

Germãjn J De Valcãjrcel

List of Publications by Year in descending order

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148
papers

1,842
citations

279798

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all docs

149
docs citations

149
times ranked

928
citing authors

#	ARTICLE	IF	CITATIONS
1	Faraday Patterns in Bose-Einstein Condensates. <i>Physical Review Letters</i> , 2002, 89, 210406.	7.8	181
2	Transverse patterns in degenerate optical parametric oscillation and degenerate four-wave mixing. <i>Physical Review A</i> , 1996, 54, 1609-1624.	2.5	112
3	Quantum theory of synchronously pumped type I optical parametric oscillators: characterization of the squeezed supermodes. <i>European Physical Journal D</i> , 2010, 56, 123-140.	1.3	81
4	Multimode squeezing of frequency combs. <i>Physical Review A</i> , 2006, 74, .	2.5	67
5	Generalized complex Swift-Hohenberg equation for optical parametric oscillators. <i>Physical Review A</i> , 1997, 56, 3237-3244.	2.5	54
6	Faraday patterns in low-dimensional Bose-Einstein condensates. <i>Physical Review A</i> , 2004, 70, .	2.5	54
7	Subdiffractive band-edge solitons in Bose-Einstein condensates in periodic potentials. <i>Physical Review E</i> , 2006, 73, 065603.	2.1	50
8	Excitation of phase patterns and spatial solitons via two-frequency forcing of a 1:1 resonance. <i>Physical Review E</i> , 2003, 67, 026604.	2.1	46
9	Arresting soliton collapse in two-dimensional nonlinear Schrödinger systems via spatiotemporal modulation of the external potential. <i>Physical Review A</i> , 2007, 75, .	2.5	46
10	Single-mode-laser phase dynamics. <i>Physical Review A</i> , 1993, 48, 591-598.	2.5	45
11	Dynamics of coherently pumped lasers with linearly polarized pump and generated fields. <i>Physical Review A</i> , 1993, 48, 1483-1496.	2.5	40
12	Vectorial Kerr-cavity solitons. <i>Optics Letters</i> , 2000, 25, 957.	3.3	37
13	Noncritically Squeezed Light via Spontaneous Rotational Symmetry Breaking. <i>Physical Review Letters</i> , 2008, 100, 203601.	7.8	35
14	Bistable Phase Locking of a Nonlinear Optical Cavity via Rocking: Transmuting Vortices into Phase Patterns. <i>Physical Review Letters</i> , 2006, 97, 093903.	7.8	33
15	Coherent master equation for laser modelocking. <i>Nature Communications</i> , 2020, 11, 311.	12.8	29
16	Physical interpretation of laser phase dynamics. <i>Physical Review A</i> , 1990, 41, 5269-5272.	2.5	28
17	Models, predictions, and experimental measurements of far-infrared NH ₃ -laser dynamics and comparisons with the Lorenz-Haken model. <i>Applied Physics B: Lasers and Optics</i> , 1995, 61, 223-242.	2.2	28
18	Quantum squeezing of optical dissipative structures. <i>Europhysics Letters</i> , 2006, 74, 247-253.	2.0	26

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19	Generating highly squeezed hybrid Laguerre-Gauss modes in large-Fresnel-number degenerate optical parametric oscillators. <i>Physical Review A</i> , 2009, 79, .	2.5	25
20	Tailoring discrete quantum walk dynamics via extended initial conditions. <i>New Journal of Physics</i> , 2010, 12, 123022.	2.9	25
21	Quantum coherent control of highly multipartite continuous-variable entangled states by tailoring parametric interactions. <i>European Physical Journal D</i> , 2012, 66, 1.	1.3	25
22	Controlled Observation of a Nonequilibrium Ising-Bloch Transition in a Nonlinear Optical Cavity. <i>Physical Review Letters</i> , 2005, 94, 223903.	7.8	24
23	Pattern Formation through Phase Bistability in Oscillatory Systems with Space-Modulated Forcing. <i>Physical Review Letters</i> , 2010, 105, 054101.	7.8	23
24	Phase-bistable Kerr cavity solitons and patterns. <i>Physical Review A</i> , 2013, 87, .	2.5	23
25	Deviation from Lorenz-type dynamics of an NH ₃ ring laser. <i>Optics Communications</i> , 1992, 89, 47-53.	2.1	21
26	Multimode instability in ring fiber lasers. <i>Physical Review A</i> , 1999, 60, 2517-2528.	2.5	21
27	Cavity solitons in nondegenerate optical parametric oscillation. <i>Optics Communications</i> , 2000, 181, 207-213.	2.1	20
28	General Linearized Theory of Quantum Fluctuations around Arbitrary Limit Cycles. <i>Physical Review Letters</i> , 2017, 119, 133601.	7.8	20
29	Two-photon laser dynamics. <i>Physical Review A</i> , 1995, 52, 4059-4069.	2.5	19
30	Domain Walls and Ising-Bloch Transitions in Parametrically Driven Systems. <i>Physical Review Letters</i> , 2002, 89, 164101.	7.8	19
31	Theory of quantum fluctuations of optical dissipative structures and its application to the squeezing properties of bright cavity solitons. <i>Physical Review A</i> , 2007, 75, .	2.5	19
32	Long-term spatiotemporal dynamics of solid-state lasers and vertical-cavity surface-emitting lasers. <i>Physical Review A</i> , 2009, 79, .	2.5	19
33	Polarization-sensitive population trapping in an optically pumped laser. <i>Physical Review A</i> , 1994, 49, 1487-1490.	2.5	17
34	Lorenz character of the Doppler-broadened far-infrared laser. <i>Journal of the Optical Society of America B: Optical Physics</i> , 1991, 8, 2420.	2.1	16
35	Dynamics of a nondegenerate cascade laser. <i>Physical Review A</i> , 1992, 45, R2674-R2677.	2.5	16
36	The dynamics of optically pumped molecular lasers. On its relation with the Lorenz - Haken model. <i>Quantum and Semiclassical Optics: Journal of the European Optical Society Part B</i> , 1997, 9, R1-R35.	0.9	16

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37	Risken-Nummedal-Graham-Haken instability in class-B lasers. Optics Communications, 1999, 163, 5-8.	2.1	16
38	Experimental approach to transverse wave-number selection in cavity nonlinear optics. Physical Review A, 2004, 69, .	2.5	16
39	Noise-Induced Phase Bistability via Stochastic Rocking. Physical Review Letters, 2009, 102, 010601.	7.8	15
40	Types I and II intermittencies in a cascade laser model. Physics Letters, Section A: General, Atomic and Solid State Physics, 1995, 206, 359-364.	2.1	14
41	On the observability of the Risken-Nummedal-Graham-Haken multimode instability in erbium-doped fibre lasers. Europhysics Letters, 1998, 43, 255-260.	2.0	14
42	Noncritical quadrature squeezing in two-transverse-mode optical parametric oscillators. Physical Review A, 2010, 81, .	2.5	14
43	$\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"} \rangle \langle \text{mml:mi} \rangle N \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$ -dimensional alternate coined quantum walks from a dispersion-relation perspective. Physical Review A, 2013, 87, .	2.5	14
44	Phase-bistable patterns and cavity solitons induced by spatially periodic injection into vertical-cavity surface-emitting lasers. Physical Review A, 2014, 89, .	2.5	14
45	Bistable phase locking in rocked lasers. Optics Communications, 2006, 268, 160-168.	2.1	13
46	Electric quantum walks in two dimensions. Physical Review A, 2016, 93, .	2.5	13
47	Stability properties of a resonant cascade laser. Physical Review A, 1994, 49, 1243-1259.	2.5	12
48	Polarization switching in an anisotropic cavity coherently pumped laser. Physical Review A, 1997, 56, 2327-2333.	2.5	11
49	Bistable phase locking in a laser with injected signal. Physical Review A, 2009, 80, .	2.5	11
50	Quantum walk on a cylinder. Physical Review A, 2016, 94, .	2.5	11
51	Swift - Hohenberg-type equation for nascent two-photon optical bistability in the weakly dispersive limit. Quantum and Semiclassical Optics: Journal of the European Optical Society Part B, 1996, 8, 919-929.	0.9	10
52	Generalized rate equations for multimode lasers. Optics Communications, 2003, 216, 203-207.	2.1	10
53	Control and steering of phase domain walls. Optics Express, 2005, 13, 3631.	3.4	10
54	Experimental demonstration of bistable phase locking in a photorefractive oscillator. Physical Review A, 2012, 85, .	2.5	10

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55	Understanding and controlling N -dimensional quantum walks via dispersion relations: application to the two-dimensional and three-dimensional Grover walks—diaboli points and more. <i>New Journal of Physics</i> , 2013, 15, 073041.	2.9	10
56	Traveling-wave—standing-wave competition in a generalized complex Swift-Hohenberg equation. <i>Physical Review E</i> , 1998, 57, R4911-R4914.	2.1	9
57	Multimode emission in inhomogeneously broadened ring lasers. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2001, 18, 1601.	2.1	9
58	Squeezing Via Spontaneous Rotational Symmetry Breaking in a Four-Wave Mixing Cavity. <i>IEEE Journal of Quantum Electronics</i> , 2009, 45, 1404-1414.	1.9	9
59	Observability of the Risken—Nummedal—Graham—Haken instability in Nd:YAG lasers. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2003, 20, 816.	2.1	8
60	Experimental Demonstration of Hyperbolic Patterns. <i>Physical Review Letters</i> , 2008, 101, 254101.	7.8	8
61	Diffraction management and sub-diffractive solitons in periodically driven Bose—Einstein condensates. <i>Physica D: Nonlinear Phenomena</i> , 2009, 238, 1326-1337.	2.8	8
62	Strong vacuum squeezing from bichromatically driven Kerrlike cavities: from optomechanics to superconducting circuits. <i>Scientific Reports</i> , 2016, 6, 21964.	3.3	8
63	Nonlinear dynamics of a class-A two-photon laser with injected signal. <i>Journal of Modern Optics</i> , 1996, 43, 2311-2336.	1.3	7
64	Intermittent and quasiperiodic behavior in a Zeeman laser model with large cavity anisotropy. <i>Physical Review E</i> , 1997, 56, 6589-6600.	2.1	7
65	A semiclassical optics derivation of Einstein—TMs rate equations. <i>American Journal of Physics</i> , 2012, 80, 882-890.	0.7	7
66	Phase-bistable pattern formation in oscillatory systems via rocking: application to nonlinear optical systems. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2014, 372, 20140008.	3.4	7
67	Order-parameter equations for transverse pattern formation in nonlinear optical systems with nonplanar resonators. <i>Physical Review A</i> , 1997, 56, 1542-1547.	2.5	6
68	Lorenz—Haken instability in a laser with arbitrary mirrors reflectivity. <i>Optics Communications</i> , 2000, 185, 153-157.	2.1	6
69	Polarization instability in anisotropic-cavity degenerate four-wave mixing. <i>Optics Communications</i> , 2000, 173, 381-387.	2.1	6
70	Transverse effects in ring fiber laser multimode instabilities. <i>Physical Review A</i> , 2000, 62, .	2.5	6
71	Multimode instability in inhomogeneously broadened class-B lasers: Beyond the uniform-field limit. <i>Physical Review A</i> , 2001, 64, .	2.5	6
72	Modal expansions in lasers outside the uniform-field limit. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2003, 20, 825.	2.1	6

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73	Domain wall dynamics in an optical Kerr cavity. <i>Physical Review E</i> , 2005, 71, 066209.	2.1	6
74	Ultrasonic cavity solitons. <i>Europhysics Letters</i> , 2008, 82, 10002.	2.0	6
75	Noncritical quadrature squeezing through spontaneous polarization symmetry breaking. <i>Optics Letters</i> , 2010, 35, 2194.	3.3	6
76	Class-B two-photon Fabry-Pérot laser. <i>Optics Communications</i> , 1998, 155, 292-296.	2.1	5
77	Laser instabilities in a Gaussian cavity mode with Gaussian pump profile. <i>Journal of the Optical Society of America B: Optical Physics</i> , 1998, 15, 1512.	2.1	5
78	The Ising-Bloch transition in degenerate optical parametric oscillators. <i>Journal of Optics B: Quantum and Semiclassical Optics</i> , 2004, 6, S361-S368.	1.4	5
79	Coherent effects in the multimode dynamics of inhomogeneously broadened ring lasers. <i>Optics Communications</i> , 2004, 237, 189-199.	2.1	5
80	Experimental characterization of domain walls dynamics in a photorefractive oscillator. <i>Applied Physics B: Lasers and Optics</i> , 2006, 85, 117-123.	2.2	5
81	Squeezing properties of a two-transverse-mode degenerate optical parametric oscillator with an injected signal. <i>Physical Review A</i> , 2011, 83, .	2.5	5
82	Dissipative structures in optomechanical cavities. <i>Physical Review A</i> , 2016, 93, .	2.5	5
83	Noncritical generation of nonclassical frequency combs via spontaneous rotational symmetry breaking. <i>Physical Review A</i> , 2017, 96, .	2.5	5
84	Floquet theory for temporal correlations and spectra in time-periodic open quantum systems: Application to squeezed parametric oscillation beyond the rotating-wave approximation. <i>Physical Review A</i> , 2021, 103, .	2.5	5
85	Interferometric measurement of complex-field changes in transient detection imaging. <i>Optics Express</i> , 2020, 28, 28782.	3.4	5
86	Stationary emission and stability of a detuned cascade laser. <i>Journal of Modern Optics</i> , 1997, 44, 83-108.	1.3	4
87	Polarization phenomena in a laser coherently pumped by a linearly polarized field. <i>Quantum and Semiclassical Optics: Journal of the European Optical Society Part B</i> , 1998, 10, 37-54.	0.9	4
88	Nonlinear dynamics of a class-a two-photon laser with injected signal in cascade systems. <i>Journal of Modern Optics</i> , 1999, 46, 1483-1493.	1.3	4
89	Quadrature and polarization squeezing in a dispersive optical bistability model. <i>Physical Review A</i> , 2007, 75, .	2.5	4
90	Closed Busse balloon for rolls and skew-varicose instability in a Swift-Hohenberg model with nonlinear resonance. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1998, 246, 293-298.	2.1	3

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91	Bright cavity solitons in anisotropic vectorial Kerr cavities. <i>Journal of Optics B: Quantum and Semiclassical Optics</i> , 2001, 3, S118-S123.	1.4	3
92	Role of field losses on the Riken-Nummedal-Graham-Haken laser instability: application to erbium-doped fibre lasers. <i>Applied Physics B: Lasers and Optics</i> , 2003, 76, 741-748.	2.2	3
93	Stabilizing and controlling domain walls and dark-ring cavity solitons. <i>Optics Express</i> , 2004, 12, 2130.	3.4	3
94	Hysteretic nonequilibrium Ising-Bloch transition. <i>Physical Review E</i> , 2006, 73, 027201.	2.1	3
95	Impact of anisotropy on the noncritical squeezing properties of two-transverse-mode optical parametric oscillators. <i>Physical Review A</i> , 2013, 87, .	2.5	3
96	Experimental demonstration of phase bistability in a broad-area optical oscillator with injected signal. <i>Physical Review A</i> , 2015, 92, .	2.5	3
97	Nonlinear dynamics of a two-photon Fabry-Pérot laser. <i>Optics Communications</i> , 2000, 174, 195-204.	2.1	2
98	Spatial localization and pattern formation in discrete optomechanical cavities and arrays. <i>New Journal of Physics</i> , 2020, 22, 093076.	2.9	2
99	<title>Cascade laser dynamics</title>. <i>Proceedings of SPIE</i> , 1993, 2039, 206.	0.8	1
100	Types I and II intermittencies in a cascade model (<i>Physics Letters A</i> 206 (1995) 359). <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1995, 209, 388.	2.1	1
101	Nonlinear dynamics of a class-a two-photon laser with injected signal in cascade systems. <i>Journal of Modern Optics</i> , 1999, 46, 1483-1493.	1.3	1
102	Squeezing spectra from ordered quasiprobability distributions: application to dispersive optical bistability. <i>Journal of Modern Optics</i> , 2005, 52, 763-773.	1.3	1
103	Spontaneous symmetry breaking as a resource for noncritically squeezed light. <i>Proceedings of SPIE</i> , 2010, , .	0.8	1
104	Rocking bidirectional lasers. <i>Optics Communications</i> , 2011, 284, 2554-2559.	2.1	1
105	Pattern formation in optomechanical cavities. , 2013, , .		1
106	Revisiting the physics of mode locking in lasers. , 2014, , .		1
107	Optical four-wave mixing and generation of squeezed light in an optomechanical cavity driven by a bichromatic field. <i>Proceedings of SPIE</i> , 2014, , .	0.8	1
108	Two-particle coined-quantum walk with long-range interaction. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2018, 51, 455301.	2.1	1

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109	Active locking and entanglement in type II optical parametric oscillators. <i>New Journal of Physics</i> , 2018, 20, 023004.	2.9	1
110	Making of a nonlinear optical cavity. <i>Optica Pura Y Aplicada</i> , 2016, 49, 125-142.	0.1	1
111	One- and two-photon lasers with injected signal in a high-Q fabry-Pérot cavity. <i>Journal of Modern Optics</i> , 2000, 47, 1347-1357.	1.3	0
112	Experimental research on the dynamics and steering of optical domain walls. , 0, , .		0
113	Experimental rocking of a laser-like system: from vortices to phase domains. , 0, , .		0
114	Phase spatial structures in lasers with bichromatical injected signal. , 0, , .		0
115	Cavity solitons in rocked class B lasers. , 2007, , .		0
116	Bistable phase locking of laser-like systems via rocking: Transforming optical vortices into phase domain walls. , 2007, , .		0
117	Multimode Squeezing of frequency combs. , 2007, , .		0
118	Addressing optical pixel bits in a slab of dense optical material via intrinsic optical bistability. , 2007, , .		0
119	Reduced dynamical equations for solid-state lasers and VCSELs. , 2007, , .		0
120	Experimental evidence of hyperbolic transverse patterns in a nonlinear optical resonator. , 2007, , .		0
121	Transverse effects in a thin slab of material with local-field induced intrinsic optical bistability. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2008, 25, 2036.	2.1	0
122	Pattern Formation And Localized Structures In Acoustic Resonators Containing A Viscous Fluid. <i>AIP Conference Proceedings</i> , 2008, , .	0.4	0
123	Creating highly squeezed vacua in Hybrid Laguerre-Gauss modes. , 2009, , .		0
124	Four-phase patterns in a forced nonlinear optical oscillator. , 2009, , .		0
125	Cavity solitons in lasers with spatially modulated injected signal. , 2009, , .		0
126	Squeezing induced by spontaneous rotational symmetry breaking. , 2009, , .		0

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127	Bistable phase locking of a laser via monochromatic signal injection. , 2009, , .		0
128	Generation of multimode squeezing and entanglement in the space and frequency domains : A general “supermode” approach. , 2009, , .		0
129	Squeezed Light Generation via Spatial Symmetry Breaking. , 2009, , .		0
130	Unveiling two-dimensional discrete quantum walks dynamics via dispersion relations. , 2011, , .		0
131	Bistable phase locking in a low Fresnel number nondegenerate optical oscillator with injected signal. , 2011, , .		0
132	Multi-longitudinal mode emission in a bidirectional laser model. , 2011, , .		0
133	Quantum coherent control of Gaussian multipartite entanglement. , 2013, , .		0
134	Multidimensional quantum walks: Diabolical points, optical wave-like propagation, and multipartite entanglement. , 2013, , .		0
135	Phase bistable patterns in VCSELs due to spatial rocking. , 2014, , .		0
136	A coherent master equation for active mode locking in lasers. , 2015, , .		0
137	Four-wave mixing and vacuum squeezing in polariton microcavities. , 2017, , .		0
138	Quantum Coherence and Fast-Gain Effects in Laser Modelocking: The Coherent Master Equation. , 2021, , .		0
139	Quantum noise properties of cavity solitons. , 2006, , .		0
140	Type I Optical Parametric Oscillators Above Threshold Are Perfect Squeezers For Empty Gauss-Hermite Modes At Any Pumping Level. , 2007, , .		0
141	Theory of Quantum Fluctuations of Optical Dissipative Structures - Application to the Study of Squeezing and Intensity Fluctuations of DOPO Cavity Solitons. , 2007, , .		0
142	<title>New insights into the influence of light polarization on the dynamics of optically pumped lasers</title>. , 1994, , .		0
143	Nonlinear dynamics of a class-A two-photon laser with injected signal. Journal of Modern Optics, 1996, 43, 2311-2336.	1.3	0
144	Optomechanical Squeezing of Frequency Combs. , 2017, , .		0

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145	Didactic application of numerical analysis in nonlinear dynamics: Lorenz model study. <i>Optica Pura Y Aplicada</i> , 2017, 50, 197-219.	0.1	0
146	Coherent effects in mode-locked lasers: new theory and experiments. , 2018, , .		0
147	Universal description of pattern formation in optical oscillators under bichromatic injection. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2018, 35, 1379.	2.1	0
148	Optimal quantum storage of broadband single photons. , 2007, , .		0