

# Diego Porras

## List of Publications by Year in descending order

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78  
papers

4,325  
citations

147801

31  
h-index

114465

63  
g-index

78  
all docs

78  
docs citations

78  
times ranked

2878  
citing authors

#	ARTICLE	IF	CITATIONS
1	Effective Quantum Spin Systems with Trapped Ions. <i>Physical Review Letters</i> , 2004, 92, 207901.	7.8	700
2	Simulating a quantum magnet with trapped ions. <i>Nature Physics</i> , 2008, 4, 757-761.	16.7	502
3	Density Matrix Renormalization Group and Periodic Boundary Conditions: A Quantum Information Perspective. <i>Physical Review Letters</i> , 2004, 93, 227205.	7.8	455
4	Experimental quantum simulations of many-body physics with trapped ions. <i>Reports on Progress in Physics</i> , 2012, 75, 024401.	20.1	270
5	Polariton dynamics and Bose-Einstein condensation in semiconductor microcavities. <i>Physical Review B</i> , 2002, 66, .	3.2	162
6	Effective spin quantum phases in systems of trapped ions. <i>Physical Review A</i> , 2005, 72, .	2.5	150
7	Bose-Einstein Condensation and Strong-Correlation Behavior of Phonons in Ion Traps. <i>Physical Review Letters</i> , 2004, 93, 263602.	7.8	113
8	Mesoscopic Entanglement Induced by Spontaneous Emission in Solid-State Quantum Optics. <i>Physical Review Letters</i> , 2013, 110, 080502.	7.8	112
9	Synthetic Gauge Fields for Vibrational Excitations of Trapped Ions. <i>Physical Review Letters</i> , 2011, 107, 150501.	7.8	109
10	Collective generation of quantum states of light by entangled atoms. <i>Physical Review A</i> , 2008, 78, .	2.5	104
11	Mesoscopic spin-boson models of trapped ions. <i>Physical Review A</i> , 2008, 78, .	2.5	99
12	Nonequilibrium and Nonperturbative Dynamics of Ultrastrong Coupling in Open Lines. <i>Physical Review Letters</i> , 2013, 111, 243602.	7.8	96
13	Quantum Manipulation of Trapped Ions in Two Dimensional Coulomb Crystals. <i>Physical Review Letters</i> , 2006, 96, 250501.	7.8	95
14	Time-Resolved Observation of Thermalization in an Isolated Quantum System. <i>Physical Review Letters</i> , 2016, 117, 170401.	7.8	81
15	Linewidth of a polariton laser: Theoretical analysis of self-interaction effects. <i>Physical Review B</i> , 2003, 67, .	3.2	77
16	Matter-Wave Emission in Optical Lattices: Single Particle and Collective Effects. <i>Physical Review Letters</i> , 2008, 101, 260404.	7.8	69
17	Dynamics of the excitations of a quantum dot in a microcavity. <i>Physical Review B</i> , 2004, 70, .	3.2	52
18	Quantum phases of trapped ions in an optical lattice. <i>New Journal of Physics</i> , 2008, 10, 045017.	2.9	51

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19	Simulating quantum-optical phenomena with cold atoms in optical lattices. <i>New Journal of Physics</i> , 2011, 13, 023024.	2.9	49
20	Renormalization algorithm for the calculation of spectra of interacting quantum systems. <i>Physical Review B</i> , 2006, 73, .	3.2	47
21	Ring emission and exciton-pair scattering in semiconductor microcavities. <i>Physical Review B</i> , 2002, 65, .	3.2	45
22	Quantum phases of interacting phonons in ion traps. <i>Physical Review A</i> , 2008, 77, .	2.5	45
23	Topological Amplification in Photonic Lattices. <i>Physical Review Letters</i> , 2019, 122, 143901.	7.8	44
24	Competing many-body interactions in systems of trapped ions. <i>Physical Review A</i> , 2009, 79, .	2.5	42
25	Quantum sensing close to a dissipative phase transition: Symmetry breaking and criticality as metrological resources. <i>Physical Review A</i> , 2017, 96, .	2.5	42
26	Shaping an Itinerant Quantum Field into a Multimode Squeezed Vacuum by Dissipation. <i>Physical Review Letters</i> , 2012, 108, 043602.	7.8	41
27	Interaction-dependent photon-assisted tunneling in optical lattices: a quantum simulator of strongly-correlated electrons and dynamical Gauge fields. <i>New Journal of Physics</i> , 2015, 17, 103021.	2.9	38
28	Microscopic theory for quantum mirages in quantum corrals. <i>Physical Review B</i> , 2001, 63, .	3.2	37
29	Photon-assisted-tunneling toolbox for quantum simulations in ion traps. <i>New Journal of Physics</i> , 2012, 14, 053049.	2.9	36
30	Symmetries and conservation laws in quantum trajectories: Dissipative freezing. <i>Physical Review A</i> , 2019, 100, .	2.5	35
31	Qubit-photon bound states in topological waveguides with long-range hoppings. <i>Physical Review A</i> , 2021, 104, .	2.5	35
32	Quantum Simulation of the Cooperative Jahn-Teller Transition in 1D Ion Crystals. <i>Physical Review Letters</i> , 2012, 108, 235701.	7.8	31
33	Circuit QED Bright Source for Chiral Entangled Light Based on Dissipation. <i>Physical Review Letters</i> , 2013, 111, 073602.	7.8	31
34	Inducing Nonclassical Lasing via Periodic Drivings in Circuit Quantum Electrodynamics. <i>Physical Review Letters</i> , 2014, 113, 193601.	7.8	30
35	Detection of spin correlations in optical lattices by light scattering. <i>Physical Review A</i> , 2008, 77, .	2.5	27
36	The localization of phonons in ion traps with controlled quantum disorder. <i>New Journal of Physics</i> , 2010, 12, 123016.	2.9	24

#	ARTICLE	IF	CITATIONS
37	Hidden frustrated interactions and quantum annealing in trapped-ion spin-phonon chains. <i>Physical Review A</i> , 2016, 93, .	2.5	24
38	Topological Edge States in Periodically Driven Trapped-Ion Chains. <i>Physical Review Letters</i> , 2017, 119, 210401.	7.8	24
39	Adiabatic quantum metrology with strongly correlated quantum optical systems. <i>Physical Review A</i> , 2013, 88, .	2.5	23
40	Off-diagonal observable elements from random matrix theory: distributions, fluctuations, and eigenstate thermalization. <i>New Journal of Physics</i> , 2018, 20, 103003.	2.9	23
41	Simulating accelerated atoms coupled to a quantum field. <i>Physical Review A</i> , 2012, 85, .	2.5	22
42	Floquet-Engineered Vibrational Dynamics in a Two-Dimensional Array of Trapped Ions. <i>Physical Review Letters</i> , 2019, 123, 213605.	7.8	22
43	The “research” of simulating quantum spin systems with trapped ions. <i>Applied Physics B: Lasers and Optics</i> , 2009, 95, 195-203.	2.2	21
44	Quantum chaotic fluctuation-dissipation theorem: Effective Brownian motion in closed quantum systems. <i>Physical Review E</i> , 2019, 99, 052139.	2.1	21
45	Photon-mediated qubit interactions in one-dimensional discrete and continuous models. <i>Physical Review A</i> , 2015, 91, .	2.5	20
46	Towards electron-electron entanglement in Penning traps. <i>Physical Review A</i> , 2010, 81, .	2.5	17
47	Topological input-output theory for directional amplification. <i>Physical Review A</i> , 2021, 103, .	2.5	16
48	Quantum Sensors Assisted by Spontaneous Symmetry Breaking for Detecting Very Small Forces. <i>Physical Review Applied</i> , 2015, 4, .	3.8	15
49	Quantum variational optimization: The role of entanglement and problem hardness. <i>Physical Review A</i> , 2021, 104, .	2.5	15
50	Simulation of the Jahn–Teller–Dicke magnetic structural phase transition with trapped ions. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2013, 46, 104003.	1.5	10
51	Limits of photon-mediated interactions in one-dimensional photonic baths. <i>Physical Review A</i> , 2020, 102, .	2.5	10
52	Mesoscopic mean-field theory for spin-boson chains in quantum optical systems. <i>European Physical Journal: Special Topics</i> , 2013, 217, 29-41.	2.6	9
53	Quantum Processing Photonic States in Optical Lattices. <i>Physical Review Letters</i> , 2008, 100, 063601.	7.8	8
54	Hybrid quantum–classical optimization with cardinality constraints and applications to finance. <i>Quantum Science and Technology</i> , 2021, 6, 034010.	5.8	8

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55	Rabi lattice models with discrete gauge symmetry: Phase diagram and implementation in trapped-ion quantum simulators. <i>Physical Review A</i> , 2015, 92, .	2.5	6
56	Heisenberg scaling with classical long-range correlations. <i>Physical Review A</i> , 2018, 97, .	2.5	6
57	The Bose-Hubbard model with squeezed dissipation. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2015, 48, 055302.	1.5	5
58	Taking snapshots of a quantum thermalization process: Emergent classicality in quantum jump trajectories. <i>Physical Review E</i> , 2020, 102, 042115.	2.1	5
59	Out-of-time-order correlator in the quantum Rabi model. <i>Physical Review A</i> , 2022, 105, .	2.5	5
60	Fermi-edge singularities in linear and nonlinear ultrafast spectroscopy. <i>Physical Review B</i> , 2001, 63, .	3.2	3
61	Phonon Superfluids in Sets of Trapped Ions. <i>Foundations of Physics</i> , 2006, 36, 465-476.	1.3	3
62	Ergodicity probes: using time-fluctuations to measure the Hilbert space dimension. <i>Quantum - the Open Journal for Quantum Science</i> , 0, 3, 207.	0.0	3
63	Topological phases of shaken quantum Ising lattices. <i>New Journal of Physics</i> , 2016, 18, 023030.	2.9	2
64	Simulation of quantum magnetism with trapped ions. , 2005, , .		1
65	Dissipative Josephson effect in coupled nanolasers. <i>New Journal of Physics</i> , 2021, 23, 033010.	2.9	1
66	Decimation technique for open quantum systems: A case study with driven-dissipative bosonic chains. <i>Physical Review A</i> , 2022, 105, .	2.5	1
67	Coherent control and four wave-mixing of Fermi edge singularities in doped quantum wells. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2002, 12, 558-561.	2.7	0
68	Superfluid-Mott insulator transition and Bose-Einstein Condensation of phonons in ion traps. <i>AIP Conference Proceedings</i> , 2005, , .	0.4	0
69	Single and two photon emission from a semiconductor quantum dot in an optical microcavity. <i>AIP Conference Proceedings</i> , 2005, , .	0.4	0
70	Strong correlation in systems of trapped ions. , 0, , .		0
71	Quantum processing photonic states in optical lattices. , 2007, , .		0
72	Quantum engineering of photon states with atomic ensembles. , 2007, , .		0

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73	Quantum computation and quantum simulation with Coulomb crystals. , 2007, , .		0
74	Simulating quantum-optical phenomena with optical lattices. , 2011, , .		0
75	Nonclassical lasing in circuit quantum electrodynamics. , 2013, , .		0
76	Coherent Response to Optical Pulses in Quantum Wells. , 2000, , 143-157.		0
77	Exciton and Polariton Condensation. , 0, , 153-189.		0
78	Quantum Processing Photonic States in Optical Lattices. , 0, , 533-553.		0