Modern Physics</i> , 2019, 91, .	16.4	1,005
214	Emergent limit cycles and time crystal dynamics in an atom-cavity system. <i>Physical Review A</i> , 2019, 99, .	1.0	47
215	Entanglement Spreading in a Minimal Model of Maximal Many-Body Quantum Chaos. <i>Physical Review X</i> , 2019, 9, .	2.8	123
216	Anomalous Floquet insulators. <i>Physical Review B</i> , 2019, 99, .	1.1	47
217	Observation of a Dynamical Quantum Phase Transition by a Superconducting Qubit Simulation. <i>Physical Review Applied</i> , 2019, 11, .	1.5	79

#	ARTICLE	IF	CITATIONS
218	Confined Quasiparticle Dynamics in Long-Range Interacting Quantum Spin Chains. Physical Review Letters, 2019, 122, 150601.	2.9	90
219	Dynamical quantum phase transitions in collapse and revival oscillations of a quenched superfluid. Physical Review B, 2019, 99, .	1.1	20
220	Absence of Criticality in the Phase Transitions of Open Floquet Systems. Physical Review Letters, 2019, 122, 110602.	2.9	10
221	Discrete time crystal in globally driven interacting quantum systems without disorder. Physical Review A, 2019, 99, .	1.0	48
222	Floquet time crystals in clock models. Physical Review B, 2019, 99, .	1.1	69
223	Floquet Majorana zero and \mathbb{Z}_2 modes in planar Josephson junctions. Physical Review B, 2019, 99, .	1.1	24
224	Topological frequency conversion in a driven dissipative quantum cavity. Physical Review B, 2019, 99, .	1.1	24
225	Vibrational quenching and reactive processes of weakly bound molecular ions colliding with atoms at cold temperatures. Physical Review A, 2019, 99, .	1.0	15
226	Controlled generation of genuine multipartite entanglement in Floquet Ising spin models. Physical Review A, 2019, 99, .	1.0	8
227	Optically trapped polariton condensates as semiclassical time crystals. Physical Review A, 2019, 99, .	1.0	22
228	Temporally, spatially, or lightlike modulated vacua in Lorentz invariant theories. Physical Review D, 2019, 99, .	1.6	9
229	Dynamical quantum phase transitions: A brief survey. Europhysics Letters, 2019, 125, 26001.	0.7	47
230	Evidence of a Floquet Phase in a Photonic System. Physical Review Letters, 2019, 122, 143903.	2.9	14
231	Realizing time crystals in discrete quantum few-body systems. Physical Review B, 2019, 99, .	1.1	21
232	Fractional time crystals. Physical Review A, 2019, 99, .	1.0	32
233	Accessing eigenstate spin-glass order from reduced density matrices. Physical Review B, 2019, 99, .	1.1	3
234	Truncated dynamics, ring molecules, and mechanical time crystals. Physical Review A, 2019, 99, .	1.0	11
235	Thermodynamics and phase transition in Shapereâ€™s Wilczek fgh model: Cosmological time crystal in quadratic gravity. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2019, 791, 66-72.	1.5	7

#	ARTICLE	IF	CITATIONS
236	Emergent finite frequency criticality of driven-dissipative correlated lattice bosons. <i>Physical Review B</i> , 2019, 99, .	1.1	17
237	Custom flow in overdamped Brownian dynamics. <i>Physical Review E</i> , 2019, 99, 023306.	0.8	23
238	Can we study the many-body localisation transition?. <i>Europhysics Letters</i> , 2019, 128, 67003.	0.7	126
239	Floquet engineering of topological phases protected by emergent symmetries under resonant drives. <i>Physical Review A</i> , 2019, 100, .	1.0	0
240	Quantum Time Crystals and Interacting Gauge Theories in Atomic Bose-Einstein Condensates. <i>Physical Review Letters</i> , 2019, 123, 250402.	2.9	30
241	Mean-field thermodynamic quantum time-space crystal: Spontaneous breaking of time-translation symmetry in a macroscopic fermion system. <i>Physical Review B</i> , 2019, 100, .	1.1	6
242	Dissipation-induced structural instability and chiral dynamics in a quantum gas. <i>Science</i> , 2019, 366, 1496-1499.	6.0	90
243	Simulating quantum many-body dynamics on a current digital quantum computer. <i>Npj Quantum Information</i> , 2019, 5, .	2.8	173
244	Nanoscopic time crystal obtained by nonergodic spin dynamics. <i>Physical Review B</i> , 2019, 100, .	1.1	4
245	Quantum Time Crystals from Hamiltonians with Long-Range Interactions. <i>Physical Review Letters</i> , 2019, 123, 210602.	2.9	87
246	Anomalous transport through algebraically localized states in one dimension. <i>Physical Review B</i> , 2019, 100, .	1.1	27
247	Discrete time crystals in many-body quantum chaos. <i>Physical Review B</i> , 2019, 100, .	1.1	14
248	Classical stochastic discrete time crystals. <i>Physical Review E</i> , 2019, 100, 060105.	0.8	32
249	Floquet Hopf Insulators. <i>Physical Review Letters</i> , 2019, 123, 266803.	2.9	24
250	Odd-frequency superconductivity. <i>Reviews of Modern Physics</i> , 2019, 91, .	16.4	134
251	Few-photon transport in strongly interacting light-matter systems: A scattering approach. <i>International Journal of Quantum Information</i> , 2019, 17, 1950050.	0.6	0
252	Time crystals in a shaken atom-cavity system. <i>Physical Review A</i> , 2019, 100, .	1.0	34
253	Heating Rates in Periodically Driven Strongly Interacting Quantum Many-Body Systems. <i>Physical Review Letters</i> , 2019, 123, 240603.	2.9	40

#	ARTICLE	IF	CITATIONS
254	Statistics of eigenstates near the localization transition on random regular graphs. <i>Physical Review B</i> , 2019, 99, .	1.1	57
255	Discrete Time Crystals in the Absence of Manifest Symmetries or Disorder in Open Quantum Systems. <i>Physical Review Letters</i> , 2019, 122, 015701.	2.9	90
256	Cryogenic trapped-ion system for large scale quantum simulation. <i>Quantum Science and Technology</i> , 2019, 4, 014004.	2.6	90
257	Time operators and time crystals: self-adjointness by topology change. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2020, 53, 025301.	0.7	4
258	Counting Rules of Nambu–Goldstone Modes. <i>Annual Review of Condensed Matter Physics</i> , 2020, 11, 169-187.	5.2	45
259	Analyzing photonic space-time crystal with FDTD. <i>Modern Physics Letters B</i> , 2020, 34, 2050082.	1.0	1
260	Time crystals in primordial perturbations. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2020, 801, 135156.	1.5	1
261	Topology and Broken Symmetry in Floquet Systems. <i>Annual Review of Condensed Matter Physics</i> , 2020, 11, 345-368.	5.2	120
262	Effective medium concept in temporal metamaterials. <i>Nanophotonics</i> , 2020, 9, 379-391.	2.9	81
263	Semiclassical dynamics of a disordered two-dimensional Hubbard model with long-range interactions. <i>Physical Review A</i> , 2020, 102, .	1.0	6
264	Building Continuous Time Crystals from Rare Events. <i>Physical Review Letters</i> , 2020, 125, 160601.	2.9	21
265	Simulating complex quantum networks with time crystals. <i>Science Advances</i> , 2020, 6, .	4.7	21
266	Quantum equilibration, thermalization and prethermalization in ultracold atoms. <i>Nature Reviews Physics</i> , 2020, 2, 669-681.	11.9	70
267	Dynamic renormalization group theory for open Floquet systems. <i>Physical Review B</i> , 2020, 102, .	1.1	5
268	Floquet topological phases of non-Hermitian systems. <i>Physical Review B</i> , 2020, 102, .	1.1	61
269	Measuring out-of-time-ordered correlation functions with a single impurity qubit in a bosonic Josephson junction. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2020, 53, 145301.	0.6	8
270	Emergent Hydrodynamics in Nonequilibrium Quantum Systems. <i>Physical Review Letters</i> , 2020, 125, 030601.	2.9	27
271	High-fidelity Trotter formulas for digital quantum simulation. <i>Physical Review A</i> , 2020, 102, .	1.0	6

#	ARTICLE	IF	CITATIONS
272	Enhanced stability of quantum Hall skyrmions under radio-frequency radiations. <i>Scientific Reports</i> , 2020, 10, 7659.	1.6	2
273	Improved Lieb-Robinson bound for many-body Hamiltonians with power-law interactions. <i>Physical Review A</i> , 2020, 101, .	1.0	45
274	General description for nonequilibrium steady states in periodically driven dissipative quantum systems. <i>Science Advances</i> , 2020, 6, .	4.7	38
275	Engineered spin-orbit interactions in LaAlO ₃ /SrTiO ₃ -based 1D serpentine electron waveguides. <i>Science Advances</i> , 2020, 6, .	4.7	10
276	Topological classification of dynamical quantum phase transitions in the xy chain. <i>Scientific Reports</i> , 2020, 10, 12766.	1.6	23
277	Protecting Spin Coherence in a Tunable Heisenberg Model. <i>Physical Review Letters</i> , 2020, 125, 060402.	2.9	31
278	Time Crystals Protected by Floquet Dynamical Symmetry in Hubbard Models. <i>Physical Review Letters</i> , 2020, 125, 060601.	2.9	30
279	Emergent Spatial Structure and Entanglement Localization in Floquet Conformal Field Theory. <i>Physical Review X</i> , 2020, 10, .	2.8	24
280	Floquet dynamics of disordered bands with isolated critical energies. <i>Physical Review B</i> , 2020, 102, .	1.1	0
281	Nonlinear dynamics determines the thermodynamic instability of condensed matter in vacuo. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2020, 378, 20190534.	1.6	0
282	Quantum Many-Body Dynamics in Two Dimensions with Artificial Neural Networks. <i>Physical Review Letters</i> , 2020, 125, 100503.	2.9	84
283	Time Crystals. <i>Springer Series on Atomic, Optical, and Plasma Physics</i> , 2020, , .	0.1	40
284	Floquet metal-to-insulator phase transitions in semiconductor nanowires. <i>Science Advances</i> , 2020, 6, eaay4922.	4.7	11
285	Provenance of classical Hamiltonian time crystals. <i>Journal of High Energy Physics</i> , 2020, 2020, 1.	1.6	7
286	Probing Floquet modes in a time periodic system with time defects using Faraday instability. <i>Europhysics Letters</i> , 2020, 131, 24007.	0.7	2
287	Dynamics of one-dimensional quantum many-body systems in time-periodic linear potentials. <i>Physical Review A</i> , 2020, 102, .	1.0	2
288	Classical and quantum time crystals in a levitated nanoparticle without drive. <i>Physical Review A</i> , 2020, 102, .	1.0	6
289	Unitary Subharmonic Response and Floquet Majorana Modes. <i>Physical Review Letters</i> , 2020, 125, 086804.	2.9	7

#	ARTICLE	IF	CITATIONS
290	Competing interactions and spin-vector chirality in spin chains. <i>Physical Review B</i> , 2020, 102, .	1.1	2
291	OPENMMF: A library for multimode driven quantum systems. <i>SoftwareX</i> , 2020, 12, 100603.	1.2	1
292	Floquet Engineering of Two Weakly Coupled Superconducting Flux Qubits. <i>Physical Review Applied</i> , 2020, 14, .	1.5	2
293	Classification of S -deformed Floquet conformal field theories. <i>Physical Review B</i> , 2020, 102, .	1.5	2
294	Entanglement statistics in Markovian open quantum systems: A matter of mutation and selection. <i>Physical Review E</i> , 2020, 102, 030104.	0.8	10
295	Numerical linked cluster expansions for inhomogeneous systems. <i>Physical Review A</i> , 2020, 102, .	1.0	8
296	Floquet Cavity Electromagnonics. <i>Physical Review Letters</i> , 2020, 125, 237201.	2.9	39
297	Empires: The Nonlocal Properties of Quasicrystals. , 0, , .		0
298	A Self-Operating Time Crystal Model of the Human Brain: Can We Replace Entire Brain Hardware with a 3D Fractal Architecture of Clocks Alone?. <i>Information (Switzerland)</i> , 2020, 11, 238.	1.7	36
299	Anisotropic odd viscosity via a time-modulated drive. <i>Physical Review E</i> , 2020, 101, 052606.	0.8	20
300	Band structure engineering and non-equilibrium dynamics in Floquet topological insulators. <i>Nature Reviews Physics</i> , 2020, 2, 229-244.	11.9	311
301	High-fidelity manipulation of a qubit enabled by a manufactured nucleus. <i>Npj Quantum Information</i> , 2020, 6, .	2.8	49
302	Long-Lived Interacting Phases of Matter Protected by Multiple Time-Translation Symmetries in Quasiperiodically Driven Systems. <i>Physical Review X</i> , 2020, 10, .	2.8	56
303	Imaginary Time Crystal of Thermal Quantum Matter. <i>Chinese Physics Letters</i> , 2020, 37, 050503.	1.3	11
304	Detecting the out-of-time-order correlations of dynamical quantum phase transitions in a solid-state quantum simulator. <i>Applied Physics Letters</i> , 2020, 116, 194002.	1.5	24
305	Colloidal Dynamics on a Choreographic Time Crystal. <i>Physical Review Letters</i> , 2020, 124, 208004.	2.9	9
306	Floquet Higher-Order Topological Insulators with Anomalous Dynamical Polarization. <i>Physical Review Letters</i> , 2020, 124, 216601.	2.9	78
307	Prethermalization without Temperature. <i>Physical Review X</i> , 2020, 10, .	2.8	42

#	ARTICLE	IF	CITATIONS
308	More current with less particles due to power-law hopping. Journal of Physics Condensed Matter, 2020, 32, 025303.	0.7	4
309	Quantized large-bias current in the anomalous Floquet-Anderson insulator. Physical Review B, 2020, 101, .	1.1	16
310	Discrete time crystal in a finite chain of Rydberg atoms without disorder. Physical Review A, 2020, 101, .	1.0	24
311	Trends of information backflow in disordered spin chains. Europhysics Letters, 2020, 129, 30005.	0.7	1
312	Discrete Time Crystals. Annual Review of Condensed Matter Physics, 2020, 11, 467-499.	5.2	146
313	Discrete time crystal in the gradient-field Heisenberg model. Physical Review B, 2020, 101, .	1.1	9
314	Discrete Lorentz symmetry and discrete spacetime translational symmetry in two- and three-dimensional crystals. Journal of Physics Condensed Matter, 2020, 32, 145402.	0.7	3
315	Classification of Matrix-Product Unitaries with Symmetries. Physical Review Letters, 2020, 124, 100402.	2.9	18
316	Time-Crystalline Topological Superconductors. Physical Review Letters, 2020, 124, 096802.	2.9	9
317	Condensed matter physics in time crystals. New Journal of Physics, 2020, 22, 075003.	1.2	44
318	Discrete truncated Wigner approach to dynamical phase transitions in Ising models after a quantum quench. Physical Review B, 2020, 102, .	1.1	13
319	Relaxation dynamics and dissipative phase transition in quantum oscillators with period tripling. Physical Review B, 2020, 101, .	1.1	14
320	Classical discrete time crystals. Nature Physics, 2020, 16, 438-447.	6.5	85
321	Photonic materials in circuit quantum electrodynamics. Nature Physics, 2020, 16, 268-279.	6.5	115
322	Discrete time-crystalline order in Bose-Hubbard model with dissipation. New Journal of Physics, 2020, 22, 023026.	1.2	5
323	Long-Range Prethermal Phases of Nonequilibrium Matter. Physical Review X, 2020, 10, .	2.8	61
324	Tunable multistability and nonuniform phases in a dimerized two-dimensional Rydberg lattice. Chinese Physics B, 2020, 29, 013204.	0.7	0
325	Proof of the Absence of Long-Range Temporal Orders in Gibbs States. Journal of Statistical Physics, 2020, 178, 926-935.	0.5	20

#	ARTICLE	IF	CITATIONS
326	Transverse-Field Ising Dynamics in a Rydberg-Dressed Atomic Gas. <i>Physical Review Letters</i> , 2020, 124, 063601.	2.9	67
327	Parametric Instabilities of Interacting Bosons in Periodically Driven 1D Optical Lattices. <i>Physical Review X</i> , 2020, 10, .	2.8	21
328	Subharmonic Temporal Response and Spontaneous Breaking of Discrete Time Symmetry in Plasmonic Distributed Feedback Laser. <i>Physica Status Solidi - Rapid Research Letters</i> , 2020, 14, 1900687.	1.2	0
329	Machine learning design of a trapped-ion quantum spin simulator. <i>Quantum Science and Technology</i> , 2020, 5, 024001.	2.6	18
330	Effective Floquet Hamiltonian in the low-frequency regime. <i>Physical Review B</i> , 2020, 101, .	1.1	33
331	Topological phase transitions, Majorana modes, and quantum simulation of the Su-Schrieffer-Heeger model with nearest-neighbor interactions. <i>Physical Review B</i> , 2020, 101, .	1.1	13
332	Response of a quantum disordered spin system to a local periodic drive. <i>Physical Review B</i> , 2020, 101, .	1.1	3
333	Exploring dynamical phase transitions with cold atoms in an optical cavity. <i>Nature</i> , 2020, 580, 602-607.	13.7	111
334	A dynamical symmetry triad in high-harmonic generation revealed by attosecond recollision control. <i>New Journal of Physics</i> , 2020, 22, 053017.	1.2	6
335	Periodic thermodynamics of a two spin Rabi model. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2020, 2020, 043204.	0.9	4
336	Identifying the Riemann zeros by periodically driving a single qubit. <i>Physical Review A</i> , 2020, 101, .	1.0	4
337	Scaling of Loschmidt echo in a boundary-driven critical $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"} \langle \text{mml:msub} \langle \text{mml:mi mathvariant="double-struck"} Z \langle \text{mml:mi} \langle \text{mml:mn} \langle 3 \langle \text{mml:mn} \rangle \langle \text{mml:msub} \rangle \langle \text{mml:math} \rangle$ Potts model. <i>Physical Review B</i> , 2020, 101, .	1.1	1
338	Engineered disorder in photonics. <i>Nature Reviews Materials</i> , 2021, 6, 226-243.	23.3	129
339	The quick drive to pseudo-equilibrium. <i>Nature Physics</i> , 2021, 17, 429-430.	6.5	3
340	Glassy Dynamics in a Disordered Heisenberg Quantum Spin System. <i>Physical Review X</i> , 2021, 11, .	2.8	29
341	Coarse-grained spectral projection: A deep learning assisted approach to quantum unitary dynamics. <i>Physical Review B</i> , 2021, 103, .	1.1	3
342	Stochastic Discrete Time Crystals: Entropy Production and Subharmonic Synchronization. <i>Physical Review Letters</i> , 2021, 126, 020603.	2.9	7
343	Critical properties of the Floquet time crystal within the Gaussian approximation. <i>Physical Review B</i> , 2021, 103, .	1.1	12

#	ARTICLE	IF	CITATIONS
344	Real-Space Observation of Magnon Interaction with Driven Space-Time Crystals. <i>Physical Review Letters</i> , 2021, 126, 057201.	2.9	34
345	Eigenstate correlations around the many-body localization transition. <i>Physical Review B</i> , 2021, 103, .	1.1	25
346	Many-body localization and enhanced nonergodic subdiffusive regime in the presence of random long-range interactions. <i>Physical Review B</i> , 2021, 103, .	1.1	11
347	Emergent nonlinear phenomena in a driven dissipative photonic dimer. <i>Nature Physics</i> , 2021, 17, 604-610.	6.5	57
348	Seasonal epidemic spreading on small-world networks: Biennial outbreaks and classical discrete time crystals. <i>Physical Review Research</i> , 2021, 3, .	1.3	4
349	Breakdown of Markovianity by interactions in stroboscopic Floquet-Lindblad dynamics under high-frequency drive. <i>Physical Review A</i> , 2021, 103, .	1.0	4
350	Prethermal quasiconserved observables in Floquet quantum systems. <i>Physical Review B</i> , 2021, 103, .	1.1	11
351	Anderson complexes: Bound states of atoms due to Anderson localization. <i>Physical Review A</i> , 2021, 103, .	1.0	4
352	Floquet maser. <i>Science Advances</i> , 2021, 7, .	4.7	36
353	Floquet theory for temporal correlations and spectra in time-periodic open quantum systems: Application to squeezed parametric oscillation beyond the rotating-wave approximation. <i>Physical Review A</i> , 2021, 103, .	1.0	5
354	A masing ladder. <i>Science</i> , 2021, 371, 780-781.	6.0	1
355	Floquet conformal field theories with generally deformed Hamiltonians. <i>SciPost Physics</i> , 2021, 10, .	1.5	15
356	Bistability and time crystals in long-ranged directed percolation. <i>Nature Communications</i> , 2021, 12, 1061.	5.8	13
357	Real-time correlation function of Floquet conformal fields. <i>Physical Review D</i> , 2021, 103, .	1.6	6
358	Deterministic model of battery, uphill currents, and nonequilibrium phase transitions. <i>Physical Review E</i> , 2021, 103, 032119.	0.8	4
359	Entanglement Dynamics of Random GUE Hamiltonians. <i>SciPost Physics</i> , 2021, 10, .	1.5	0
360	Topological and symmetry-enriched random quantum critical points. <i>Physical Review B</i> , 2021, 103, .	1.1	13
361	Materials challenges for trapped-ion quantum computers. <i>Nature Reviews Materials</i> , 2021, 6, 892-905.	23.3	49

#	ARTICLE	IF	CITATIONS
362	Controlling quantum many-body dynamics in driven Rydberg atom arrays. <i>Science</i> , 2021, 371, 1355-1359.	6.0	186
363	Chimera Time-Crystalline Order in Quantum Spin Networks. <i>Physical Review Letters</i> , 2021, 126, 120606.	2.9	9
364	Dynamical Quantum Phase Transitions in the 1D Nonintegrable Spin-1/2 Transverse Field XZZ Model. <i>Annalen Der Physik</i> , 2021, 533, 2000542.	0.9	5
365	Six-dimensional time-space crystalline structures. <i>Physical Review B</i> , 2021, 103, .	1.1	11
366	Energy diffusion and absorption in chaotic systems with rapid periodic driving. <i>Physical Review Research</i> , 2021, 3, .	1.3	15
367	Programmable quantum simulations of spin systems with trapped ions. <i>Reviews of Modern Physics</i> , 2021, 93, .	16.4	316
368	Dynamical Freezing and Scar Points in Strongly Driven Floquet Matter: Resonance vs Emergent Conservation Laws. <i>Physical Review X</i> , 2021, 11, .	2.8	32
369	Floquet-enhanced spin swaps. <i>Nature Communications</i> , 2021, 12, 2142.	5.8	15
370	Higher-order and fractional discrete time crystals in clean long-range interacting systems. <i>Nature Communications</i> , 2021, 12, 2341.	5.8	37
371	Quantum quench in a driven Ising chain. <i>Physical Review B</i> , 2021, 103, .	1.1	2
372	Critical theory for the breakdown of photon blockade. <i>Physical Review Research</i> , 2021, 3, .	1.3	10
373	Route to Extend the Lifetime of a Discrete Time Crystal in a Finite Spin Chain without Disorder. <i>Atoms</i> , 2021, 9, 25.	0.7	3
374	Periodically, quasiperiodically, and randomly driven conformal field theories. <i>Physical Review Research</i> , 2021, 3, .	1.3	20
375	Anharmonic classical time crystals: A coresonance pattern formation mechanism. <i>Physical Review Research</i> , 2021, 3, .	1.3	9
376	Photoinduced Weyl semimetal phase and anomalous Hall effect in a three-dimensional topological insulator. <i>Chinese Physics B</i> , 0, , .	0.7	1
377	Floquet Gauge Pumps as Sensors for Spectral Degeneracies Protected by Symmetry or Topology. <i>Physical Review Letters</i> , 2021, 126, 206602.	2.9	1
378	Statistical mechanics of Floquet quantum matter: exact and emergent conservation laws. <i>Journal of Physics Condensed Matter</i> , 2022, 34, 234001.	0.7	13
379	Algorithms for Quantum Simulation at Finite Energies. <i>PRX Quantum</i> , 2021, 2, .	3.5	43

#	ARTICLE	IF	CITATIONS
380	Conformal Floquet dynamics with a continuous drive protocol. Journal of High Energy Physics, 2021, 2021, 1.	1.6	10
381	Influence Matrix Approach to Many-Body Floquet Dynamics. Physical Review X, 2021, 11, .	2.8	50
382	Time glass: A fractional calculus approach. Physical Review B, 2021, 103, .	1.1	4
384	Floquet Majorana bound states in voltage-biased planar Josephson junctions. Physical Review Research, 2021, 3, .	1.3	9
385	Multi-time correlations in the positive-P, Q, and doubled phase-space representations. Quantum - the Open Journal for Quantum Science, 0, 5, 455.	0.0	2
386	Boundary time crystals in collective d -level systems. Physical Review B, 2021, 103, .	1.1	22
387	Improving entanglement generation rates in trapped-ion quantum networks using nondestructive photon measurement and storage. Physical Review A, 2021, 103, .	1.0	4
388	Time molecules with periodically driven interacting qubits. Quantum Science and Technology, 0, , .	2.6	2
389	Quantum aging and dynamical universality in the long-range $O(N)$ model. Physical Review E, 2021, 103, 052142.	0.1	1
390	Mobility edge and multifractality in a periodically driven Aubry-Andr� model. Physical Review B, 2021, 103, .	1.1	23
391	Critical properties of the prethermal Floquet time crystal. Physical Review B, 2021, 103, .	1.1	13
392	Quantum time crystals with programmable disorder in higher dimensions. Physical Review B, 2021, 103, .	1.1	13
393	Signatures of many-body localization in the dynamics of two-level systems in glasses. Physical Review B, 2021, 103, .	1.1	10
394	Observation of a prethermal discrete time crystal. Science, 2021, 372, 1192-1196.	6.0	93
395	Lattice gauge theory and dynamical quantum phase transitions using noisy intermediate-scale quantum devices. Physical Review B, 2021, 103, .	1.1	9
396	Protecting quantum information in quantum dot spin chains by driving exchange interactions periodically. Physical Review B, 2021, 103, .	1.1	10
397	Quantum simulation and computing with Rydberg-interacting qubits. AVS Quantum Science, 2021, 3, .	1.8	144
398	Geometric approach to inhomogeneous Floquet systems. Physical Review B, 2021, 103, .	1.1	14

#	ARTICLE	IF	CITATIONS
399	Hierarchy of many-body invariants and quantized magnetization in anomalous Floquet insulators. SciPost Physics, 2021, 10, .	1.5	9
400	Impact of drive harmonics on the stability of Floquet many-body localization. Physical Review B, 2021, 103, .	1.1	1
401	Topological and dynamical features of periodically driven spin ladders. Physical Review B, 2021, 103, .	1.1	6
402	Survival of Floquet Bloch States in the Presence of Scattering. Nano Letters, 2021, 21, 5028-5035.	4.5	41
403	Many-body effects and quantum fluctuations for discrete time crystals in Bose-Einstein condensates. New Journal of Physics, 2021, 23, 063012.	1.2	12
404	Rotation by deformation and time-crystalline dynamics of cyclopropane molecule. New Journal of Physics, 2021, 23, 073024.	1.2	3
405	Star-topology registers: NMR and quantum information perspectives. Journal of Physics Condensed Matter, 2021, 33, 383002.	0.7	8
406	Long-lived coherence in driven many-spin systems: from two to infinite spatial dimensions. New Journal of Physics, 2021, 23, 073029.	1.2	2
407	Time Crystals in Open Systems. Physics Magazine, 0, 14, .	0.1	0
408	Perspective on exchange-coupled quantum-dot spin chains. Applied Physics Letters, 2021, 119, .	1.5	10
409	Floquet-Bloch Oscillations and Intraband Zener Tunneling in an Oblique Spacetime Crystal. Physical Review Letters, 2021, 127, 036401.	2.9	12
410	Observation of a Dissipative Time Crystal. Physical Review Letters, 2021, 127, 043602.	2.9	91
411	Analytic approaches to periodically driven closed quantum systems: methods and applications. Journal of Physics Condensed Matter, 2021, 33, 443003.	0.7	27
412	Investigating the quench dynamics of the bound states in a spin-orbital-coupling system using a trapped ion. Physical Review A, 2021, 104, .	1.0	1
413	Correlations and dynamical quantum phase transitions in an interacting topological insulator. Physical Review B, 2021, 104, .	1.1	15
414	Quantum time crystals open up. Nature Materials, 2021, 20, 1172-1172.	13.3	1
415	Dynamics of fluctuation correlation in a periodically driven classical system. Physical Review B, 2021, 104, .	1.1	8
416	Recent advances and applications of random lasers and random fiber lasers. Progress in Quantum Electronics, 2021, 78, 100343.	3.5	104

#	ARTICLE	IF	CITATIONS
417	Dephasing-induced growth of discrete time-crystalline order in spin networks. <i>Physical Review B</i> , 2021, 104, .	1.1	2
418	Thouless energy across the many-body localization transition in Floquet systems. <i>Physical Review B</i> , 2021, 104, .	1.1	9
419	Nonlocal discrete time crystals in periodically driven surface codes. <i>Physical Review B</i> , 2021, 104, .	1.1	6
420	Scattering of two particles in a one-dimensional lattice. <i>Physical Review A</i> , 2021, 104, .	1.0	0
421	Molecular Machines for Quantum Error Correction. <i>PRX Quantum</i> , 2021, 2, .	3.5	3
422	General synthesis of 2D rare-earth oxide single crystals with tailorable facets. <i>National Science Review</i> , 2022, 9, nwab153.	4.6	11
423	Flow equations for disordered Floquet systems. <i>SciPost Physics</i> , 2021, 11, .	1.5	7
424	Unconventional critical exponents at dynamical quantum phase transitions in a random Ising chain. <i>Physical Review B</i> , 2021, 104, .	1.1	12
425	Classical Prethermal Phases of Matter. <i>Physical Review Letters</i> , 2021, 127, 140602.	2.9	37
426	Nonlocal quantum computing theory and Poincare cycle in spherical states. <i>International Journal of Quantum Information</i> , 2021, 19, .	0.6	0
427	Many-Body Physics in the NISQ Era: Quantum Programming a Discrete Time Crystal. <i>PRX Quantum</i> , 2021, 2, .	3.5	41
428	Electronic Floquet gyro-liquid crystal. <i>Nature Communications</i> , 2021, 12, 5299.	5.8	5
429	Stroboscopic aliasing in long-range interacting quantum systems. <i>SciPost Physics Core</i> , 2021, 4, .	0.9	8
430	Classical approaches to prethermal discrete time crystals in one, two, and three dimensions. <i>Physical Review B</i> , 2021, 104, .	1.1	20
431	Mathieu-state reordering in periodic thermodynamics. <i>Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences</i> , 2021, .	0.7	0
432	Fate of Quantum Many-Body Scars in the Presence of Disorder. <i>PRX Quantum</i> , 2021, 2, .	3.5	23
433	Transient hexagonal structures in sheared emulsions of isotropic inclusions on smectic bubbles in microgravity conditions. <i>Scientific Reports</i> , 2021, 11, 19144.	1.6	2
434	Dynamical Phases and Quantum Correlations in an Emitter-Waveguide System with Feedback. <i>Physical Review Letters</i> , 2021, 127, 133601.	2.9	21

#	ARTICLE	IF	CITATIONS
435	Floquet chiral hinge modes and their interplay with Weyl physics in a three-dimensional lattice. <i>Physical Review B</i> , 2021, 104, .	1.1	5
436	Turning a Quantum Computer into a Time Crystal. <i>Physics Magazine</i> , 0, 14, .	0.1	0
437	Z_4 parafermion modes in an interacting periodically driven superconducting chain. <i>Physical Review B</i> , 2021, 104, .	1.1	7
438	Dynamical phase transitions in quantum spin models with antiferromagnetic long-range interactions. <i>Physical Review B</i> , 2021, 104, .	1.1	12
439	Coherent and dissipative dynamics at quantum phase transitions. <i>Physics Reports</i> , 2021, 936, 1-110.	10.3	50
440	Fermionic quantum cellular automata and generalized matrix-product unitaries. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2021, 2021, 013107.	0.9	13
441	Dynamical Transitions and Critical Behavior between Discrete Time Crystal Phases. <i>Physical Review Letters</i> , 2021, 126, 020602.	2.9	17
442	Floquet prethermalization in dipolar spin chains. <i>Nature Physics</i> , 2021, 17, 444-447.	6.5	64
443	Discrete Time Crystals and Related Phenomena. <i>Springer Series on Atomic, Optical, and Plasma Physics</i> , 2020, , 39-172.	0.1	2
444	Localized dynamics following a quantum quench in a non-integrable system: an example on the sawtooth ladder. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2021, 54, 015301.	0.6	13
445	A dissipative time crystal with or without Z_2 symmetry breaking. <i>New Journal of Physics</i> , 2020, 22, 075002.	1.2	19
446	Signatures of discrete time crystalline order in dissipative spin ensembles. <i>New Journal of Physics</i> , 2020, 22, 085001.	1.2	17
447	From a continuous to a discrete time crystal in a dissipative atom-cavity system. <i>New Journal of Physics</i> , 2020, 22, 085002.	1.2	39
448	Creating big time crystals with ultracold atoms. <i>New Journal of Physics</i> , 2020, 22, 085004.	1.2	26
449	Phase diagram and optimal control for n-tupling discrete time crystal. <i>New Journal of Physics</i> , 2020, 22, 095001.	1.2	20
450	On the long-term stability of space-time crystals. <i>New Journal of Physics</i> , 2020, 22, 105001.	1.2	7
451	Floquet engineering to reactivate a dissipative quantum battery. <i>Physical Review A</i> , 2020, 102, .	1.0	34
452	Time crystallinity and finite-size effects in clean Floquet systems. <i>Physical Review B</i> , 2020, 102, .	1.1	18

#	ARTICLE	IF	CITATIONS
453	Quantum metamorphism. Physical Review B, 2020, 102, .	1.1	3
454	Homogeneous Floquet time crystal from weak ergodicity breaking. Physical Review B, 2020, 102, .	1.1	9
455	Nontrivial dynamics of a two-site system: Transient crystals. Physical Review B, 2020, 102, .	1.1	4
456	Exponentially slow heating in short and long-range interacting Floquet systems. Physical Review Research, 2019, 1, .	1.3	40
457	Homogeneous Floquet time crystal protected by gauge invariance. Physical Review Research, 2020, 2, .	1.3	36
458	Phase crystals. Physical Review Research, 2020, 2, .	1.3	8
459	Optimal frequency window for Floquet engineering in optical lattices. Physical Review Research, 2020, 2, .	1.3	13
460	Interaction-driven Floquet engineering of topological superconductivity in Rashba nanowires. Physical Review Research, 2020, 2, .	1.3	4
461	Time crystallinity in dissipative Floquet systems. Physical Review Research, 2020, 2, .	1.3	52
462	Towards analog quantum simulations of lattice gauge theories with trapped ions. Physical Review Research, 2020, 2, .	1.3	78
463	Environment-controlled Floquet-state paramagnetism. Physical Review Research, 2020, 2, .	1.3	3
464	Lack of a genuine time crystal in a chiral soliton model. Physical Review Research, 2020, 2, .	1.3	14
465	Eternal discrete time crystal beating the Heisenberg limit. Physical Review Research, 2020, 2, .	1.3	10
466	Exact Floquet quantum many-body scars under Rydberg blockade. Physical Review Research, 2020, 2, .	1.3	39
467	Fine structure of heating in a quasiperiodically driven critical quantum system. Physical Review Research, 2020, 2, .	1.3	22
468	Higgs time crystal in a high- T_c superconductor. Physical Review Research, 2020, 2, .	1.3	16
469	Quasi-many-body localization of interacting fermions with long-range couplings. Physical Review Research, 2020, 2, .	1.3	18
470	Quantum Simulations with Complex Geometries and Synthetic Gauge Fields in a Trapped Ion Chain. PRX Quantum, 2020, 1, .	3.5	14

#	ARTICLE	IF	CITATIONS
471	Dynamics of disordered quantum systems using flow equations. European Physical Journal B, 2020, 93, 1.	0.6	9
472	Cosmological time crystals from Einstein-cubic gravities. European Physical Journal C, 2020, 80, 1.	1.4	1
473	Absence of dynamical localization in interacting driven systems. SciPost Physics, 2017, 3, .	1.5	38
474	Time Quasilattices in Dissipative Dynamical Systems. SciPost Physics, 2018, 5, .	1.5	19
475	From dynamical localization to bunching in interacting Floquet systems. SciPost Physics, 2018, 5, .	1.5	4
476	Efficient variational simulation of non-trivial quantum states. SciPost Physics, 2019, 6, .	1.5	79
477	Superconvergence of topological entropy in the symbolic dynamics of substitution sequences. SciPost Physics, 2019, 7, .	1.5	2
478	An introduction to spontaneous symmetry breaking. SciPost Physics Lecture Notes, 0, , .	0.0	59
479	Logarithmic growth of local entropy and total correlations in many-body localized dynamics. Quantum - the Open Journal for Quantum Science, 0, 4, 250.	0.0	3
480	Time crystallinity in open quantum systems. Quantum - the Open Journal for Quantum Science, 0, 4, 270.	0.0	27
481	Quantum computation and quantum simulation. Wuli Xuebao/Acta Physica Sinica, 2018, 67, 120301.	0.2	10
482	Relation between scattering matrix topological invariants and conductance in Floquet Majorana systems. Physical Review B, 2021, 104, .	1.1	0
483	Quasiperiodic Floquet-Thouless Energy Pump. Physical Review Letters, 2021, 127, 166804.	2.9	19
484	Fragility of classical Hamiltonian period doubling to quantum fluctuations. Physical Review B, 2021, 104, .	1.1	2
485	Toward simulating quantum field theories with controlled phonon-ion dynamics: A hybrid analog-digital approach. Physical Review Research, 2021, 3, .	1.3	42
486	Mapping Quantum Chemical Dynamics Problems to Spin-Lattice Simulators. Journal of Chemical Theory and Computation, 2021, 17, 6713-6732.	2.3	7
487	Suppression of heating by long-range interactions in periodically driven spin chains. Physical Review B, 2021, 104, .	1.1	6
488	Finite-temperature critical behavior of long-range quantum Ising models. SciPost Physics, 2021, 11, .	1.5	9

#	ARTICLE	IF	CITATIONS
489	Berezinskii-Kosterlitz-Thouless Phase Transitions with Long-Range Couplings. Physical Review Letters, 2021, 127, 156801.	2.9	19
490	Space-time crystalline order of a high-critical-temperature superconductor with intrinsic Josephson junctions. Nature Communications, 2021, 12, 6038.	5.8	3
491	Orthogonal Quantum Many-Body Scars. Physical Review Letters, 2021, 127, 150601.	2.9	24
492	Space and Time Crystal Engineering in Developing Futuristic Chemical Technology. ChemEngineering, 2021, 5, 67.	1.0	3
493	Fermi's golden rule for heating in strongly driven Floquet systems. Physical Review B, 2021, 104, .	1.1	13
494	Probing Quantum Fluctuations of Work with a Trapped Ion. Fundamental Theories of Physics, 2018, , 917-938.	0.1	0
495	Kerr-breather-soliton time crystals. , 2019, , .		0
496	Kerr-breather-soliton classical time crystals. , 2019, , .		0
498	ORDER PARAMETER IN ELECTRON SYSTEMS: ITS FLUCTUATIONS AND OSCILLATIONS. Journal of Experimental and Theoretical Physics, 2019, 156, 738-741.	0.0	0
500	Quantum Computing and Simulation with Trapped Atomic Ions. , 2019, , .		0
502	Creating big time crystals with ultracold atoms. , 2019, , .		0
503	Dynamics of spontaneous symmetry breaking in a space-time crystal. Physical Review A, 2021, 104, .	1.0	3
504	Spin-wave growth via Shapiro resonances in a spinor Bose-Einstein condensate. Physical Review Research, 2021, 3, .	1.3	2
505	Evolution, the "Mechanism"™ of Big History, Predicts the Near Singularity. World-systems Evolution and Global Futures, 2020, , 559-570.	0.1	4
506	Formation of spatial patterns by spin-selective excitations of interacting fermions. Physical Review B, 2020, 102, .	1.1	3
507	Time crystals in the driven transverse field Ising model under quasiperiodic modulation. New Journal of Physics, 2020, 22, 125001.	1.2	6
508	Feedback induced magnetic phases in binary Bose-Einstein condensates. Physical Review Research, 2020, 2, .	1.3	9
509	Chaotic dynamics of complex trajectory and its quantum signature*. Chinese Physics B, 2020, 29, 120302.	0.7	11

#	ARTICLE	IF	CITATIONS
510	Open dynamics in the Aubry-Andr�-Harper model coupled to a finite bath: The influence of localization in the system and dimensionality of bath. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2022, 421, 127778.	0.9	0
512	Symmetry and effect of time dimension in non-equilibrium quantum matter. <i>Wuli Xuebao/Acta Physica Sinica</i> , 2021, .	0.2	0
513	Order Parameter in Electron System: Its Fluctuations and Oscillations. <i>Journal of Experimental and Theoretical Physics</i> , 2019, 129, 680-692.	0.2	1
514	Control of self-organization: From equilibrium to non-equilibrium. <i>Wuli Xuebao/Acta Physica Sinica</i> , 2020, 69, 140503.	0.2	0
515	Many-body� localized discrete time crystal with a programmable spin-based quantum simulator. <i>Science</i> , 2021, 374, 1474-1478.	6.0	80
516	Benchmarking a Novel Efficient Numerical Method for Localized 1D Fermi-Hubbard Systems on a Quantum Simulator. <i>PRX Quantum</i> , 2021, 2, .	3.5	6
517	Out-of-equilibrium phase transitions induced by Floquet resonances in a periodically quench-driven XY spin chain. <i>SciPost Physics Core</i> , 2020, 3, .	0.9	10
518	Autonomous topological time crystals and knotty molecular motors. <i>Journal of Physics Condensed Matter</i> , 2021, 33, 015702.	0.7	0
519	Time-crystalline phases and period-doubling oscillations in one-dimensional Floquet topological insulators. <i>Physical Review Research</i> , 2020, 2, .	1.3	6
520	Time Crystal Engineering in Catalytic Reaction Cycles. <i>Studies in Rhythm Engineering</i> , 2021, , 103-134.	0.1	1
521	Discrete time crystals in Bose-Einstein condensates and the symmetry-breaking edge in a simple two-mode theory. <i>Physical Review A</i> , 2021, 104, .	1.0	5
522	Emergent parametric resonances and time-crystal phases in driven Bardeen-Cooper-Schrieffer systems. <i>Physical Review Research</i> , 2021, 3, .	1.3	19
523	Quantum repetition codes as building blocks of large-period discrete time crystals. <i>Physical Review B</i> , 2021, 104, .	1.1	6
524	Time-crystalline eigenstate order on a quantum processor. <i>Nature</i> , 2022, 601, 531-536.	13.7	138
525	Observation of Stark many-body localization without disorder. <i>Nature</i> , 2021, 599, 393-398.	13.7	69
526	Following Floquet states in high-dimensional Hilbert spaces. <i>Physical Review Research</i> , 2021, 3, .	1.3	0
527	Floquet Hamiltonian engineering of an isolated many-body spin system. <i>Science</i> , 2021, 374, 1149-1152.	6.0	42
528	Universal nonadiabatic energy pumping in a quasiperiodically driven extended system. <i>Physical Review B</i> , 2021, 104, .	1.1	8

#	ARTICLE	IF	CITATIONS
529	Observing Floquet topological order by symmetry resolution. <i>Physical Review B</i> , 2021, 104, .	1.1	13
530	Fate of algebraic many-body localization under driving. <i>Physical Review B</i> , 2021, 104, .	1.1	2
531	Observation of a discrete time crystal on a digital quantum simulator. <i>Quantum Studies: Mathematics and Foundations</i> , 0, , 1.	0.4	0
532	À l'heure des cristaux temporels. <i>Pour la science</i> Fr, 2020, N° 507 - janvier, 24-32.	0.0	0
533	The 2021 roadmap for noncollinear magnonics. <i>Solid State Physics</i> , 2021, 72, 1-27.	1.3	3
534	Subdiffusive Phases in Open Clean Long-Range Systems. <i>Physical Review Letters</i> , 2021, 127, 240601.	2.9	6
535	Time-periodic corner states from Floquet higher-order topology. <i>Nature Communications</i> , 2022, 13, 11.	5.8	47
537	Floquet prethermal phase protected by U(1) symmetry on a superconducting quantum processor. <i>Physical Review A</i> , 2022, 105, .	1.0	8
538	Discrete time crystal in a driven-dissipative Bose-Hubbard model with two-photon processes. <i>Physical Review A</i> , 2022, 105, .	1.0	1
539	Stability of the Discrete Time-Crystalline Order in Spin-Optomechanical and Open Cavity QED Systems. <i>Photonics</i> , 2022, 9, 61.	0.9	1
540	Topological micromotion of Floquet quantum systems. <i>Physical Review B</i> , 2022, 105, .	1.1	3
541	Rotating vortex lattices mimicking a time crystal in a trapped exciton-polariton condensate. <i>Chinese Journal of Physics</i> , 2022, , .	2.0	0
542	Identifying correlation clusters in many-body localized systems. <i>Physical Review B</i> , 2022, 105, .	1.1	3
543	Observation of Photonic Topological Floquet Time Crystals. <i>Laser and Photonics Reviews</i> , 2022, 16, .	4.4	11
544	New constraints on axion-like dark matter using a Floquet quantum detector. <i>Science Advances</i> , 2022, 8, eabl8919.	4.7	30
545	Cavity magnon-polaritons in cuprate parent compounds. <i>Physical Review Research</i> , 2022, 4, .	1.3	22
546	Inseparable Time-Crystal Geometries on the Möbius Strip. <i>Physical Review Letters</i> , 2021, 127, 263003.	2.9	7
547	Nonequilibrium steady states in the Floquet-Lindblad systems: van Vleck's high-frequency expansion approach. <i>SciPost Physics Core</i> , 2021, 4, .	0.9	12

#	ARTICLE	IF	CITATIONS
549	All Basics that Are Wrong with the Current Concept of Time Crystal: Learning from the Polyatomic Time Crystals of Protein, microtubule, and Neuron. Lecture Notes in Networks and Systems, 2022, , 243-254.	0.5	13
550	Simulation of many-body localization and time crystals in two dimensions with the neighborhood tensor update. Physical Review B, 2022, 105, .	1.1	6
551	Seeding Crystallization in Time. Physical Review Letters, 2022, 128, 080603.	2.9	17
552	Driven Hubbard model on a triangular lattice: Tunable Heisenberg antiferromagnet with a chiral three-spin term. Physical Review B, 2022, 105, .	1.1	5
553	All-optical dissipative discrete time crystals. Nature Communications, 2022, 13, 848.	5.8	44
554	Time crystal dynamics in a weakly modulated stochastic time delayed system. Scientific Reports, 2022, 12, 4914.	1.6	1
555	Realization of a discrete time crystal on 57 qubits of a quantum computer. Science Advances, 2022, 8, eabm7652.	4.7	49
556	Observation of Discrete Floquet Time Crystals in Periodically Driven Acoustic Bubbles. Crystals, 2022, 12, 399.	1.0	1
557	DC current generation and power feature in strongly driven Floquet-Bloch systems. Physical Review Research, 2022, 4, .	1.3	1
558	Dynamical relaxation of correlators in periodically driven integrable quantum systems. Physical Review B, 2022, 105, .	1.1	12
559	Thermal melting of discrete time crystals: A dynamical phase transition induced by thermal fluctuations. Physical Review B, 2022, 105, .	1.1	6
560	Observation of time-crystalline eigenstate order on a quantum processor. , 2022, , .		2
561	Quantum Phases of Time Order in Many-Body Ground States. Frontiers in Physics, 2022, 10, .	1.0	0
562	Non-Hermitian Weyl semimetal and its Floquet engineering. Physical Review B, 2022, 105, .	1.1	12
563	Bounds on the recurrence probability in periodically-driven quantum systems. Quantum - the Open Journal for Quantum Science, 0, 6, 682.	0.0	0
564	Continuous-time crystal from a spontaneous many-body Floquet state. Physical Review A, 2022, 105, .	1.0	2
565	Engineering an effective three-spin Hamiltonian in trapped-ion systems for applications in quantum simulation. Quantum Science and Technology, 2022, 7, 034001.	2.6	18
566	The reservoir learning power across quantum many-body localization transition. Frontiers of Physics, 2022, 17, 1.	2.4	6

#	ARTICLE	IF	CITATIONS
567	Floquet time crystals in driven spin systems with all-to-all p -body interactions. Physical Review Research, 2022, 4, .	1.3	10
568	Criticality and rigidity of dissipative discrete time crystals in solids. Physical Review Research, 2022, 4, .	1.3	5
569	Time-Gel. Journal of the Indian Chemical Society, 2022, 99, 100431.	1.3	1
570	Bound state dynamics in the long-range spin- $1/2$ XXZ model. Physical Review B, 2021, 104, .		
571	Quantum dynamics research in India: a perspective. Journal of Physics Condensed Matter, 2022, 34, 100401.	0.7	0
572	Controlled preparation of phases in two-dimensional time crystals. Physical Review Research, 2021, 3, .	1.3	7
573	Quantized Floquet Topology with Temporal Noise. Physical Review Letters, 2021, 127, 270601.	2.9	6
574	Many-body localization with quasiperiodic driving. Physical Review B, 2022, 105, .	1.1	15
575	Genuine multipartite correlations in a boundary time crystal. Physical Review B, 2022, 105, .	1.1	8
576	Dynamical nonlocality in quantum time via modular operators. Physical Review A, 2022, 105, .	1.0	6
577	Dissipative time crystal in an atom-cavity system: Influence of trap and competing interactions. Physical Review A, 2022, 105, .	1.0	13
578	Stroboscopic Hamiltonian engineering in the low-frequency regime with a one-dimensional quantum processor. Physical Review B, 2022, 105, .	1.1	3
579	Exact solution of a boundary time-crystal phase transition: Time-translation symmetry breaking and non-Markovian dynamics of correlations. Physical Review A, 2022, 105, .	1.0	19
580	Slowly decaying real-time oscillations in instanton crystals. Physical Review B, 2022, 105, .	1.1	0
581	From prethermalization to chaos in periodically driven coupled rotors. Physical Review B, 2022, 105, .	1.1	3
582	Condensed matter physics in big discrete time crystals. AAPS Bulletin, 2022, 32, 1.	2.7	10
583	Emergence and Dynamical Stability of a Charge Time-Crystal in a Current-Carrying Quantum Dot Simulator. Nano Letters, 2022, , .	4.5	6
584	Bose-Hubbard realization of fracton defects. Physical Review Research, 2022, 4, .	1.3	3

#	ARTICLE	IF	CITATIONS
585	Quantum dynamics of dissipative Kerr solitons. <i>Physical Review A</i> , 2022, 105, .	1.0	2
586	Dynamics of quantum state and effective Hamiltonian with vector differential form of motion method. <i>Chinese Physics Letters</i> , 0, , .	1.3	0
587	Strongly correlated electronâ€“photon systems. <i>Nature</i> , 2022, 606, 41-48.	13.7	66
588	Nonlinear two-level dynamics of quantum time crystals. <i>Nature Communications</i> , 2022, 13, .	5.8	8
589	A decade of time crystals: Quo vadis?. <i>Europhysics Letters</i> , 2022, 139, 10001.	0.7	7
590	Observation of a continuous time crystal. <i>Science</i> , 2022, 377, 670-673.	6.0	47
591	Hinge-mode dynamics of periodically driven higher-order Weyl semimetals. <i>Physical Review B</i> , 2022, 105, .	1.1	7
592	Signatures of discrete time-crystallinity in transport through an open Fermionic chain. <i>Communications Physics</i> , 2022, 5, .	2.0	14
593	Logarithmic Quantum Time Crystal. <i>Chinese Physics Letters</i> , 0, , .	1.3	0
594	A constructive theory of the numerically accessible many-body localized to thermal crossover. <i>SciPost Physics</i> , 2022, 12, .	1.5	35
595	Out-of-time-order correlators of nonlocal block-spin and random observables in integrable and nonintegrable spin chains. <i>Physical Review B</i> , 2022, 105, .	1.1	5
596	Quantum Extreme Reservoir Computation Utilizing Scale-Free Networks. <i>Physical Review Applied</i> , 2022, 17, .	1.5	4
597	Proposed Fermi-surface reservoir engineering and application to realizing unconventional Fermi superfluids in a driven-dissipative nonequilibrium Fermi gas. <i>Physical Review A</i> , 2022, 106, .	1.0	4
598	Long-lived phantom helix states in Heisenberg quantum magnets. <i>Nature Physics</i> , 2022, 18, 899-904.	6.5	29
599	Through the Lens of a Momentum Microscope: Viewing Lightâ€“Induced Quantum Phenomena in 2D Materials. <i>Advanced Materials</i> , 2023, 35, .	11.1	4
600	Observation of the Influence of Generalized Parity on the Alignment Spectra in the Periodically Modulated Warm Atomic Ensemble. <i>Laser and Photonics Reviews</i> , 0, , 2100614.	4.4	1
601	Dynamical topological phase realized in a trapped-ion quantum simulator. <i>Nature</i> , 2022, 607, 463-467.	13.7	31
602	Optimal Purification of a Spin Ensemble by Quantum-Algorithmic Feedback. <i>Physical Review X</i> , 2022, 12, .	2.8	4

#	ARTICLE	IF	CITATIONS
603	Digital quantum simulation of Floquet symmetry-protected topological phases. Nature, 2022, 607, 468-473.	13.7	32
604	Practical quantum advantage in quantum simulation. Nature, 2022, 607, 667-676.	13.7	152
605	Characteristic, dynamic, and near-saturation regions of out-of-time-order correlation in Floquet Ising models. Physical Review A, 2022, 106, .	1.0	3
606	Driving-induced multiple PT -symmetry breaking transitions and reentrant localization transitions in non-Hermitian Floquet quasicrystals. Physical Review B, 2022, 106, .	1.1	14
607	Periodically driven Rydberg chains with staggered detuning. Physical Review B, 2022, 106, .	1.1	9
608	Unleashing spontaneity in a time crystal. Science, 2022, 377, 576-577.	6.0	0
609	Surface-Induced Decoherence and Heating of Charged Particles. PRX Quantum, 2022, 3, .	3.5	1
610	Out-of-Time-Order correlators in driven conformal field theories. Journal of High Energy Physics, 2022, 2022, .	1.6	5
611	Square-root Floquet topological phases and time crystals. Physical Review B, 2022, 106, .	1.1	13
612	Quantum-Dot Spin Chains. Quantum Science and Technology, 2022, , 505-538.	1.5	1
613	Energy landscapes in inorganic chemistry. , 2023, , 262-392.		2
614	Emergence in Condensed Matter Physics. SpringerBriefs in Physics, 2022, , 11-43.	0.2	0
615	Quantum Mechanics predicts evolution. , 2023, , 75-86.		1
616	Fractional resonances and prethermal states in Floquet systems. Physical Review B, 2022, 106, .	1.1	3
617	Cosmology from Strong Interactions. Universe, 2022, 8, 451.	0.9	3
618	NISQ computing: where are we and where do we go?. AAPS Bulletin, 2022, 32, .	2.7	38
619	Discrete Time Crystals Enforced by Floquet-Bloch Scars. Physical Review Letters, 2022, 129, .	2.9	6
620	Many-Body State and Dynamic Behaviour of the Pair-Correlation Function of a Small Bose-Einstein Condensate Confined in a Ring Potential. Journal of Low Temperature Physics, 0, , .	0.6	0

#	ARTICLE	IF	CITATIONS
621	Tuning between Continuous Time Crystals and Many-Body Scars in Long-Range $\langle \mathbf{X} \cdot \mathbf{Y} \cdot \mathbf{Z} \rangle$ Spin Chains. Physical Review Letters, 2022, 129, .	2.9	1
622	Limit cycles and chaos in the hybrid atom-optomechanics system. Scientific Reports, 2022, 12, .	1.6	2
623	\hat{a}, \hat{b} versus \hat{a}, \hat{k} : dispersion and energy constraints on time-varying photonic materials and time crystals [Invited]. Optical Materials Express, 2022, 12, 3904.	1.6	22
624	Bounds in nonequilibrium quantum dynamics. International Journal of Modern Physics B, 2022, 36, .	1.0	15
625	Engineering Floquet dynamical quantum phase transitions. Physical Review B, 2022, 106, .	1.1	9
626	Discrete Time-Crystalline Response Stabilized by Domain-Wall Confinement. Physical Review X, 2022, 12, .	2.8	13
627	Observation of Non-Markovian Spin Dynamics in a Jaynes-Cummings-Hubbard Model Using a Trapped-Ion Quantum Simulator. Physical Review Letters, 2022, 129, .	2.9	8
628	Peratic phase transition by bulk-to-surface response. Physical Review Research, 2022, 4, .	1.3	0
629	Clean two-dimensional Floquet time crystal. Physical Review B, 2022, 106, .	1.1	3
630	Periodically, Quasi-periodically, and Randomly Driven Conformal Field Theories (II): Furstenberg's Theorem and Exceptions to Heating Phases. SciPost Physics, 2022, 13, .	1.5	7
631	Revealing non-Hermitian band structure of photonic Floquet media. Science Advances, 2022, 8, .	4.7	9
632	Farey tree and devil's staircase of frequency-locked breathers in ultrafast lasers. Nature Communications, 2022, 13, .	5.8	26
633	Spectral properties of disordered interacting non-Hermitian systems. Physical Review B, 2022, 106, .	1.1	12
634	Spreading of a local excitation in a quantum hierarchical model. Physical Review B, 2022, 106, .	1.1	1
635	Static and time-resolved resonant inelastic X-ray scattering: Recent results and future prospects. X-Ray Spectrometry, 2023, 52, 216-225.	0.9	1
636	Topological $\langle \mathbf{m} \cdot \mathbf{m} \rangle$ modes and beyond. Science Bulletin, 2022, 67, 2145-2148.	4.3	4
637	Adiabatic and irreversible classical discrete time crystals. SciPost Physics, 2022, 13, .	1.5	0
638	Static and dynamical Stark many-body localization transition in a linear potential. Physical Review B, 2022, 106, .	1.1	1

#	ARTICLE	IF	CITATIONS
639	Topological soliton metacrystals. <i>Communications Physics</i> , 2022, 5, .	2.0	5
640	Linear response for pseudo-Hermitian Hamiltonian systems: Application to $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"} \langle \text{mml:mi mathvariant="script"} \rangle \text{PT} \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$ -symmetric qubits. <i>Physical Review B</i> , 2022, 106, .	1.1	4
641	Effect of quasiperiodic and random noise on many-body dynamical decoupling protocols. <i>Physical Review B</i> , 2022, 106, .	1.1	2
642	On scientific understanding with artificial intelligence. <i>Nature Reviews Physics</i> , 2022, 4, 761-769.	11.9	71
643	Symmetry-protected topological corner modes in a periodically driven interacting spin lattice. <i>Physical Review B</i> , 2022, 106, .	1.1	2
644	Polyatomic time crystals of the brain neuron extracted microtubule are projected like a hologram meters away. <i>Journal of Applied Physics</i> , 2022, 132, .	1.1	3
645	Emergent time crystals from phase-space noncommutative quantum mechanics. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2022, 835, 137549.	1.5	0
646	The effects of the covariant generalized uncertainty principle on quantum mechanics. <i>Canadian Journal of Physics</i> , 0, , .	0.4	1
647	Hilbert space fragmentation and interaction-induced localization in the extended Fermi-Hubbard model. <i>Physical Review B</i> , 2022, 106, .	1.1	6
648	Floquet Engineering Using Pulse Driving in a Diamond Two-Level System Under Large-Amplitude Modulation. <i>Physical Review Applied</i> , 2022, 18, .	1.5	4
649	Driven-Dissipative Time Crystalline Phases in a Two-Mode Bosonic System with Kerr Nonlinearity. <i>Physical Review Letters</i> , 2022, 129, .	2.9	6
650	Effects of leakage on the realization of a discrete time crystal in a chain of singlet-triplet qubits. <i>Physical Review B</i> , 2022, 106, .	1.1	0
651	Dynamic phase transition theory. <i>Science China: Physics, Mechanics and Astronomy</i> , 2023, 66, .	2.0	3
652	Disorder-assisted assembly of strongly correlated fluids of light. <i>Nature</i> , 2022, 612, 435-441.	13.7	5
653	Estimating heating times in periodically driven quantum many-body systems via avoided crossing spectroscopy. <i>Physical Review Research</i> , 2022, 4, .	1.3	2
654	Towards simulating time evolution of specific quantum many-body system by lower counts of quantum gates. <i>Europhysics Letters</i> , 0, , .	0.7	0
655	Dissipative time crystals with long-range Lindbladians. <i>Physical Review B</i> , 2022, 106, .	1.1	9
656	Quasicrystalline materials from non-atom building blocks. <i>Matter</i> , 2023, 6, 30-58.	5.0	4

#	ARTICLE	IF	CITATIONS
657	Periodically driven model with quasiperiodic potential and staggered hopping amplitudes: Engineering of mobility gaps and multifractal states. <i>Physical Review B</i> , 2023, 107, .	1.1	5
658	Critical prethermal discrete time crystal created by two-frequency driving. <i>Nature Physics</i> , 2023, 19, 407-413.	6.5	8
659	Dissipative time crystals originating from parity-time symmetry. <i>Physical Review A</i> , 2023, 107, .	1.0	5
660	Engineering second-order nodal-line semimetals by breaking $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"} \rangle \langle \text{mml:mi mathvariant="script"} \rangle \text{PT} \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$ symmetry and periodic driving. <i>Physical Review B</i> , 2023, 107, .	1.1	4
661	One-dimensional transient crystals. <i>Physical Review B</i> , 2023, 107, .	1.1	0
662	Quantum simulation of weak-field light-matter interactions. <i>Physical Review Research</i> , 2023, 5, .	1.3	2
663	Stable interaction-induced Anderson-like localization embedded in standing waves. <i>New Journal of Physics</i> , 2023, 25, 043021.	1.2	2
664	Build-up and dephasing of Floquet Bloch bands on subcycle timescales. <i>Nature</i> , 2023, 616, 696-701.	13.7	21
665	The physics and applications of strongly coupled Coulomb systems (plasmas) levitated in electrodynamic traps. <i>Physics Reports</i> , 2023, 1016, 1-103.	10.3	3
666	Fast classical simulation of Hamiltonian dynamics by simultaneous diagonalization using Clifford transformation with parallel computation. <i>Computer Physics Communications</i> , 2023, 288, 108720.	3.0	1
667	Time gel and origin of matter. <i>Journal of the Indian Chemical Society</i> , 2023, 100, 100897.	1.3	1
668	Droplet time crystals. <i>Physica Scripta</i> , 2023, 98, 035004.	1.2	0
669	On the effects of suitably designed space microstructures in the propagation of waves in time modulated composites. <i>Applied Physics Letters</i> , 2023, 122, .	1.5	1
670	Theory of Floquet-driven dissipative cavity magnonics. <i>Physical Review B</i> , 2023, 107, .	1.1	2
671	Exploring dynamical quantum phase transitions in a spin model with deconfined critical point via the quantum steering ellipsoid. <i>Physical Review B</i> , 2023, 107, .	1.1	3
672	Boundary discrete time crystals induced by topological superconductors in solvable spin chains. <i>Physical Review B</i> , 2023, 107, .	1.1	2
673	Noisy intermediate-scale quantum computers. <i>Frontiers of Physics</i> , 2023, 18, .	2.4	19
674	Symmetry-protected difference between spin Hall and anomalous Hall effects of a periodically driven multiorbital metal. <i>Communications Physics</i> , 2023, 6, .	2.0	0

#	ARTICLE	IF	CITATIONS
675	Mode softening in time-crystalline transitions of open quantum systems. <i>Physical Review A</i> , 2023, 107, .	1.0	9
676	Discrete Time Crystal Enabled by Stark Many-Body Localization. <i>Physical Review Letters</i> , 2023, 130, .	2.9	2
677	Realizable time crystal of four silicon quantum dot qubits. <i>Physical Review B</i> , 2023, 107, .	1.1	0
678	Dissipative Prethermal Discrete Time Crystal. <i>Physical Review Letters</i> , 2023, 130, .	2.9	2
679	Space-time symmetry breaking in nonequilibrium frustrated magnetism. <i>Physical Review B</i> , 2023, 107, .	1.1	3
680	Optical Isolation by Temporal Modulation: Size, Frequency, and Power Constraints. <i>ACS Photonics</i> , 0, , .	3.2	2
681	Measuring Arbitrary Physical Properties in Analog Quantum Simulation. <i>Physical Review X</i> , 2023, 13, .	2.8	8
682	Engineering Dynamically Decoupled Quantum Simulations with Trapped Ions. <i>PRX Quantum</i> , 2023, 4, .	3.5	9
683	Emergent conservation in the Floquet dynamics of integrable non-Hermitian models. <i>Physical Review B</i> , 2023, 107, .	1.1	3
684	Measurement-Induced Continuous Time Crystals. <i>Physical Review Letters</i> , 2023, 130, .	2.9	8
685	Tunable and controllable multi-channel time-comb absorber based on continuous photonic time crystals. <i>Optics Letters</i> , 2023, 48, 2627.	1.7	0
686	Photonic metamaterial analogue of a continuous time crystal. <i>Nature Physics</i> , 2023, 19, 986-991.	6.5	11
698	Microwave Time Quasicrystals. , 2023, , .		0
707	Lightwave electronics in condensed matter. <i>Nature Reviews Materials</i> , 2023, 8, 668-687.	23.3	5
708	Quantum Algorithms for the Study of Electronic Structure and Molecular Dynamics: Novel Computational Protocols. , 2024, , 228-251.		0