

Immanuel Bloch

List of Publications by Citations

Source: <https://exaly.com/author-pdf/2720135/immanuel-bloch-publications-by-citations.pdf>

Version: 2024-04-28

This document has been generated based on the publications and citations recorded by exaly.com. For the latest version of this publication list, visit the link given above.

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

162
papers

37,287
citations

84
h-index

188
g-index

188
ext. papers

43,234
ext. citations

16.1
avg. IF

7.61
L-index

#	Paper	IF	Citations
162	Many-body physics with ultracold gases. <i>Reviews of Modern Physics</i> , 2008 , 80, 885-964	40.5	5381
161	Quantum phase transition from a superfluid to a Mott insulator in a gas of ultracold atoms. <i>Nature</i> , 2002 , 415, 39-44	50.4	4343
160	Tonks-Girardeau gas of ultracold atoms in an optical lattice. <i>Nature</i> , 2004 , 429, 277-81	50.4	1259
159	Quantum simulations with ultracold quantum gases. <i>Nature Physics</i> , 2012 , 8, 267-276	16.2	1218
158	Collapse and revival of the matter wave field of a Bose-Einstein condensate. <i>Nature</i> , 2002 , 419, 51-4	50.4	943
157	Single-atom-resolved fluorescence imaging of an atomic Mott insulator. <i>Nature</i> , 2010 , 467, 68-72	50.4	908
156	Ultracold quantum gases in optical lattices. <i>Nature Physics</i> , 2005 , 1, 23-30	16.2	907
155	QUANTUM GASES. Observation of many-body localization of interacting fermions in a quasirandom optical lattice. <i>Science</i> , 2015 , 349, 842-5	33.3	891
154	Realization of the Hofstadter Hamiltonian with ultracold atoms in optical lattices. <i>Physical Review Letters</i> , 2013 , 111, 185301	7.4	871
153	Probing the relaxation towards equilibrium in an isolated strongly correlated one-dimensional Bose gas. <i>Nature Physics</i> , 2012 , 8, 325-330	16.2	639
152	Measuring the Chern number of Hofstadter bands with ultracold bosonic atoms. <i>Nature Physics</i> , 2015 , 11, 162-166	16.2	622
151	Controlled collisions for multi-particle entanglement of optically trapped atoms. <i>Nature</i> , 2003 , 425, 937-40	50.4	616
150	Metallic and insulating phases of repulsively interacting fermions in a 3D optical lattice. <i>Science</i> , 2008 , 322, 1520-5	33.3	560
149	Direct measurement of the Zak phase in topological Bloch bands. <i>Nature Physics</i> , 2013 , 9, 795-800	16.2	545
148	Light-cone-like spreading of correlations in a quantum many-body system. <i>Nature</i> , 2012 , 481, 484-7	50.4	533
147	Experimental realization of strong effective magnetic fields in an optical lattice. <i>Physical Review Letters</i> , 2011 , 107, 255301	7.4	531
146	Exploring phase coherence in a 2D lattice of Bose-Einstein condensates. <i>Physical Review Letters</i> , 2001 , 87, 160405	7.4	509

145	Single-spin addressing in an atomic Mott insulator. <i>Nature</i> , 2011 , 471, 319-24	50.4	506
144	Exploring the many-body localization transition in two dimensions. <i>Science</i> , 2016 , 352, 1547-52	33.3	499
143	Time-resolved observation and control of superexchange interactions with ultracold atoms in optical lattices. <i>Science</i> , 2008 , 319, 295-9	33.3	495
142	Direct observation of second-order atom tunnelling. <i>Nature</i> , 2007 , 448, 1029-32	50.4	463
141	Spatial quantum noise interferometry in expanding ultracold atom clouds. <i>Nature</i> , 2005 , 434, 481-4	50.4	433
140	Colloquium: Many-body localization, thermalization, and entanglement. <i>Reviews of Modern Physics</i> , 2019 , 91,	40.5	420
139	Quantum simulations with ultracold atoms in optical lattices. <i>Science</i> , 2017 , 357, 995-1001	33.3	413
138	Atom Laser with a cw Output Coupler. <i>Physical Review Letters</i> , 1999 , 82, 3008-3011	7.4	413
137	Observation of spatially ordered structures in a two-dimensional Rydberg gas. <i>Nature</i> , 2012 , 491, 87-91	50.4	372
136	Quantum dynamics of a mobile spin impurity. <i>Nature Physics</i> , 2013 , 9, 235-241	16.2	348
135	Coherent transport of neutral atoms in spin-dependent optical lattice potentials. <i>Physical Review Letters</i> , 2003 , 91, 010407	7.4	331
134	Observation of chiral currents with ultracold atoms in bosonic ladders. <i>Nature Physics</i> , 2014 , 10, 588-593	16.2	292
133	Fermionic transport and out-of-equilibrium dynamics in a homogeneous Hubbard model with ultracold atoms. <i>Nature Physics</i> , 2012 , 8, 213-218	16.2	289
132	Microscopic observation of magnon bound states and their dynamics. <i>Nature</i> , 2013 , 502, 76-9	50.4	279
131	A Thouless quantum pump with ultracold bosonic atoms in an optical superlattice. <i>Nature Physics</i> , 2016 , 12, 350-354	16.2	277
130	Quantum coherence and entanglement with ultracold atoms in optical lattices. <i>Nature</i> , 2008 , 453, 1016-20	50.4	247
129	Coupling Identical one-dimensional Many-Body Localized Systems. <i>Physical Review Letters</i> , 2016 , 116, 140401	7.4	237
128	Observation of two-orbital spin-exchange interactions with ultracold SU(N)-symmetric fermions. <i>Nature Physics</i> , 2014 , 10, 779-784	16.2	227

127	Time-resolved observation of coherent multi-body interactions in quantum phase revivals. <i>Nature</i> , 2010 , 465, 197-201	50.4	227
126	The Higgs amplitude mode at the two-dimensional superfluid/Mott insulator transition. <i>Nature</i> , 2012 , 487, 454-8	50.4	223
125	Measurement of the spatial coherence of a trapped Bose gas at the phase transition. <i>Nature</i> , 2000 , 403, 166-70	50.4	220
124	Observation of correlated particle-hole pairs and string order in low-dimensional Mott insulators. <i>Science</i> , 2011 , 334, 200-3	33.3	210
123	Spin- and density-resolved microscopy of antiferromagnetic correlations in Fermi-Hubbard chains. <i>Science</i> , 2016 , 353, 1257-60	33.3	208
122	Expansion dynamics of interacting bosons in homogeneous lattices in one and two dimensions. <i>Physical Review Letters</i> , 2013 , 110, 205301	7.4	202
121	Free fermion antibunching in a degenerate atomic Fermi gas released from an optical lattice. <i>Nature</i> , 2006 , 444, 733-6	50.4	200
120	Crystallization in Ising quantum magnets. <i>Science</i> , 2015 , 347, 1455-8	33.3	196
119	The quantum technologies roadmap: a European community view. <i>New Journal of Physics</i> , 2018 , 20, 080201	20.1	188
118	Bose-Einstein condensation in a quadrupole-Ioffe-configuration trap. <i>Physical Review A</i> , 1998 , 58, R2664-R2667	186	
117	Many-body interferometry of a Rydberg-dressed spin lattice. <i>Nature Physics</i> , 2016 , 12, 1095-1099	16.2	182
116	Exploring 4D quantum Hall physics with a 2D topological charge pump. <i>Nature</i> , 2018 , 553, 55-58	50.4	181
115	Resonant control of spin dynamics in ultracold quantum gases by microwave dressing. <i>Physical Review A</i> , 2006 , 73,	2.6	170
114	An Aharonov-Bohm interferometer for determining Bloch band topology. <i>Science</i> , 2015 , 347, 288-92	33.3	169
113	Formation of spatial shell structure in the superfluid to Mott insulator transition. <i>Physical Review Letters</i> , 2006 , 97, 060403	7.4	169
112	Coulomb Functions for Reactions of Protons and Alpha-Particles with the Lighter Nuclei. <i>Reviews of Modern Physics</i> , 1951 , 23, 147-182	40.5	158
111	Periodically driving a many-body localized quantum system. <i>Nature Physics</i> , 2017 , 13, 460-464	16.2	154
110	Suppression of the critical temperature for superfluidity near the Mott transition. <i>Nature Physics</i> , 2010 , 6, 998-1004	16.2	153

109	State preparation and dynamics of ultracold atoms in higher lattice orbitals. <i>Physical Review Letters</i> , 2007 , 99, 200405	7.4	151
108	Negative absolute temperature for motional degrees of freedom. <i>Science</i> , 2013 , 339, 52-5	33.3	148
107	Phase coherence of an atomic Mott insulator. <i>Physical Review Letters</i> , 2005 , 95, 050404	7.4	143
106	Precision measurement of spin-dependent interaction strengths for spin-1 and spin-287Rb atoms. <i>New Journal of Physics</i> , 2006 , 8, 152-152	2.9	135
105	Controlling correlated tunneling and superexchange interactions with ac-driven optical lattices. <i>Physical Review Letters</i> , 2011 , 107, 210405	7.4	131
104	Coherent collisional spin dynamics in optical lattices. <i>Physical Review Letters</i> , 2005 , 95, 190405	7.4	129
103	Far-from-equilibrium spin transport in Heisenberg quantum magnets. <i>Physical Review Letters</i> , 2014 , 113, 147205	7.4	128
102	Observation of Slow Dynamics near the Many-Body Localization Transition in One-Dimensional Quasiperiodic Systems. <i>Physical Review Letters</i> , 2017 , 119, 260401	7.4	127
101	Electromagnetically induced transparency and light storage in an atomic Mott insulator. <i>Physical Review Letters</i> , 2009 , 103, 033003	7.4	127
100	Microscopic Observation of Pauli Blocking in Degenerate Fermionic Lattice Gases. <i>Physical Review Letters</i> , 2015 , 115, 263001	7.4	126
99	Counting atoms using interaction blockade in an optical superlattice. <i>Physical Review Letters</i> , 2008 , 101, 090404	7.4	119
98	Probing Slow Relaxation and Many-Body Localization in Two-Dimensional Quasiperiodic Systems. <i>Physical Review X</i> , 2017 , 7,	9.1	118
97	Designing frustrated quantum magnets with laser-dressed Rydberg atoms. <i>Physical Review Letters</i> , 2015 , 114, 173002	7.4	118
96	Role of interactions in 87Rb-40K Bose-Fermi mixtures in a 3D optical lattice. <i>Physical Review Letters</i> , 2009 , 102, 030408	7.4	117
95	Signatures of Many-Body Localization in a Controlled Open Quantum System. <i>Physical Review X</i> , 2017 , 7,	9.1	115
94	Emergence of coherence and the dynamics of quantum phase transitions. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015 , 112, 3641-6	11.5	114
93	Many-body Landau-Zener dynamics in coupled one-dimensional Bose liquids. <i>Nature Physics</i> , 2011 , 7, 61-67	16.2	114
92	Observation of an Orbital Interaction-Induced Feshbach Resonance in (173)Yb. <i>Physical Review Letters</i> , 2015 , 115, 265302	7.4	113

91	Interference pattern and visibility of a Mott insulator. <i>Physical Review A</i> , 2005 , 72,	2.6	110
90	State selective production of molecules in optical lattices. <i>Physical Review Letters</i> , 2004 , 93, 073002	7.4	110
89	Entanglement interferometry for precision measurement of atomic scattering properties. <i>Physical Review Letters</i> , 2004 , 92, 160406	7.4	101
88	Magnetic transport of trapped cold atoms over a large distance. <i>Physical Review A</i> , 2001 , 63,	2.6	100
87	Bloch state tomography using Wilson lines. <i>Science</i> , 2016 , 352, 1094-7	33.3	100
86	Coherent Many-Body Spin Dynamics in a Long-Range Interacting Ising Chain. <i>Physical Review X</i> , 2017 , 7,	9.1	98
85	Quantum spin dynamics of mode-squeezed Luttinger liquids in two-component atomic gases. <i>Physical Review Letters</i> , 2008 , 100, 140401	7.4	97
84	Floquet approach to Z2 lattice gauge theories with ultracold atoms in optical lattices. <i>Nature Physics</i> , 2019 , 15, 1168-1173	16.2	95
83	Revealing hidden antiferromagnetic correlations in doped Hubbard chains via string correlators. <i>Science</i> , 2017 , 357, 484-487	33.3	94
82	Single-Particle Mobility Edge in a One-Dimensional Quasiperiodic Optical Lattice. <i>Physical Review Letters</i> , 2018 , 120, 160404	7.4	92
81	Expansion of a quantum gas released from an optical lattice. <i>Physical Review Letters</i> , 2008 , 101, 155303	7.4	92
80	Probing number squeezing of ultracold atoms across the superfluid-Mott insulator transition. <i>Physical Review Letters</i> , 2006 , 96, 090401	7.4	89
79	Interferometric approach to measuring band topology in 2D optical lattices. <i>Physical Review Letters</i> , 2013 , 110, 165304	7.4	84
78	Quantum information processing in optical lattices and magnetic microtraps. <i>Fortschritte Der Physik</i> , 2006 , 54, 702-718	5.7	84
77	Exploring quantum matter with ultracold atoms in optical lattices. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2005 , 38, S629-S643	1.3	84
76	Controlling and detecting spin correlations of ultracold atoms in optical lattices. <i>Physical Review Letters</i> , 2010 , 105, 265303	7.4	82
75	Spatially Resolved Detection of a Spin-Entanglement Wave in a Bose-Hubbard Chain. <i>Physical Review Letters</i> , 2015 , 115, 035302	7.4	81
74	Direct Probing of the Mott Crossover in the SU(N) Fermi-Hubbard Model. <i>Physical Review X</i> , 2016 , 6,	9.1	80

73	Microscopic Characterization of Scalable Coherent Rydberg Superatoms. <i>Physical Review X</i> , 2015 , 5,	9.1	80
72	Probing real-space and time-resolved correlation functions with many-body Ramsey interferometry. <i>Physical Review Letters</i> , 2013 , 111, 147205	7.4	77
71	Anomalous expansion of attractively interacting fermionic atoms in an optical lattice. <i>Science</i> , 2010 , 327, 1621-4	33.3	72
70	Observation of Many-Body Localization in a One-Dimensional System with a Single-Particle Mobility Edge. <i>Physical Review Letters</i> , 2019 , 122, 170403	7.4	70
69	A subradiant optical mirror formed by a single structured atomic layer. <i>Nature</i> , 2020 , 583, 369-374	50.4	67
68	Optimal control of complex atomic quantum systems. <i>Scientific Reports</i> , 2016 , 6, 34187	4.9	67
67	Coherent interaction of a single fermion with a small bosonic field. <i>Physical Review Letters</i> , 2011 , 106, 115305	7.4	66
66	Experimental realization of plaquette resonating valence-bond states with ultracold atoms in optical superlattices. <i>Physical Review Letters</i> , 2012 , 108, 205301	7.4	63
65	Optics with an atom laser beam. <i>Physical Review Letters</i> , 2001 , 87, 030401	7.4	63
64	Localized Magnetic Moments with Tunable Spin Exchange in a Gas of Ultracold Fermions. <i>Physical Review Letters</i> , 2018 , 120, 143601	7.4	62
63	Dynamical Quasicondensation of Hard-Core Bosons at Finite Momenta. <i>Physical Review Letters</i> , 2015 , 115, 175301	7.4	61
62	Bose-Einstein condensates in 1D- and 2D optical lattices. <i>Applied Physics B: Lasers and Optics</i> , 2001 , 73, 769-772	1.9	60
61	Interaction Dependent Heating and Atom Loss in a Periodically Driven Optical Lattice. <i>Physical Review Letters</i> , 2017 , 119, 200402	7.4	59
60	Quantum gases. <i>Science</i> , 2008 , 319, 1202-3	33.3	56
59	Quantum gases in optical lattices. <i>Physics World</i> , 2004 , 17, 25-29	0.5	55
58	Sympathetic cooling of ⁸⁵ Rb and ⁸⁷ Rb. <i>Physical Review A</i> , 2001 , 64,	2.6	55
57	Modeling the adiabatic creation of ultracold polar ²³ Na ⁴⁰ K molecules. <i>Physical Review A</i> , 2018 , 97,	2.6	51
56	Imaging magnetic polarons in the doped Fermi-Hubbard model. <i>Nature</i> , 2019 , 572, 358-362	50.4	48

55	Single-site- and single-atom-resolved measurement of correlation functions. <i>Applied Physics B: Lasers and Optics</i> , 2013 , 113, 27-39	1.9	48
54	Quantum many-body dynamics of coupled double-well superlattices. <i>Physical Review A</i> , 2008 , 78,	2.6	48
53	Realization of an anomalous Floquet topological system with ultracold atoms. <i>Nature Physics</i> , 2020 , 16, 1058-1063	16.2	44
52	Coherent light scattering from a two-dimensional Mott insulator. <i>Physical Review Letters</i> , 2011 , 106, 215301	7.4	44
51	Experimental realization of strong effective magnetic fields in optical superlattice potentials. <i>Applied Physics B: Lasers and Optics</i> , 2013 , 113, 1-11	1.9	42
50	Spin Pumping and Measurement of Spin Currents in Optical Superlattices. <i>Physical Review Letters</i> , 2016 , 117, 170405	7.4	39
49	Direct observation of incommensurate magnetism in Hubbard chains. <i>Nature</i> , 2019 , 565, 56-60	50.4	38
48	Achieving the Néel state in an optical lattice. <i>Physical Review A</i> , 2008 , 77,	2.6	37
47	Preparation and detection of magnetic quantum phases in optical superlattices. <i>Physical Review Letters</i> , 2007 , 99, 140601	7.4	36
46	Exploring Quantum Matter with Ultracold Atoms in Optical Lattices. <i>Advances in Atomic, Molecular and Optical Physics</i> , 2005 , 52, 1-47	1.7	36
45	Time-resolved observation of spin-charge deconfinement in fermionic Hubbard chains. <i>Science</i> , 2020 , 367, 186-189	33.3	35
44	Extending Rotational Coherence of Interacting Polar Molecules in a Spin-Decoupled Magic Trap. <i>Physical Review Letters</i> , 2018 , 121, 253401	7.4	35
43	Minimum instances of topological matter in an optical plaquette. <i>Physical Review A</i> , 2008 , 77,	2.6	34
42	Adiabatic loading of a Bose-Einstein condensate in a 3D optical lattice. <i>Journal of Modern Optics</i> , 2007 , 54, 735-743	1.1	33
41	Floquet Prethermalization in a Bose-Hubbard System. <i>Physical Review X</i> , 2020 , 10,	9.1	30
40	Nonequilibrium Mass Transport in the 1D Fermi-Hubbard Model. <i>Physical Review Letters</i> , 2018 , 121, 130402	7.4	30
39	Stimulated focusing and deflection of an atomic beam using picosecond laser pulses. <i>Physical Review A</i> , 1997 , 56, R3354-R3357	2.6	29
38	Landau-Zener sweeps and sudden quenches in coupled Bose-Hubbard chains. <i>Physical Review Letters</i> , 2011 , 106, 155302	7.4	28

37	Quantum gas microscopy of Rydberg macrodimers. <i>Science</i> , 2019 , 364, 664-667	33.3	25
36	Many-Body Delocalization in the Presence of a Quantum Bath. <i>Physical Review X</i> , 2019 , 9,	9.1	24
35	Observation of Coherent Multiorbital Polarons in a Two-Dimensional Fermi Gas. <i>Physical Review Letters</i> , 2019 , 122, 193604	7.4	23
34	Tunable spin-orbit coupling for ultracold atoms in two-dimensional optical lattices. <i>Physical Review A</i> , 2017 , 95,	2.6	23
33	Effect of interactions on harmonically confined Bose-Fermi mixtures in optical lattices. <i>Physical Review Letters</i> , 2011 , 106, 155301	7.4	22
32	State-Dependent Optical Lattices for the Strontium Optical Qubit. <i>Physical Review Letters</i> , 2020 , 124, 203201	7.4	17
31	Robust Bilayer Charge Pumping for Spin- and Density-Resolved Quantum Gas Microscopy. <i>Physical Review Letters</i> , 2020 , 125, 010403	7.4	16
30	Observing non-ergodicity due to kinetic constraints in tilted Fermi-Hubbard chains. <i>Nature Communications</i> , 2021 , 12, 4490	17.4	16
29	Quantum phase transition from a superfluid to a Mott insulator in an ultracold gas of atoms. <i>Physica B: Condensed Matter</i> , 2003 , 329-333, 11-12	2.8	12
28	Collisions of ultracold molecules in bright and dark optical dipole traps. <i>Physical Review Research</i> , 2021 , 3,	3.9	11
27	Bose-Einstein correlations in one and two dimensions in deep inelastic scattering. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2004 , 583, 231-246	4.2	10
26	Tune-Out and Magic Wavelengths for Ground-State $^{23}\text{Na}^{40}\text{K}$ Molecules. <i>Physical Review Letters</i> , 2020 , 125, 023201	7.4	10
25	Fast and dense magneto-optical traps for strontium. <i>Physical Review A</i> , 2019 , 99,	2.6	9
24	Bose-Einstein correlations of charged and neutral kaons in deep inelastic scattering at HERA. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2007 , 652, 1-12	4.2	9
23	Probing first-order spatial coherence of a Bose-Einstein condensate. <i>Journal of Modern Optics</i> , 2000 , 47, 2725-2732	1.1	9
22	Measurement of meson production in scattering at low. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2007 , 649, 111-121	4.2	7
21	Parametric Instabilities of Interacting Bosons in Periodically Driven 1D Optical Lattices. <i>Physical Review X</i> , 2020 , 10,	9.1	6
20	MICROSCOPY OF MANY-BODY STATES IN OPTICAL LATTICES. <i>Annual Review of Cold Atoms and Molecules</i> , 2015 , 181-199		6

19	Atom optics with permanent magnetic components 1997 ,		6
18	Atomlaser: Aus Bose-Einstein-Kondensaten lassen sich kohärente Materiewellen auskoppeln. <i>Physik Journal</i> , 2000 , 56, 47-50		6
17	Microscopic electronic structure tomography of Rydberg macrodimers. <i>Physical Review Research</i> , 2021 , 3,	3.9	6
16	Coherent cold collisions with neutral atoms in optical lattices. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2003 , 361, 1409-16	3	4
15	Microscopic evolution of doped Mott insulators from polaronic metal to Fermi liquid. <i>Science</i> , 2021 , 374, 82-86	33.3	4
14	Exploring strongly correlated quantum many-body systems with ultracold atoms in optical lattices. <i>Physica Status Solidi (B): Basic Research</i> , 2010 , 247, 530-536	1.3	3
13	Coherent and incoherent spectral broadening in a photonic crystal fiber. <i>Optics Letters</i> , 2007 , 32, 1767-93		3
12	Quantum gas microscopy of Kardar-Parisi-Zhang superdiffusion.. <i>Science</i> , 2022 , 376, 716-720	33.3	3
11	Efficient conversion of closed-channel-dominated Feshbach molecules of Na ₂₃ K ₄₀ to their absolute ground state. <i>Physical Review A</i> , 2021 , 104,	2.6	2
10	Crossed optical cavities with large mode diameters. <i>Optics Letters</i> , 2021 , 46, 250-253	3	2
9	Perfekte Ordnung am Nullpunkt. <i>Physik in Unserer Zeit</i> , 2002 , 33, 51-51	0.1	1
8	Probing and Controlling Quantum Matter Using Ultracold Quantum Gases in Optical Lattices 2014 , 31-63		1
7	Probing first-order spatial coherence of a Bose-Einstein condensate		1
6	Suppression of Unitary Three-Body Loss in a Degenerate Bose-Fermi Mixture.. <i>Physical Review Letters</i> , 2022 , 128, 153401	7.4	1
5	Realizing Distance-Selective Interactions in a Rydberg-Dressed Atom Array.. <i>Physical Review Letters</i> , 2022 , 128, 113602	7.4	0
4	Ultracold Atoms and Molecules in Optical Lattices. <i>Contemporary Concepts of Condensed Matter Science</i> , 2012 , 5, 121-156		
3	Generating And Manipulating Atom Laser Beams 2002 , 117-128		
2	From Diode Laser to Atom Laser 2002 , 275-280		

- 1 Probing and Controlling Strongly Correlated Quantum Many-Body Systems Using Ultracold Quantum Gases 253-273