

Chih-Chun Chien

List of Publications by Year in descending order

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78
papers

1,279
citations

361413

20
h-index

414414

32
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79
all docs

79
docs citations

79
times ranked

914
citing authors

#	ARTICLE	IF	CITATIONS
1	Quantum transport in ultracold atoms. <i>Nature Physics</i> , 2015, 11, 998-1004.	16.7	113
2	Intermediate-Temperature Superfluidity in an Atomic Fermi Gas with Population Imbalance. <i>Physical Review Letters</i> , 2006, 97, 090402.	7.8	69
3	Superfluid Phase Diagrams of Trapped Fermi Gases with Population Imbalance. <i>Physical Review Letters</i> , 2007, 98, 110404.	7.8	54
4	Comparative study of BCS-BEC crossover theories above T_c . The nature of the pseudogap in ultracold atomic Fermi gases. <i>Physical Review A</i> , 2010, 81, .	2.5	42
5	Theory of radio frequency spectroscopy experiments in ultracold Fermi gases and their relation to photoemission in the cuprates. <i>Reports on Progress in Physics</i> , 2009, 72, 122501.	20.1	41
6	Thermodynamics and superfluid density in BCS-BEC crossover with and without population imbalance. <i>Physical Review B</i> , 2007, 76, .	3.2	40
7	Comparison of different pairing fluctuation approaches to BCS-BEC crossover. <i>Annals of Physics</i> , 2010, 325, 233-264.	2.8	39
8	Driving denaturation: Nanoscale thermal transport as a probe of DNA melting. <i>Physical Review E</i> , 2011, 83, 050906.	2.1	37
9	Bosonic and fermionic transport phenomena of ultracold atoms in one-dimensional optical lattices. <i>Physical Review A</i> , 2012, 85, .	2.5	34
10	Landauer, Kubo, and microcanonical approaches to quantum transport and noise: A comparison and implications for cold-atom dynamics. <i>Physical Review A</i> , 2014, 90, .	2.5	34
11	Two-energy-gap preformed-pair scenario for cuprate superconductors: Implications for angle-resolved photoemission spectroscopy. <i>Physical Review B</i> , 2009, 79, .	3.2	33
12	Establishing the Presence of Coherence in Atomic Fermi Superfluids: Spin-Flip and Spin-Preserving Bragg Scattering at Finite Temperatures. <i>Physical Review Letters</i> , 2010, 105, 120401.	7.8	33
13	Nonperturbative Predictions for Cold Atom Bose Gases with Tunable Interactions. <i>Physical Review Letters</i> , 2010, 105, 240402.	7.8	29
14	Microscopic Approach to Shear Viscosities of Unitary Fermi Gases above and below the Superfluid Transition. <i>Physical Review Letters</i> , 2011, 107, 020403.	7.8	29
15	Perfect fluids and bad metals: insights from ultracold Fermi gases. <i>New Journal of Physics</i> , 2011, 13, 075011.	2.9	29
16	Crossover behavior of the thermal conductance and Kramers' transition rate theory. <i>Scientific Reports</i> , 2015, 5, 17506.	3.3	28
17	Non-Hermitian generalizations of extended Su-Schrieffer-Heeger models. <i>Journal of Physics Condensed Matter</i> , 2021, 33, 085501.	1.8	28
18	Theory of superfluids with population imbalance: Finite-temperature and BCS-BEC crossover effects. <i>Physical Review B</i> , 2007, 75, .	3.2	27

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19	Tunable thermal switching via DNA-based nano-devices. <i>Nanotechnology</i> , 2013, 24, 095704.	2.6	23
20	Interaction-induced conductingâ€“non-conducting transition of ultra-cold atoms in one-dimensional optical lattices. <i>New Journal of Physics</i> , 2013, 15, 063026.	2.9	21
21	Auxiliary-field approach to dilute Bose gases with tunable interactions. <i>Physical Review A</i> , 2011, 83, .	2.5	20
22	Topological quantization of energy transport in micromechanical and nanomechanical lattices. <i>Physical Review B</i> , 2018, 97, .	3.2	20
23	Fermions with attractive interactions on optical lattices and implications for correlated systems. <i>Physical Review A</i> , 2008, 78, .	2.5	18
24	Theories of Linear Response in BCS Superfluids and How They Meet Fundamental Constraints. <i>Journal of Low Temperature Physics</i> , 2013, 172, 5-46.	1.4	18
25	Nonequilibrium Ionic Response of Biased Mechanically Controllable Break Junction (MCBJ) Electrodes. <i>Journal of Physical Chemistry C</i> , 2014, 118, 3758-3765.	3.1	17
26	Thermal transport in dimerized harmonic lattices: Exact solution, crossover behavior, and extended reservoirs. <i>Physical Review E</i> , 2017, 95, 012137.	2.1	17
27	Finite-temperature behavior of an interspecies fermionic superfluid with population imbalance. <i>Physical Review A</i> , 2009, 80, .	2.5	16
28	Model for the temperature dependence of the quasiparticle interference pattern in the measured scanning tunneling spectra of underdoped cuprate superconductors. <i>Physical Review B</i> , 2009, 80, .	3.2	16
29	Auxiliary field formalism for dilute fermionic atom gases with tunable interactions. <i>Physical Review A</i> , 2011, 83, .	2.5	15
30	Large- N approximation for one- and two-component dilute Bose gases. <i>Physical Review A</i> , 2012, 86, .	2.5	15
31	Topology, edge states, and zero-energy states of ultracold atoms in one-dimensional optical superlattices with alternating on-site potentials or hopping coefficients. <i>Physical Review A</i> , 2018, 97, .	2.5	15
32	Ubiquity of zeros of the Loschmidt amplitude for mixed states in different physical processes and its implication. <i>Physical Review B</i> , 2020, 102, .	3.2	15
33	Challenges and constraints of dynamically emerged source and sink in atomtronic circuits: From closed-system to open-system approaches. <i>Scientific Reports</i> , 2016, 6, 37256.	3.3	14
34	Superconducting circuit simulator of Bose-Hubbard model with a flat band. <i>Physical Review B</i> , 2016, 93, .	3.2	14
35	Dynamical crossover between the infinite-volume and empty-lattice limits of ultra-cold fermions in 1D optical lattices. <i>Europhysics Letters</i> , 2012, 99, 40003.	2.0	13
36	Tunable current circulation in triangular quantum-dot metastructures. <i>Europhysics Letters</i> , 2018, 123, 47002.	2.0	13

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37	Thermal Uhlmann-Chern number from the Uhlmann connection for extracting topological properties of mixed states. <i>Physical Review B</i> , 2018, 97, .	3.2	13
38	Custodial Chiral Symmetry in a Su-Schrieffer-Heeger Electrical Circuit with Memory. <i>Physical Review Letters</i> , 2022, 128, 097701.	7.8	13
39	Phase-induced transport in atomic gases: From superfluid to Mott insulator. <i>Physical Review A</i> , 2014, 90, .	2.5	12
40	Relativistic BCS-BEC crossover of a two-species Fermi gas with number density asymmetry at zero temperature. <i>Nuclear Physics A</i> , 2009, 823, 83-98.	1.5	11
41	Sitewise manipulations and Mott insulator-superfluid transition of interacting photons using superconducting circuit simulators. <i>Physical Review B</i> , 2015, 91, .	3.2	11
42	Analytical limits for cold-atom Bose gases with tunable interactions. <i>Physical Review A</i> , 2011, 84, .	2.5	10
43	An energy-resolved atomic scanning probe. <i>New Journal of Physics</i> , 2018, 20, 115005.	2.9	10
44	Finite-temperature topological phase transitions of spin- $\frac{1}{2}$ systems in Uhlmann processes: General formalism and experimental protocols. <i>Physical Review A</i> , 2021, 104, .	2.5	9
45	Composite-field Goldstone states and Higgs mechanism in dilute Bose gases. <i>Physical Review A</i> , 2012, 85, .	2.5	8
46	Mean-field description of pairing effects, BKT physics, and superfluidity in 2D Bose gases. <i>Annals of Physics</i> , 2014, 347, 192-206.	2.8	8
47	Boundary-induced dynamics in one-dimensional topological systems and memory effects of edge modes. <i>Physical Review B</i> , 2016, 94, .	3.2	8
48	Geometry-Induced Memory Effects in Isolated Quantum Systems: Cold-Atom Applications. <i>Physical Review Applied</i> , 2016, 5, .	3.8	8
49	Dynamic process and Uhlmann process: Incompatibility and dynamic phase of mixed quantum states. <i>Physical Review B</i> , 2020, 101, .	3.2	8
50	Matter-wave propagation in optical lattices: geometrical and flat-band effects. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2016, 49, 075301.	1.5	7
51	Protocols for dynamically probing topological edge states and dimerization with fermionic atoms in optical potentials. <i>Europhysics Letters</i> , 2017, 118, 56004.	2.0	7
52	Contrasting nodal and antinodal behavior in the cuprates via multiple gap spectroscopies. <i>Physical Review B</i> , 2010, 81, .	3.2	6
53	Spatially varying interactions induced in ultra-cold atoms by optical Feshbach resonance. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2012, 376, 729-732.	2.1	6
54	Quench dynamics and emergence of phase separation in two-component atomic Bose gases at zero temperature and above the Bose-Einstein-condensation critical temperature. <i>Physical Review A</i> , 2013, 87, .	2.5	6

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55	Quantification of the memory effect of steady-state currents from interaction-induced transport in quantum systems. Physical Review A, 2017, 96, .	2.5	6
56	Three-dimensional two-band Floquet topological insulator with Z_2 index. Physical Review B, 2019, 99, .	4.2	6
57	Comparison of finite-temperature topological indicators based on Uhlmann connection. Physical Review B, 2021, 104, .	3.2	6
58	Gauge-invariant linear response theory of relativistic Bardeen-Cooper-Schrieffer superfluids. Physical Review D, 2012, 85, .	4.7	5
59	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
60	Geometry-induced local thermal current from cold to hot in a classical harmonic system. Physical Review E, 2019, 99, 022131.	2.1	5
61	Mass-imbalance-induced structures of binary atomic mixtures in box potentials. Physical Review A, 2019, 100, .	2.5	5
62	Geometry-based circulation of local photonic transport in a triangular metastructure. Physical Review A, 2020, 102, .	2.5	5
63	BCS-BEC crossover of atomic Fermi superfluid in a spherical bubble trap. Physical Review A, 2022, 105, .	2.5	5
64	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
65	Hysteresis of noninteracting and spin-orbit-coupled atomic Fermi gases with relaxation. Physical Review A, 2016, 93, .	2.5	4
66	Non-Hermitian three-dimensional two-band Hopf insulator. Physical Review B, 2020, 102, .	3.2	4
67	Metamorphic dynamical quantum phase transition in double-quench processes at finite temperatures. Physical Review B, 2022, 106, .	3.2	4
68	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
69	Shear Viscosity of Uniform Fermi Gases with Population Imbalance. Scientific Reports, 2018, 8, 3981.	3.3	3
70	Relation connecting thermodynamics and transport of atomic unitary Fermi superfluids. Physical Review A, 2017, 95, .	2.5	2
71	Machine learning of the X - Y model on a spherical Fibonacci lattice. Physical Review Research, 2022, 4, .	2.1	2
72	Geometry-based circulation of local thermal current in quantum harmonic and Bose-Hubbard systems. Physical Review E, 2022, 105, .	2.1	2

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73	Critical temperature of trapped interacting bosons from large-N-based theories. Physical Review A, 2016, 93, .	2.5	1
74	Many-body multivaluedness of particle-current variance in closed and open cold-atom systems. Physical Review A, 2018, 98, .	2.5	1
75	Proxy ensemble geometric phase and proxy index of time-reversal invariant topological insulators at finite temperatures. Physical Review B, 2022, 105, .	3.2	1
76	BCS thermal vacuum of fermionic superfluids and its perturbation theory. Scientific Reports, 2018, 8, 11995.	3.3	0
77	Dynamics of two-dimensional topological quadrupole insulator and Chern insulator induced by real-space topological changes. Physical Review B, 2019, 100, .	3.2	0
78	Topological classifications of quadratic bosonic excitations in closed and open systems with examples. Journal of Physics Condensed Matter, 2022, , .	1.8	0