

Fabian Grusdt

List of Publications by Year in descending order

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68
papers

3,525
citations

136740

32
h-index

133063

59
g-index

68
all docs

68
docs citations

68
times ranked

2297
citing authors

#	ARTICLE	IF	CITATIONS
1	A cold-atom Fermi-Hubbard antiferromagnet. <i>Nature</i> , 2017, 545, 462-466.	13.7	514
2	Floquet approach to \hat{Z}_2 lattice gauge theories with ultracold atoms in optical lattices. <i>Nature Physics</i> , 2019, 15, 1168-1173.	6.5	214
3	Microscopy of the interacting Harper-Hofstadter model in the two-body limit. <i>Nature</i> , 2017, 546, 519-523.	13.7	198
4	Revealing hidden antiferromagnetic correlations in doped Hubbard chains via string correlators. <i>Science</i> , 2017, 357, 484-487.	6.0	144
5	Bloch state tomography using Wilson lines. <i>Science</i> , 2016, 352, 1094-1097.	6.0	136
6	Quantum Dynamics of Ultracold Bose Polarons. <i>Physical Review Letters</i> , 2016, 117, 113002.	2.9	134
7	Topological Edge States in the One-Dimensional Superlattice Bose-Hubbard Model. <i>Physical Review Letters</i> , 2013, 110, 260405.	2.9	118
8	Imaging magnetic polarons in the doped Fermi-Hubbard model. <i>Nature</i> , 2019, 572, 358-362.	13.7	106
9	String patterns in the doped Hubbard model. <i>Science</i> , 2019, 365, 251-256.	6.0	102
10	Bose polarons in ultracold atoms in one dimension: beyond the Fröhlich paradigm. <i>New Journal of Physics</i> , 2017, 19, 103035.	1.2	101
11	Classifying snapshots of the doped Hubbard model with machine learning. <i>Nature Physics</i> , 2019, 15, 921-924.	6.5	94
12	Radio-frequency spectroscopy of polarons in ultracold Bose gases. <i>Physical Review A</i> , 2014, 89, .	1.0	85
13	Renormalization group approach to the Fröhlich polaron model: application to impurity-BEC problem. <i>Scientific Reports</i> , 2015, 5, 12124.	1.6	82
14	Time-resolved observation of spin-charge deconfinement in fermionic Hubbard chains. <i>Science</i> , 2020, 367, 186-189.	6.0	81
15	Coupling ultracold matter to dynamical gauge fields in optical lattices: From flux attachment to \hat{Z}_2 lattice gauge theories. <i>Science Advances</i> , 2019, 5, eaav7444.	4.7	75
16	Strong-coupling Bose polarons in a Bose-Einstein condensate. <i>Physical Review A</i> , 2017, 96, .	1.0	70
17	Parton Theory of Magnetic Polarons: Mesonic Resonances and Signatures in Dynamics. <i>Physical Review X</i> , 2018, 8, .	2.8	65
18	Interferometric measurements of many-body topological invariants using mobile impurities. <i>Nature Communications</i> , 2016, 7, 11994.	5.8	58

#	ARTICLE	IF	CITATIONS
19	Realizing and adiabatically preparing bosonic integer and fractional quantum Hall states in optical lattices. <i>Physical Review B</i> , 2017, 96, .	1.1	57
20	Confined Phases of One-Dimensional Spinless Fermions Coupled to Z_2 Gauge Theory. <i>Physical Review Letters</i> , 2020, 124, 120503.	2.9	56
21	Realization of fractional Chern insulators in the thin-torus limit with ultracold bosons. <i>Physical Review A</i> , 2014, 90, .	1.0	52
22	Measuring topological invariants in optical lattices using interferometry. <i>Physical Review A</i> , 2014, 89, .	1.0	48
23	Microscopic evolution of doped Mott insulators from polaronic metal to Fermi liquid. <i>Science</i> , 2021, 374, 82-86.	6.0	48
24	Polaronic mass renormalization of impurities in Bose-Einstein condensates: Correlated Gaussian-wave-function approach. <i>Physical Review A</i> , 2016, 93, .	1.0	45
25	Angle-resolved photoemission spectroscopy with quantum gas microscopes. <i>Physical Review B</i> , 2018, 97, .	1.1	43
26	Tunable Polarons of Slow-Light Polaritons in a Two-Dimensional Bose-Einstein Condensate. <i>Physical Review Letters</i> , 2016, 116, 053602.	2.9	39
27	Microscopic spinon-charge theory of magnetic polarons in the t - J model. <i>Physical Review B</i> , 2019, 99, .	1.0	38
28	Topological Growing of Laughlin States in Synthetic Gauge Fields. <i>Physical Review Letters</i> , 2014, 113, 155301.	2.9	36
29	Exploration of doped quantum magnets with ultracold atoms. <i>Annals of Physics</i> , 2021, 435, 168651.	1.0	35
30	Reservoir-induced Thouless pumping and symmetry-protected topological order in open quantum chains. <i>Physical Review B</i> , 2016, 94, .	1.1	34
31	Coupling a Mobile Hole to an Antiferromagnetic Spin Background: Transient Dynamics of a Magnetic Polaron. <i>Physical Review X</i> , 2021, 11, .	2.8	33
32	Meson formation in mixed-dimensional t - J models. , 2018, 5, .	1.0	33
33	Tunable spin-orbit coupling for ultracold atoms in two-dimensional optical lattices. <i>Physical Review A</i> , 2017, 95, .	1.0	32
34	Strong-coupling Bose polarons out of equilibrium: Dynamical renormalization-group approach. <i>Physical Review A</i> , 2018, 97, .	1.0	32
35	Parton theory of angle-resolved photoemission spectroscopy spectra in antiferromagnetic Mott insulators. <i>Physical Review B</i> , 2020, 102, .	1.1	31
36	Dissipative correlated dynamics of a moving impurity immersed in a Bose-Einstein condensate. <i>New Journal of Physics</i> , 2019, 21, 103026.	1.2	28

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37	Evaluation of time-dependent correlators after a local quench in iPEPS: hole motion in the t-J model. SciPost Physics, 2020, 8, .	1.5	28
38	All-coupling theory for the Fröhlich polaron. Physical Review B, 2016, 93, .	1.1	27
39	Bloch oscillations of bosonic lattice polarons. Physical Review A, 2014, 90, .	1.0	24
40	Topological order of mixed states in correlated quantum many-body systems. Physical Review B, 2017, 95, .	1.1	24
41	Fractional quantum Hall physics with ultracold Rydberg gases in artificial gauge fields. Physical Review A, 2013, 87, .	1.0	23
42	Z^2 lattice gauge theories and Kitaev's toric code: A scheme for analog quantum simulation. Physical Review B, 2021, 104, .	1.1	23
43	Quantum correlations at infinite temperature: The dynamical Nagaoka effect. Physical Review B, 2017, 96, .	1.1	22
44	Dynamical formation of a magnetic polaron in a two-dimensional quantum antiferromagnet. New Journal of Physics, 2020, 22, 123023.	1.2	22
45	Strong pairing in mixed-dimensional bilayer antiferromagnetic Mott insulators. Nature Physics, 2022, 18, 651-656.	6.5	20
46	Confinement and Mott Transitions of Dynamical Charges in One-Dimensional Lattice Gauge Theories. Physical Review Letters, 2021, 127, 167203.	2.9	19
47	Enhancing Disorder-Free Localization through Dynamically Emergent Local Symmetries. PRX Quantum, 2022, 3, .	3.5	18
48	Dynamical Quantum Cherenkov Transition of Fast Impurities in Quantum Liquids. Physical Review Letters, 2021, 127, 185302.	2.9	16
49	Z ₂ Parton Phases in the Mixed-Dimensional $t\hat{=}Jz$ Model. Physical Review Letters, 2020, 125, 256401.	2.9	15
50	Quantum particle in a parabolic lattice in the presence of a gauge field. Physical Review A, 2014, 89, .	1.0	12
51	Ramsey interferometry of non-Hermitian quantum impurities. Physical Review Research, 2020, 2, .	1.3	12
52	Fractional corner charges in a two-dimensional superlattice Bose-Hubbard model. Physical Review B, 2020, 102, .	1.1	11
53	Radiofrequency spectroscopy of one-dimensional trapped Bose polarons: crossover from the adiabatic to the diabatic regime. New Journal of Physics, 2021, 23, 043051.	1.2	11
54	Dominant Fifth-Order Correlations in Doped Quantum Antiferromagnets. Physical Review Letters, 2021, 126, 026401.	2.9	11

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55	Thouless Pumps and Bulk-Boundary Correspondence in Higher-Order Symmetry-Protected Topological Phases. <i>Physical Review Letters</i> , 2022, 128, .	2.9	11
56	Snapshot-based characterization of particle currents and the Hall response in synthetic flux lattices. <i>Physical Review A</i> , 2022, 105, .	1.0	10
57	Characterizing topological excitations of a long-range Heisenberg model with trapped ions. <i>Physical Review B</i> , 2022, 105, .	1.1	10
58	Topological polarons, quasiparticle invariants, and their detection in one-dimensional symmetry-protected phases. <i>Physical Review B</i> , 2019, 100, .	1.1	9
59	Rotational Resonances and Regge-like Trajectories in Lightly Doped Antiferromagnets. <i>Physical Review Letters</i> , 2021, 127, 197004.	2.9	9
60	Bosonic Pfaffian state in the Hofstadter-Bose-Hubbard model. <i>Physical Review B</i> , 2021, 103, .	1.1	8
61	Skyrmion ground states of rapidly rotating few-fermion systems. <i>New Journal of Physics</i> , 2020, 22, 083037.	1.2	8
62	Multiparticle Interactions for Ultracold Atoms in Optical Tweezers: Cyclic Ring-Exchange Terms. <i>Physical Review Letters</i> , 2020, 124, 073601.	2.9	6
63	Higher-order spin-hole correlations around a localized charge impurity. <i>Physical Review Research</i> , 2021, 3, .	1.3	5
64	Z ₂ characterization for three-dimensional multiband Hubbard models. <i>Physical Review Research</i> , 2020, 2, .	1.3	5
65	Dynamical signatures of thermal spin-charge deconfinement in the doped Ising model. <i>Physical Review B</i> , 2022, 105, .	1.1	4
66	Growing quantum states with topological order. <i>Physical Review B</i> , 2015, 91, .	1.1	3
67	Signatures of correlated magnetic phases in the two-spin density matrix. <i>Physical Review A</i> , 2019, 99, .	1.0	2
68	Visualizing spinon Fermi surfaces with time-dependent spectroscopy. <i>Physical Review B</i> , 2021, 104, .	1.1	0