Tilman Esslinger

List of Publications by Year
in descending order

138	23,544	16437 64	15716 125
papers	citations	h-index	g-index

144	144	144	8724
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Quantum phase transition from a superfluid to a Mott insulator in a gas of ultracold atoms. Nature, 2002, 415, 39-44.	13.7	4,939
2	Experimental realization of the topological Haldane model with ultracold fermions. Nature, 2014, 515, 237-240.	13.7	1,670
3	Dicke quantum phase transition with a superfluid gas in an optical cavity. Nature, 2010, 464, 1301-1306.	13.7	1,147
4	Transition from a Strongly Interacting 1D Superfluid to a Mott Insulator. Physical Review Letters, 2004, 92, 130403.	2.9	898
5	A Mott insulator of fermionic atoms in an optical lattice. Nature, 2008, 455, 204-207.	13.7	830
6	Creating, moving and merging Dirac points with a Fermi gas in a tunable honeycomb lattice. Nature, 2012, 483, 302-305.	13.7	786
7	Cold atoms in cavity-generated dynamical optical potentials. Reviews of Modern Physics, 2013, 85, 553-601.	16.4	664
8	Exploring Phase Coherence in a 2D Lattice of Bose-Einstein Condensates. Physical Review Letters, 2001, 87, 160405.	2.9	565
9	Fermionic Atoms in a Three Dimensional Optical Lattice: Observing Fermi Surfaces, Dynamics, and Interactions. Physical Review Letters, 2005, 94, 080403.	2.9	564
10	Cavity Optomechanics with a Bose-Einstein Condensate. Science, 2008, 322, 235-238.	6.0	502
11	Cavity QED with a Boseâ€“Einstein condensate. Nature, 2007, 450, 268-271.	13.7	483
12	Atom Laser with a cw Output Coupler. Physical Review Letters, 1999, 82, 3008-3011.	2.9	458
13	Exciting Collective Oscillations in a Trapped 1D Gas. Physical Review Letters, 2003, 91, 250402.	2.9	445
14	Fermi-Hubbard Physics with Atoms in an Optical Lattice. Annual Review of Condensed Matter Physics, 2010, 1, 129-152.	5.2	401
15	Supersolid formation in a quantum gas breaking a continuous translational symmetry. Nature, 2017, 543, 87-90.	13.7	337
16	Confinement Induced Molecules in a 1D Fermi Gas. Physical Review Letters, 2005, 94, 210401.	2.9	333
17	Exploring Symmetry Breaking at the Dicke Quantum Phase Transition. Physical Review Letters, 2011, 107, 140402.	2.9	332
18	A compact grating-stabilized diode laser system for atomic physics. Optics Communications, 1995, 117, 541-549.	1.0	325

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19	Short-Range Quantum Magnetism of Ultracold Fermions in an Optical Lattice. Science, 2013, 340, 1307-1310.	6.0	321
20	Quantum phases from competing short- and long-range interactions in an optical lattice. Nature, 2016, 532, 476-479.	13.7	296
21	Correlations and Counting Statistics of an Atom Laser. Physical Review Letters, 2005, 95, 090404.	2.9	265
22	Bose-Fermi Mixtures in a Three-Dimensional Optical Lattice. Physical Review Letters, 2006, 96, 180402.	2.9	263
23	Measurement of the spatial coherence of a trapped Bose gas at the phase transition. Nature, 2000, 403, 166-170.	13.7	258
24	Conduction of Ultracold Fermions Through a Mesoscopic Channel. Science, 2012, 337, 1069-1071.	6.0	239
25	Molecules of Fermionic Atoms in an Optical Lattice. Physical Review Letters, 2006, 96, 030401.	2.9	231
26	A Thermoelectric Heat Engine with Ultracold Atoms. Science, 2013, 342, 713-715.	6.0	230
27	Roton-Type Mode Softening in a Quantum Gas with Cavity-Mediated Long-Range Interactions. Science, 2012, 336, 1570-1573.	6.0	217
28	Observation of Elastic Doublon Decay in the Fermi-Hubbard Model. Physical Review Letters, 2010, 104, 080401.	2.9	215
29	Bose-Einstein condensation in a quadrupole-Ioffe-configuration trap. Physical Review A, 1998, 58, R2664-R2667.	1.0	199
30	p-Wave Interactions in Low-Dimensional Fermionic Gases. Physical Review Letters, 2005, 95, 230401.	2.9	190
31	Realization of density-dependent Peierls phases to engineer quantized gauge fields coupled to ultracold matter. Nature Physics, 2019, 15, 1161-1167.	6.5	174
32	Observation of quantized conductance in neutral matter. Nature, 2015, 517, 64-67.	13.7	165
33	Real-time observation of fluctuations at the driven-dissipative Dicke phase transition. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 11763-11767.	3.3	159
34	Critical Behavior of a Trapped Interacting Bose Gas. Science, 2007, 315, 1556-1558.	6.0	151
35	Quantitative Determination of Temperature in the Approach to Magnetic Order of Ultracold Fermions in an Optical Lattice. Physical Review Letters, 2010, 104, 180401.	2.9	136
36	Bragg Diffraction in an Atomic Lattice Bound by Light. Physical Review Letters, 1995, 75, 4583-4586.	2.9	134

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37	Artificial Graphene with Tunable Interactions. Physical Review Letters, 2013, 111, 185307.	2.9	129
38	Monitoring and manipulating Higgs and Goldstone modes in a supersolid quantum gas. Science, 2017, 358, 1415-1418.	6.0	120
39	Two-terminal transport measurements with cold atoms. Journal of Physics Condensed Matter, 2017, 29, 343003.	0.7	118
40	Excitations of a Superfluid in a Three-Dimensional Optical Lattice. Physical Review Letters, 2004, 93, 240402.	2.9	111
41	Magnetic transport of trapped cold atoms over a large distance. Physical Review A, 2001, 63, .	1.0	110
42	Connecting strongly correlated superfluids by a quantum point contact. Science, 2015, 350, 1498-1501.	6.0	108
43	Interaction-Controlled Transport of an Ultracold Fermi Gas. Physical Review Letters, 2007, 99, 220601.	2.9	102
44	Enhancement and sign change of magnetic correlations in a driven quantum many-body system. Nature, 2018, 553, 481-485.	13.7	98
45	Lifetime of double occupancies in the Fermi-Hubbard model. Physical Review B, 2010, 82, .	1.1	95
46	Formation of a Spin Texture in a Quantum Gas Coupled to a Cavity. Physical Review Letters, 2018, 120, 223602.	2.9	93
47	Dynamical coupling between a Boseâ€“Einstein condensate andÂaÂcavity optical lattice. Applied Physics B: Lasers and Optics, 2009, 95, 213-218.	1.1	90
48	Dissipation-induced structural instability and chiral dynamics in a quantum gas. Science, 2019, 366, 1496-1499.	6.0	90
49	Creating State-Dependent Lattices for Ultracold Fermions by Magnetic Gradient Modulation. Physical Review Letters, 2015, 115, 073002.	2.9	88
50	Observing the drop of resistance in the flow of a superfluid Fermi gas. Nature, 2012, 491, 736-739.	13.7	87
51	Probing Nearest-Neighbor Correlations of Ultracold Fermions in an Optical Lattice. Physical Review Letters, 2011, 106, 145302.	2.9	86
52	Local Observation of Antibunching in a Trapped Fermi Gas. Physical Review Letters, 2010, 105, 040401.	2.9	84
53	Superfluid to Mott insulator transition in one, two, and three dimensions. Journal of Low Temperature Physics, 2005, 138, 635-644.	0.6	80
54	Trapping Atoms in a Dark Optical Lattice. Physical Review Letters, 1995, 75, 37-40.	2.9	79

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55	Growth of Bose-Einstein Condensates from Thermal Vapor. Physical Review Letters, 2002, 88, 080402.	2.9	78
56	High-resolution imaging of ultracold fermions in microscopically tailored optical potentials. New Journal of Physics, 2011, 13, 043007.	1.2	77
57	Surface-plasmon mirror for atoms. Optics Letters, 1993, 18, 450.	1.7	76
58	Observing the Formation of Long-Range Order during Bose-Einstein Condensation. Physical Review Letters, 2007, 98, 090402.	2.9	75
59	Measuring the dynamic structure factor of a quantum gas undergoing a structural phase transition. Nature Communications, 2015, 6, 7046.	5.8	73
60	Optics with an Atom Laser Beam. Physical Review Letters, 2001, 87, 030401.	2.9	70
61	Measuring the Temporal Coherence of an Atom Laser Beam. Physical Review Letters, 2001, 87, 160404.	2.9	68
62	Cavity quantum electrodynamics with a Rydberg-blocked atomic ensemble. Physical Review A, 2010, 82, .	1.0	68
63	Formation and Dynamics of Antiferromagnetic Correlations in Tunable Optical Lattices. Physical Review Letters, 2015, 115, 260401.	2.9	67
64	Boseâ€“Einstein condensates in 1D- and 2D optical lattices. Applied Physics B: Lasers and Optics, 2001, 73, 769-772.	1.1	64
65	Floquet Dynamics in Driven Fermi-Hubbard Systems. Physical Review Letters, 2018, 121, 233603.	2.9	59
66	Sympathetic cooling of85Rband87Rb. Physical Review A, 2001, 64, .	1.0	58
67	A Novel Scheme for Efficient Cooling below the Photon Recoil Limit. Europhysics Letters, 1994, 27, 109-114.	0.7	56
68	Band and Correlated Insulators of Cold Fermions in a Mesoscopic Lattice. Physical Review X, 2018, 8, .	2.8	56
69	Superfluidity with disorder in a thin film of quantum gas. Physical Review Letters, 2013, 110, 100601.	2.9	55
70	Exploring Competing Density Order in the Ionic Hubbard Model with Ultracold Fermions. Physical Review Letters, 2015, 115, 115303.	2.9	54
71	Subrecoil Laser Cooling with Adiabatic Transfer. Physical Review Letters, 1996, 76, 2432-2435.	2.9	53
72	Mapping out spin and particle conductances in a quantum point contact. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 8144-8149.	3.3	52

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73	Metastability and avalanche dynamics in strongly correlated gases with long-range interactions. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 3279-3284.	3.3	46
74	Quantized Conductance through a Spin-Selective Atomic Point Contact. Physical Review Letters, 2019, 123, 193605.	2.9	46
75	Focus on quantum simulation. New Journal of Physics, 2013, 15, 085009.	1.2	45
76	Controlling the Floquet state population and observing micromotion in a periodically driven two-body quantum system. Physical Review A, 2017, 96, .	1.0	45
77	Hybrid apparatus for Bose-Einstein condensation and cavity quantum electrodynamics: Single atom detection in quantum degenerate gases. Review of Scientific Instruments, 2006, 77, 063118.	0.6	44
78	Interferometric measurement of local spin fluctuations in a quantum gas. Nature Physics, 2012, 8, 454-458.	6.5	37
79	Double transfer through Dirac points in a tunable honeycomb optical lattice. European Physical Journal: Special Topics, 2013, 217, 121-133.	1.2	35
80	Quantized conductance through a dissipative atomic point contact. Physical Review A, 2019, 100, .	1.0	35
81	Observing the profile of an atom laser beam. Physical Review A, 2005, 72, .	1.0	34
82	Thermodynamics and Magnetic Properties of the Anisotropic 3D Hubbard Model. Physical Review Letters, 2014, 112, 115301.	2.9	33
83	Cavity QED detection of interfering matter waves. Physical Review A, 2006, 73, .	1.0	29
84	Scanning Gate Microscope for Cold Atomic Gases. Physical Review Letters, 2017, 119, 030403.	2.9	29
85	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>P</mml:mi></mml:math> -Band Induced Self-Organization and Dynamics with Repulsively Driven Ultracold Atoms in an Optical Cavity. Physical Review Letters, 2019, 123, 233601.	2.9	29
86	Optical transport and manipulation of an ultracold atomic cloud using focus-tunable lenses. New Journal of Physics, 2014, 16, 093028.	1.2	28
87	Breakdown of the Wiedemannâ€“Franz law in a unitary Fermi gas. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 8563-8568.	3.3	28
88	Emerging Dissipative Phases in a Superradiant Quantum Gas with Tunable Decay. Physical Review X, 2021, 11, .	2.8	28
89	1D Bose gases in an optical lattice. Applied Physics B: Lasers and Optics, 2004, 79, 1009-1012.	1.1	27
90	Transverse mode of an atom laser. Physical Review A, 2002, 65, .	1.0	26

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91	Anomalous Conductances in an Ultracold Quantum Wire. Physical Review Letters, 2016, 117, 255302.	2.9	26
92	Creating topological interfaces and detecting chiral edge modes in a two-dimensional optical lattice. Physical Review A, 2016, 94, .	1.0	26
93	Quantum Simulation Meets Nonequilibrium Dynamical Mean-Field Theory: Exploring the Periodically Driven, Strongly Correlated Fermi-Hubbard Model. Physical Review Letters, 2019, 123, 193602.	2.9	26
94	Coupling two order parameters in a quantum gas. Nature Materials, 2018, 17, 686-690.	13.3	23
95	Suppressing Dissipation in a Floquet-Hubbard System. Physical Review X, 2021, 11, .	2.8	23
96	Continuous feedback on a quantum gas coupled to an optical cavity. New Journal of Physics, 2020, 22, 033020.	1.2	22
97	All-optical gray lattice for atoms. Physical Review A, 1997, 55, 545-551.	1.0	21
98	Purely optical dark lattice. Optics Letters, 1996, 21, 991.	1.7	20
99	Two-mode Dicke model from nondegenerate polarization modes. Physical Review A, 2019, 100, .	1.0	19
100	Photoelectron spectrometry of atomic scandium in the region of the3pâ†'3dgiant resonance. Physical Review A, 2001, 64, .	1.0	18
101	Observing Dynamical Currents in a Non-Hermitian Momentum Lattice. Physical Review Letters, 2022, 128, 143602.	2.9	18
102	Observation of a Fragmented, Strongly Interacting Fermi Gas. Physical Review Letters, 2015, 115, 045302.	2.9	17
103	Elastic Scattering of Rubidium Atoms by Two Crossed Standing Waves. Europhysics Letters, 1992, 18, 391-395.	0.7	16
104	Collective Atomic Dynamics in a Magneto-optical Trap. Europhysics Letters, 1993, 21, 445-450.	0.7	16
105	Imaging an atomic beam in two dimensions. Optics Communications, 1992, 93, 49-53.	1.0	15
106	Flat-band transport and Josephson effect through a finite-size sawtooth lattice. Physical Review B, 2021, 103, .	1.1	15
107	Strongly interacting atoms and molecules in a 3D optical lattice. Journal of Physics B: Atomic, Molecular and Optical Physics, 2006, 39, S47-S56.	0.6	13
108	First order phase transition between two centro-symmetric superradiant crystals. Physical Review Research, 2021, 3, .	1.3	13

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109	Ramsey-Type Subrecoil Cooling. Physical Review Letters, 1997, 78, 4023-4026.	2.9	12
110	Atoms and Molecules in Lattices: Bose-Einstein Condensates Built on a Shared Vacuum. Physical Review Letters, 2003, 90, 160406.	2.9	12
111	Interaction-Assisted Reversal of Thermopower with Ultracold Atoms. Physical Review X, 2021, 11, .	2.8	12
112	Dissipation-Engineered Family of Nearly Dark States in Many-Body Cavity-Atom Systems. Physical Review Letters, 2022, 128, 153601.	2.9	12
113	Continuous detection of an atom laser beam. Physical Review A, 2002, 65, .	1.0	11
114	Probing first-order spatial coherence of a Bose-Einstein condensate. Journal of Modern Optics, 2000, 47, 2725-2732.	0.6	10
115	Floquet engineering of individual band gaps in an optical lattice using a two-tone drive. Physical Review Research, 2022, 4, .	1.3	9
116	Atomlaser: Aus Boseâ€Einsteinâ€Kondensaten lassen sich kohÃrente Materiewellen auskoppeln. Physik Journal, 2000, 56, 47-50.	0.1	8
117	Time interval distributions of atoms in atomic beams. Applied Physics B: Lasers and Optics, 2007, 86, 391-393.	1.1	8
118	Fermionic atoms in an optical lattice: a new synthetic material. Europhysics News, 2006, 37, 18-21.	0.1	7
119	Atomic gas in flatland. Nature, 2006, 441, 1053-1054.	13.7	5
120	Criticality and Correlations in Cold Atomic Gases. , 2008, , 79-88.		2
121	A new phase for ytterbium atoms. Physics Magazine, 2009, 2, .	0.1	2
122	A low-noise and scalable FPGA-based analog signal generator for quantum gas experiments. , 2021, , .		2
123	Line width of an atom laser. Applied Physics B: Lasers and Optics, 2003, 76, 109-112.	1.1	1
124	FERMIONIC ATOMS WITH TUNABLE INTERACTIONS IN A 3D OPTICAL LATTICE. , 2005, , .		1
125	Probing first-order spatial coherence of a Bose-Einstein condensate. Journal of Modern Optics, 2000, 47, 2725-2732.	0.6	1
126	ELECTRIC FIELD SPECTROSCOPY OF ULTRACOLD POLAR MOLECULAR DIMERS. , 2005, , .		1

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127	Measuring the Band Populations in a Purely Optical Dark Lattice. , 1996, , .		0
128	Recurring dark states in Ramsey-type subrecoil cooling. Applied Physics B: Lasers and Optics, 1997, 65, 701-706.	1.1	0
129	Generating And Manipulating Atom Laser Beams. , 2002, , 117-128.		0
130	Fermionic atoms in an optical lattice. , 2005, , .		0
131	Correlations in ultracold atomic gases. , 2007, , .		0
132	SYNTHETIC QUANTUM MANY-BODY SYSTEMS. , 2010, , .		0
133	Bloch-Zener oscillations in a tunable optical honeycomb lattice. , 2013, , .		0
134	Exploring cavity-mediated long-range interactions in a quantum gas. , 2013, , .		0
135	â€œEnlightening the World with the Laserâ€â€”Honoring T. W. HÃnsch. Applied Physics B: Lasers and Optics, 2016, 122, 1.	1.1	0
136	Quantum simulations with quantum gases. , 2017, , .		0
137	From Laser Cooling to the Superfluid Mott Insulator. , 2018, , 805-812.		0
138	From Diode Laser to Atom Laser. , 2002, , 275-280.		0