

# Adolfo del Campo

## 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.

118  
papers

5,282  
citations

37  
h-index

70  
g-index

131  
ext. papers

6,442  
ext. citations

5  
avg, IF

6.53  
L-index

#	Paper	IF	Citations
118	Super-Heisenberg scaling in Hamiltonian parameter estimation in the long-range Kitaev chain. <i>Physical Review Research</i> , <b>2022</b> , 4,	3.9	1
117	Digitized-counterdiabatic quantum approximate optimization algorithm. <i>Physical Review Research</i> , <b>2022</b> , 4,	3.9	4
116	Variational Principle for Optimal Quantum Controls in Quantum Metrology.. <i>Physical Review Letters</i> , <b>2022</b> , 128, 160505	7.4	1
115	Parent Hamiltonians of Jastrow wavefunctions. <i>SciPost Physics Core</i> , <b>2021</b> , 4,	3.9	1
114	Probing Quantum Speed Limits with Ultracold Gases. <i>Physical Review Letters</i> , <b>2021</b> , 126, 180603	7.4	8
113	Universal statistics of vortices in a newborn holographic superconductor: beyond the Kibble-Zurek mechanism. <i>Journal of High Energy Physics</i> , <b>2021</b> , 2021, 1	5.4	5
112	García-Pintos, Hama, and del Campo Reply. <i>Physical Review Letters</i> , <b>2021</b> , 127, 028902	7.4	1
111	Thermofield dynamics: Quantum chaos versus decoherence. <i>Physical Review B</i> , <b>2021</b> , 103,	3.3	5
110	Exact thermal properties of free-fermionic spin chains. <i>SciPost Physics</i> , <b>2021</b> , 11,	6.1	2
109	Distribution of kinks in an Ising ferromagnet after annealing and the generalized Kibble-Zurek mechanism. <i>Physical Review Research</i> , <b>2021</b> , 3,	3.9	2
108	Uhlmann fidelity and fidelity susceptibility for integrable spin chains at finite temperature: exact results. <i>New Journal of Physics</i> , <b>2021</b> , 23, 093033	2.9	0
107	Quantum Statistical Enhancement of the Collective Performance of Multiple Bosonic Engines. <i>Physical Review Letters</i> , <b>2020</b> , 124, 210603	7.4	18
106	Full Counting Statistics of Topological Defects after Crossing a Phase Transition. <i>Physical Review Letters</i> , <b>2020</b> , 124, 240602	7.4	11
105	Decoherence in Conformal Field Theory. <i>Journal of High Energy Physics</i> , <b>2020</b> , 2020, 1	5.4	6
104	Experimentally testing quantum critical dynamics beyond the Kibble-Zurek mechanism. <i>Communications Physics</i> , <b>2020</b> , 3,	5.4	17
103	Superadiabatic thermalization of a quantum oscillator by engineered dephasing. <i>Physical Review Research</i> , <b>2020</b> , 2,	3.9	7
102	Probing the universality of topological defect formation in a quantum annealer: Kibble-Zurek mechanism and beyond. <i>Physical Review Research</i> , <b>2020</b> , 2,	3.9	27

101	Quenched dynamics of artificial colloidal spin ice. <i>Physical Review Research</i> , <b>2020</b> , 2,	3.9	2
100	Exact ground states of quantum many-body systems under confinement. <i>Physical Review Research</i> , <b>2020</b> , 2,	3.9	6
99	Universal finite-time thermodynamics of many-body quantum machines from Kibble-Zurek scaling. <i>Physical Review Research</i> , <b>2020</b> , 2,	3.9	5
98	Nonadiabatic Energy Fluctuations of Scale-Invariant Quantum Systems in a Time-Dependent Trap. <i>Entropy</i> , <b>2020</b> , 22,	2.8	4
97	Fluctuations in Extractable Work Bound the Charging Power of Quantum Batteries. <i>Physical Review Letters</i> , <b>2020</b> , 125, 040601	7.4	27
96	Exactly Solvable System of One-Dimensional Trapped Bosons with Short- and Long-Range Interactions. <i>Physical Review Letters</i> , <b>2020</b> , 125, 220602	7.4	5
95	Time-information uncertainty relations in thermodynamics. <i>Nature Physics</i> , <b>2020</b> , 16, 1211-1215	16.2	29
94	Focus on Shortcuts to Adiabaticity. <i>New Journal of Physics</i> , <b>2019</b> , 21, 050201	2.9	35
93	Spontaneous Symmetry Breaking Induced by Quantum Monitoring. <i>Physical Review Letters</i> , <b>2019</b> , 123, 090403	7.4	7
92	A fast synthesis route of boron-carbon-nitrogen ultrathin layers towards highly mixed ternary BCN phases. <i>2D Materials</i> , <b>2019</b> , 6, 035015	5.9	6
91	Probing the Full Distribution of Many-Body Observables By Single-Qubit Interferometry. <i>Physical Review Letters</i> , <b>2019</b> , 122, 160602	7.4	13
90	Universal Dynamics of Inhomogeneous Quantum Phase Transitions: Suppressing Defect Formation. <i>Physical Review Letters</i> , <b>2019</b> , 122, 080604	7.4	17
89	Quantum speed limits under continuous quantum measurements. <i>New Journal of Physics</i> , <b>2019</b> , 21, 033013	13	17
88	An interaction-driven many-particle quantum heat engine and its universal behavior. <i>Npj Quantum Information</i> , <b>2019</b> , 5,	8.6	20
87	Extreme Decoherence and Quantum Chaos. <i>Physical Review Letters</i> , <b>2019</b> , 122, 014103	7.4	19
86	Dirac Equation in (1+1)-Dimensional Curved Spacetime and the Multiphoton Quantum Rabi Model. <i>Physical Review Letters</i> , <b>2018</b> , 120, 160403	7.4	22
85	Quantum Speed Limits across the Quantum-to-Classical Transition. <i>Physical Review Letters</i> , <b>2018</b> , 120, 070401	7.4	67
84	Shortcuts to adiabaticity in the strongly coupled regime: Nonadiabatic control of a unitary Fermi gas. <i>Physical Review A</i> , <b>2018</b> , 97,	2.6	25

83	Superadiabatic quantum friction suppression in finite-time thermodynamics. <i>Science Advances</i> , <b>2018</b> , 4, eaar5909	14.3	61
82	Shortcuts to adiabaticity assisted by counterdiabatic Born-Oppenheimer dynamics. <i>New Journal of Physics</i> , <b>2018</b> , 20, 085003	2.9	11
81	Friction-Free Quantum Machines. <i>Fundamental Theories of Physics</i> , <b>2018</b> , 127-148	0.8	6
80	Universal Statistics of Topological Defects Formed in a Quantum Phase Transition. <i>Physical Review Letters</i> , <b>2018</b> , 121, 200601	7.4	27
79	Decay of a thermo-field-double state in chaotic quantum systems. <i>European Physical Journal: Special Topics</i> , <b>2018</b> , 227, 247-258	2.3	7
78	Shortcuts to adiabaticity in Fermi gases. <i>New Journal of Physics</i> , <b>2018</b> , 20, 105004	2.9	16
77	Nonequilibrium uncertainty principle from information geometry. <i>Physical Review E</i> , <b>2018</b> , 98,	2.4	11
76	Complexity functionals and complexity growth limits in continuous MERA circuits. <i>Journal of High Energy Physics</i> , <b>2018</b> , 2018, 1	5.4	18
75	Quantum work statistics, Loschmidt echo and information scrambling. <i>Scientific Reports</i> , <b>2018</b> , 8, 12634	4.9	26
74	Universal Work Fluctuations During Shortcuts to Adiabaticity by Counterdiabatic Driving. <i>Physical Review Letters</i> , <b>2017</b> , 118, 100602	7.4	85
73	Quantum Performance of Thermal Machines over Many Cycles. <i>Physical Review Letters</i> , <b>2017</b> , 118, 050601	7.4	61
72	Nonexponential Quantum Decay under Environmental Decoherence. <i>Physical Review Letters</i> , <b>2017</b> , 119, 130401	7.4	21
71	Truncated Calogero-Sutherland models. <i>Physical Review B</i> , <b>2017</b> , 95,	3.3	7
70	Scrambling the spectral form factor: Unitarity constraints and exact results. <i>Physical Review D</i> , <b>2017</b> , 95,	4.9	39
69	Nonlinear Quantum Metrology of Many-Body Open Systems. <i>Physical Review Letters</i> , <b>2017</b> , 119, 010403	7.4	37
68	Quantum Simulation of Generic Many-Body Open System Dynamics Using Classical Noise. <i>Physical Review Letters</i> , <b>2017</b> , 118, 140403	7.4	54
67	Digital Quantum Simulation of Minimal AdS/CFT. <i>Physical Review Letters</i> , <b>2017</b> , 119, 040501	7.4	71
66	Anti-Kibble-Zurek Behavior in Crossing the Quantum Critical Point of a Thermally Isolated System Driven by a Noisy Control Field. <i>Physical Review Letters</i> , <b>2016</b> , 117, 080402	7.4	37

65	Shortcuts to adiabaticity by counterdiabatic driving for trapped-ion displacement in phase space. <i>Nature Communications</i> , <b>2016</b> , 7, 12999	17.4	121
64	Experimental Trapped-ion Quantum Simulation of the Kibble-Zurek dynamics in momentum space. <i>Scientific Reports</i> , <b>2016</b> , 6, 33381	4.9	28
63	Exact quantum decay of an interacting many-particle system: the Calogero-Butherland model. <i>New Journal of Physics</i> , <b>2016</b> , 18, 015014	2.9	26
62	Formation of helical ion chains. <i>Physical Review B</i> , <b>2016</b> , 93,	3.3	23
61	Scaling-Up Quantum Heat Engines Efficiently via Shortcuts to Adiabaticity. <i>Entropy</i> , <b>2016</b> , 18, 168	2.8	92
60	Inhomogeneous quasi-adiabatic driving of quantum critical dynamics in weakly disordered spin chains. <i>New Journal of Physics</i> , <b>2016</b> , 18, 123034	2.9	20
59	Quantum supremacy of many-particle thermal machines. <i>New Journal of Physics</i> , <b>2016</b> , 18, 075019	2.9	102
58	Fundamental Speed Limits to the Generation of Quantumness. <i>Scientific Reports</i> , <b>2016</b> , 6, 38149	4.9	18
57	Controlling quantum critical dynamics of isolated systems. <i>European Physical Journal: Special Topics</i> , <b>2015</b> , 224, 189-203	2.3	26
56	Colloidal test bed for universal dynamics of phase transitions. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2015</b> , 112, 6780-1	11.5	5
55	Universal far-from-equilibrium dynamics of a holographic superconductor. <i>Nature Communications</i> , <b>2015</b> , 6, 7406	17.4	42
54	Structural phase transitions and topological defects in ion Coulomb crystals. <i>Physica B: Condensed Matter</i> , <b>2015</b> , 460, 114-118	2.8	14
53	Quantum Simulation of Dissipative Processes without Reservoir Engineering. <i>Scientific Reports</i> , <b>2015</b> , 5, 9981	4.9	24
52	Bent waveguides for matter-waves: supersymmetric potentials and reflectionless geometries. <i>Scientific Reports</i> , <b>2014</b> , 4, 5274	4.9	14
51	More bang for your buck: super-adiabatic quantum engines. <i>Scientific Reports</i> , <b>2014</b> , 4, 6208	4.9	197
50	High-fidelity rapid ground-state loading of an ultracold gas into an optical lattice. <i>Physical Review Letters</i> , <b>2014</b> , 113, 063003	7.4	50
49	Adiabatic tracking of quantum many-body dynamics. <i>Physical Review A</i> , <b>2014</b> , 90,	2.6	90
48	Universality of phase transition dynamics: Topological defects from symmetry breaking. <i>International Journal of Modern Physics A</i> , <b>2014</b> , 29, 1430018	1.2	170

47	Tuning heat transport in trapped-ion chains across a structural phase transition. <i>Physical Review B</i> , <b>2014</b> , 89,	3.3	18
46	Classical and Quantum Shortcuts to Adiabaticity for Scale-Invariant Driving. <i>Physical Review X</i> , <b>2014</b> , 4,	9.1	159
45	UNIVERSALITY OF PHASE TRANSITION DYNAMICS: TOPOLOGICAL DEFECTS FROM SYMMETRY BREAKING <b>2014</b> ,		2
44	Topological defect formation and spontaneous symmetry breaking in ion Coulomb crystals. <i>Nature Communications</i> , <b>2013</b> , 4, 2291	17.4	166
43	Shortcuts to Adiabaticity. <i>Advances in Atomic, Molecular and Optical Physics</i> , <b>2013</b> , 62, 117-169	1.7	466
42	Causality and non-equilibrium second-order phase transitions in inhomogeneous systems. <i>Journal of Physics Condensed Matter</i> , <b>2013</b> , 25, 404210	1.8	50
41	Quantum speed limits in open system dynamics. <i>Physical Review Letters</i> , <b>2013</b> , 110, 050403	7.4	261
40	Shortcuts to adiabaticity by counterdiabatic driving. <i>Physical Review Letters</i> , <b>2013</b> , 111, 100502	7.4	297
39	Symmetry Breaking and Topological Defect Formation in Ion Coulomb Crystals <b>2013</b> ,		1
38	Assisted finite-rate adiabatic passage across a quantum critical point: exact solution for the quantum Ising model. <i>Physical Review Letters</i> , <b>2012</b> , 109, 115703	7.4	208
37	Shortcuts to adiabaticity in a time-dependent box. <i>Scientific Reports</i> , <b>2012</b> , 2, 648	4.9	90
36	Fidelity of fermionic-atom number states subjected to tunneling decay. <i>Physical Review A</i> , <b>2012</b> , 85,	2.6	38
35	Asymptotic Bethe-ansatz solution for one-dimensional SU(2) spinor bosons with finite-range Gaussian interactions. <i>Physical Review A</i> , <b>2012</b> , 85,	2.6	7
34	Long-time behavior of many-particle quantum decay. <i>Physical Review A</i> , <b>2011</b> , 84,	2.6	64
33	Fast frictionless dynamics as a toolbox for low-dimensional Bose-Einstein condensates. <i>Europhysics Letters</i> , <b>2011</b> , 96, 60005	1.6	58
32	The inhomogeneous Kibble-Zurek mechanism: vortex nucleation during Bose-Einstein condensation. <i>New Journal of Physics</i> , <b>2011</b> , 13, 083022	2.9	40
31	Frictionless quantum quenches in ultracold gases: A quantum-dynamical microscope. <i>Physical Review A</i> , <b>2011</b> , 84,	2.6	123
30	Atomic Fock states by gradual trap reduction: From sudden to adiabatic limits. <i>Physical Review A</i> , <b>2011</b> , 83,	2.6	9

29	Fast optimal frictionless atom cooling in harmonic traps: shortcut to adiabaticity. <i>Physical Review Letters</i> , <b>2010</b> , 104, 063002	7.4	414
28	Structural defects in ion chains by quenching the external potential: the inhomogeneous Kibble-Zurek mechanism. <i>Physical Review Letters</i> , <b>2010</b> , 105, 075701	7.4	100
27	Spontaneous nucleation of structural defects in inhomogeneous ion chains. <i>New Journal of Physics</i> , <b>2010</b> , 12, 115003	2.9	53
26	Preparation of atomic Fock states by trap reduction. <i>Physical Review A</i> , <b>2009</b> , 79,	2.6	19
25	Momentum-space interferometry with trapped ultracold atoms. <i>Physical Review A</i> , <b>2009</b> , 79,	2.6	4
24	Atom cooling by nonadiabatic expansion. <i>Physical Review A</i> , <b>2009</b> , 80,	2.6	12
23	Quantum transients. <i>Physics Reports</i> , <b>2009</b> , 476, 1-50	27.7	94
22	Dwell-Time Distributions in Quantum Mechanics. <i>Lecture Notes in Physics</i> , <b>2009</b> , 97-125	0.8	3
21	Symplectic tomography of ultracold gases in tight waveguides. <i>Physical Review A</i> , <b>2008</b> , 78,	2.6	9
20	Fermionization and bosonization of expanding one-dimensional anyonic fluids. <i>Physical Review A</i> , <b>2008</b> , 78,	2.6	58
19	Atom Fock-state preparation by trap reduction. <i>Physical Review A</i> , <b>2008</b> , 78,	2.6	16
18	Disclosing hidden information in the quantum Zeno effect: Pulsed measurement of the quantum time of arrival. <i>Physical Review A</i> , <b>2008</b> , 77,	2.6	33
17	Quantum matter-wave dynamics with moving mirrors. <i>Physical Review A</i> , <b>2008</b> , 77,	2.6	14
16	Generalized relation between pulsed and continuous measurements in the quantum Zeno effect. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , <b>2008</b> , 41, 175501	1.3	16
15	Seeking better times: atomic clocks in the generalized Tonks-Girardeau regime. <i>Journal of Physics: Conference Series</i> , <b>2008</b> , 99, 012014	0.3	1
14	Atom laser dynamics in a tight waveguide. <i>Journal of Physics: Conference Series</i> , <b>2008</b> , 99, 012003	0.3	3
13	A theorem on boundary functions for quantum shutters. <i>Physica B: Condensed Matter</i> , <b>2007</b> , 396, 108-112.8		3
12	Time modulation of atom sources. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , <b>2007</b> , 40, 975-987	1.3	32

11	Ramsey interferometry with a two-level generalized Tonks-Girardeau gas. <i>Physical Review A</i> , <b>2007</b> , 76,	2.6	10
10	Stability of spinor Fermi gases in tight waveguides. <i>Physical Review A</i> , <b>2007</b> , 76,	2.6	8
9	Matter-wave diffraction in time with a linear potential. <i>Journal of Physics A</i> , <b>2006</b> , 39, 5897-5906		18
8	Decay by tunneling of bosonic and fermionic Tonks-Girardeau gases. <i>Physical Review A</i> , <b>2006</b> , 74,	2.6	45
7	Role of initial state reconstruction in short- and long-time deviations from exponential decay. <i>Physical Review A</i> , <b>2006</b> , 73,	2.6	25
6	Exact propagators for atom-laser interactions. <i>Journal of Physics A</i> , <b>2006</b> , 39, 14079-14088		5
5	Dynamics of a Tonks-Girardeau gas released from a hard-wall trap. <i>Europhysics Letters</i> , <b>2006</b> , 74, 965-971.	1.6	58
4	Momentum interferences of a freely expanding Bose-Einstein condensate due to interatomic interaction change. <i>European Physical Journal D</i> , <b>2006</b> , 40, 399-403	1.3	7
3	Single-particle matter wave pulses. <i>Journal of Physics A</i> , <b>2005</b> , 38, 9803-9819		17
2	Work Statistics, Loschmidt Echo and Information Scrambling in Chaotic Quantum Systems. <i>Quantum - the Open Journal for Quantum Science</i> , 3, 127		23
1	Shortcuts to Adiabaticity in Driven Open Quantum Systems: Balanced Gain and Loss and Non-Markovian Evolution. <i>Quantum - the Open Journal for Quantum Science</i> , 4, 336		19