

# Mark S Rudner

## List of Publications by Year in descending order

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80  
papers

8,078  
citations

81743

39  
h-index

71532

76  
g-index

80  
all docs

80  
docs citations

80  
times ranked

6146  
citing authors

#	ARTICLE	IF	CITATIONS
1	Topological characterization of periodically driven quantum systems. <i>Physical Review B</i> , 2010, 82, .	1.1	932
2	Anomalous Edge States and the Bulk-Edge Correspondence for Periodically Driven Two-Dimensional Systems. <i>Physical Review X</i> , 2013, 3, .	2.8	690
3	Observation of a Topological Transition in the Bulk of a Non-Hermitian System. <i>Physical Review Letters</i> , 2015, 115, 040402.	2.9	551
4	Dephasing time of GaAs electron-spin qubits coupled to a nuclear bath exceeding 200 $\hat{\%}\hat{1}/4$ s. <i>Nature Physics</i> , 2011, 7, 109-113.	6.5	501
5	Observation of topologically protected bound states in photonic quantum walks. <i>Nature Communications</i> , 2012, 3, 882.	5.8	488
6	Exploring topological phases with quantum walks. <i>Physical Review A</i> , 2010, 82, .	1.0	397
7	Hot Carrier Transport and Photocurrent Response in Graphene. <i>Nano Letters</i> , 2011, 11, 4688-4692.	4.5	380
8	Gate-Activated Photoresponse in a Graphene p $\hat{\%}$ n Junction. <i>Nano Letters</i> , 2011, 11, 4134-4137.	4.5	379
9	Topological Transition in a Non-Hermitian Quantum Walk. <i>Physical Review Letters</i> , 2009, 102, 065703.	2.9	361
10	Band structure engineering and non-equilibrium dynamics in Floquet topological insulators. <i>Nature Reviews Physics</i> , 2020, 2, 229-244.	11.9	311
11	Klein Backscattering and Fabry-P $\hat{\%}$ rot Interference in Graphene Heterojunctions. <i>Physical Review Letters</i> , 2008, 101, 156804.	2.9	253
12	Topological singularities and the general classification of Floquet $\hat{\%}$ Bloch systems. <i>New Journal of Physics</i> , 2015, 17, 125014.	1.2	223
13	Anomalous Floquet-Anderson Insulator as a Nonadiabatic Quantized Charge Pump. <i>Physical Review X</i> , 2016, 6, .	2.8	204
14	Amplitude spectroscopy of a solid-state artificial atom. <i>Nature</i> , 2008, 455, 51-57.	13.7	134
15	Topology and Broken Symmetry in Floquet Systems. <i>Annual Review of Condensed Matter Physics</i> , 2020, 11, 345-368.	5.2	120
16	Controlled Population of Floquet-Bloch States via Coupling to Bose and Fermi Baths. <i>Physical Review X</i> , 2015, 5, .	2.8	115
17	Atomic collapse, Lorentz boosts, Klein scattering, and other quantum-relativistic phenomena in graphene. <i>Solid State Communications</i> , 2009, 149, 1087-1093.	0.9	98
18	Chiral plasmons without magnetic field. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, 4658-4663.	3.3	98

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19	Spin-Orbit-Induced Strong Coupling of a Single Spin to a Nanomechanical Resonator. Physical Review Letters, 2012, 108, 206811.	2.9	85
20	Singlet-triplet splitting in double quantum dots due to spin-orbit and hyperfine interactions. Physical Review B, 2012, 85, .	1.1	80
21	Notch filtering the nuclear environment of a spin qubit. Nature Nanotechnology, 2017, 12, 16-20.	15.6	80
22	Direct Probe of Topological Invariants Using Bloch Oscillating Quantum Walks. Physical Review Letters, 2017, 118, 130501.	2.9	78
23	Spectrum of the Nuclear Environment for GaAs Spin Qubits. Physical Review Letters, 2017, 118, 177702.	2.9	67
24	Self-Polarization and Dynamical Cooling of Nuclear Spins in Double Quantum Dots. Physical Review Letters, 2007, 99, 036602.	2.9	64
25	Quantum Phase Tomography of a Strongly Driven Qubit. Physical Review Letters, 2008, 101, 190502.	2.9	63
26	Universal Lindblad equation for open quantum systems. Physical Review B, 2020, 102, .	1.1	63
27	Parton construction of a wave function in the anti-Pfaffian phase. Physical Review B, 2018, 98, .	1.1	60
28	Chirality-Assisted Electronic Cloaking of Confined States in Bilayer Graphene. Physical Review Letters, 2011, 107, 156603.	2.9	57
29	Composite Topological Excitations in Ferromagnet-Superconductor Heterostructures. Physical Review Letters, 2016, 117, 017001.	2.9	54
30	Spin relaxation due to deflection coupling in nanotube quantum dots. Physical Review B, 2010, 81, .	1.1	53
31	Generating Entanglement and Squeezed States of Nuclear Spins in Quantum Dots. Physical Review Letters, 2011, 107, 206806.	2.9	53
32	Collapse of Landau Levels in Gated Graphene Structures. Physical Review Letters, 2011, 106, 066601.	2.9	48
33	Quantized Magnetization Density in Periodically Driven Systems. Physical Review Letters, 2017, 119, 186801.	2.9	48
34	Anomalous Floquet insulators. Physical Review B, 2019, 99, .	1.1	47
35	Fermi arc plasmons in Weyl semimetals. Physical Review B, 2017, 96, .	1.1	46
36	Electronic liquid crystalline phases in a spin-orbit coupled two-dimensional electron gas. Physical Review B, 2012, 85, .	1.1	45

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37	Electrically Driven Reverse Overhauser Pumping of Nuclear Spins in Quantum Dots. <i>Physical Review Letters</i> , 2007, 99, 246602.	2.9	43
38	Semiclassical model for the dephasing of a two-electron spin qubit coupled to a coherently evolving nuclear spin bath. <i>Physical Review B</i> , 2011, 84, .	1.1	41
39	Quantized transport and steady states of Floquet topological insulators. <i>Physical Review B</i> , 2018, 97, .	1.1	41
40	Phase transitions in dissipative quantum transport and mesoscopic nuclear spin pumping. <i>Physical Review B</i> , 2010, 82, .	1.1	39
41	Angular profiles of molecular beams from effusive tube sources: I. Experiment. <i>Measurement Science and Technology</i> , 2000, 11, 1750-1765.	1.4	37
42	Universal Chiral Quasisteady States in Periodically Driven Many-Body Systems. <i>Physical Review X</i> , 2017, 7, .	2.8	37
43	Intramolecular Hydrogen Bonding in Disubstituted Ethanes. A Comparison of NH $\hat{\wedge}$ $\hat{\wedge}$ O-and OH $\hat{\wedge}$ $\hat{\wedge}$ O-Hydrogen Bonding through Conformational Analysis of 4-Amino-4-oxobutanoate (succinamate) and Monohydrogen 1,4-Butanoate (monohydrogen succinate) Anions. <i>Journal of Physical Chemistry A</i> , 2005, 109, 9076-9082.	1.1	33
44	Nuclear spin dynamics in double quantum dots: Fixed points, transients, and intermittency. <i>Physical Review B</i> , 2011, 84, .	1.1	30
45	Steady states of interacting Floquet insulators. <i>Physical Review B</i> , 2019, 99, .	1.1	27
46	Pulse imaging and nonadiabatic control of solid-state artificial atoms. <i>Physical Review B</i> , 2009, 80, .	1.1	26
47	Multilevel Interference Resonances in Strongly Driven Three-Level Systems. <i>Physical Review Letters</i> , 2014, 113, 247002.	2.9	26
48	Filter function formalism beyond pure dephasing and non-Markovian noise in singlet-triplet qubits. <i>Physical Review B</i> , 2016, 93, .	1.1	25
49	Fractional Quantum Hall Effect at $\nu = 1/2$ : The Parton Paradigm for the Second Landau Level. <i>Physical Review Letters</i> , 2018, 121, 186601.	2.9	25
50	Topological phase transition measured in a dissipative metamaterial. <i>Physical Review B</i> , 2018, 97, .	1.1	25
51	Parton construction of particle-hole-conjugate Read-Rezayi parafermion fractional quantum Hall states and beyond. <i>Physical Review B</i> , 2019, 99, .	1.1	23
52	Self-induced Berry flux and spontaneous non-equilibrium magnetism. <i>Nature Physics</i> , 2019, 15, 1017-1021.	6.5	22
53	Spin-Lattice Order in One-Dimensional Conductors: Beyond the RKKY Effect. <i>Physical Review Letters</i> , 2015, 114, 247205.	2.9	20
54	Quasiperiodic Floquet-Thouless Energy Pump. <i>Physical Review Letters</i> , 2021, 127, 166804.	2.9	19

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55	Contrasting lattice geometry dependent versus independent quantities: Ramifications for Berry curvature, energy gaps, and dynamics. <i>Physical Review B</i> , 2020, 102, .	1.1	18
56	Quantized large-bias current in the anomalous Floquet-Anderson insulator. <i>Physical Review B</i> , 2020, 101, .	1.1	16
57	Theory of coherent dynamic nuclear polarization in quantum dots. <i>Physical Review B</i> , 2014, 89, .	1.1	15
58	Dynamical cooling of nuclear spins in double quantum dots. <i>Nanotechnology</i> , 2010, 21, 274016.	1.3	14
59	Phase-sensitive probes of nuclear polarization in spin-blockaded transport. <i>Physical Review B</i> , 2010, 82, .	1.1	13
60	Many-Body Dynamics and Gap Opening in Interacting Periodically Driven Systems. <i>Physical Review Letters</i> , 2018, 121, 036801.	2.9	13
61	<i>Ab initio</i> exact diagonalization simulation of the Nagaoka transition in quantum dots. <i>Physical Review B</i> , 2019, 100, .	1.1	12
62	Current-Induced Gap Opening in Interacting Topological Insulator Surfaces. <i>Physical Review Letters</i> , 2019, 123, 246803.	2.9	12
63	Topological transport in the steady state of a quantum particle with dissipation. <i>Physical Review B</i> , 2019, 99, .	1.1	11
64	Floquet metal-to-insulator phase transitions in semiconductor nanowires. <i>Science Advances</i> , 2020, 6, eaay4922.	4.7	11
65	Spin-polarized superconductivity: Order parameter topology, current dissipation, and multiple-period Josephson effect. <i>Physical Review Research</i> , 2021, 3, .	1.3	11
66	Quantum frequency locking and downconversion in a driven qubit-cavity system. <i>Physical Review Research</i> , 2020, 2, .	1.3	11
67	Intramolecular Hydrogen Bonding in Disubstituted Ethanes: A General Considerations and Methodology in Quantum Mechanical Calculations of the Conformational Equilibria of Succinamate Monoanion. <i>Journal of Physical Chemistry A</i> , 2005, 109, 9083-9088.	1.1	9
68	Self-Sustaining Dynamical Nuclear Polarization Oscillations in Quantum Dots. <i>Physical Review Letters</i> , 2013, 110, 086601.	2.9	8
69	Vibration multistability and quantum switching for dispersive coupling. <i>Physical Review B</i> , 2014, 89, .	1.1	6
70	Nonlocal damping of helimagnets in one-dimensional interacting electron systems. <i>Physical Review B</i> , 2015, 92, .	1.1	6
71	Nonlocal Polarization Feedback in a Fractional Quantum Hall Ferromagnet. <i>Physical Review Letters</i> , 2016, 116, 136804.	2.9	6
72	Electronic Floquet gyro-liquid crystal. <i>Nature Communications</i> , 2021, 12, 5299.	5.8	5

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73	Prethermalization and entanglement dynamics in interacting topological pumps. Physical Review B, 2022, 105, .	1.1	5
74	Detection of spin injection into a double quantum dot: Violation of magnetic-field-inversion symmetry of nuclear polarization instabilities. Physical Review B, 2011, 83, .	1.1	4
75	Anomalous random multipolar driven insulators. Physical Review B, 2022, 105, .	1.1	3
76	Charge and spin textures of Ising quantum Hall ferromagnet domain walls. Physical Review B, 2019, 100, .	1.1	2
77	Observation of topologically protected bound states in photonic quantum walks. , 2011, , .		1
78	Driving toward hot new phases. Nature Physics, 2020, 16, 1008-1009.	6.5	1
79	Ultranarrow ionization resonances in a quantum dot under broadband excitation. Physical Review B, 2014, 89, .	1.1	0
80	Multistable excitonic Stark effect. Physical Review Research, 2022, 4, .	1.3	0