

Xia-Ji Liu

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

144
papers

4,355
citations

36
h-index

61
g-index

157
ext. papers

4,948
ext. citations

3.5
avg, IF

5.92
L-index

#	Paper	IF	Citations
144	Crossover polarons in a strongly interacting Fermi superfluid. <i>Physical Review A</i> , 2022 , 105,	2.6	3
143	Fermi polarons at finite temperature: Spectral function and rf spectroscopy. <i>Physical Review A</i> , 2022 , 105,	2.6	1
142	Heavy polarons in ultracold atomic Fermi superfluids at the BEC-BCS crossover: Formalism and applications. <i>Physical Review A</i> , 2022 , 105,	2.6	2
141	Exact Quasiparticle Properties of a Heavy Polaron in BCS Fermi Superfluids.. <i>Physical Review Letters</i> , 2022 , 128, 175301	7.4	1
140	First-order Bose-Einstein condensation with three-body interacting bosons. <i>Physical Review A</i> , 2021 , 104,	2.6	1
139	Dynamic structure factors of a strongly interacting Fermi superfluid near an orbital Feshbach resonance across the phase transition from BCS to Sarma superfluid. <i>Physical Review A</i> , 2021 , 103,	2.6	1
138	Anderson localization transition in a robust PT-symmetric phase of a generalized Aubry-Andr� model. <i>Physical Review A</i> , 2021 , 103,	2.6	6
137	Ultradilute self-bound quantum droplets in Bose-Bose mixtures at finite temperature*. <i>Chinese Physics B</i> , 2021 , 30, 010306	1.2	1
136	Microscopic derivation of the extended Gross-Pitaevskii equation for quantum droplets in binary Bose mixtures. <i>Physical Review A</i> , 2020 , 102,	2.6	8
135	Theory of strongly paired fermions with arbitrary short-range interactions. <i>Physical Review A</i> , 2020 , 101,	2.6	1
134	Few-Body Perspective of a Quantum Anomaly in Two-Dimensional Fermi Gases. <i>Physical Review Letters</i> , 2020 , 124, 013401	7.4	2
133	Role of the confinement-induced effective range in the thermodynamics of a strongly correlated Fermi gas in two dimensions. <i>Physical Review A</i> , 2020 , 101,	2.6	1
132	Effective theory for ultracold strongly interacting fermionic atoms in two dimensions. <i>Physical Review A</i> , 2020 , 101,	2.6	3
131	Angular stripe phase in spin-orbital-angular-momentum coupled Bose condensates. <i>Physical Review Research</i> , 2020 , 2,	3.9	4
130	Thermal destabilization of self-bound ultradilute quantum droplets. <i>New Journal of Physics</i> , 2020 , 22, 103044	2.9	6
129	Quantum fluctuations in a strongly interacting Bardeen-Cooper-Schrieffer polariton condensate at thermal equilibrium. <i>Physical Review A</i> , 2020 , 101,	2.6	3
128	Pseudogap regime of a strongly interacting two-dimensional Fermi gas with and without confinement-induced effective range of interactions. <i>Physical Review A</i> , 2020 , 102,	2.6	3

127	Consistent Theory of Self-Bound Quantum Droplets with Bosonic Pairing. <i>Physical Review Letters</i> , 2020 , 125, 195302	7.4	14
126	Microscopic pairing theory of a binary Bose mixture with interspecies attractions: Bosonic BEC-BCS crossover and ultradilute low-dimensional quantum droplets. <i>Physical Review A</i> , 2020 , 102,	2.6	12
125	Collective excitations of a spherical ultradilute quantum droplet. <i>Physical Review A</i> , 2020 , 102,	2.6	5
124	Spin-exchange-induced exotic superfluids in a Bose-Fermi spinor mixture. <i>Physical Review A</i> , 2019 , 100,	2.6	4
123	Breakdown of the Fermi polaron description near Fermi degeneracy at unitarity. <i>Annals of Physics</i> , 2019 , 407, 29-45	2.5	14
122	Leggett mode in a two-component Fermi gas with dipolar interactions. <i>Physical Review A</i> , 2019 , 99,	2.6	2
121	Cluster Formation in Two-Component Fermi Gases. <i>Physical Review Letters</i> , 2019 , 123, 073401	7.4	2
120	Reduced Quantum Anomaly in a Quasi-Two-Dimensional Fermi Superfluid: Significance of the Confinement-Induced Effective Range of Interactions. <i>Physical Review Letters</i> , 2019 , 122, 070401	7.4	16
119	Roton-Induced Bose Polaron in the Presence of Synthetic Spin-Orbit Coupling. <i>Physical Review Letters</i> , 2019 , 123, 213401	7.4	7
118	Many-body localization in XY spin chains with long-range interactions: An exact-diagonalization study. <i>Physical Review A</i> , 2019 , 100,	2.6	6
117	Low-momentum dynamic structure factor of a strongly interacting Fermi gas at finite temperature: A two-fluid hydrodynamic description. <i>Physical Review A</i> , 2018 , 97,	2.6	13
116	Strongly interacting Sarma superfluid near orbital Feshbach resonances. <i>Physical Review A</i> , 2018 , 97,	2.6	9
115	Realizing Fulde-Ferrell Superfluids via a Dark-State Control of Feshbach Resonances. <i>Physical Review Letters</i> , 2018 , 120, 045302	7.4	12
114	Low-momentum dynamic structure factor of a strongly interacting Fermi gas at finite temperature: The Goldstone phonon and its Landau damping. <i>Physical Review A</i> , 2018 , 98,	2.6	6
113	Quantum depletion and superfluid density of a supersolid in Raman spin-orbit-coupled Bose gases. <i>Physical Review A</i> , 2018 , 98,	2.6	10
112	Attractive Fermi polarons at nonzero temperatures with a finite impurity concentration. <i>Physical Review A</i> , 2018 , 98,	2.6	25
111	Quantum fluctuations of a resonantly interacting p-wave Fermi superfluid in two dimensions. <i>Physical Review A</i> , 2018 , 98,	2.6	2
110	Polaron in a non-Abelian Aubry-Andr�Harper model with p-wave superfluidity. <i>Physical Review A</i> , 2018 , 98,	2.6	3

109	Collective modes of a two-dimensional Fermi gas at finite temperature. <i>Physical Review A</i> , 2018 , 97,	2.6	9
108	Time evolution of quantum entanglement of an EPR pair in a localized environment. <i>New Journal of Physics</i> , 2018 , 20, 053015	2.9	3
107	Breathing-mode frequency of a strongly interacting Fermi gas across the two- to three-dimensional crossover. <i>Physical Review A</i> , 2018 , 97,	2.6	6
106	Larkin-Ovchinnikov superfluidity in a two-dimensional imbalanced atomic Fermi gas. <i>Physical Review A</i> , 2017 , 95,	2.6	12
105	Dimensional crossover in a strongly interacting ultracold atomic Fermi gas. <i>Physical Review A</i> , 2017 , 96,	2.6	7
104	Quantum and thermal fluctuations in a Raman spin-orbit-coupled Bose gas. <i>Physical Review A</i> , 2017 , 96,	2.6	6
103	Superfluid density and critical velocity near the Berezinskii-Kosterlitz-Thouless transition in a two-dimensional strongly interacting Fermi gas. <i>Physical Review A</i> , 2017 , 96,	2.6	21
102	Strongly correlated Fermi superfluid near an orbital Feshbach resonance: Stability, equation of state, and Leggett mode. <i>Physical Review A</i> , 2016 , 94,	2.6	28
101	Traveling Majorana Solitons in a Low-Dimensional Spin-Orbit-Coupled Fermi Superfluid. <i>Physical Review Letters</i> , 2016 , 117, 225302	7.4	7
100	Criteria for two-dimensional kinematics in an interacting Fermi gas. <i>Physical Review A</i> , 2016 , 93,	2.6	24
99	Anderson localization of Cooper pairs and Majorana fermions in an ultracold atomic Fermi gas with synthetic spin-orbit coupling. <i>Physical Review A</i> , 2016 , 93,	2.6	8
98	Fermi polaron in a one-dimensional quasiperiodic optical lattice: The simplest many-body localization challenge. <i>Physical Review A</i> , 2016 , 93,	2.6	9
97	Stoner ferromagnetism of a strongly interacting Fermi gas in the quasirepulsive regime. <i>Physical Review A</i> , 2016 , 93,	2.6	13
96	Phase diagram of a non-Abelian Aubry-Andr�Harper model with p-wave superfluidity. <i>Physical Review B</i> , 2016 , 93,	3.3	31
95	Beyond Gaussian pair fluctuation theory for strongly interacting Fermi gases. <i>Physical Review A</i> , 2016 , 94,	2.6	4
94	Dynamic structure factor of a strongly correlated Fermi superfluid within a density functional theory approach. <i>New Journal of Physics</i> , 2016 , 18, 113044	2.9	5
93	Large-momentum distribution of a polarized Fermi gas and p-wave contacts. <i>Physical Review A</i> , 2016 , 94,	2.6	18
92	Many-body localization in Ising models with random long-range interactions. <i>Physical Review A</i> , 2016 , 94,	2.6	10

91	Probing an effective-range-induced super fermionic Tonks-Girardeau gas with ultracold atoms in one-dimensional harmonic traps. <i>Physical Review A</i> , 2016 , 94,	2.6	2
90	Superfluid density and Berezinskii-Kosterlitz-Thouless transition of a spin-orbit-coupled Fulde-Ferrell superfluid. <i>Physical Review A</i> , 2015 , 91,	2.6	12
89	Radio-frequency spectroscopy of a linear array of Bose-Einstein condensates in a magnetic lattice. <i>Physical Review A</i> , 2015 , 91,	2.6	6
88	Three-dimensional spin-orbit coupled Fermi gases: Fulde-Ferrell pairing, Majorana fermions, Weyl fermions, and gapless topological superfluidity. <i>Chinese Physics B</i> , 2015 , 24, 050502	1.2	11
87	Two-band description of resonant superfluidity in atomic Fermi gases. <i>Physical Review A</i> , 2015 , 91,	2.6	11
86	Equation of state and contact of a strongly interacting Bose gas in the normal state. <i>Physical Review A</i> , 2015 , 91,	2.6	5
85	Comparison of strong-coupling theories for a two-dimensional Fermi gas. <i>Physical Review A</i> , 2015 , 92,	2.6	23
84	Quantum fluctuations in the BCS-BEC crossover of two-dimensional Fermi gases. <i>Physical Review A</i> , 2015 , 92,	2.6	52
83	Soliton-induced Majorana fermions in a one-dimensional atomic topological superfluid. <i>Physical Review A</i> , 2015 , 91,	2.6	13
82	Gapless topological Fulde-Ferrell superfluidity in spin-orbit coupled Fermi gases. <i>Physical Review Letters</i> , 2014 , 113, 115302	7.4	35
81	First and second sound in a two-dimensional harmonically trapped Bose gas across the Berezinskii-Kosterlitz-Thouless transition. <i>Annals of Physics</i> , 2014 , 351, 531-539	2.5	2
80	A one-dimensional liquid of fermions with tunable spin. <i>Nature Physics</i> , 2014 , 10, 198-201	16.2	270
79	FERMI GASES WITH SYNTHETIC SPIN-ORBIT COUPLING. <i>Annual Review of Cold Atoms and Molecules</i> , 2014 , 81-143		45
78	Collective mode evidence of high-spin bosonization in a trapped one-dimensional atomic Fermi gas with tunable spin. <i>Annals of Physics</i> , 2014 , 350, 84-94	2.5	1
77	First and second sound of a unitary Fermi gas in highly oblate harmonic traps. <i>New Journal of Physics</i> , 2014 , 16, 083023	2.9	8
76	Collective modes of a one-dimensional trapped atomic Bose gas at finite temperatures. <i>Physical Review A</i> , 2014 , 90,	2.6	14
75	Spin-orbit-coupled topological Fulde-Ferrell states of fermions in a harmonic trap. <i>Physical Review A</i> , 2014 , 90,	2.6	11
74	Gapless topological Fulde-Ferrell superfluidity induced by an in-plane Zeeman field. <i>Physical Review A</i> , 2014 , 90,	2.6	19

73	Universal impurity-induced bound state in topological superfluids. <i>Physical Review Letters</i> , 2013 , 110, 020401	7.4	45
72	Virial expansion for a strongly correlated Fermi system and its application to ultracold atomic Fermi gases. <i>Physics Reports</i> , 2013 , 524, 37-83	27.7	71
71	Impurity probe of topological superfluids in one-dimensional spin-orbit-coupled atomic Fermi gases. <i>Physical Review A</i> , 2013 , 87,	2.6	17
70	Inhomogeneous Fulde-Ferrell superfluidity in spin-orbit-coupled atomic Fermi gases. <i>Physical Review A</i> , 2013 , 87,	2.6	36
69	Fulde-Ferrell superfluidity in ultracold Fermi gases with Rashba spin-orbit coupling. <i>New Journal of Physics</i> , 2013 , 15, 093037	2.9	13
68	Topological Fulde-Ferrell superfluid in spin-orbit-coupled atomic Fermi gases. <i>Physical Review A</i> , 2013 , 88,	2.6	44
67	BCS-BEC crossover at finite temperature in spin-orbit-coupled Fermi gases. <i>Physical Review A</i> , 2013 , 87,	2.6	16
66	Radio-frequency spectroscopy of a strongly interacting spin-orbit-coupled Fermi gas. <i>Physical Review A</i> , 2013 , 87,	2.6	47
65	Fulde-Ferrell pairing instability of a Rashba spin-orbit-coupled Fermi gas. <i>Physical Review A</i> , 2013 , 88,	2.6	7
64	Manipulating Majorana fermions in one-dimensional spin-orbit-coupled atomic Fermi gases. <i>Physical Review A</i> , 2012 , 86,	2.6	15
63	Two-channel-model description of confinement-induced Feshbach molecules. <i>Physical Review A</i> , 2012 , 86,	2.6	7
62	Validity of a single-channel model for a spin-orbit-coupled atomic Fermi gas near Feshbach resonances. <i>Physical Review A</i> , 2012 , 86,	2.6	8
61	Universal dynamic structure factor of a strongly correlated Fermi gas. <i>Physical Review A</i> , 2012 , 85,	2.6	19
60	Spin-orbit coupled weakly interacting Bose-Einstein condensates in harmonic traps. <i>Physical Review Letters</i> , 2012 , 108, 010402	7.4	243
59	Momentum-resolved radio-frequency spectroscopy of a spin-orbit-coupled atomic Fermi gas near a Feshbach resonance in harmonic traps. <i>Physical Review A</i> , 2012 , 86,	2.6	11
58	Radio-frequency spectroscopy of weakly bound molecules in spin-orbit-coupled atomic Fermi gases. <i>Physical Review A</i> , 2012 , 86,	2.6	13
57	Momentum-resolved radio-frequency spectroscopy of ultracold atomic Fermi gases in a spin-orbit-coupled lattice. <i>Physical Review A</i> , 2012 , 86,	2.6	7
56	Topological superfluid in one-dimensional spin-orbit-coupled atomic Fermi gases. <i>Physical Review A</i> , 2012 , 85,	2.6	70

55	Half-quantum vortex state in a spin-orbit-coupled Bose-Einstein condensate. <i>Physical Review A</i> , 2012 , 85,	2.6	116
54	Probing Majorana fermions in spin-orbit-coupled atomic Fermi gases. <i>Physical Review A</i> , 2012 , 85,	2.6	71
53	Critical temperature of a Rashba spin-orbit-coupled Bose gas in a harmonic trap. <i>Physical Review A</i> , 2012 , 85,	2.6	27
52	Universal structure of a strongly interacting Fermi gas. <i>Journal of Physics: Conference Series</i> , 2011 , 264, 012013	0.3	1
51	Non-universal thermodynamics of a strongly interacting inhomogeneous Fermi gas using the quantum virial expansion. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2011 , 375, 2979-2984	2.3	8
50	Universal contact of strongly interacting fermions at finite temperatures. <i>New Journal of Physics</i> , 2011 , 13, 035007	2.9	53
49	Rashba spin-orbit-coupled atomic Fermi gases. <i>Physical Review A</i> , 2011 , 84,	2.6	71
48	Confinement-induced resonances in anharmonic waveguides. <i>Physical Review A</i> , 2011 , 84,	2.6	33
47	High-temperature thermodynamics of strongly interacting s-wave and p-wave Fermi gases in a harmonic trap. <i>Physical Review A</i> , 2011 , 83,	2.6	16
46	Comparison between theory and experiment for universal thermodynamics of a homogeneous, strongly correlated Fermi gas. <i>Physical Review A</i> , 2011 , 83,	2.6	9
45	Josephson effect in an atomic Fulde-Ferrell-Larkin-Ovchinnikov superfluid. <i>Physical Review A</i> , 2011 , 83,	2.6	8
44	Probing anisotropic superfluidity in atomic Fermi gases with Rashba spin-orbit coupling. <i>Physical Review Letters</i> , 2011 , 107, 195304	7.4	172
43	Universal behavior of pair correlations in a strongly interacting Fermi gas. <i>Physical Review Letters</i> , 2010 , 105, 070402	7.4	140
42	Confinement-induced resonance in quasi-one-dimensional systems under transversely anisotropic confinement. <i>Physical Review A</i> , 2010 , 82,	2.6	29
41	Virial expansion for a strongly correlated Fermi gas with imbalanced spin populations. <i>Physical Review A</i> , 2010 , 82,	2.6	21
40	Mean-field study of itinerant ferromagnetism in trapped ultracold Fermi gases: Beyond the local-density approximation. <i>Physical Review A</i> , 2010 , 82,	2.6	11
39	Dynamic response of strongly correlated Fermi gases in the quantum virial expansion. <i>Physical Review A</i> , 2010 , 81,	2.6	17
38	Pseudogap pairing in ultracold Fermi atoms. <i>Physical Review Letters</i> , 2010 , 104, 240407	7.4	69

37	Exact few-body results for strongly correlated quantum gases in two dimensions. <i>Physical Review B</i> , 2010 , 82,	3.3	61
36	Universal thermodynamics of a strongly interacting Fermi gas: theory versus experiment. <i>New Journal of Physics</i> , 2010 , 12, 063038	2.9	54
35	Second sound and the density response function in uniform superfluid atomic gases. <i>New Journal of Physics</i> , 2010 , 12, 043040	2.9	24
34	Static structure factor of a strongly correlated Fermi gas at large momenta. <i>Europhysics Letters</i> , 2010 , 91, 20005	1.6	28
33	Three attractively interacting fermions in a harmonic trap: Exact solution, ferromagnetism, and high-temperature thermodynamics. <i>Physical Review A</i> , 2010 , 82,	2.6	73
32	Virial expansion for a strongly correlated Fermi gas. <i>Physical Review Letters</i> , 2009 , 102, 160401	7.4	125
31	Theory of strongly interacting Fermi gases. <i>Journal of Modern Optics</i> , 2009 , 56, 2076-2081	1.1	2
30	First and second sound in a strongly interacting Fermi gas. <i>Physical Review A</i> , 2009 , 80,	2.6	41
29	Variational theory of two-fluid hydrodynamic modes at unitarity. <i>Physical Review A</i> , 2008 , 77,	2.6	22
28	Comparative study of strong-coupling theories of a trapped Fermi gas at unitarity. <i>Physical Review A</i> , 2008 , 77,	2.6	46
27	Finite-temperature phase diagram of a spin-polarized ultracold Fermi gas in a highly elongated harmonic trap. <i>Physical Review A</i> , 2008 , 78,	2.6	57
26	Multicomponent strongly attractive Fermi gas: A color superconductor in a one-dimensional harmonic trap. <i>Physical Review A</i> , 2008 , 77,	2.6	28
25	Mean-field thermodynamics of a spin-polarized spherically trapped Fermi gas at unitarity. <i>Physical Review A</i> , 2007 , 75,	2.6	47
24	Universal thermodynamics of strongly interacting Fermi gases. <i>Nature Physics</i> , 2007 , 3, 469-472	16.2	114
23	Visualization of vortex bound states in polarized fermi gases at unitarity. <i>Physical Review Letters</i> , 2007 , 98, 060406	7.4	15
22	Density fingerprint of giant vortices in Fermi gases near a Feshbach resonance. <i>Physical Review A</i> , 2007 , 75,	2.6	7
21	Phase diagram of a strongly interacting polarized Fermi gas in one dimension. <i>Physical Review Letters</i> , 2007 , 98, 070403	7.4	195
20	Fulde-Ferrell-Larkin-Ovchinnikov states in one-dimensional spin-polarized ultracold atomic Fermi gases. <i>Physical Review A</i> , 2007 , 76,	2.6	98

19	Equation of state of a superfluid Fermi gas in the BCS-BEC crossover. <i>Europhysics Letters</i> , 2006 , 74, 574-580	1.6	150
18	BCS-BEC crossover in an asymmetric two-component Fermi gas. <i>Europhysics Letters</i> , 2006 , 75, 364-370	1.6	58
17	Temperature of a trapped unitary Fermi gas at finite entropy. <i>Physical Review A</i> , 2006 , 73,	2.6	49
16	Mean-field phase diagrams of imbalanced Fermi gases near a Feshbach resonance. <i>Physical Review A</i> , 2006 , 73,	2.6	102
15	Signature of Mott-insulator transition with ultracold fermions in a one-dimensional optical lattice. <i>Physical Review Letters</i> , 2005 , 94, 136406	7.4	48
14	Ultra-cold fermions in optical lattices. <i>Journal of Modern Optics</i> , 2005 , 52, 2261-2268	1.1	2
13	Self-consistent theory of atomic Fermi gases with a Feshbach resonance at the superfluid transition. <i>Physical Review A</i> , 2005 , 72,	2.6	44
12	Collective modes and ballistic expansion of a fermi gas in the BCS-BEC crossover. <i>Physical Review Letters</i> , 2004 , 93, 190403	7.4	121
11	Collective oscillations of a confined Bose gas at finite temperature in the random-phase approximation. <i>Physical Review A</i> , 2004 , 69,	2.6	20
10	Expansion of a quantum degenerate boson-fermion mixture. <i>Physical Review A</i> , 2003 , 67,	2.6	16
9	Finite-temperature excitations of a trapped Bose-Fermi mixture. <i>Physical Review A</i> , 2003 , 68,	2.6	11
8	Collisionless and hydrodynamic excitations of trapped boson-fermion mixtures. <i>Physical Review A</i> , 2003 , 67,	2.6	43
7	Thermodynamics of a trapped Bose-Fermi mixture. <i>Physical Review A</i> , 2003 , 68,	2.6	17
6	Finite-temperature effects on the collapse of trapped Bose-Fermi mixtures. <i>Physical Review A</i> , 2003 , 68,	2.6	26
5	Atom coherence propagation in a magnetic atomic waveguide. <i>Journal of Optics B: Quantum and Semiclassical Optics</i> , 2001 , 3, 171-177		1
4	Ground-state properties of a trapped few-boson system under rotation: Beyond the lowest-Landau-level approximation. <i>Physical Review A</i> , 2001 , 64,	2.6	11
3	Fragmented condensate ground state of trapped weakly interacting bosons in two dimensions. <i>Physical Review Letters</i> , 2001 , 87, 030404	7.4	19
2	Quantum Dynamical Approach of Wavefunction Collapse in Measurement Process and Its Application to Quantum Zeno Effect 1995 , 43, 585-612		38

- 1 Generalization of Cini's model for quantum measurement and dynamical realization of wavefunction collapse. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **1995**, 198, 371-377 ²³ 11