

Nigel Cooper

List of Publications by Year in descending order

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159
papers

7,937
citations

50276

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53230

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159
all docs

159
docs citations

159
times ranked

4340
citing authors

#	ARTICLE	IF	CITATIONS
1	Realizing discontinuous quantum phase transitions in a strongly correlated driven optical lattice. Nature Physics, 2022, 18, 259-264.	16.7	21
2	Kramers' degeneracy for open systems in thermal equilibrium. Physical Review B, 2022, 105, .	3.2	6
3	Quantum oscillations in interaction-driven insulators. SciPost Physics, 2022, 12, .	4.9	10
4	Nested-sphere description of the N -level Chern number and the generalized Bloch hypersphere. Physical Review Research, 2022, 4, .	3.6	6
5	Leaky exciton condensates in transition metal dichalcogenide moiré bilayers. Physical Review Research, 2022, 4, .	3.6	9
6	Moiré-Induced Optical Nonlinearities: Single- and Multiphoton Resonances. Physical Review Letters, 2022, 128, .	7.8	9
7	Experimental Realization of a Fermionic Spin-Momentum Lattice. Physical Review Letters, 2022, 128, .	7.8	10
8	Experimental observation of vortex rings in a bulk magnet. Nature Physics, 2021, 17, 316-321.	16.7	42
9	Many-Body Decay of the Gapped Lowest Excitation of a Bose-Einstein Condensate. Physical Review Letters, 2021, 126, 060402.	7.8	6
10	Out-of-equilibrium steady states of a locally driven lossy qubit array. Physical Review Research, 2021, 3, .	3.6	8
11	First order phase transition between two centro-symmetric superradiant crystals. Physical Review Research, 2021, 3, .	3.6	13
12	Elastic backscattering of quantum spin Hall edge modes from Coulomb interactions with nonmagnetic impurities. Physical Review B, 2021, 103, .	3.2	6
13	Imaging the coherent propagation of collective modes in the excitonic insulator $\text{Ta}_{2}\text{NiSe}_{5}$ at room temperature. Science Advances, 2021, 7, .	10.3	29
14	Low-frequency quantum oscillations from interactions in layered metals. Physical Review Research, 2021, 3, .	3.6	4
15	Long-Range Coherence and Multiple Steady States in a Lossy Qubit Array. Physical Review Letters, 2020, 125, 240404.	7.8	11
16	Effects of disorder on the transport of collective modes in an excitonic condensate. Physical Review B, 2020, 101, .	3.2	9
17	Fragility of time-reversal symmetry protected topological phases. Nature Physics, 2020, 16, 1181-1183.	16.7	28
18	Tenfold Way for Quadratic Lindbladians. Physical Review Letters, 2020, 124, 040401.	7.8	100

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37	Excitons in topological Kondo insulators: Theory of thermodynamic and transport anomalies in $\langle \mathbf{m} \rangle$. Physical Review Letters, 2017, 118, 096604.	7.8	73
38	Particle-Hole Symmetry in the Fermion-Chern-Simons and Dirac Descriptions of a Half-Filled Landau Level. Physical Review X, 2017, 7, .	8.9	50
39	Stable collective dynamics of two-level systems coupled by dipole interactions. Physical Review A, 2017, 95, .	2.5	3
40	Synchronization transition in dipole-coupled two-level systems with positional disorder. Physical Review A, 2017, 96, .	2.5	9
41	Anomalous de Haas-van Alphen Effect in InAs/GaSb Quantum Wells. Physical Review Letters, 2017, 118, 176801.	7.8	28
42	Hall response and edge current dynamics in Chern insulators out of equilibrium. Physical Review B, 2016, 94, .	3.2	45
43	Synthetic dimensions in the strong-coupling limit: Supersolids and pair superfluids. Physical Review A, 2016, 94, .	2.5	30
44	Synthetic Spin-Orbit Coupling in an Optical Lattice Clock. Physical Review Letters, 2016, 116, 035301.	7.8	99
45	Superradiance Induced Particle Flow via Dynamical Gauge Coupling. Physical Review Letters, 2016, 117, 175302.	7.8	45
46	Population dynamics in a Floquet realization of the Harper-Hofstadter Hamiltonian. Physical Review A, 2015, 91, .	2.5	45
47	Adiabatic control of atomic dressed states for transport and sensing. Physical Review A, 2015, 92, .	2.5	19
48	Ferromagnetic-nematic order and strongly correlated phases of fermions in optical flux lattices. Physical Review A, 2015, 92, .	2.5	0
49	Bosonic Integer Quantum Hall Effect in Optical Flux Lattices. Physical Review Letters, 2015, 115, 116802.	7.8	41
50	Dynamic Optical Lattices of Subwavelength Spacing for Ultracold Atoms. Physical Review Letters, 2015, 115, 140401.	7.8	57
51	Quantum Oscillations without a Fermi Surface and the Anomalous de Haas-van Alphen Effect. Physical Review Letters, 2015, 115, 146401.	7.8	88
52	Quantum Quenches in Chern Insulators. Physical Review Letters, 2015, 115, 236403.	7.8	133
53	Fractional Chern Insulators in Harper-Hofstadter Bands with Higher Chern Number. Physical Review Letters, 2015, 115, 126401.	7.8	71
54	Scattering theory for Floquet-Bloch states. Physical Review A, 2015, 91, .	2.5	93

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55	Signatures of Fractional Exclusion Statistics in the Spectroscopy of Quantum Hall Droplets. <i>Physical Review Letters</i> , 2015, 114, 106802.	7.8	31
56	Artificial magnetic fields in momentum space in spin-orbit-coupled systems. <i>Physical Review A</i> , 2015, 91, .	2.5	5
57	Periodically driven quantum matter: The case of resonant modulations. <i>Physical Review A</i> , 2015, 91, .	2.5	119
58	Interacting bosons in topological optical flux lattices. <i>Physical Review B</i> , 2015, 91, .	3.2	23
59	Measuring the Chern number of Hofstadter bands with ultracold bosonic atoms. <i>Nature Physics</i> , 2015, 11, 162-166.	16.7	777
60	Conductance fingerprint of Majorana fermions in the topological Kondo effect. <i>Physical Review B</i> , 2014, 89, .	3.2	45
61	Bose-Einstein condensation and many-body localization of rotational excitations of polar molecules following a microwave pulse. <i>Physical Review A</i> , 2014, 90, .	2.5	20
62	Dynamic optical superlattices with topological bands. <i>Physical Review A</i> , 2014, 89, .	2.5	41
63	Adiabatic preparation of vortex lattices. <i>Physical Review A</i> , 2013, 88, .	2.5	7
64	Effects of Berry Curvature on the Collective Modes of Ultracold Gases. <i>Physical Review Letters</i> , 2013, 111, 220407.	7.8	20
65	Reaching Fractional Quantum Hall States with Optical Flux Lattices. <i>Physical Review Letters</i> , 2013, 110, 185301.	7.8	142
66	Correlated Phases of Bosons in the Flat Lowest Band of the Dice Lattice. <i>Physical Review Letters</i> , 2012, 108, 045306.	7.8	75
67	Quantum fluctuations of vortex lattices in ultracold gases. <i>Physical Review A</i> , 2012, 86, .	2.5	7
68	Diamagnetism and flux creep in bilayer exciton superfluids. <i>Physical Review B</i> , 2012, 85, .	3.2	3
69	Designing Topological Bands in Reciprocal Space. <i>Physical Review Letters</i> , 2012, 109, 215302.	7.8	38
70	Topological Kondo Effect with Majorana Fermions. <i>Physical Review Letters</i> , 2012, 109, 156803.	7.8	163
71	Coupled Ferromagnetic and Nematic Ordering of Fermions in an Optical Flux Lattice. <i>Physical Review Letters</i> , 2012, 109, 265301.	7.8	11
72	Mapping the Berry curvature from semiclassical dynamics in optical lattices. <i>Physical Review A</i> , 2012, 85, .	2.5	156

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73	Probing Fractional Topological Insulators with Magnetic Edge Perturbations. Physical Review Letters, 2012, 108, 206804.	7.8	16
74	Vortex lattices for ultracold bosonic atoms in a non-Abelian gauge potential. Physical Review A, 2012, 85, .	2.5	10
75	Optical Flux Lattices for Ultracold Atomic Gases. Physical Review Letters, 2011, 106, 175301.	7.8	152
76	Optical flux lattices for two-photon dressed states. Europhysics Letters, 2011, 95, 66004.	2.0	50
77	Structure and consequences of vortex-core states in p-wave superfluids. Physical Review B, 2011, 83, .	3.2	20
78	\mathbb{Z}_2 Topological Insulators in Ultracold Atomic Gases. Physical Review Letters, 2011, 107, 145301.	7.8	68
79	Topological ipx ipy superfluid phase of fermionic polar molecules. Physical Review A, 2011, 84, .	7.8	73
80	Breakdown of Counterflow Superfluidity in a Disordered Quantum Hall Bilayer. Advances in Condensed Matter Physics, 2011, 2011, 1-7.	1.1	8
81	Skyrmions in a Half-Filled Second Landau Level. AIP Conference Proceedings, 2011, , .	0.4	0
82	Search for non-Abelian statistics in half-filled Landau levels of graphene. Journal of Physics: Conference Series, 2011, 334, 012048.	0.4	2
83	Skyrmion-antiskyrmion pairs in ultracold atomic gases. Physical Review A, 2011, 83, .	2.5	6
84	Probing ultracold Fermi gases with light-induced gauge potentials. Physical Review A, 2011, 83, .	2.5	4
85	Spectroscopic method to measure the superfluid fraction of an ultracold atomic gas. Physical Review A, 2011, 83, .	2.5	11
86	Quantum Monte Carlo calculation of the zero-temperature phase diagram of the two-component fermionic hard-core gas in two dimensions. Physical Review B, 2011, 83, .	3.2	16
87	Local Tensor Network for Strongly Correlated Projective States. Physical Review Letters, 2011, 106, 156401.	7.8	19
88	Neutral Fermion Excitations in the Moore-Read State at Filling Factor $\nu = 5/2$. Physical Review Letters, 2011, 107, 036803.	7.8	10
89	Composite Fermion Dynamics in Half-Filled Landau Levels of Graphene. Acta Physica Polonica A, 2011, 119, 592-594.	0.5	11
90	Collective modes as a probe of imbalanced Fermi gases. Physical Review A, 2010, 81, .	2.5	11

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91	Correlations and beam splitters for quantum Hall anyons. Physical Review B, 2010, 81, .	3.2	11
92	Condensed ground states of frustrated Bose-Hubbard models. Physical Review A, 2010, 82, .	2.5	54
93	Critical Supercurrents and Self-Organization in Quantum Hall Bilayers. Physical Review Letters, 2010, 105, 236805.	7.8	12
94	Skyrmions in the Moore-Read State at $\nu = 1/2$. Physical Review Letters, 2010, 104, 086801.	7.8	24
95	Measuring the Superfluid Fraction of an Ultracold Atomic Gas. Physical Review Letters, 2010, 104, 030401.	7.8	56
96	Devil's staircases and supersolids in a one-dimensional dipolar Bose gas. Physical Review B, 2009, 80, .	3.2	56
97	Scattering theory for quantum Hall anyons in a saddle point potential. Physical Review B, 2009, 80, .	3.2	4
98	Signature of the Fulde-Ferrell-Larkin-Ovchinnikov Phase in the Collective Modes of a Trapped Ultracold Fermi Gas. Physical Review Letters, 2009, 103, 065301.	7.8	35
99	Composite Fermion Theory for Bosonic Quantum Hall States on Lattices. Physical Review Letters, 2009, 103, 105303.	7.8	131
100	Observable Bulk Signatures of Non-Abelian Quantum Hall States. Physical Review Letters, 2009, 102, 176807.	7.8	43
101	Vortex states of a disordered quantum Hall bilayer. Physical Review B, 2009, 80, .	3.2	20
102	Stable Topological Superfluid Phase of Ultracold Polar Fermionic Molecules. Physical Review Letters, 2009, 103, 155302.	7.8	179
103	Fractional Quantum Hall States with Non-Abelian Statistics. Acta Physica Polonica A, 2009, 116, 847-848.	0.5	0
104	Rapidly rotating atomic gases. Advances in Physics, 2008, 57, 539-616.	14.4	500
105	Stability of fermionic gases close to a p -wave Feshbach resonance. Physical Review A, 2008, 78, .	2.5	76
106	Dynamic nuclear polarisation in biased quantum wires with spin-orbit interaction. Europhysics Letters, 2008, 81, 68001.	2.0	7
107	Nuclear magnetic resonance probes for the Kondo scenario for the 0.7 feature in semiconductor quantum point contact devices. Journal of Physics Condensed Matter, 2008, 20, 164215.	1.8	4
108	Theory of NMR in semiconductor quantum point contact devices. Physical Review B, 2008, 77, .	3.2	7

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109	Chiral entanglement in triangular lattice models. <i>Physical Review A</i> , 2008, 77, .	2.5	19
110	Electron heating and huge positive magnetoresistance in an AlGaAs δ -GaAs high electron mobility transistor structure at high temperatures. <i>Applied Physics Letters</i> , 2008, 92, 152117.	3.3	6
111	Quantum noise, scaling, and domain formation in a spinor Bose-Einstein condensate. <i>Physical Review A</i> , 2008, 77, .	2.5	37
112	Vortex lattices in Bose-Einstein condensates with dipolar interactions beyond the weak-interaction limit. <i>Physical Review A</i> , 2007, 75, .	2.5	56
113	Construction of a paired wave function for spinless electrons at filling fraction $\nu=2\alpha^5$. <i>Physical Review B</i> , 2007, 75, .	3.2	101
114	Competing compressible and incompressible phases in rotating atomic Bose gases at filling factor $\nu=2$. <i>Physical Review A</i> , 2007, 75, .	2.5	24
115	Density Waves and Supersolidity in Rapidly Rotating Atomic Fermi Gases. <i>Physical Review Letters</i> , 2007, 99, 190409.	7.8	20
116	Pseudopotentials for multiparticle interactions in the quantum Hall regime. <i>Physical Review B</i> , 2007, 75, .	3.2	72
117	Huge positive magnetoresistance of GaAs δ -AlGaAs high electron mobility transistor structures at high temperatures. <i>Applied Physics Letters</i> , 2007, 90, 252106.	3.3	12
118	Generalized quantum Hall projection Hamiltonians. <i>Physical Review B</i> , 2007, 75, .	3.2	58
119	Strongly Resonant p -Wave Superfluids. <i>Physical Review Letters</i> , 2007, 99, 210402.	7.8	65
120	Predicted signatures of p -wave superfluid phases and Majorana zero modes of fermionic atoms in rf absorption. <i>Physical Review B</i> , 2007, 76, .	3.2	23
121	Longitudinal resistance of a quantum Hall system with a density gradient. <i>Physical Review B</i> , 2006, 73, .	3.2	17
122	Vortex lattices in rotating atomic Bose gases with non-local interactions. <i>Solid State Communications</i> , 2006, 140, 61-65.	1.9	6
123	Effects of disorder and momentum relaxation on the intertube transport of incommensurate carbon nanotube ropes and multiwall nanotubes. <i>Physical Review B</i> , 2006, 74, .	3.2	46
124	Edge excitations and topological order in a rotating Bose gas. <i>Physical Review B</i> , 2005, 71, .	3.2	25
125	Virial theorems for vortex states in a confined Bose-Einstein condensate. <i>Physical Review A</i> , 2005, 72, .	2.5	6
126	Single vortex states in a confined Bose-Einstein condensate. <i>Physical Review A</i> , 2005, 72, .	2.5	21

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127	Quantum Hall states of atomic Bose gases: Density profiles in single-layer and multilayer geometries. Physical Review A, 2005, 72, .	2.5	19
128	Quantum and classical dissipative effects on tunneling in quantum Hall bilayers. Physical Review B, 2005, 71, .	3.2	12
129	Incompressible Liquid State of Rapidly Rotating Bosons at Filling Factor $3/2$. Physical Review Letters, 2005, 95, 160404.	7.8	64
130	Quantum and classical surface-acoustic-wave-induced magnetoresistance oscillations in a two-dimensional electron gas. Physical Review B, 2005, 71, .	3.2	14
131	Vortex Lattices in Rotating Atomic Bose Gases with Dipolar Interactions. Physical Review Letters, 2005, 95, 200402.	7.8	113
132	Vortex lattices in the lowest Landau level for confined Bose-Einstein condensates. Physical Review A, 2004, 70, .	2.5	62
133	Dissipation and Tunneling in Quantum Hall Bilayers. Physical Review Letters, 2004, 93, 126803.	7.8	16
134	Surface Acoustic-Wave-Induced Magnetoresistance Oscillations in a Two-Dimensional Electron Gas. Physical Review Letters, 2004, 93, 036804.	7.8	27
135	Exact Ground States of Rotating Bose Gases Close to a Feshbach Resonance. Physical Review Letters, 2004, 92, 220405.	7.8	32
136	Free expansion of lowest-Landau-level states of trapped atoms: A wave-function microscope. Physical Review A, 2003, 68, .	2.5	34
137	Interaction Effects at Crossings of Spin-Polarized One-Dimensional Subbands. Physical Review Letters, 2003, 91, 136404.	7.8	73
138	Dissipative transport in quantum Hall ferromagnets by spin-wave scattering. Physical Review B, 2002, 65, .	3.2	4
139	Stable Skyrmions in Two-Component Bose-Einstein Condensates. Physical Review Letters, 2002, 88, 080401.	7.8	137
140	Skyrmions in Bose-Einstein condensates. , 2002, , .		0
141	Quantum Phases of Vortices in Rotating Bose-Einstein Condensates. Physical Review Letters, 2001, 87, 120405.	7.8	389
142	Large skyrmions in an $\text{Al}_{0.13}\text{Ga}_{0.87}\text{As}$ quantum well. Physical Review B, 2000, 61, 4469-4472.	3.2	29
143	Composite fermion description of rotating Bose-Einstein condensates. Physical Review B, 1999, 60, R16279-R16282.	3.2	114
144	Propagating Magnetic Vortex Rings in Ferromagnets. Physical Review Letters, 1999, 82, 1554-1557.	7.8	61

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145	Excitons, spin-waves and Skyrmions in the optical spectra of a two dimensional electron gas. Solid-State Electronics, 1998, 42, 1169-1174.	1.4	3
146	Magneto-optical study of excitonic states in 2DEGs near filling factor $\hat{\nu}=1$. Physica B: Condensed Matter, 1998, 249-251, 538-543.	2.7	6
147	Solitary Waves of Planar Ferromagnets and the Breakdown of the Spin-Polarized Quantum Hall Effect. Physical Review Letters, 1998, 80, 4554-4557.	7.8	22
148	Excitonic recombination processes in spin-polarized two-dimensional electron gases. Physical Review B, 1998, 58, R4227-R4230.	3.2	27
149	Statistical properties of the low-temperature conductance peak heights for Corbino disks in the quantum Hall regime. Physical Review B, 1997, 55, 4551-4557.	3.2	13
150	Skyrmions in quantum Hall systems with realistic force laws. Physical Review B, 1997, 55, R1934-R1937.	3.2	46
151	Thermoelectric response of an interacting two-dimensional electron gas in a quantizing magnetic field. Physical Review B, 1997, 55, 2344-2359.	3.2	189
152	Theory of photoluminescence of the $\hat{\nu}=1$ quantum Hall state: Excitons, spin waves, and spin textures. Physical Review B, 1997, 55, 2436-2455.	3.2	73
153	Derivative relation for thermopower in the quantum Hall regime. Physical Review B, 1997, 56, R7116-R7119.	3.2	6
154	Skyrmions in quantum Hall systems with realistic force laws. Physica E: Low-Dimensional Systems and Nanostructures, 1997, 1, 62-64.	2.7	1
155	Nonuniversal behavior of finite quantum Hall systems as a result of weak macroscopic inhomogeneities. Physical Review B, 1996, 53, 1558-1572.	3.2	42
156	Theory of exciton recombination from the magnetically induced Wigner crystal. Physical Review B, 1996, 53, 10804-10812.	3.2	6
157	Theory of spin-split cyclotron resonance in the extreme quantum limit. Physical Review Letters, 1994, 72, 2057-2060.	7.8	48
158	Coulomb interactions and the integer quantum Hall effect: Screening and transport. Physical Review B, 1993, 48, 4530-4544.	3.2	65
159	Preparing and Probing Chern Bands with Cold Atoms. , 0, , 274-298.		0