

Juan JosÃ© GarcÃ­a-Ripoll

List of Publications by Year in descending order

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160
papers

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164
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citing authors

#	ARTICLE	IF	CITATIONS
1	Ultrastrong Capacitive Coupling of Flux Qubits. <i>Physical Review Applied</i> , 2022, 17, .	3.8	4
2	Quantum Fourier analysis for multivariate functions and applications to a class of Schrödinger-type partial differential equations. <i>Physical Review A</i> , 2022, 105, .	2.5	12
3	Universal Deterministic Quantum Operations in Microwave Quantum Links. <i>Physical Review Applied</i> , 2022, 17, .	3.8	4
4	Complete Physical Characterization of Quantum Nondemolition Measurements via Tomography. <i>Physical Review Letters</i> , 2022, 129, .	7.8	3
5	Experimental Reconstruction of the Few-Photon Nonlinear Scattering Matrix from a Single Quantum Dot in a Nanophotonic Waveguide. <i>Physical Review Letters</i> , 2021, 126, 023603.	7.8	27
6	Ultraviolet Laser Pulses with Multigigahertz Repetition Rate and Multiwatt Average Power for Fast Trapped-Ion Entanglement Operations. <i>Physical Review Applied</i> , 2021, 15, .	3.8	6
7	Topological input-output theory for directional amplification. <i>Physical Review A</i> , 2021, 103, .	2.5	16
8	Gaussian phase sensitivity of boson-sampling-inspired strategies. <i>Physical Review A</i> , 2021, 103, .	2.5	2
9	Remote Individual Addressing of Quantum Emitters with Chirped Pulses. <i>Physical Review Letters</i> , 2021, 126, 103602.	7.8	3
10	Hybrid quantum-classical optimization with cardinality constraints and applications to finance. <i>Quantum Science and Technology</i> , 2021, 6, 034010.	5.8	8
11	Non-equilibrium coupling of a quartz resonator to ions for Penning-trap fast resonant detection. <i>Quantum Science and Technology</i> , 2021, 6, 044002.	5.8	2
12	Automatic design of quantum feature maps. <i>Quantum Science and Technology</i> , 2021, 6, 045015.	5.8	14
13	Three-Josephson junctions flux qubit couplings. <i>Applied Physics Letters</i> , 2021, 119, 222601.	3.3	4
14	Quantum variational optimization: The role of entanglement and problem hardness. <i>Physical Review A</i> , 2021, 104, .	2.5	15
15	Quantum Control of Frequency-Tunable Transmon Superconducting Qubits. <i>Physical Review Applied</i> , 2020, 14, .	3.8	16
16	Projected Entangled Pair States: Fundamental Analytical and Numerical Limitations. <i>Physical Review Letters</i> , 2020, 125, 210504.	7.8	9
17	Seeing topological edge and bulk currents in time-of-flight images. <i>Physical Review B</i> , 2020, 102, .	3.2	1
18	Topological bulk states and their currents. <i>Physical Review B</i> , 2020, 102, .	3.2	3

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19	Mediator-assisted cooling in quantum annealing. <i>Physical Review A</i> , 2020, 101, .	2.5	5
20	Quantum Simulation of Non-Perturbative Cavity QED with Trapped Ions. <i>Advanced Quantum Technologies</i> , 2020, 3, 1900125.	3.9	3
21	Fast High-Fidelity Quantum Nondemolition Qubit Readout via a Nonperturbative Cross-Kerr Coupling. <i>Physical Review X</i> , 2020, 10, .	8.9	31
22	Ultra-fast two-qubit ion gate using sequences of resonant pulses. <i>New Journal of Physics</i> , 2020, 22, 103024.	2.9	8
23	Qubit-photon corner states in all dimensions. <i>Physical Review Research</i> , 2020, 2, .	3.6	7
24	Single Photons by Quenching the Vacuum. <i>Physical Review Letters</i> , 2019, 123, 013601.	7.8	26
25	Ultrastrong-coupling circuit QED in the radio-frequency regime. <i>Physical Review A</i> , 2019, 100, .	2.5	5
26	Unitary quantum perceptron as efficient universal approximator. <i>Europhysics Letters</i> , 2019, 125, 30004.	2.0	73
27	Ultrastrongly dissipative quantum Rabi model. <i>Physical Review A</i> , 2019, 99, .	2.5	27
28	Modulated Continuous Wave Control for Energy-Efficient Electron-Nuclear Spin Coupling. <i>Physical Review Letters</i> , 2019, 122, 010407.	7.8	11
29	Ultrastrong Coupling Few-Photon Scattering Theory. <i>Physical Review Letters</i> , 2018, 120, 153602.	7.8	47
30	Topological phases in the Haldane model with spin-spin on-site interactions. <i>New Journal of Physics</i> , 2018, 20, 043033.	2.9	3
31	Emergent causality and the N-photon scattering matrix in waveguide QED. <i>New Journal of Physics</i> , 2018, 20, 013017.	2.9	8
32	Quantum annealing in spin-boson model: from a perturbative to an ultrastrong mediated coupling. <i>New Journal of Physics</i> , 2018, 20, 113027.	2.9	10
33	Correlated dephasing noise in single-photon scattering. <i>New Journal of Physics</i> , 2018, 20, 105007.	2.9	8
34	Quantum probe of an on-chip broadband interferometer for quantum microwave photonics. <i>Superconductor Science and Technology</i> , 2018, 31, 115002.	3.5	8
35	Coherent manipulation of three-qubit states in a molecular single-ion magnet. <i>Physical Review B</i> , 2017, 95, .	3.2	88
36	Quantum Estimation Methods for Quantum Illumination. <i>Physical Review Letters</i> , 2017, 118, 070803.	7.8	83

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37	Equivalence between spin Hamiltonians and boson sampling. <i>Physical Review A</i> , 2017, 95, .	2.5	13
38	Multiphoton Scattering Tomography with Coherent States. <i>Physical Review Letters</i> , 2017, 119, 153601.	7.8	13
39	Dynamical signatures of bound states in waveguide QED. <i>Physical Review A</i> , 2017, 96, .	2.5	55
40	Quantum Emulation of Molecular Force Fields: A Blueprint for a Superconducting Architecture. <i>Physical Review Applied</i> , 2017, 8, .	3.8	6
41	Ultrastrong coupling of a single artificial atom to an electromagnetic continuum in the nonperturbative regime. <i>Nature Physics</i> , 2017, 13, 39-43.	16.7	353
42	Winding number order in the Haldane model with interactions. <i>New Journal of Physics</i> , 2016, 18, 033022.	2.9	5
43	One- and two-photon scattering from generalized V-type atoms. <i>Physical Review A</i> , 2016, 94, .	2.5	9
44	Ultrastrong-coupling phenomena beyond the Dicke model. <i>Physical Review A</i> , 2016, 94, .	2.5	110
45	Quantum simulation with a boson sampling circuit. <i>Physical Review A</i> , 2016, 94, .	2.5	7
46	Dynamical polaron Ansatz: A theoretical tool for the ultrastrong-coupling regime of circuit QED. <i>Physical Review A</i> , 2016, 93, .	2.5	39
47	Entangled microwaves as a resource for entangling spatially separate solid-state qubits: Superconducting qubits, nitrogen-vacancy centers, and magnetic molecules. <i>Physical Review A</i> , 2016, 93, .	2.5	6
48	Full two-photon down-conversion of a single photon. <i>Physical Review A</i> , 2016, 94, .	2.5	31
49	Topological phases of shaken quantum Ising lattices. <i>New Journal of Physics</i> , 2016, 18, 023030.	2.9	2
50	Light-matter decoupling and A2 term detection in superconducting circuits. <i>Scientific Reports</i> , 2015, 5, 16055.	3.3	42
51	Driven spin-boson Luttinger liquids. <i>New Journal of Physics</i> , 2015, 17, 115011.	2.9	2
52	Nonlinear quantum optics in the (ultra)strong light-matter coupling. <i>Faraday Discussions</i> , 2015, 178, 335-356.	3.2	25
53	Tunable and switchable coupling between two superconducting resonators. <i>Physical Review B</i> , 2015, 91, .	3.2	55
54	The Bose-Hubbard model with squeezed dissipation. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2015, 48, 055302.	1.5	5

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55	Photon-mediated qubit interactions in one-dimensional discrete and continuous models. Physical Review A, 2015, 91, .	2.5	20
56	Measuring molecular electric dipoles using trapped atomic ions and ultrafast laser pulses. Physical Review A, 2015, 91, .	2.5	3
57	The interspersed spin boson lattice model. European Physical Journal: Special Topics, 2015, 224, 483-496.	2.6	2
58	Stationary discrete solitons in a driven dissipative Bose-Hubbard chain. Physical Review A, 2015, 91, .	2.5	17
59	Scattering in the Ultrastrong Regime: Nonlinear Optics with One Photon. Physical Review Letters, 2014, 113, 263604.	7.8	106
60	Detection of Chern numbers and entanglement in topological two-species systems through subsystem winding numbers. New Journal of Physics, 2014, 16, 083022.	2.9	14
61	Lattice scars: surviving in an open discrete billiard. New Journal of Physics, 2014, 16, 035005.	2.9	11
62	Phase Stabilization of a Frequency Comb using Multipulse Quantum Interferometry. Physical Review Letters, 2014, 112, 073603.	7.8	1
63	Continuous matrix product states for coupled fields: Application to Luttinger liquids and quantum simulators. Physical Review B, 2014, 90, .	3.2	17
64	Inducing Nonclassical Lasing via Periodic Drivings in Circuit Quantum Electrodynamics. Physical Review Letters, 2014, 113, 193601.	7.8	30
65	Collective modes of a trapped ionâ€dipole system. Applied Physics B: Lasers and Optics, 2014, 114, 283-294.	2.2	2
66	Entanglement Detection in Coupled Particle Plasmons. Physical Review Letters, 2014, 112, .	7.8	17
67	Quantum Chaos in an Ultrastrongly Coupled Bosonic Junction. Physical Review Letters, 2014, 112, 074101.	7.8	9
68	Hybrid Quantum Magnetism in Circuit QED: From Spin-Photon Waves to Many-Body Spectroscopy. Physical Review Letters, 2014, 112, 180405.	7.8	42
69	Seeing Majorana fermions in time-of-flight images of staggered spinless fermions coupled by-wave pairing. Physical Review A, 2013, 88, .	2.5	15
70	Circuit QED Bright Source for Chiral Entangled Light Based on Dissipation. Physical Review Letters, 2013, 111, 073602.	7.8	31
71	Coupling single-molecule magnets to quantum circuits. New Journal of Physics, 2013, 15, 095007.	2.9	82
72	Tunable coupling engineering between superconducting resonators: From sidebands to effective gauge fields. Physical Review B, 2013, 87, .	3.2	106

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73	Simulating Dirac fermions with Abelian and non-Abelian gauge fields in optical lattices. <i>Annals of Physics</i> , 2013, 328, 64-82.	2.8	20
74	Scattering of coherent states on a single artificial atom. <i>New Journal of Physics</i> , 2013, 15, 035009.	2.9	55
75	Bose-Hubbard models with photon pairing in circuit-QED. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2013, 46, 224024.	1.5	6
76	Nonequilibrium and Nonperturbative Dynamics of Ultrastrong Coupling in Open Lines. <i>Physical Review Letters</i> , 2013, 111, 243602.	7.8	96
77	Nonclassical lasing in circuit quantum electrodynamics. , 2013, , .		0
78	Lieb-Robinson Bounds for Spin-Boson Lattice Models and Trapped Ions. <i>Physical Review Letters</i> , 2013, 111, 230404.	7.8	31
79	Hall response of interacting bosonic atoms in strong gauge fields: From condensed to fractional-quantum-Hall states. <i>Physical Review A</i> , 2013, 87, .	2.5	7
80	Generating and verifying graph states for fault-tolerant topological measurement-based quantum computing in two-dimensional optical lattices. <i>Physical Review A</i> , 2013, 88, .	2.5	2
81	From Josephson junction metamaterials to tunable pseudo-cavities. <i>Superconductor Science and Technology</i> , 2013, 26, 074006.	3.5	11
82	Temperature-independent quantum logic for molecular spectroscopy. <i>Physical Review A</i> , 2012, 85, .	2.5	41
83	Microwave photonics with Josephson junction arrays: Negative refraction index and entanglement through disorder. <i>Physical Review B</i> , 2012, 86, .	3.2	29
84	Quantum tomography in position and momentum space. <i>European Physical Journal D</i> , 2012, 66, 1.	1.3	8
85	Quantum Simulation of the Ultrastrong-Coupling Dynamics in Circuit Quantum Electrodynamics. <i>Physical Review X</i> , 2012, 2, .	8.9	104
86	Shaping an Itinerant Quantum Field into a Multimode Squeezed Vacuum by Dissipation. <i>Physical Review Letters</i> , 2012, 108, 043602.	7.8	41
87	Encoding relativistic potential dynamics into free evolution. <i>Physical Review A</i> , 2012, 85, .	2.5	5
88	Solvable model of dissipative dynamics in the deep strong coupling regime. <i>European Physical Journal: Special Topics</i> , 2012, 203, 207-216.	2.6	4
89	Quantum Simulation of the Majorana Equation and Unphysical Operations. <i>Physical Review X</i> , 2011, 1, .	8.9	48
90	Quantum Simulation of the Klein Paradox with Trapped Ions. <i>Physical Review Letters</i> , 2011, 106, 060503.	7.8	169

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91	Approaching perfect microwave photodetection in circuit QED. Physical Review A, 2011, 84, .	2.5	85
92	Relativistic quantum mechanics with trapped ions. New Journal of Physics, 2011, 13, 095003.	2.9	64
93	Fermi Problem with Artificial Atoms in Circuit QED. Physical Review Letters, 2011, 107, 150402.	7.8	28
94	Detecting ground-state qubit self-excitations in circuit QED: A slow quantum anti-Zeno effect. Physical Review B, 2011, 84, .	3.2	6
95	Publisher's Note: Mapping the spatial distribution of entanglement in optical lattices [Phys. Rev. A, 82, 062321 (2010)]. Physical Review A, 2011, 83, .	2.5	0
96	Quantum Simulation of Quantum Field Theories in Trapped Ions. Physical Review Letters, 2011, 107, 260501.	7.8	72
97	Seeing Topological Order in Time-of-Flight Measurements. Physical Review Letters, 2011, 107, 235301.	7.8	163
98	Klein tunneling and Dirac potentials in trapped ions. Physical Review A, 2010, 82, .	2.5	74
99	Zeno physics in ultrastrong-coupling circuit QED. Physical Review A, 2010, 81, .	2.5	42
100	Circuit quantum electrodynamics in the ultrastrong-coupling regime. Nature Physics, 2010, 6, 772-776.	16.7	1,086
101	Mapping the spatial distribution of entanglement in optical lattices. Physical Review A, 2010, 82, .	2.5	10
102	Observation of the Bloch-Siegert Shift in a Qubit-Oscillator System in the Ultrastrong Coupling Regime. Physical Review Letters, 2010, 105, 237001.	7.8	597
103	Dynamics of entanglement via propagating microwave photons. Physical Review B, 2010, 81, .	3.2	22
104	Switchable Ultrastrong Coupling in Circuit QED. Physical Review Letters, 2010, 105, 023601.	7.8	149
105	Deep Strong Coupling Regime of the Jaynes-Cummings Model. Physical Review Letters, 2010, 105, 263603.	7.8	439
106	Microwave Photon Detector in Circuit QED. Physical Review Letters, 2009, 102, 173602.	7.8	136
107	Lieb-Liniger model of a dissipation-induced Tonks-Girardeau gas. Physical Review A, 2009, 79, .	2.5	57
108	Preparation of decoherence-free cluster states with optical superlattices. Physical Review A, 2009, 79, .	2.5	21

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109	Dissipation-induced hard-core boson gas in an optical lattice. <i>New Journal of Physics</i> , 2009, 11, 013053.	2.9	108
110	Correlated hopping of bosonic atoms induced by optical lattices. <i>New Journal of Physics</i> , 2009, 11, 093028.	2.9	23
111	Photodetection of propagating quantum microwaves in circuit QED. <i>Physica Scripta</i> , 2009, T137, 014004.	2.5	33
112	Strong Dissipation Inhibits Losses and Induces Correlations in Cold Molecular Gases. <i>Science</i> , 2008, 320, 1329-1331.	12.6	304
113	Pair condensation of bosonic atoms induced by optical lattices. <i>Physical Review A</i> , 2008, 77, .	2.5	27
114	Chiral entanglement in triangular lattice models. <i>Physical Review A</i> , 2008, 77, .	2.5	19
115	Quantum simulation of Anderson and Kondo lattices with superconducting qubits. <i>Physical Review B</i> , 2008, 77, .	3.2	31
116	Dynamical Creation of Bosonic Cooper-Like Pairs. <i>Physical Review Letters</i> , 2008, 100, 110406.	7.8	11
117	Fragmentation and destruction of the superfluid due to frustration of cold atoms in optical lattices. <i>New Journal of Physics</i> , 2007, 9, 139-139.	2.9	8
118	Efficient algorithm for multiqubit twirling for ensemble quantum computation. <i>Physical Review A</i> , 2007, 75, .	2.5	22
119	Publisher's Note: Quantum ratchets for quantum communication with optical superlattices [<i>Phys. Rev. A</i> 76, 052304 (2007)]. <i>Physical Review A</i> , 2007, 76, .	2.5	0
120	Publisher's Note: Efficient algorithm for multiqubit twirling for ensemble quantum computation [<i>Phys. Rev. A</i> 75, 042311 (2007)]. <i>Physical Review A</i> , 2007, 75, .	2.5	0
121	How Much Entanglement Can Be Generated between Two Atoms by Detecting Photons?. <i>Physical Review Letters</i> , 2007, 98, 010502.	7.8	19
122	Quantum ratchets for quantum communication with optical superlattices. <i>Physical Review A</i> , 2007, 76, .	2.5	50
123	Time evolution of Matrix Product States. <i>New Journal of Physics</i> , 2006, 8, 305-305.	2.9	116
124	Cooling toolbox for atoms in optical lattices. <i>New Journal of Physics</i> , 2006, 8, 164-164.	2.9	16
125	Ground-state cooling of atoms in optical lattices. <i>Physical Review A</i> , 2006, 74, .	2.5	33
126	Quantum information processing with cold atoms and trapped ions. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2005, 38, S567-S578.	1.5	62

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127	Coherent control of trapped ions using off-resonant lasers. <i>Physical Review A</i> , 2005, 71, .	2.5	92
128	Strong correlation effects and quantum information theory of low dimensional atomic gases. <i>European Physical Journal Special Topics</i> , 2004, 116, 135-168.	0.2	2
129	Implementation of Spin Hamiltonians in Optical Lattices. <i>Physical Review Letters</i> , 2004, 93, 250405.	7.8	200
130	Matrix Product Density Operators: Simulation of Finite-Temperature and Dissipative Systems. <i>Physical Review Letters</i> , 2004, 93, 207204.	7.8	724
131	Course 4 Quantum optical implementation of quantum information processing. <i>Les Houches Summer School Proceedings</i> , 2004, 79, 187-222.	0.2	2
132	Variational ansatz for the superfluid Mott-insulator transition in optical lattices. <i>Optics Express</i> , 2004, 12, 42.	3.4	21
133	Fast quantum gates and coherent control with trapped ions. , 2004, , .		0
134	A quasi-local Gross-Pitaevskii equation for attractive Bose-Einstein condensates. <i>Mathematics and Computers in Simulation</i> , 2003, 62, 21-30.	4.4	52
135	Quantum Computation with Unknown Parameters. <i>Physical Review Letters</i> , 2003, 90, 127902.	7.8	38
136	Scattering of dipole-mode vector solitons: Theory and experiment. <i>Physical Review E</i> , 2003, 68, 016612.	2.1	7
137	Speed Optimized Two-Qubit Gates with Laser Coherent Control Techniques for Ion Trap Quantum Computing. <i>Physical Review Letters</i> , 2003, 91, 157901.	7.8	226
138	Spin dynamics for bosons in an optical lattice. <i>New Journal of Physics</i> , 2003, 5, 76-76.	2.9	74
139	Quantum computation with cold bosonic atoms in an optical lattice. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2003, 361, 1537-1548.	3.4	18
140	Split vortices in optically coupled Bose-Einstein condensates. <i>Physical Review A</i> , 2002, 66, .	2.5	36
141	Structural Instability of Vortices in Bose-Einstein Condensates. <i>Physical Review Letters</i> , 2001, 87, 140403.	7.8	49
142	Vortex nucleation and hysteresis phenomena in rotating Bose-Einstein condensates. <i>Physical Review A</i> , 2001, 63, .	2.5	76
143	Multipole spatial vector solitons. <i>Optics Letters</i> , 2001, 26, 435.	3.3	43
144	Vortex revivals with trapped light. <i>Optics Letters</i> , 2001, 26, 1601.	3.3	36

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145	Optimizing Schrödinger Functionals Using Sobolev Gradients: Applications to Quantum Mechanics and Nonlinear Optics. SIAM Journal of Scientific Computing, 2001, 23, 1316-1334.	2.8	84
146	Vortex bending and tightly packed vortex lattices in Bose-Einstein condensates. Physical Review A, 2001, 64, .	2.5	79
147	Construction of exact solutions by spatial translations in inhomogeneous nonlinear Schrödinger equations. Physical Review E, 2001, 64, 056602.	2.1	42
148	Anomalous rotational properties of Bose-Einstein condensates in asymmetric traps. Physical Review A, 2001, 64, .	2.5	22
149	Moment analysis of paraxial propagation in a nonlinear graded index fibre. Journal of Optics B: Quantum and Semiclassical Optics, 2000, 2, 353-358.	1.4	26
150	Dipole-Mode Vector Solitons. Physical Review Letters, 2000, 85, 82-85.	7.8	120
151	Dynamics of quasicollapse in nonlinear Schrödinger systems with nonlocal interactions. Physical Review E, 2000, 62, 4300-4308.	2.1	92
152	Spin monopoles with Bose-Einstein condensates. Physical Review A, 2000, 61, .	2.5	15
153	Stable and Unstable Vortices in Multicomponent Bose-Einstein Condensates. Physical Review Letters, 2000, 84, 4264-4267.	7.8	71
154	Stability of vortices in inhomogeneous Bose condensates subject to rotation: A three-dimensional analysis. Physical Review A, 1999, 60, 4864-4874.	2.5	62
155	Barrier resonances in Bose-Einstein condensation. Physical Review A, 1999, 59, 2220-2231.	2.5	52
156	Extended Parametric Resonances in Nonlinear Schrödinger Systems. Physical Review Letters, 1999, 83, 1715-1718.	7.8	144
157	Coherent control and geometrical phases for trapped ions. , 0, , .		0
158	Quantum Computing with Cold Ions and Atoms: Theory. , 0, , 391-422.		0
159	Quantum-inspired algorithms for multivariate analysis: from interpolation to partial differential equations. Quantum - the Open Journal for Quantum Science, 0, 5, 431.	0.0	23
160	Visualizing the emission of a single photon with frequency and time resolved spectroscopy. Quantum - the Open Journal for Quantum Science, 0, 5, 474.	0.0	3