

Xia-Ji Liu

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/9172388/publications.pdf>

Version: 2024-02-01

157
papers

5,269
citations

81900

39
h-index

98798

67
g-index

157
all docs

157
docs citations

157
times ranked

1943
citing authors

#	ARTICLE	IF	CITATIONS
1	Crossover polarons in a strongly interacting Fermi superfluid. <i>Physical Review A</i> , 2022, 105, .	2.5	15
2	Fermi polarons at finite temperature: Spectral function and rf spectroscopy. <i>Physical Review A</i> , 2022, 105, .	2.5	11
3	Heavy polarons in ultracold atomic Fermi superfluids at the BEC-BCS crossover: Formalism and applications. <i>Physical Review A</i> , 2022, 105, .	2.5	15
4	Exact Quasiparticle Properties of a Heavy Polaron in BCS Fermi Superfluids. <i>Physical Review Letters</i> , 2022, 128, 175301.	7.8	14
5	Anderson localization transition in a robust PT -symmetric phase of a generalized Aubry-Andr� model. <i>Physical Review A</i> , 2021, 103, .	2.5	22
6	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, .	2.5	5
7	Ultradilute self-bound quantum droplets in Bose�Bose mixtures at finite temperature*. <i>Chinese Physics B</i> , 2021, 30, 010306.	1.4	8
8	First-order Bose-Einstein condensation with three-body interacting bosons. <i>Physical Review A</i> , 2021, 104, .	2.5	4
9	Photoexcitation measurement of Tan's contact for a strongly interacting Fermi gas. <i>Physical Review A</i> , 2021, 104, .	2.5	0
10	Quantum fluctuations in a strongly interacting Bardeen-Cooper-Schrieffer polariton condensate at thermal equilibrium. <i>Physical Review A</i> , 2020, 101, .	2.5	15
11	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, .	2.5	7
12	Consistent Theory of Self-Bound Quantum Droplets with Bosonic Pairing. <i>Physical Review Letters</i> , 2020, 125, 195302.	7.8	39
13	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, .	2.5	30
14	Collective excitations of a spherical ultradilute quantum droplet. <i>Physical Review A</i> , 2020, 102, .	2.5	27
15	Microscopic derivation of the extended Gross-Pitaevskii equation for quantum droplets in binary Bose mixtures. <i>Physical Review A</i> , 2020, 102, .	2.5	16
16	Theory of strongly paired fermions with arbitrary short-range interactions. <i>Physical Review A</i> , 2020, 101, .	2.5	6
17	Few-Body Perspective of a Quantum Anomaly in Two-Dimensional Fermi Gases. <i>Physical Review Letters</i> , 2020, 124, 013401.	7.8	9
18	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, .	2.5	4

#	ARTICLE	IF	CITATIONS
19	Effective theory for ultracold strongly interacting fermionic atoms in two dimensions. Physical Review A, 2020, 101, .	2.5	7
20	Thermal destabilization of self-bound ultradilute quantum droplets. New Journal of Physics, 2020, 22, 103044.	2.9	15
21	Angular stripe phase in spin-orbital-angular-momentum coupled Bose condensates. Physical Review Research, 2020, 2, .	3.6	13
22	Polariton-polariton interaction beyond the Born approximation: A toy model study. Physical Review A, 2020, 102, .	2.5	4
23	Resonantly interacting p -wave Fermi superfluid in two dimensions: Tan's contact and the breathing mode. Physical Review A, 2019, 100, .	2.5	5
24	Cluster Formation in Two-Component Fermi Gases. Physical Review Letters, 2019, 123, 073401.	7.8	5
25	Spin-exchange-induced exotic superfluids in a Bose-Fermi spinor mixture. Physical Review A, 2019, 100, .	2.5	11
26	Breakdown of the Fermi polaron description near Fermi degeneracy at unitarity. Annals of Physics, 2019, 407, 29-45.	2.8	22
27	Leggett mode in a two-component Fermi gas with dipolar interactions. Physical Review A, 2019, 99, .	2.5	2
28	Reduced Quantum Anomaly in a Quasi-Two-Dimensional Fermi Superfluid: Significance of the Confinement-Induced Effective Range of Interactions. Physical Review Letters, 2019, 122, 070401.	7.8	28
29	Roton-Induced Bose Polaron in the Presence of Synthetic Spin-Orbit Coupling. Physical Review Letters, 2019, 123, 213401.	7.8	11
30	Pseudopotentials for two-dimensional ultracold scattering in the presence of synthetic spin-orbit coupling. Physical Review A, 2019, 100, .	2.5	0
31	Many-body localization in XY spin chains with long-range interactions: An exact-diagonalization study. Physical Review A, 2019, 100, .	2.5	14
32	Low-momentum dynamic structure factor of a strongly interacting Fermi gas at finite temperature: A two-fluid hydrodynamic description. Physical Review A, 2018, 97, .	2.5	14
33	Strongly interacting Sarma superfluid near orbital Feshbach resonances. Physical Review A, 2018, 97, .	2.5	13
34	Realizing Fulde-Ferrell Superfluids via a Dark-State Control of Feshbach Resonances. Physical Review Letters, 2018, 120, 045302.	7.8	16
35	Quantum fluctuations of a resonantly interacting p -wave Fermi superfluid in two dimensions. Physical Review A, 2018, 98, .	2.5	6
36	Polaron in a non-Abelian Aubry-Andr��-Harper model with p -wave superfluidity. Physical Review A, 2018, 98, .	2.5	4

#	ARTICLE	IF	CITATIONS
37	Ultracold collisions between spin-orbit-coupled dipoles: General formalism and universality. Physical Review A, 2018, 97, .	2.5	2
38	Collective modes of a two-dimensional Fermi gas at finite temperature. Physical Review A, 2018, 97, .	2.5	13
39	Time evolution of quantum entanglement of an EPR pair in a localized environment. New Journal of Physics, 2018, 20, 053015.	2.9	4
40	Breathing-mode frequency of a strongly interacting Fermi gas across the two- to three-dimensional crossover. Physical Review A, 2018, 97, .	2.5	9
41	Low-momentum dynamic structure factor of a strongly interacting Fermi gas at finite temperature: The Goldstone phonon and its Landau damping. Physical Review A, 2018, 98, .	2.5	14
42	Quantum depletion and superfluid density of a supersolid in Raman spin-orbit-coupled Bose gases. Physical Review A, 2018, 98, .	2.5	23
43	Attractive Fermi polarons at nonzero temperatures with a finite impurity concentration. Physical Review A, 2018, 98, .	2.5	41
44	Larkin-Ovchinnikov superfluidity in a two-dimensional imbalanced atomic Fermi gas. Physical Review A, 2017, 95, .	2.5	12
45	Dimensional crossover in a strongly interacting ultracold atomic Fermi gas. Physical Review A, 2017, 96, .	2.5	9
46	Quantum and thermal fluctuations in a Raman spin-orbit-coupled Bose gas. Physical Review A, 2017, 96, .	2.5	10
47	Superfluid density and critical velocity near the Berezinskii-Kosterlitz-Thouless transition in a two-dimensional strongly interacting Fermi gas. Physical Review A, 2017, 96, .	2.5	26
48	Large-momentum distribution of a polarized Fermi gas and $\langle \mathbf{p} \rangle$ -wave contacts. Physical Review A, 2016, 94, .	2.5	28
49	Many-body localization in Ising models with random long-range interactions. Physical Review A, 2016, 94, .	2.5	19
50	Probing an effective-range-induced super fermionic Tonks-Girardeau gas with ultracold atoms in one-dimensional harmonic traps. Physical Review A, 2016, 94, .	2.5	3
51	Strongly correlated Fermi superfluid near an orbital Feshbach resonance: Stability, equation of state, and Leggett mode. Physical Review A, 2016, 94, .	2.5	33
52	Traveling Majorana Solitons in a Low-Dimensional Spin-Orbit-Coupled Fermi Superfluid. Physical Review Letters, 2016, 117, 225302.	7.8	12
53	Criteria for two-dimensional kinematics in an interacting Fermi gas. Physical Review A, 2016, 93, .	2.5	27
54	Anderson localization of Cooper pairs and Majorana fermions in an ultracold atomic Fermi gas with synthetic spin-orbit coupling. Physical Review A, 2016, 93, .	2.5	11

#	ARTICLE	IF	CITATIONS
55	Fermi polaron in a one-dimensional quasiperiodic optical lattice: The simplest many-body localization challenge. Physical Review A, 2016, 93, .	2.5	13
56	Stoner ferromagnetism of a strongly interacting Fermi gas in the quasirepulsive regime. Physical Review A, 2016, 93, .	2.5	20
57	Phase diagram of a non-Abelian Aubry-Andr�-Harper model with p -wave superfluidity. Physical Review B, 2016, 93, .	3.2	67
58	Beyond Gaussian pair fluctuation theory for strongly interacting Fermi gases. Physical Review A, 2016, 94, .	2.5	5
59	Dynamic structure factor of a strongly correlated Fermi superfluid within a density functional theory approach. New Journal of Physics, 2016, 18, 113044.	2.9	7
60	Comparison of strong-coupling theories for a two-dimensional Fermi gas. Physical Review A, 2015, 92, .	2.5	26
61	Quantum fluctuations in the BCS-BEC crossover of two-dimensional Fermi gases. Physical Review A, 2015, 92, .	2.5	73
62	Soliton-induced Majorana fermions in a one-dimensional atomic topological superfluid. Physical Review A, 2015, 91, .	2.5	22
63	Superfluid density and Berezinskii-Kosterlitz-Thouless transition of a spin-orbit-coupled Fulde-Ferrell superfluid. Physical Review A, 2015, 91, .	2.5	14
64	Radio-frequency spectroscopy of a linear array of Bose-Einstein condensates in a magnetic lattice. Physical Review A, 2015, 91, .	2.5	7
65	Three-dimensional spin-orbit coupled Fermi gases: Fulde-Ferrell pairing, Majorana fermions, Weyl fermions, and gapless topological superfluidity. Chinese Physics B, 2015, 24, 050502.	1.4	13
66	Two-band description of resonant superfluidity in atomic Fermi gases. Physical Review A, 2015, 91, .	2.5	13
67	Equation of state and contact of a strongly interacting Bose gas in the normal state. Physical Review A, 2015, 91, .	2.5	6
68	Collective mode evidence of high-spin bosonization in a trapped one-dimensional atomic Fermi gas with tunable spin. Annals of Physics, 2014, 350, 84-94.	2.8	3
69	First and second sound of a unitary Fermi gas in highly oblate harmonic traps. New Journal of Physics, 2014, 16, 083023.	2.9	9
70	Collective modes of a one-dimensional trapped atomic Bose gas at finite temperatures. Physical Review A, 2014, 90, .	2.5	20
71	Spin-orbit-coupled topological Fulde-Ferrell states of fermions in a harmonic trap. Physical Review A, 2014, 90, .	2.5	11
72	First and second sound of a unitary Fermi gas in highly elongated harmonic traps. Physical Review A, 2014, 90, .	2.5	1

#	ARTICLE	IF	CITATIONS
73	Gapless topological Fulde-Ferrell superfluidity induced by an in-plane Zeeman field. Physical Review A, 2014, 90, .	2.5	20
74	Gapless Topological Fulde-Ferrell Superfluidity in Spin-Orbit Coupled Fermi Gases. Physical Review Letters, 2014, 113, 115302.	7.8	43
75	First and second sound in a two-dimensional harmonically trapped Bose gas across the Berezinskiiâ€“Kosterlitzâ€“Thouless transition. Annals of Physics, 2014, 351, 531-539.	2.8	5
76	A one-dimensional liquid of fermions with tunable spin. Nature Physics, 2014, 10, 198-201.	16.7	323
77	FERMI GASES WITH SYNTHETIC SPINâ€“ORBIT COUPLING. Annual Review of Cold Atoms and Molecules, 2014, , 81-143.	2.8	60
78	Universal Impurity-Induced Bound State in Topological Superfluids. Physical Review Letters, 2013, 110, 020401.	7.8	48
79	Virial expansion for a strongly correlated Fermi system and its application to ultracold atomic Fermi gases. Physics Reports, 2013, 524, 37-83.	25.6	98
80	Impurity probe of topological superfluids in one-dimensional spin-orbit-coupled atomic Fermi gases. Physical Review A, 2013, 87, .	2.5	19
81	Inhomogeneous Fulde-Ferrell superfluidity in spin-orbit-coupled atomic Fermi gases. Physical Review A, 2013, 87, .	2.5	36
82	Fuldeâ€“Ferrell superfluidity in ultracold Fermi gases with Rashba spinâ€“orbit coupling. New Journal of Physics, 2013, 15, 093037.	2.9	14
83	Probing the critical exponent of the superfluid fraction in a strongly interacting Fermi gas. Physical Review A, 2013, 88, .	2.5	0
84	Topological Fulde-Ferrell superfluid in spin-orbit-coupled atomic Fermi gases. Physical Review A, 2013, 88, .	2.5	49
85	BCS-BEC crossover at finite temperature in spin-orbit-coupled Fermi gases. Physical Review A, 2013, 87, .	2.5	18
86	Radio-frequency spectroscopy of a strongly interacting spin-orbit-coupled Fermi gas. Physical Review A, 2013, 87, .	2.5	50
87	Fulde-Ferrell pairing instability of a Rashba spin-orbit-coupled Fermi gas. Physical Review A, 2013, 88, .	2.5	7
88	Spin-Orbit Coupled Weakly Interacting Bose-Einstein Condensates in Harmonic Traps. Physical Review Letters, 2012, 108, 010402.	7.8	273
89	Momentum-resolved radio-frequency spectroscopy of a spin-orbit-coupled atomic Fermi gas near a Feshbach resonance in harmonic traps. Physical Review A, 2012, 86, .	2.5	15
90	Radio-frequency spectroscopy of weakly bound molecules in spin-orbit-coupled atomic Fermi gases. Physical Review A, 2012, 86, .	2.5	16

#	ARTICLE	IF	CITATIONS
91	Momentum-resolved radio-frequency spectroscopy of ultracold atomic Fermi gases in a spin-orbit-coupled lattice. Physical Review A, 2012, 86, .	2.5	7
92	Topological superfluid in one-dimensional spin-orbit-coupled atomic Fermi gases. Physical Review A, 2012, 85, .	2.5	76
93	Half-quantum vortex state in a spin-orbit-coupled Bose-Einstein condensate. Physical Review A, 2012, 85, .	2.5	143
94	Probing Majorana fermions in spin-orbit-coupled atomic Fermi gases. Physical Review A, 2012, 85, .	2.5	78
95	Critical temperature of a Rashba spin-orbit-coupled Bose gas in a harmonic trap. Physical Review A, 2012, 85, .	2.5	27
96	Manipulating Majorana fermions in one-dimensional spin-orbit-coupled atomic Fermi gases. Physical Review A, 2012, 86, .	2.5	17
97	Two-channel-model description of confinement-induced Feshbach molecules. Physical Review A, 2012, 86, .	2.5	7
98	Validity of a single-channel model for a spin-orbit-coupled atomic Fermi gas near Feshbach resonances. Physical Review A, 2012, 86, .	2.5	10
99	Universal dynamic structure factor of a strongly correlated Fermi gas. Physical Review A, 2012, 85, .	2.5	21
100	Universal structure of a strongly interacting Fermi gas. Journal of Physics: Conference Series, 2011, 264, 012013.	0.4	1
101	Non-universal thermodynamics of a strongly interacting inhomogeneous Fermi gas using the quantum virial expansion. Physics Letters, Section A: General, Atomic and Solid State Physics, 2011, 375, 2979-2984.	2.1	9
102	Universal contact of strongly interacting fermions at finite temperatures. New Journal of Physics, 2011, 13, 035007.	2.9	59
103	Rashba spin-orbit-coupled atomic Fermi gases. Physical Review A, 2011, 84, .	2.5	77
104	Confinement-induced resonances in anharmonic waveguides. Physical Review A, 2011, 84, .	2.5	36
105	High-temperature thermodynamics of strongly interacting s -wave and p -wave Fermi gases in a harmonic trap. Physical Review A, 2011, 83, .	2.5	19
106	Comparison between theory and experiment for universal thermodynamics of a homogeneous, strongly correlated Fermi gas. Physical Review A, 2011, 83, .	2.5	9
107	Josephson effect in an atomic Fulde-Ferrell-Larkin-Ovchinnikov superfluid. Physical Review A, 2011, 83, .	2.5	8
108	Probing Anisotropic Superfluidity in Atomic Fermi Gases with Rashba Spin-Orbit Coupling. Physical Review Letters, 2011, 107, 195304.	7.8	194

#	ARTICLE	IF	CITATIONS
109	Static structure factor of a strongly correlated Fermi gas at large momenta. Europhysics Letters, 2010, 91, 20005.	2.0	30
110	First-principles many-body theory for ultra-cold atoms. , 2010, , .		0
111	Three attractively interacting fermions in a harmonic trap: Exact solution, ferromagnetism, and high-temperature thermodynamics. Physical Review A, 2010, 82, .	2.5	82
112	Universal Behavior of Pair Correlations in a Strongly Interacting Fermi Gas. Physical Review Letters, 2010, 105, 070402.	7.8	158
113	Confinement-induced resonance in quasi-one-dimensional systems under transversely anisotropic confinement. Physical Review A, 2010, 82, .	2.5	32
114	Virial expansion for a strongly correlated Fermi gas with imbalanced spin populations. Physical Review A, 2010, 82, .	2.5	24
115	Mean-field study of itinerant ferromagnetism in trapped ultracold Fermi gases: Beyond the local-density approximation. Physical Review A, 2010, 82, .	2.5	11
116	Dynamic response of strongly correlated Fermi gases in the quantum virial expansion. Physical Review A, 2010, 81, .	2.5	19
117	Pseudogap Pairing in Ultracold Fermi Atoms. Physical Review Letters, 2010, 104, 240407.	7.8	74
118	Exact few-body results for strongly correlated quantum gases in two dimensions. Physical Review B, 2010, 82, .	3.2	68
119	Universal thermodynamics of a strongly interacting Fermi gas: theory versus experiment. New Journal of Physics, 2010, 12, 063038.	2.9	57
120	Second sound and the density response function in uniform superfluid atomic gases. New Journal of Physics, 2010, 12, 043040.	2.9	31
121	Virial Expansion for a Strongly Correlated Fermi Gas. Physical Review Letters, 2009, 102, 160401.	7.8	144
122	Theory of strongly interacting Fermi gases. Journal of Modern Optics, 2009, 56, 2076-2081.	1.3	2
123	First and second sound in a strongly interacting Fermi gas. Physical Review A, 2009, 80, .	2.5	46
124	UNIVERSALITY IN STRONGLY INTERACTING FERMION GASES. , 2009, , .		0
125	Variational theory of two-fluid hydrodynamic modes at unitarity. Physical Review A, 2008, 77, .	2.5	25
126	Comparative study of strong-coupling theories of a trapped Fermi gas at unitarity. Physical Review A, 2008, 77, .	2.5	50

#	ARTICLE	IF	CITATIONS
127	Finite-temperature phase diagram of a spin-polarized ultracold Fermi gas in a highly elongated harmonic trap. Physical Review A, 2008, 78, .	2.5	61
128	Multicomponent strongly attractive Fermi gas: A color superconductor in a one-dimensional harmonic trap. Physical Review A, 2008, 77, .	2.5	30
129	Universal thermodynamics of strongly interacting Fermi gases. , 2007, , .		0
130	Visualization of Vortex Bound States in Polarized Fermi Gases at Unitarity. Physical Review Letters, 2007, 98, 060406.	7.8	22
131	Density fingerprint of giant vortices in Fermi gases near a Feshbach resonance. Physical Review A, 2007, 75, .	2.5	9
132	Phase Diagram of a Strongly Interacting Polarized Fermi Gas in One Dimension. Physical Review Letters, 2007, 98, 070403.	7.8	205
133	Fulde-Ferrell-Larkin-Ovchinnikov states in one-dimensional spin-polarized ultracold atomic Fermi gases. Physical Review A, 2007, 76, .	2.5	105
134	Mean-field thermodynamics of a spin-polarized spherically trapped Fermi gas at unitarity. Physical Review A, 2007, 75, .	2.5	50
135	Universal thermodynamics of strongly interacting Fermi gases. Nature Physics, 2007, 3, 469-472.	16.7	125
136	Universal Thermodynamic Behavior of Strongly Interacting Fermi Gases. , 2007, , .		0
137	Strongly Interacting Polarized Fermi Gases. , 2007, , .		0
138	Equation of state of a superfluid Fermi gas in the BCS-BEC crossover. Europhysics Letters, 2006, 74, 574-580.	2.0	165
139	BCS-BEC crossover in an asymmetric two-component Fermi gas. Europhysics Letters, 2006, 75, 364-370.	2.0	62
140	Temperature of a trapped unitary Fermi gas at finite entropy. Physical Review A, 2006, 73, .	2.5	53
141	Mean-field phase diagrams of imbalanced Fermi gases near a Feshbach resonance. Physical Review A, 2006, 73, .	2.5	111
142	Self-consistent theory of atomic Fermi gases with a Feshbach resonance at the superfluid transition. Physical Review A, 2005, 72, .	2.5	50
143	Ultra-cold hubbard fermions in optical lattices. , 2005, , .		0
144	Signature of Mott-Insulator Transition with Ultracold Fermions in a One-Dimensional Optical Lattice. Physical Review Letters, 2005, 94, 136406.	7.8	51

#	ARTICLE	IF	CITATIONS
145	Ultra-cold fermions in optical lattices. Journal of Modern Optics, 2005, 52, 2261-2268.	1.3	2
146	Collective Modes and Ballistic Expansion of a Fermi Gas in the BCS-BEC Crossover. Physical Review Letters, 2004, 93, 190403.	7.8	130
147	Collective oscillations of a confined Bose gas at finite temperature in the random-phase approximation. Physical Review A, 2004, 69, .	2.5	23
148	Expansion of a quantum degenerate boson-fermion mixture. Physical Review A, 2003, 67, .	2.5	20
149	Finite-temperature excitations of a trapped Bose-Fermi mixture. Physical Review A, 2003, 68, .	2.5	12
150	Collisionless and hydrodynamic excitations of trapped boson-fermion mixtures. Physical Review A, 2003, 67, .	2.5	45
151	Thermodynamics of a trapped Bose-Fermi mixture. Physical Review A, 2003, 68, .	2.5	19
152	Finite-temperature effects on the collapse of trapped Bose-Fermi mixtures. Physical Review A, 2003, 68, .	2.5	26
153	Atom coherence propagation in a magnetic atomic waveguide. Journal of Optics B: Quantum and Semiclassical Optics, 2001, 3, 171-177.	1.4	1
154	Ground-state properties of a trapped few-boson system under rotation: Beyond the "lowest-Landau-level" approximation. Physical Review A, 2001, 64, .	2.5	11
155	Fragmented Condensate Ground State of Trapped Weakly Interacting Bosons in Two Dimensions. Physical Review Letters, 2001, 87, 030404.	7.8	20
156	Quantum Dynamical Approach of Wavefunction Collapse in Measurement Process and Its Application to Quantum Zeno Effect. , 1995, 43, 585-612.		42
157	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.	2.1	11