Luis Plaja

List of Publications by Year in descending order

155 papers	4,859 citations	159585 30 h-index	95266 68 g-index
156 all docs	156 docs citations	156 times ranked	2984 citing authors

#	Article	IF	Citations
1	Extreme-ultraviolet vector-vortex beams from high harmonic generation. Optica, 2022, 9, 71.	9.3	25
2	Necklace-structured high-harmonic generation for low-divergence, soft x-ray harmonic combs with tunable line spacing. Science Advances, 2022, 8, eabj7380.	10.3	16
3	Characterization of Extreme Ultraviolet Vortex Beams with a Very High Topological Charge. ACS Photonics, 2022, 9, 944-951.	6.6	11
4	Non-classical high harmonic generation in graphene driven by linearly-polarized laser pulses. Optics Express, 2022, 30, 15546.	3.4	3
5	High topological charge extreme-ultraviolet vortex and vector-vortex beams. , 2022, , .		0
6	Transverse phase matching of high-order harmonic generation in single-layer graphene. Optics Express, 2021, 29, 2488.	3.4	5
7	Necklace High Harmonic Generation for Low-Divergence, Soft X-Ray Harmonic Combs with Tunable Line Spacing. , 2021, , .		0
8	Attosecond x-ray transient absorption spectroscopy in graphene. Physical Review Research, 2021, 3, .	3.6	10
9	Low-Divergence, Soft X-Ray Harmonic Combs with Tunable Line Spacing from Necklace-Structured Driving Lasers. , 2021, , .		0
10	Extreme-Ultraviolet Vortices of very high Topological Charge. , 2021, , .		1
11	Attosecond Pulse Trains with Time-Dependent Spin Angular Momentum. , 2021, , .		0
12	Macroscopic Signatures of the Non-Perturbative Response of Single Layer Graphene to Intense Laser Fields. , 2021, , .		0
13	Light Spin-Orbit Coupling in High-Order Harmonic Generation via Grapheneâ€™s Band Anisotropy. , 2021, , .		0
14	Ultrafast sub-nanometer matter-wave temporal Talbot effect. New Journal of Physics, 2021, 23, 093011.	2.9	6
15	Structuring Harmonic Vector-Vortex Beams in the Extreme Ultraviolet. , 2021, , .		0
16	Site-specific tunnel-ionization in high harmonic generation in molecules. New Journal of Physics, 2020, 22, 043012.	2.9	2
17	High harmonic generation in armchair carbon nanotubes. Optics Express, 2020, 28, 19760.	3.4	7
18	Spectral signature of back reaction in correlated electron dynamics in intense electromagnetic fields. Physical Review Research, 2020, 2, .	3.6	7

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19	Multielectron trace of back reaction in high-harmonic generation. , 2020, , .		0
20	High-Harmonic Dipole Response Characterized by Ellipsometry. , 2020, , .		0
21	Trains of attosecond pulses structured with time-ordered polarization states. Optics Letters, 2020, 45, 5636.	3.3	9
22	Generation of extreme-ultraviolet beams with time-varying orbital angular momentum. Science, 2019, 364, .	12.6	198
23	Realization of Polarization Control in High-Order Harmonic Generation. IEEE Journal of Selected Topics in Quantum Electronics, 2019, 25, 1-12.	2.9	6
24	Extreme-Ultraviolet Pulses with Self-Torque. , 2019, , .		0
25	Conservation of Torus-knot Angular Momentum in High-order Harmonic Generation. Physical Review Letters, 2019, 122, 203201.	7.8	37
26	Optical anisotropy of non-perturbative high-order harmonic generation in gapless graphene. Optics Express, 2019, 27, 7776.	3.4	35
27	Controlling the polarization and vortex charge of attosecond high-harmonic beams via simultaneous spinâ€“orbit momentum conservation. Nature Photonics, 2019, 13, 123-130.	31.4	120
28	Ultraintense Femtosecond Magnetic Nanoprobes Induced by Azimuthally Polarized Laser Beams. ACS Photonics, 2019, 6, 38-42.	6.6	16
29	Attosecond Extreme Ultraviolet Beams with Time-Varying Orbital Angular Momentum: The Self-Torque of Light. , 2019, , .		1
30	Attosecond, High-Harmonic Optical Vortices with Tailored Spin and Orbital Angular Momentum. , 2019, , .		0
31	Helicity in a Twist: Attosecond, Extreme Ultraviolet Vortex Beams with Designer Spin and Orbital Angular Momenta. , 2019, , .		0
32	Polarization control of isolated high-harmonic pulses. Nature Photonics, 2018, 12, 349-354.	31.4	136
33	Theory of high-order harmonic generation for gapless graphene. New Journal of Physics, 2018, 20, 053033.	2.9	35
34	Auger-induced charge migration. Physical Review A, 2018, 98, .	2.5	6
35	Controlling the polarization and vortex charge of attosecond high-harmonic beams via simultaneous spin-orbit momentum conservation. Nature Photonics, 2018, 13, .	31.4	6
36	High harmonic generation in graphene: temporal and spectral properties. , 2017, , .		0

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37	Attosecond twisted beams from high-order harmonic generation driven by optical vortices. High Power Laser Science and Engineering, 2017, 5, .	4.6	13
38	Non-perturbative twist of attosecond extreme-ultraviolet vortex beams. , 2017, , .		0
39	Tunable orbital angular momentum beams in the extreme ultraviolet/soft x-ray regimes. Proceedings of SPIE, 2017, , .	0.8	0
40	High harmonic generation by resonant nano-antennas: Phase matching at the nanometer scale. , 2017, , .		0
41	Tunable high-harmonic generation by chromatic focusing of few-cycle laser pulses. Physical Review A, 2017, 95, .	2.5	12
42	Harnessing the orbital angular momentum of attosecond vortices through the nonperturbative nature of high harmonic generation. , 2017, , .		0
43	High order harmonic generation in graphene. , 2017, , .		0
44	EUV light beams with fractional orbital angular momentum driven by high-order harmonic generation and conical refraction. , 2017, , .		0
45	Isolated broadband attosecond pulse generation with near- and mid-infrared driver pulses via time-gated phase matching. Optics Express, 2017, 25, 11855.	3.4	24
46	Phase matching effects in high harmonic generation at the nanometer scale. Optics Express, 2017, 25, 14974.	3.4	8
47	Generation and Applications of Extreme-Ultraviolet Vortices. Photonics, 2017, 4, 28.	2.0	41
48	Nonperturbative Orbital Angular Momentum Buildup of Extreme-Ultraviolet Vortex Beams. , 2017, , .		0
49	Group velocity matching in high-order harmonic generation driven by mid-infrared lasers. New Journal of Physics, 2016, 18, 073031.	2.9	21
50	Tomographic reconstruction of circularly polarized high-harmonic fields: 3D attosecond metrology. Science Advances, 2016, 2, e1501333.	10.3	103
51	Continuous spectra in high-harmonic generation driven by multicycle laser pulses. Physical Review A, 2016, 93, .	2.5	12
52	Resolving multiple rescatterings in high-order-harmonic generation. Physical Review A, 2016, 93, .	2.5	11
53	Nonperturbative Twist in the Generation of Extreme-Ultraviolet Vortex Beams. Physical Review Letters, 2016, 117, 163202.	7.8	112
54	Quantum-path signatures in attosecond helical beams driven by optical vortices. New Journal of Physics, 2015, 17, 093029.	2.9	55

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55	Bright Isolated Attosecond Soft X-Ray Pulses. Springer Proceedings in Physics, 2015, , 95-98.	0.2	1
56	Ultraviolet surprise: Efficient soft x-ray high-harmonic generation in multiply ionized plasmas. Science, 2015, 350, 1225-1231.	12.6	165
57	Bright Circularly Polarized Soft X-Ray High Harmonics for X-Ray Magnetic Circular Dichroism. , 2015, , .		3
58	Circularly Polarized Soft X-Ray High Harmonics and XMCD on a Tabletop. , 2015, , .		0
59	Carrier-envelope-phase insensitivity in high-order harmonic generation driven by few-cycle laser pulses. Optics Express, 2015, 23, 21497.	3.4	13
60	Bright High Order Harmonic Generation in a Multiply Ionized Plasma up to the Water Window. , 2014, , .		0
61	Space-time description of strong-field ionization and high-order-harmonic generation. Physical Review A, 2014, 89, .	2.5	2
62	Generation of bright isolated attosecond soft X-ray pulses driven by multicycle midinfrared lasers. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, E2361-7.	7.1	116
63	Coherent Attosecond Beams Carrying Orbital Angular Momentum. , 2014, , .		0
64	Coherent Attosecond Extreme Ultraviolet Vortices from High-Order Harmonic Generation. , 2014, , .		0
65	Zeptosecond High Harmonic keV X-Ray Waveforms Driven by Midinfrared Laser Pulses. Physical Review Letters, 2013, 111, 033002.	7.8	123
66	Spatial contributions of electron trajectories to high-order-harmonic radiation originating from a semi-infinite gas cell. Physical Review A, 2013, 88, .	2.5	9
67	Signature of the transversal coherence length in high-order harmonic generation. Physical Review A, 2013, 88, .	2.5	30
68	Attosecond Extreme Ultraviolet Vortices from High-Order Harmonic Generation. Physical Review Letters, 2013, 111, 083602.	7.8	174
69	Tailoring isolated attosecond pulses using quantum path interferences. Journal of Physics: Conference Series, 2013, 414, 012014.	0.4	0
70	Ultrahigh-Efficiency High Harmonic Generation Driven by UV Lasers. , 2013, , .		4
71	Frontiers in extreme nonlinear optics: Attosecond-to-zeptosecond coherent kiloelectronvolt X-rays on a tabletop. , 2013, , .		0
72	Off-axis compensation of attosecond pulse chirp. Journal of Physics B: Atomic, Molecular and Optical Physics, 2012, 45, 074021.	1.5	16

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73	Comment on â€˜On the dipole, velocity and acceleration forms in high-order harmonic generation from a single atom or moleculeâ€™. Journal of Physics B: Atomic, Molecular and Optical Physics, 2012, 45, 028001.	1.5	2
74	Temporal structure of ultra high-order harmonic generation in the keV regime driven by mid-infrared lasers. , 2012, , .		0
75	Bright Coherent Ultrahigh Harmonics in the keV X-ray Regime from Mid-Infrared Femtosecond Lasers. Science, 2012, 336, 1287-1291.	12.6	1,537
76	Invalidity of the Ehrenfest theorem in the computation of high-order-harmonic generation within the strong-field approximation. Physical Review A, 2012, 85, .	2.5	7
77	Valley in the efficiency of the high-order harmonic yield at ultra-high laser intensities. Optics Express, 2011, 19, 19430.	3.4	11
78	Comment on â€œEffect of entanglement on the decay dynamics of a pair of H(2p) atoms due to spontaneous emissionâ€. Physical Review A, 2011, 83, .	2.5	6
79	Harmonic generation beyond the Strong-Field Approximation: Phase and temporal description. Laser Physics, 2010, 20, 1044-1050.	1.2	22
80	High-order harmonic propagation in gases within the discrete dipole approximation. Physical Review A, 2010, 82, .	2.5	89
81	Dipole spectrum structure of nonresonant nonpertubative driven two-level atoms. Physical Review A, 2010, 81, .	2.5	11
82	Transferring orbital and spin angular momenta of light to atoms. New Journal of Physics, 2010, 12, 083053.	2.9	140
83	Photoionization with orbital angular momentum beams. Optics Express, 2010, 18, 3660.	3.4	103
84	Extension of the cut-off in high-harmonic generation using two delayed pulses of the same colour. Journal of Physics B: Atomic, Molecular and Optical Physics, 2009, 42, 134004.	1.5	21
85	Entanglement of unstable atoms: modifications of the emission properties. Journal of Physics B: Atomic, Molecular and Optical Physics, 2009, 42, 165008.	1.5	7
86	A quantitative-accurate S-matrix model for the description high-order harmonic generation. European Physical Journal: Special Topics, 2009, 175, 21-24.	2.6	0
87	S-Matrix theory for the high-order harmonic generation beyond the Strong-Field Approximation. Laser Physics, 2009, 19, 1581-1585.	1.2	6
88	Harmonic generation beyond the Strong-Field Approximation: the physics behind the short-wave-infrared scaling laws. Optics Express, 2009, 17, 9891.	3.4	72
89	Metastable superpositions of ortho- and para-Helium states. Physics Letters, Section A: General, Atomic and Solid State Physics, 2008, 372, 5560-5563.	2.1	4
90	Propagation of terawatt laser pulses in the air. Applied Physics A: Materials Science and Processing, 2008, 92, 865-871.	2.3	3

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91	High power vortex generation with volume phase holograms and non-linear experiments in gases. Applied Physics B: Lasers and Optics, 2008, 91, 115-118.	2.2	21
92	Nonsequential double ionization of the hydrogen molecule: Dependence on molecular alignment. Physical Review A, 2008, 78, .	2.5	27
93	Time domain effects during spontaneous self-channelling of light in air below the collapse threshold. Journal of Physics B: Atomic, Molecular and Optical Physics, 2007, 40, 4433-4442.	1.5	0
94	Quantum description of the high-order harmonic generation in multiphoton and tunneling regimes. Physical Review A, 2007, 76, .	2.5	15
95	Few-body dynamics in ultrashort laser pulses. Journal of Physics: Conference Series, 2007, 88, 012045.	0.4	0
96	Nonlinear effects in the propagation of short laser pulses in air. , 2007, , .		1
97	A quantitative S-Matrix approach to high-order harmonic generation from multiphoton to tunneling regimes.. Optics Express, 2007, 15, 3629.	3.4	15
98	Single and double ionization of the hydrogen molecule in an intense few-cycle laser pulse. Laser Physics, 2007, 17, 358-367.	1.2	9
99	Sub-half-cycle polarization gates in ultra-short laser pulses induced by non-linear propagation effects. Applied Physics B: Lasers and Optics, 2007, 88, 5-11.	2.2	2
100	Non-linear Young's double-slit experiment. Optics Express, 2006, 14, 2817.	3.4	9
101	<title>Influence of Pauli's exclusion principle in the multiple ionization of atoms by strong laser fields</title>. , 2006, , .		0
102	<title>Mechanisms of formation of gap solitons of Bose-Einstein condensates in optical lattices</title>. , 2006, , .		0
103	<title>Observation of channels of radiation during the propagation in air of short pulses below the collapse threshold</title>. , 2006, 6256, 61.		1
104	Generating vector solitary waves of Bose-Einstein Condensates in optical lattices. Laser Physics, 2006, 16, 344-347.	1.2	0
105	Ionization of lithium in a strong laser field. Laser Physics, 2006, 16, 600-606.	1.2	6
106	AbÂinitioCalculation of the Double Ionization of Helium in a Few-Cycle Laser Pulse Beyond the One-Dimensional Approximation. Physical Review Letters, 2006, 96, 053001.	7.8	92
107	Nonsequential double ionization of the hydrogen molecule in a few-cycle laser pulse. Physical Review A, 2006, 74, .	2.5	37
108	Quantum and semiclassical simulations in intense laser-H2+interactions. Physical Review A, 2006, 73, .	2.5	17

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109	Influence of the laser pulse phase on the interaction of an ultrashort laser pulse with a dense target. Laser Physics Letters, 2005, 2, 178-183.	1.4	0
110	Observation of Spontaneous Self-Channeling of Light in Air below the Collapse Threshold. Physical Review Letters, 2005, 95, 053905.	7.8	27
111	Lithium Ionization by a Strong Laser Field. Physical Review Letters, 2005, 94, 063002.	7.8	50
112	Dynamics of the formation of bright solitary waves of Bose-Einstein condensates in optical lattices. Physical Review A, 2004, 69, .	2.5	5
113	A complete description of the spin force. Journal of Physics B: Atomic, Molecular and Optical Physics, 2004, 37, 435-444.	1.5	24
114	Influence of Pauli exclusion principle on the strong field ionization of two electron atoms. Applied Physics B: Lasers and Optics, 2004, 78, 829-833.	2.2	4
115	Strong-field short-pulse ionization of the molecular hydrogen ion. Laser Physics Letters, 2004, 1, 25-31.	1.4	5
116	Photoionization of two-electronortho-atoms. Physical Review A, 2003, 68, .	2.5	12
117	The Zitterbewegung for a Dirac electron driven by an intense laser field. Journal of Physics B: Atomic, Molecular and Optical Physics, 2003, 36, 2253-2266.	1.5	9
118	Characterization of the channeling process in the scattering of relativistic electrons with periodic structures. Physical Review A, 2002, 65, .	2.5	1
119	Expansion of a Bose-Einstein condensate in an atomic waveguide. Physical Review A, 2002, 65, .	2.5	11
120	Prediction of step-like occupation and inversion of states in thin films exposed to laser pulses. Journal of Physics B: Atomic, Molecular and Optical Physics, 2002, 35, L181-L186.	1.5	8
121	Strong-field approximation to the relativistic channeling of electrons in the presence of electromagnetic waves. Physical Review A, 2002, 65, .	2.5	1
122	Relativistic quantum dynamics of a localized Dirac electron driven by an intense-laser-field pulse. Physical Review A, 2001, 64, .	2.5	23
123	Total ionization rates and ion yields of atoms at nonperturbative laser intensities. Physical Review A, 2001, 64, .	2.5	76
124	Microwave-induced control of free-electron-laser radiation. Physical Review E, 2001, 64, 026505.	2.1	0
125	Light Scattering by a Relativistic Plasma Driven by an Ultraintense Laser Source. Astrophysical Journal, Supplement Series, 2000, 127, 445-449.	7.7	6
126	Beyond the moving mirror model: Attosecond pulses from a relativistically moving plasma. Laser and Particle Beams, 2000, 18, 467-475.	1.0	11

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127	Probe-field reflection on a plasma surface driven by a strong electromagnetic field. Journal of Physics B: Atomic, Molecular and Optical Physics, 2000, 33, 2549-2558.	1.5	4
128	Plasmon-induced photon emission from thin metal films. Journal of Physics B: Atomic, Molecular and Optical Physics, 2000, 33, 1653-1661.	1.5	6
129	Attosecond pulse trains and relativistically driven plasmas. AIP Conference Proceedings, 2000, , .	0.4	0
130	Generation of trains of attosecond pulses from a photodissociated molecule. Journal of Physics B: Atomic, Molecular and Optical Physics, 1999, 32, 3547-3553.	1.5	2
131	Steady magnetic field generation due to transient field ionization in ultrashort laser-solid interaction. Physical Review E, 1999, 59, R36-R39.	2.1	6
132	Harmonic generation during the ionization of a thin target irradiated by a strong laser field. Journal of the Optical Society of America B: Optical Physics, 1999, 16, 407.	2.1	2
133	Stopped reflection of an atomic wavepacket by a laser beam with an evanescent profile. Optics Communications, 1998, 148, 376-382.	2.1	1
134	Generation of attosecond pulse trains during the reflection of a very intense laser on a solid surface. Journal of the Optical Society of America B: Optical Physics, 1998, 15, 1904.	2.1	64
135	Harmonic generation with ionizing two-level atoms. Journal of Physics B: Atomic, Molecular and Optical Physics, 1998, 31, 1687-1694.	1.5	17
136	High-order harmonic generation after photodissociation. Journal of Physics B: Atomic, Molecular and Optical Physics, 1998, 31, 4163-4172.	1.5	22
137	Quantum description of charge fluctuations in electron gas and plasma wave response to intense laser interaction. Journal of Physics B: Atomic, Molecular and Optical Physics, 1998, 31, 5215-5220.	1.5	4
138	Introduction of the LiÃ©nard-Wiechert correction to the particle simulation of relativistic plasmas. Physical Review E, 1998, 58, 3977-3983.	2.1	3
139	Harmonic filtering in an optically thin laser-generated plasma. Physical Review E, 1998, 58, 7864-7867.	2.1	6
140	Generation of a train of attosecond pulses in the reflected field from a laser-plasma interaction. , 1998, , .		0
141	Study of a plasma diffraction grating induced by super strong crossed laser beams. , 1998, , .		0
142	Analytical description of a plasma diffraction grating induced by two crossed laser beams. Physical Review E, 1997, 56, 7142-7146.	2.1	19
143	Ultrahigh harmonic generation from diatomic molecular ions in highly excited vibrational states. Physical Review A, 1997, 55, R1593-R1596.	2.5	85
144	High-order harmonic generation in a partially ionized medium. Journal of the Optical Society of America B: Optical Physics, 1996, 13, 430.	2.1	25

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145	Effect of time-dependent ionization on the harmonics generated by boundâ€“bound transitions. Journal of the Optical Society of America B: Optical Physics, 1996, 13, 2724.	2.1	14
146	Coupling effects in the propagation of harmonics. Journal of Modern Optics, 1996, 43, 1939-1950.	1.3	0
147	Multiple reflection of an extended atomic wave packet through a square-profile laser beam. Physical Review A, 1996, 53, 4260-4267.	2.5	0
148	Stopped atomic wavepackets generated by interaction with a square-profile laser beam. Quantum and Semiclassical Optics: Journal of the European Optical Society Part B, 1996, 8, 673-686.	0.9	6
149	Influence of barrier suppression in high-order harmonic generation. Physical Review A, 1995, 51, 4746-4753.	2.5	33
150	High-Order Harmonic Generation by Electron-Proton Recombination. Europhysics Letters, 1994, 28, 629-633.	2.0	35
151	High-order Harmonic Generation in a Two-level Atom. Journal of Modern Optics, 1993, 40, 793-807.	1.3	48
152	High-order harmonic generation in a crystalline solid. Physical Review B, 1992, 45, 8334-8341.	3.2	48
153	Adiabatic theory for high-order harmonic generation in a two-level atom. Journal of the Optical Society of America B: Optical Physics, 1992, 9, 2210.	2.1	51
154	Photoionization of the hydrogen atom: Three-dimensional results and pseudo-one-dimensional model. Physical Review A, 1991, 44, 4652-4659.	2.5	20
155	Ultrashort Extreme Ultraviolet Vortices. , 0, , .		2