Julio Gea-Banacloche

List of Publications by Year
in descending order

105 papers	5,119 citations	172457 29 h-index	85541 71 g-index
105 all docs	105 docs citations	105 times ranked	2416 citing authors

#	Article	IF	Citations
1	Measurement of Dispersive Properties of Electromagnetically Induced Transparency in Rubidium Atoms. Physical Review Letters, 1995, 74, 666-669.	7.8	649
2	Electromagnetically induced transparency in ladder-type inhomogeneously broadened media: Theory and experiment. Physical Review A, 1995, 51, 576-584.	2.5	605
3	The ring laser gyro. Reviews of Modern Physics, 1985, 57, 61-104.	45.6	599
4	Collapse and revival of the state vector in the Jaynes-Cummings model: An example of state preparation by a quantum apparatus. Physical Review Letters, 1990, 65, 3385-3388.	7.8	322
5	Atom- and field-state evolution in the Jaynes-Cummings model for large initial fields. Physical Review A, 1991, 44, 5913-5931.	2.5	290
6	Dynamics of a two-level system strongly coupled to a high-frequency quantum oscillator. Physical Review B, 2005, 72, .	3.2	194
7	Two-photon absorption of nonclassical light. Physical Review Letters, 1989, 62, 1603-1606.	7.8	179
8	Impossibility of large phase shifts via the giant Kerr effect with single-photon wave packets. Physical Review A, 2010, 81, .	2.5	166
9	Evanescent Light-Wave Atom Mirrors, Resonators, Waveguides, and Traps. Advances in Atomic, Molecular and Optical Physics, 1996, , 1-94.	2.3	134
10	Observation of Intracavity Electromagnetically Induced Transparency and Polariton Resonances in a Doppler-Broadened Medium. Physical Review Letters, 2008, 100, 173602.	7.8	122
11	Phase-sensitive amplification in a three-level atomic system. Physical Review A, 1990, 41, 5179-5186.	2.5	115
12	A quantum bouncing ball. American Journal of Physics, 1999, 67, 776-782.	0.7	105
13	Squeezed States for Interferometric Gravitational-wave Detectors. Journal of Modern Optics, 1987, 34, 793-811.	1.3	90
14	Treatment of the spectrum of squeezing based on the modes of the universe. I. Theory and a physical picture. Physical Review A, 1990, 41, 369-380.	2.5	86
15	Soft X-Ray free-electron laser with a laser undulator. IEEE Journal of Quantum Electronics, 1987, 23, 1558-1570.	1.9	81
16	Emission spectra of an atom in a cavity in the presence of a squeezed vacuum. Physical Review A, 1988, 38, 3514-3521.	2.5	79
17	Squeezing of spontaneous emission in a laser. Physical Review Letters, 1987, 59, 543-546.	7.8	65
18	A new look at the Jaynes-Cummings model for large fields: Bloch sphere evolution and detuning effects. Optics Communications, 1992, 88, 531-550.	2.1	54

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19	Jaynes-Cummings model with quasiclassical fields: The effect of dissipation. Physical Review A, 1993, 47, 2221-2234.	2.5	54
20	Hiding messages in quantum data. Journal of Mathematical Physics, 2002, 43, 4531-4536.	1.1	54
21	Minimum Energy Requirements for Quantum Computation. Physical Review Letters, 2002, 89, 217901.	7.8	51
22	Some implications of the quantum nature of laser fields for quantum computations. Physical Review A, 2002, 65, .	2.5	49
23	Oscillatory Phenomena andQSwitching in a Model for a Laser with a Saturable Absorber. Physical Review Letters, 1981, 47, 1895-1898.	7.8	47
24	Gravity-wave detection via correlated-spontaneous-emission lasers. Physical Review A, 1986, 34, 4043-4054.	2.5	45
25	Quantum error correction against correlated noise. Physical Review A, 2004, 69, .	2.5	43
26	Theory of the two-photon micromaser: Photon statistics. Physical Review A, 1990, 42, 6704-6712.	2.5	42
27	Bistable Limit Cycles in a Model for a Laser with a Saturable Absorber. Physical Review Letters, 1982, 49, 35-38.	7.8	31
28	Quantum theory of the free-electron laser: Large gain, saturation, and photon statistics. Physical Review A, 1985, 31, 1607-1621.	2.5	30
29	Entangled and Disentangled Evolution for a Single Atom in a Driven Cavity. Physical Review Letters, 2005, 94, 053603.	7.8	30
30	Two photons co- and counterpropagating through<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>N</mml:mi></mml:math>cross-Kerr sites. Physical Review A, 2016, 94, .	2.5	26
31	Teleportation of rotations and receiver-encoded secret sharing. Journal of Optics B: Quantum and Semiclassical Optics, 2001, 3, 407-411.	1.4	25
32	Comment on â€œOptical coherence: A convenient fictionâ€• Physical Review A, 1998, 58, 4244-4246.	2.5	24
33	Three-qubit quantum error-correction scheme for collective decoherence. Physical Review A, 2001, 63, .	2.5	24
34	Comment on â€œA quantum bouncing ball,â€•by Julio Gea-Banacloche [Am. J. Phys. 67 (9), 776â€“782 (1999)]. American Journal of Physics, 2000, 68, 672-673.	0.7	23
35	Constraints for quantum logic arising from conservation laws and field fluctuations. Journal of Optics B: Quantum and Semiclassical Optics, 2005, 7, S326-S332.	1.4	22
36	Quasiclassical approximation for the spin-boson Hamiltonian with counterrotating terms. Physical Review A, 1994, 50, 2040-2052.	2.5	21

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37	Qubit-qubit interaction in quantum computers. Physical Review A, 1998, 57, R1-R4.	2.5	21
38	Treatment of the spectrum of squeezing based on the modes of the universe. II. Applications. Physical Review A, 1990, 41, 381-387.	2.5	20
39	Splitting the wave function of a particle in a box. American Journal of Physics, 2002, 70, 307-312.	0.7	20
40	Steady State Entanglement in Cavity QED. Optics Express, 2006, 14, 4514.	3.4	20
41	Intrinsic linewidth of a free-electron laser. Physical Review A, 1986, 33, 2174-2176.	2.5	19
42	Influence of pump-phase fluctuations on the squeezing in a degenerate parametric oscillator. Physical Review A, 1990, 42, 1742-1751.	2.5	19
43	Passive versus active interferometers: Why cavity losses make them equivalent. Physical Review A, 1987, 35, 2518-2522.	2.5	18
44	Squeezed States in Non-ideal Interferometers: The Effect of Aberrations. Journal of Modern Optics, 1989, 36, 1277-1284.	1.3	18
45	PLENARY DEBATE: QUANTUM EFFECTS IN BIOLOGY: TRIVIAL OR NOT?. Fluctuation and Noise Letters, 2008, 08, C5-C26.	1.5	18
46	Comparison of Energy Requirements for Classical and Quantum Information Processing. Fluctuation and Noise Letters, 2003, 03, C3-C7.	1.5	17
47	Quantum multimode treatment of light scattering by an atom in a waveguide. Physical Review A, 2016, 93, .	2.5	17
48	Reply II to â€œComment on â€˜Some implications of the quantum nature of laser fields for quantum computationsâ€™ â€• Physical Review A, 2003, 68, .	2.5	16
49	Mean-field treatment of the damping of the oscillations of a one-dimensional Bose gas in an optical lattice. Physical Review A, 2006, 73, .	2.5	16
50	Gate fidelity of arbitrary single-qubit gates constrained by conservation laws. Journal of Physics A: Mathematical and Theoretical, 2009, 42, 225303.	2.1	16
51	Loss of state purity and regularity in the Jaynes-Cummings model. Physical Review A, 1992, 46, 7307-7310.	2.5	15
52	Quantum suppression of chaos in the spin-boson model. Physical Review E, 1996, 54, 1449-1456.	2.1	15
53	Squeezing in the Jaynes-Cummings model for Large Coherent Fields. Journal of Modern Optics, 1993, 40, 2361-2379.	1.3	14
54	Space-time descriptions of quantum fields interacting with optical cavities. Physical Review A, 2013, 87, .	2.5	14

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55	Simple model to estimate the contribution of atmospheric CO₂ to the Earthâ€™s greenhouse effect. American Journal of Physics, 2012, 80, 306-315.	0.7	13
56	Steady-state photon statistics of a free-electron laser. Physical Review A, 1986, 33, 1448-1450.	2.5	12
57	Emergence of Classical Radiation Fields through Decoherence in the Scully-Lamb Laser Model. Foundations of Physics, 1998, 28, 531-548.	1.3	12
58	Two-level-atom excitation probability for single- and <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>N</mml:mi></mml:math> -photon wave packets. Physical Review A, 2017, 96, .	2.5	12
59	Analytical results for a conditional phase shift between single-photon pulses in a nonlocal nonlinear medium. Physical Review A, 2018, 97, .	2.5	12
60	Linewidth of a laser with a squeezed reservoir. Physical Review A, 1990, 42, 4164-4168.	2.5	11
61	Comparative model study of two-photon deterministic passive quantum logical gates. Physical Review A, 2011, 83, .	2.5	11
62	SchrÃ¶dinger modal structure of cubical, pyramidal, and conical, evanescent light-wave gravitational atom traps. Physical Review A, 1995, 52, 3997-4003.	2.5	10
63	Photon subtraction and addition by a three-level atom in an optical cavity. Physical Review A, 2013, 88, .	2.5	10
64	Multimode analysis of a conditional phase gate based on second-order nonlinearity. Physical Review A, 2015, 92, .	2.5	10
65	Adiabatic geometric phase gate with a quantized control field. Physical Review A, 2006, 74, .	2.5	9
66	Single-photon, cavity-mediated gates: Detuning, losses, and nonadiabatic effects. Physical Review A, 2012, 86, .	2.5	9
67	Laser with injected squeezed vacuum: Phase diffusion and intensity fluctuations. Physical Review A, 1994, 50, 4176-4187.	2.5	8
68	Conditional phase gate using an optomechanical resonator. Physical Review A, 2014, 89, .	2.5	8
69	Laser cavity dumping using optical bistability. Optics Communications, 1983, 46, 43-46.	2.1	7
70	Qubit-qubit interaction in quantum computers.â€ƒII.â€ƒAdder algorithm with diagonal and off-diagonal interactions. Physical Review A, 1999, 60, 185-193.	2.5	7
71	A bouncing wavepacket: finite-wall and resonance effects. Optics Communications, 2000, 179, 117-121.	2.1	6
72	Influence of phase fluctuations on the measurement of the frequency of a laser. Optics Communications, 1986, 57, 67-70.	2.1	5

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73	Error correction for mutually interacting qubits. Physical Review A, 2000, 62, .	2.5	5
74	Quantum logic with quantized control fields beyond the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mn>1</mml:mn><mml:mo>â^•</mml:mo><mml:mover accent="true"><mml:mi>n</mml:mi><mml:mo stretchy="false">Â¯</mml:mo></mml:mover></mml:mrow></mml:math>limit: Mathematically possible, physically unlikely. Physical Review A, 2008, 78, .	2.5	5
75	Passive, deterministic photonic conditional-phase gate via two-level systems. Physical Review A, 2019, 99, .	2.5	5
76	Two-state system driven by imperfect Ï€ pulses: an estimate of the error accumulation in bang-bang control methods. Journal of Modern Optics, 2001, 48, 927-934.	1.3	4
77	Extracting an entangled state ofnâ^'tqubits from ann-qubit entangled state after errors attsites. Physical Review A, 2001, 64, .	2.5	4
78	Dreams Versus Reality: Plenary Debate Session on Quantum Computing. Quantum Information Processing, 2003, 2, 449-472.	2.2	4
79	QUANTUM VERSION OF THE SZILARD ONE-ATOM ENGINE AND THE COST OF RAISING ENERGY BARRIERS. Fluctuation and Noise Letters, 2005, 05, C39-C47.	1.5	4
80	Wavefunction exchange and entanglement in one-dimensional collisions. American Journal of Physics, 2015, 83, 305-312.	0.7	4
81	Multiplicity of steady states in heterogeneous catalysis: The case of Langmuirâ€™s nth order kinetics. Journal of Chemical Physics, 1981, 75, 1538-1543.	3.0	3
82	Quantum codes and macroscopic superpositions. Physical Review A, 2000, 61, .	2.5	3
83	Optical realizations of quantum teleportation. Progress in Optics, 2004, 46, 311-353.	0.6	3
84	The specular reflection of light off light. American Journal of Physics, 1992, 60, 28-34.	0.7	2
85	Two-state system driven by imperfect Ï€ pulses: An estimate of the error accumulation in bang-bang control methods. Journal of Modern Optics, 2001, 48, 927-934.	1.3	2
86	Quantum computers: A status update [Point of View]. Proceedings of the IEEE, 2010, 98, 1983-1985.	21.3	2
87	Energy constraints for quantum logic via nonlinear optical processes. Optics Communications, 2010, 283, 719-723.	2.1	2
88	Atomic population transfer for single- and N-photon wavepackets. Journal of the Optical Society of America B: Optical Physics, 2021, 38, 226.	2.1	2
89	Energy loss by slow magnetic monopoles. Lettere Al Nuovo Cimento Rivista Internazionale Della SocietÃ Italiana Di Fisica, 1983, 37, 145-148.	0.4	1
90	Energy requirements for quantum computation. , 2003, , .		1

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91	Two-reservoir model of quantum error correction. Physical Review A, 2006, 73, .	2.5	1
92	Effects of random localizing events on matter waves: formalism and examples. Journal of Physics B: Atomic, Molecular and Optical Physics, 2006, 39, 69-84.	1.5	1
93	Free electron lasers in the x-ray region. AIP Conference Proceedings, 1984, , .	0.4	0
94	Reply to â€œComment on â€˜Quantum suppression of chaos in the spin-boson modelâ€™ â€• Physical Review E, 1997, 56, 2329-2330.	2.1	0
95	A method to protect quantum entanglement against certain kinds of phase and exchange errors. Journal of Optics B: Quantum and Semiclassical Optics, 2001, 3, S30-S33.	1.4	0
96	CEL gyroscope with injected squeezed vacuum. Journal of Modern Optics, 2002, 49, 453-463.	1.3	0
97	Addendum: Extracting an entangled state ofnâ^'tqubits from ann-qubit entangled state after errors attsites. Physical Review A, 2003, 67, .	2.5	0
98	Entanglement and fluctuations in cavity quantum electrodynamics (Invited Paper). , 2005, 5842, 44.		0
99	Publisher's Note: Entangled and Disentangled Evolution for a Single Atom in a Driven Cavity [Phys. Rev. Lett.94, 053603 (2005)]. Physical Review Letters, 2005, 94, .	7.8	0
100	Minimum energy pulses for quantum logic cannot be shared. , 2007, , .		0
101	DREAMS VERSUS REALITY: PLENARY DEBATE SESSION ON QUANTUM COMPUTING. Fluctuation and Noise Letters, 2008, 08, C27-C51.	1.5	0
102	QUANTUM PRECISION LIMITS FOR ANY IMPLEMENTATION OF SINGLE QUBIT GATES UNDER CONSERVATION LAWS. International Journal of Quantum Information, 2008, 06, 701-706.	1.1	0
103	Quantum Logic With Quantized Fields: Beyond the 1/n Limit?. , 2007, , .		0
104	Nonlinear Optics of Three-Level, Inhomogeneously-Broadened Atoms in an Optical Cavity. , 2009, , .		0
105	Conditioned Density Matrix Treatment of Fluorescent Atom in Quasiclassical Field. , 1996, , 575-576.		0