Chih-Chun Chien

List of Publications by Year
in descending order

78	1,279	361413	414414
papers	citations	20 h-index	32 g-index

79	79	79	914
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Topological classifications of quadratic bosonic excitations in closed and open systems with examples. Journal of Physics Condensed Matter, 2022, , .	1.8	0
2	Proxy ensemble geometric phase and proxy index of time-reversal invariant topological insulators at finite temperatures. Physical Review B, 2022, 105, .	3.2	1
3	Custodial Chiral Symmetry in a Su-Schrieffer-Heeger Electrical Circuit with Memory. Physical Review Letters, 2022, 128, 097701.	7.8	13
4	BCS-BEC crossover of atomic Fermi superfluid in a spherical bubble trap. Physical Review A, 2022, 105, .	2.5	5
5	Machine learning of the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>X</mml:mi><mml:mi>Y</mml:mi></mml:mrow></mml:math> model on a spherical Fibonacci lattice. Physical Review Research, 2022, 4, .	3.6	2
6	Geometry-based circulation of local thermal current in quantum harmonic and Bose-Hubbard systems. Physical Review E, 2022, 105, .	2.1	2
7	Metamorphic dynamical quantum phase transition in double-quench processes at finite temperatures. Physical Review B, 2022, 106, .	3.2	4
8	Finite-temperature topological phase transitions of spin- <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>j</mml:mi></mml:math> systems in Uhlmann processes: General formalism and experimental protocols. Physical Review A, 2021, 104, .	2.5	9
9	Non-Hermitian generalizations of extended Suâ€“Schriefferâ€“Heeger models. Journal of Physics Condensed Matter, 2021, 33, 085501.	1.8	28
10	Comparison of finite-temperature topological indicators based on Uhlmann connection. Physical Review B, 2021, 104, .	3.2	6
11	Geometry-based circulation of local photonic transport in a triangular metastructure. Physical Review A, 2020, 102, .	2.5	5
12	Ubiquity of zeros of the Loschmidt amplitude for mixed states in different physical processes and its implication. Physical Review B, 2020, 102, .	3.2	15
13	Dynamic process and Uhlmann process: Incompatibility and dynamic phase of mixed quantum states. Physical Review B, 2020, 101, .	3.2	8
14	Non-Hermitian three-dimensional two-band Hopf insulator. Physical Review B, 2020, 102, .	3.2	4
15	Three-dimensional two-band Floquet topological insulator with <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>Z</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:math> index. Physical Review B, 2019, 99, .	3.2	6
16	Geometry-induced local thermal current from cold to hot in a classical harmonic system. Physical Review E, 2019, 99, 022131.	2.1	5
17	Dynamics of two-dimensional topological quadrupole insulator and Chern insulator induced by real-space topological changes. Physical Review B, 2019, 100, .	3.2	0
18	Mass-imbalance-induced structures of binary atomic mixtures in box potentials. Physical Review A, 2019, 100, .	2.5	5

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19	Topology, edge states, and zero-energy states of ultracold atoms in one-dimensional optical superlattices with alternating on-site potentials or hopping coefficients. Physical Review A, 2018, 97, .	2.5	15
20	Thermodynamics and structural transition of binary atomic Bose-Fermi mixtures in box or harmonic potentials: A path-integral study. Physical Review A, 2018, 97, .	2.5	5
21	Topological quantization of energy transport in micromechanical and nanomechanical lattices. Physical Review B, 2018, 97, .	3.2	20
22	An energy-resolved atomic scanning probe. New Journal of Physics, 2018, 20, 115005.	2.9	10
23	BCS thermal vacuum of fermionic superfluids and its perturbation theory. Scientific Reports, 2018, 8, 11995.	3.3	0
24	Many-body multivaluedness of particle-current variance in closed and open cold-atom systems. Physical Review A, 2018, 98, .	2.5	1
25	Tunable current circulation in triangular quantum-dot metastructures. Europhysics Letters, 2018, 123, 47002.	2.0	13
26	Thermal Uhlmann-Chern number from the Uhlmann connection for extracting topological properties of mixed states. Physical Review B, 2018, 97, .	3.2	13
27	Shear Viscosity of Uniform Fermi Gases with Population Imbalance. Scientific Reports, 2018, 8, 3981.	3.3	3
28	Thermal transport in dimerized harmonic lattices: Exact solution, crossover behavior, and extended reservoirs. Physical Review E, 2017, 95, 012137.	2.1	17
29	Berry phase, entanglement entropy, and algebraic properties of ground states of BCS and BEC superfluids. Physics Letters, Section A: General, Atomic and Solid State Physics, 2017, 381, 351-361.	2.1	3
30	Quantification of the memory effect of steady-state currents from interaction-induced transport in quantum systems. Physical Review A, 2017, 96, .	2.5	6
31	Relation connecting thermodynamics and transport of atomic unitary Fermi superfluids. Physical Review A, 2017, 95, .	2.5	2
32	Protocols for dynamically probing topological edge states and dimerization with fermionic atoms in optical potentials. Europhysics Letters, 2017, 118, 56004.	2.0	7
33	Challenges and constraints of dynamically emerged source and sink in atomtronic circuits: From closed-system to open-system approaches. Scientific Reports, 2016, 6, 37256.	3.3	14
34	Boundary-induced dynamics in one-dimensional topological systems and memory effects of edge modes. Physical Review B, 2016, 94, .	3.2	8
35	Critical temperature of trapped interacting bosons from large-N-based theories. Physical Review A, 2016, 93, .	2.5	1
36	Hysteresis of noninteracting and spin-orbit-coupled atomic Fermi gases with relaxation. Physical Review A, 2016, 93, .	2.5	4

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37	Geometry-Induced Memory Effects in Isolated Quantum Systems: Cold-Atom Applications. Physical Review Applied, 2016, 5, .	3.8	8
38	Superconducting circuit simulator of Bose-Hubbard model with a flat band. Physical Review B, 2016, 93, .	3.2	14
39	Matter-wave propagation in optical lattices: geometrical and flat-band effects. Journal of Physics B: Atomic, Molecular and Optical Physics, 2016, 49, 075301.	1.5	7
40	Crossover behavior of the thermal conductance and Kramersâ€™ transition rate theory. Scientific Reports, 2015, 5, 17506.	3.3	28
41	Sitewise manipulations and Mott insulator-superfluid transition of interacting photons using superconducting circuit simulators. Physical Review B, 2015, 91, .	3.2	11
42	Quantum transport in ultracold atoms. Nature Physics, 2015, 11, 998-1004.	16.7	113
43	Phase-induced transport in atomic gases: From superfluid to Mott insulator. Physical Review A, 2014, 90, .	2.5	12
44	Landauer, Kubo, and microcanonical approaches to quantum transport and noise: A comparison and implications for cold-atom dynamics. Physical Review A, 2014, 90, .	2.5	34
45	Nonequilibrium Ionic Response of Biased Mechanically Controllable Break Junction (MCBJ) Electrodes. Journal of Physical Chemistry C, 2014, 118, 3758-3765.	3.1	17
46	Mean-field description of pairing effects, BKT physics, and superfluidity in 2D Bose gases. Annals of Physics, 2014, 347, 192-206.	2.8	8
47	Quench dynamics and emergence of phase separation in two-component atomic Bose gases at zero temperature and above the Bose-Einstein-condensation critical temperature. Physical Review A, 2013, 87, .	2.5	6
48	Theories of Linear Response in BCS Superfluids and How They Meet Fundamental Constraints. Journal of Low Temperature Physics, 2013, 172, 5-46.	1.4	18
49	Tunable thermal switching via DNA-based nano-devices. Nanotechnology, 2013, 24, 095704.	2.6	23
50	FUNDAMENTAL CONSTRAINTS ON LINEAR RESPONSE THEORIES OF FERMI SUPERFLUIDS ABOVE AND BELOW T_c. International Journal of Modern Physics B, 2013, 27, 1330010.	2.0	4
51	Interaction-induced conductingâ€“non-conducting transition of ultra-cold atoms in one-dimensional optical lattices. New Journal of Physics, 2013, 15, 063026.	2.9	21
52	Bosonic and fermionic transport phenomena of ultracold atoms in one-dimensional optical lattices. Physical Review A, 2012, 85, .	2.5	34
53	Dynamical crossover between the infinite-volume and empty-lattice limits of ultra-cold fermions in 1D optical lattices. Europhysics Letters, 2012, 99, 40003.	2.0	13
54	Large-<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>N</mml:mi></mml:math>approximation for one- and two-component dilute Bose gases. Physical Review A, 2012, 86, .	2.5	15

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55	Gauge-invariant linear response theory of relativistic Bardeen-Cooper-Schrieffer superfluids. Physical Review D, 2012, 85, .	4.7	5
56	Composite-field Goldstone states and Higgs mechanism in dilute Bose gases. Physical Review A, 2012, 85, .	2.5	8
57	Spatially varying interactions induced in ultra-cold atoms by optical Feshbach resonance. Physics Letters, Section A: General, Atomic and Solid State Physics, 2012, 376, 729-732.	2.1	6
58	Auxiliary-field approach to dilute Bose gases with tunable interactions. Physical Review A, 2011, 83, .	2.5	20
59	Microscopic Approach to Shear Viscosities of Unitary Fermi Gases above and below the Superfluid Transition. Physical Review Letters, 2011, 107, 020403.	7.8	29
60	Perfect fluids and bad metals: insights from ultracold Fermi gases. New Journal of Physics, 2011, 13, 075011.	2.9	29
61	Analytical limits for cold-atom Bose gases with tunable interactions. Physical Review A, 2011, 84, .	2.5	10
62	Auxiliary field formalism for dilute fermionic atom gases with tunable interactions. Physical Review A, 2011, 83, .	2.5	15
63	Driving denaturation: Nanoscale thermal transport as a probe of DNA melting. Physical Review E, 2011, 83, 050906.	2.1	37
64	Establishing the Presence of Coherence in Atomic Fermi Superfluids: Spin-Flip and Spin-Preserving Bragg Scattering at Finite Temperatures. Physical Review Letters, 2010, 105, 120401.	7.8	33
65	Nonperturbative Predictions for Cold Atom Bose Gases with Tunable Interactions. Physical Review Letters, 2010, 105, 240402.	7.8	29
66	Comparison of different pairing fluctuation approaches to BCSâ€“BEC crossover. Annals of Physics, 2010, 325, 233-264.	2.8	39
67	Comparative study of BCS-BEC crossover theories above<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mi>T</mml:mi><mml:mrow><mml:mi>c</mml:mi></mml:mrow></mml:msub></mml:mr The nature of the pseudogap in ultracold atomic Fermi gases. Physical Review A, 2010, 81, .	2.5	42
68	Contrasting nodal and antinodal behavior in the cuprates via multiple gap spectroscopies. Physical Review B, 2010, 81, .	3.2	6
69	Two-energy-gap preformed-pair scenario for cuprate superconductors: Implications for angle-resolved photoemission spectroscopy. Physical Review B, 2009, 79, .	3.2	33
70	Finite-temperature behavior of an interspecies fermionic superfluid with population imbalance. Physical Review A, 2009, 80, .	2.5	16
71	Model for the temperature dependence of the quasiparticle interference pattern in the measured scanning tunneling spectra of underdoped cuprate superconductors. Physical Review B, 2009, 80, .	3.2	16
72	Theory of radio frequency spectroscopy experiments in ultracold Fermi gases and their relation to photoemission in the cuprates. Reports on Progress in Physics, 2009, 72, 122501.	20.1	41

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73	Relativistic BCSâ€“BEC crossover of a two-species Fermi gas with number density asymmetry at zero temperature. Nuclear Physics A, 2009, 823, 83-98.	1.5	11
74	Fermions with attractive interactions on optical lattices and implications for correlated systems. Physical Review A, 2008, 78, .	2.5	18
75	Theory of superfluids with population imbalance: Finite-temperature and BCS-BEC crossover effects. Physical Review B, 2007, 75, .	3.2	27
76	Thermodynamics and superfluid density in BCS-BEC crossover with and without population imbalance. Physical Review B, 2007, 76, .	3.2	40
77	Superfluid Phase Diagrams of Trapped Fermi Gases with Population Imbalance. Physical Review Letters, 2007, 98, 110404.	7.8	54
78	Intermediate-Temperature Superfluidity in an Atomic Fermi Gas with Population Imbalance. Physical Review Letters, 2006, 97, 090402.	7.8	69