Luis O Silva

List of Publications by Year
in descending order

308	12,024	28274	31849
papers	citations	55 h-index	101 g-index

313	313	313	4426
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Slowdown of interpenetration of two counterpropagating plasma slabs due to collective effects. Physical Review E, 2022, 105, 035204.	2.1	2
2	Laser-driven, ion-scale magnetospheres in laboratory plasmas. II. Particle-in-cell simulations. Physics of Plasmas, 2022, 29, .	1.9	4
3	Laser-driven, ion-scale magnetospheres in laboratory plasmas. I. Experimental platform and first results. Physics of Plasmas, 2022, 29, .	1.9	9
4	Interaction between electrostatic collisionless shocks generates strong magnetic fields. New Journal of Physics, 2022, 24, 063016.	2.9	1
5	10.1063/5.0085847.1. , 2022, , .		0
6	Model of pulsar pair cascades in non-uniform electric fields: Growth rate, density profile, and screening time. Physics of Plasmas, 2022, 29, .	1.9	3
7	High-order harmonic generation in an electron-positron-ion plasma. Physical Review E, 2021, 103, 013206.	2.1	2
8	Kinetic Model of Large-amplitude Oscillations in Neutron Star Pair Cascades. Astrophysical Journal, 2021, 908, 149.	4.5	14
9	Magnetized current filaments as a source of circularly polarized light. Journal of Plasma Physics, 2021, 87, .	2.1	0
10	Transition between Instability and Seeded Self-Modulation of a Relativistic Particle Bunch in Plasma. Physical Review Letters, 2021, 126, 164802.	7.8	13
11	Generating ultradense pair beams using 400 <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>GeV</mml:mi><mml:mo>/</mml:mo><mml:mi>c</mml:mi></mml:math> protons. Physical Review Research, 2021, 3, .	3.6	8
12	Kinetic instability in inductively oscillatory plasma equilibrium. Physical Review E, 2021, 103, L051201.	2.1	2
13	Compton-driven beam formation and magnetization via plasma microinstabilities. Journal of Plasma Physics, 2021, 87, .	2.1	2
14	Bandwidth effects in stimulated Brillouin scattering driven by partially incoherent light. Plasma Physics and Controlled Fusion, 2021, 63, 094003.	2.1	8
15	Quantum Electrodynamics vacuum polarization solver. New Journal of Physics, 2021, 23, 095005.	2.9	9
16	Coherent Emission from QED Cascades in Pulsar Polar Caps. Astrophysical Journal Letters, 2021, 919, L4.	8.3	15
17	Weibel instability beyond bi-Maxwellian anisotropy. Physical Review E, 2021, 104, 035201.	2.1	10
18	A robust plasma-based laser amplifier via stimulated Brillouin scattering. Plasma Physics and Controlled Fusion, 2021, 63, 114004.	2.1	3

#	Article	IF	Citations
19	Simulation and experimental study of proton bunch self-modulation in plasma with linear density gradients. Physical Review Accelerators and Beams, 2021, 24, .	1.6	3
20	Experimental study of extended timescale dynamics of a plasma wakefield driven by a self-modulated proton bunch. Physical Review Accelerators and Beams, 2021, 24, .	1.6	3
21	Boosting the performance of Brillouin amplification at sub-quarter-critical densities via reduction of parasitic Raman scattering. Plasma Physics and Controlled Fusion, 2021, 63, 124003.	2.1	1
22	Collisionless shock acceleration in the corona of an inertial confinement fusion pellet with possible application to ion fast ignition. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20200039.	3.4	6
23	Analysis of proton bunch parameters in the AWAKE experiment. Journal of Instrumentation, 2021, 16, P11031.	1.2	0
24	Neutrino-electron magnetohydrodynamics in an expanding universe. Physical Review D, 2021, 104, .	4.7	1
25	On the use of the envelope model for down-ramp injection in laser-plasma accelerators. Plasma Physics and Controlled Fusion, 2020, 62, 024001.	2.1	7
26	Compton scattering in particle-in-cell codes. Journal of Plasma Physics, 2020, 86, .	2.1	13
27	New criteria for efficient Raman and Brillouin amplification of laser beams in plasma. Scientific Reports, 2020, 10, 19875.	3.3	21
28	Interaction of ultra relativistic e â^’ e + fireball beam with plasma. New Journal of Physics, 2020, 22, 013030.	2.9	9
29	Scaling laws for direct laser acceleration in a radiation-reaction dominated regime. New Journal of Physics, 2020, 22, 083058.	2.9	15
30	Experimental study of wakefields driven by a self-modulating proton bunch in plasma. Physical Review Accelerators and Beams, 2020, 23, .	1.6	8
31	Proton Bunch Self-Modulation in Plasma with Density Gradient. Physical Review Letters, 2020, 125, 264801.	7.8	5
32	Plasma Wakes Driven by Photon Bursts via Compton Scattering. Physical Review Letters, 2020, 125, 265001.	7.8	7
33	Anisotropic heating and magnetic field generation due to Raman scattering in laser-plasma interactions. Physical Review Research, 2020, 2, .	3.6	13
34	Interplay between the Weibel instability and the Biermann battery in realistic laser-solid interactions. Physical Review Research, 2020, 2, .	3.6	16
35	Effects of collisions on the generation and suppression of temperature anisotropies and the Weibel instability. Physical Review Research, 2020, 2, .	3.6	6
36	EuPRAXIA Conceptual Design Report. European Physical Journal: Special Topics, 2020, 229, 3675-4284.	2.6	64

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37	Proton-driven plasma wakefield acceleration in AWAKE. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2019, 377, 20180418.	3.4	8
38	Are we ready to transfer optical light to gamma-rays?. Physics of Plasmas, 2019, 26, .	1.9	9
39	Prospect of Studying Nonperturbative QED with Beam-Beam Collisions. Physical Review Letters, 2019, 122, 190404.	7.8	89
40	Petascale particle-in-cell simulations of kinetic effects in inertial fusion energy plasmas. Plasma Physics and Controlled Fusion, 2019, 61, 044007.	2.1	4
41	Experimental Observation of Plasma Wakefield Growth Driven by the Seeded Self-Modulation of a Proton Bunch. Physical Review Letters, 2019, 122, 054801.	7.8	49
42	Experimental Observation of Proton Bunch Modulation in a Plasma at Varying Plasma Densities. Physical Review Letters, 2019, 122, 054802.	7.8	49
43	Bright Gamma-Ray Flares Powered by Magnetic Reconnection in QED-strength Magnetic Fields. Astrophysical Journal, 2019, 870, 49.	4.5	19
44	Bright <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>Î³</mml:mi></mml:mrow></mml:math> rays source and nonlinear Breit-Wheeler pairs in the collision of high density particle beams. Physical Review Accelerators and Beams, 2019, 22, .	1.6	24
45	Wakefields in a cluster plasma. Physical Review Accelerators and Beams, 2019, 22, .	1.6	1
46	Ion acceleration in electrostatic collisionless shock: on the optimal density profile for quasi-monoenergetic beams. Plasma Physics and Controlled Fusion, 2018, 60, 035010.	2.1	12
47	Laser dynamics in transversely inhomogeneous plasma and its relevance to wakefield acceleration. Plasma Physics and Controlled Fusion, 2018, 60, 054001.	2.1	5
48	Extremely intense laser-based electron acceleration in a plasma channel. Plasma Physics and Controlled Fusion, 2018, 60, 034002.	2.1	27
49	General kinetic solution for the Biermann battery with an associated pressure anisotropy generation. Plasma Physics and Controlled Fusion, 2018, 60, 014048.	2.1	9
50	Fully kinetic Biermann battery and associated generation of pressure anisotropy. Physical Review E, 2018, 97, 033204.	2.1	5
51	Electron acceleration by wave turbulence in a magnetized plasma. Nature Physics, 2018, 14, 475-479.	16.7	22
52	Acceleration of electrons in the plasma wakefield of a proton bunch. Nature, 2018, 561, 363-367.	27.8	162
53	Conditions for the onset of the current filamentation instability in the laboratory. Journal of Plasma Physics, 2018, 84, .	2.1	17
54	Ion-channel laser growth rate and beam quality requirements. Journal of Plasma Physics, 2018, 84, .	2.1	6

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55	Advantages to a diverging Raman amplifier. Communications Physics, 2018, 1, .	5.3	7
56	All optical dual stage laser wakefield acceleration driven by two-color laser pulses. Scientific Reports, 2018, 8, 11772.	3.3	14
57	Fully Kinetic Large-scale Simulations of the Collisionless Magnetorotational Instability. Astrophysical Journal, 2018, 859, 149.	4.5	11
58	Electronâ€“positron cascades in multiple-laser optical traps. Plasma Physics and Controlled Fusion, 2017, 59, 014040.	2.1	47
59	Seeded QED cascades in counterpropagating laser pulses. Physical Review E, 2017, 95, 023210.	2.1	94
60	Formation of collisionless shocks in magnetized plasma interaction with kinetic-scale obstacles. Physics of Plasmas, 2017, 24, .	1.9	12
61	Robustness of raman plasma amplifiers and their potential for attosecond pulse generation. High Energy Density Physics, 2017, 23, 212-216.	1.5	4
62	Optimization of plasma amplifiers. Physical Review E, 2017, 95, 053211.	2.1	13
63	Collimated protons accelerated from an overdense gas jet irradiated by a 1â€‰Âµm wavelength high-intensity short-pulse laser. Scientific Reports, 2017, 7, 13505.	3.3	37
64	Stable multi-GeV electron accelerator driven by waveform-controlled PW laser pulses. Scientific Reports, 2017, 7, 10203.	3.3	69
65	Horizon 2020 EuPRAXIA design study. Journal of Physics: Conference Series, 2017, 874, 012029.	0.4	60
66	Acceleration of collimated 45â€‰MeV protons by collisionless shocks driven in low-density, large-scale gradient plasmas by a 1020â€‰W/cm2, 1â€‰Âµm laser. Scientific Reports, 2017, 7, 16463.	3.3	23
67	Ponderomotive beatwave ion acceleration using twisted light. Physics of Plasmas, 2017, 24, 103131.	1.9	4
68	Magnetic turbulence in a table-top laser-plasma relevant to astrophysical scenarios. Nature Communications, 2017, 8, 15970.	12.8	40
69	â€œBoiling the vacuumâ€• in silico plasmas under extreme conditions in the laboratory and in astrophysics. Europhysics News, 2017, 48, 34-37.	0.3	0
70	Mitigating the hosing instability in relativistic laser-plasma interactions. New Journal of Physics, 2016, 18, 053023.	2.9	15
71	Physics of collisionless shocks: theory and simulation. Plasma Physics and Controlled Fusion, 2016, 58, 014005.	2.1	7
72	Laser absorption via quantum electrodynamics cascades in counter propagating laser pulses. Physics of Plasmas, 2016, 23, .	1.9	118

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73	Physical Mechanism of the Transverse Instability in Radiation Pressure Ion Acceleration. Physical Review Letters, 2016, 117, 234801.	7.8	30
74	Positron acceleration in non-linear beam driven plasma wakefields. AIP Conference Proceedings, 2016, , .	0.4	2
75	The generation of magnetic fields by the Biermann battery and the interplay with the Weibel instability. Physics of Plasmas, 2016, 23, .	1.9	29
76	Quantum radiation reaction in head-on laser-electron beam interaction. New Journal of Physics, 2016, 18, 073035.	2.9	82
77	High Orbital Angular Momentum Harmonic Generation. Physical Review Letters, 2016, 117, 265001.	7.8	66
78	Theory of the formation of a collisionless Weibel shock: pair vs. electron/proton plasmas. Laser and Particle Beams, 2016, 34, 362-367.	1.0	7
79	Magnetic field generation during intense laser channelling in underdense plasma. Physics of Plasmas, 2016, 23, 063121.	1.9	7
80	Study on Coulomb explosions of ion mixtures. Journal of Plasma Physics, 2016, 82, .	2.1	12
81	AWAKE: A Proton-Driven Plasma Wakefield Acceleration Experiment at CERN. Nuclear and Particle Physics Proceedings, 2016, 273-275, 175-180.	0.5	4
82	Optimizing laser-driven proton acceleration from overdense targets. Scientific Reports, 2016, 6, 29402.	3.3	14
83	Amplification and generation of ultra-intense twisted laser pulses via stimulated Raman scattering. Nature Communications, 2016, 7, 10371.	12.8	153
84	3D PIC SIMULATIONS OF COLLISIONLESS SHOCKS AT LUNAR MAGNETIC ANOMALIES AND THEIR ROLE IN FORMING LUNAR SWIRLS. Astrophysical Journal, 2016, 830, 146.	4.5	23
85	A compact tunable polarized X-ray source based on laser-plasma helical undulators. Scientific Reports, 2016, 6, 29101.	3.3	33
86	Positron plasma wakefield acceleration in a self-driven hollow channel. AIP Conference Proceedings, 2016, , .	0.4	3
87	QED vs. classical radiation reaction in the transition regime. AIP Conference Proceedings, 2016, , .	0.4	0
88	Modeling of laser wakefield acceleration in Lorentz boosted frame using a Quasi-3D OSIRIS algorithm. AIP Conference Proceedings, 2016, , .	0.4	0
89	Classical radiation reaction in particle-in-cell simulations. Computer Physics Communications, 2016, 204, 141-151.	7.5	54
90	Enabling Lorentz boosted frame particle-in-cell simulations of laser wakefield acceleration in quasi-3D geometry. Journal of Computational Physics, 2016, 316, 747-759.	3.8	8

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91	Modelling radiation emission in the transition from the classical to the quantum regime. Plasma Physics and Controlled Fusion, 2016, 58, 014035.	2.1	12
92	Slow down of a globally neutral relativistice^{â”}e⁺beam shearing the vacuum. Plasma Physics and Controlled Fusion, 2016, 58, 014025.	2.1	5
93	Raman scattering for intense high orbital angular momentum harmonic generation. , 2016, , .		0
94	10.1063/1.4946017.1. , 2016, , .		0
95	Transverse electron-scale instability in relativistic shear flows. Physical Review E, 2015, 92, 021101.	2.1	24
96	SHOCK FORMATION IN ELECTRONâ€“ION PLASMAS: MECHANISM AND TIMING. Astrophysical Journal Letters, 2015, 803, L29.	8.3	24
97	Particle merging algorithm for PIC codes. Computer Physics Communications, 2015, 191, 65-73.	7.5	54
98	Spatial-temporal evolution of the current filamentation instability. New Journal of Physics, 2015, 17, 043049.	2.9	8
99	Generation of neutral and high-density electronâ€“positron pair plasmas in the laboratory. Nature Communications, 2015, 6, 6747.	12.8	252
100	Elimination of the numerical Cerenkov instability for spectral EM-PIC codes. Computer Physics Communications, 2015, 192, 32-47.	7.5	27
101	Persistence of magnetic field driven by relativistic electrons in a plasma. Nature Physics, 2015, 11, 409-413.	16.7	29
102	Mitigation of numerical Cerenkov radiation and instability using a hybrid finite difference-FFT Maxwell solver and a local charge conserving current deposit. Computer Physics Communications, 2015, 197, 144-152.	7.5	21
103	Implementation of a hybrid particle code with a PIC description in râ€“z and a gridless description in Ï• into OSIRIS. Journal of Computational Physics, 2015, 281, 1063-1077.	3.8	49
104	Self-modulation instability of ultra-relativistic particle bunches with finite rise times. Plasma Physics and Controlled Fusion, 2014, 56, 084014.	2.1	10
105	Electron trapping and acceleration by the plasma wakefield of a self-modulating proton beam. Physics of Plasmas, 2014, 21, .	1.9	29
106	Ion motion in the wake driven by long particle bunches in plasmas. Physics of Plasmas, 2014, 21, 056705.	1.9	21
107	Electron-scale shear instabilities: magnetic field generation and particle acceleration in astrophysical jets. New Journal of Physics, 2014, 16, 035007.	2.9	34
108	Proton-driven plasma wakefield acceleration: a path to the future of high-energy particle physics. Plasma Physics and Controlled Fusion, 2014, 56, 084013.	2.1	68

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109	Demonstration of laser pulse amplification by stimulated Brillouin scattering. High Power Laser Science and Engineering, 2014, 2, .	4.6	21
110	Collisionless Weibel shocks: Full formation mechanism and timing. Physics of Plasmas, 2014, 21, .	1.9	49
111	Enhanced stopping of macro-particles in particle-in-cell simulations. Physics of Plasmas, 2014, 21, .	1.9	12
112	SEP ACCELERATION IN CME DRIVEN SHOCKS USING A HYBRID CODE. Astrophysical Journal, 2014, 792, 9.	4.5	8
113	Electromagnetic Field Generation in the Downstream of Electrostatic Shocks Due to Electron Trapping. Physical Review Letters, 2014, 113, 105002.	7.8	18
114	Laserâ€“plasma interactions for fast ignition. Nuclear Fusion, 2014, 54, 054002.	3.5	51
115	Magnetic-Field Generation and Amplification in an Expanding Plasma. Physical Review Letters, 2014, 112, 175001.	7.8	40
116	All-Optical Radiation Reaction at<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mn>1</mml:mn><mml:msup><mml:mrow><mml:mn>0</mml:mn></mml:mrow><mml:mrow><mml mathvariant="normal">W</mml:mi><mml:mo>/</mml:mo><mml:msup><mml:mrow><mml:mi>cm</mml:mi></mml:mrow><mml:mrow> Physical Review Letters, 2014, 113, 134801.	7.8	74
117	Summary of WG6 and WG6+1: Theory and simulations of plasma based accelerators. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2014, 740, 229-230.	1.6	0
118	Modeling of laser wakefield acceleration in Lorentz boosted frame using EM-PIC code with spectral solver. Journal of Computational Physics, 2014, 266, 124-138.	3.8	23
119	Exploring the nature of collisionless shocks under laboratory conditions. Scientific Reports, 2014, 4, 3934.	3.3	57
120	Numerical instability due to relativistic plasma drift in EM-PIC simulations. Computer Physics Communications, 2013, 184, 2503-2514.	7.5	53
121	Effect of collisions on amplification of laser beams by Brillouin scattering in plasmas. Physics of Plasmas, 2013, 20, 102114.	1.9	12
122	Theory of multidimensional electron-scale instabilities in unmagnetized shear flows. Plasma Physics and Controlled Fusion, 2013, 55, 124031.	2.1	8
123	Theory of Underdense Laser-Plasma Interactions with Photon Kinetic Theory. , 2013, , 3-18.		0
124	Ion acceleration from laser-driven electrostatic shocks. Physics of Plasmas, 2013, 20, .	1.9	85
125	Collisionless shock formation, spontaneous electromagnetic fluctuations, and streaming instabilities. Physics of Plasmas, 2013, 20, .	1.9	80
126	Relativistic collisionless shocks formation in pair plasmas. Journal of Plasma Physics, 2013, 79, 367-370.	2.1	4

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127	Theoretical studies of collisionless shocks for laser-acceleration of ions. , 2013, , .		1
128	Advanced geometries and regimes. , 2013, , .		1
129	The formation of a collisionless shock. Laser and Particle Beams, 2013, 31, 487-491.	1.0	5
130	Exploiting multi-scale parallelism for large scale numerical modelling of laser wakefield accelerators. Plasma Physics and Controlled Fusion, 2013, 55, 124011.	2.1	98
131	Increasing energy coupling into plasma waves by tailoring the laser radial focal spot distribution in a laser wakefield accelerator. Physics of Plasmas, 2013, 20, 064501.	1.9	5
132	Theoretical aspects of the Fireball scenario. EAS Publications Series, 2013, 61, 295-299.	0.3	0
133	dc-Magnetic-Field Generation in Unmagnetized Shear Flows. Physical Review Letters, 2013, 111, 015005.	7.8	34
134	Relativistic generalization of formation and ion-reflection conditions in electrostatic shocks. Physical Review E, 2013, 87, 043116.	2.1	17
135	3D simulations of pre-ionized and two-stage ionization injected laser wakefield accelerators. , 2013, , .		0
136	Modeling of laser wakefield acceleration in the Lorentz boosted frame using OSIRIS and UPIC framework. , 2013, , .		1
137	Seeding of the current filamentation instability for an accelerator beam in a capillary plasma. , 2013, , .		0
138	Enhancement in the electromagnetic beam-plasma instability due to ion streaming. Journal of Plasma Physics, 2012, 78, 181-187.	2.1	16
139	Minimagnetospheres above the Lunar Surface and the Formation of Lunar Swirls. Physical Review Letters, 2012, 109, 081101.	7.8	43
140	Ion Motion in Self-Modulated Plasma Wakefield Accelerators. Physical Review Letters, 2012, 109, 145005.	7.8	47
141	Publisherâ€™s Note: Minimagnetospheres above the Lunar Surface and the Formation of Lunar Swirls [Phys. Rev. Lett.109, 081101 (2012)]. Physical Review Letters, 2012, 109, .	7.8	3
142	Influence of realistic parameters on state-of-the-art laser wakefield accelerator experiments. Plasma Physics and Controlled Fusion, 2012, 54, 055010.	2.1	12
143	Magnetically assisted self-injection and radiation generation for plasma-based acceleration. Plasma Physics and Controlled Fusion, 2012, 54, 124044.	2.1	16
144	The impact of kinetic effects on the properties of relativistic electronâ€“positron shocks. Plasma Physics and Controlled Fusion, 2012, 54, 125004.	2.1	12

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145	Transverse self-modulation of ultra-relativistic lepton beams in the plasma wakefield accelerator. Physics of Plasmas, 2012, 19, 063105.	1.9	44
146	Characterization of transverse beam emittance of electrons from a laser-plasma wakefield accelerator in the bubble regime using betatron x-ray radiation. Physical Review Special Topics: Accelerators and Beams, 2012, 15, .	1.8	63
147	Dynamics of intense laser propagation in underdense plasma: Polarization dependence. Physics of Plasmas, 2012, 19, .	1.9	9
148	A proposed demonstration of an experiment of proton-driven plasma wakefield acceleration based on CERN SPS. Journal of Plasma Physics, 2012, 78, 347-353.	2.1	21
149	LARGE-SCALE MAGNETIC FIELD GENERATION VIA THE KINETIC KELVIN-HELMHOLTZ INSTABILITY IN UNMAGNETIZED SCENARIOS. Astrophysical Journal Letters, 2012, 746, L14.	8.3	59
150	Laser-Driven Shock Acceleration of Monoenergetic Ion Beams. Physical Review Letters, 2012, 109, 215001.	7.8	184
151	ACCELERATION IN PERPENDICULAR RELATIVISTIC SHOCKS FOR PLASMAS CONSISTING OF LEPTONS AND HADRONS. Astrophysical Journal, 2012, 755, 68.	4.5	17
152	Effect of the frequency chirp on laser wakefield acceleration. New Journal of Physics, 2012, 14, 023057.	2.9	64
153	Weibel-Instability-Mediated Collisionless Shocks in the Laboratory with Ultraintense Lasers. Physical Review Letters, 2012, 108, 235004.	7.8	119
154	Collisionless shocks in laser-produced plasma generate monoenergetic high-energy proton beams. Nature Physics, 2012, 8, 95-99.	16.7	358
155	Mechanism of generating fast electrons by an intense laser at a steep overdense interface. Physical Review E, 2011, 84, 025401.	2.1	42
156	Magnetic Control of Particle Injection in Plasma Based Accelerators. Physical Review Letters, 2011, 106, 225001.	7.8	71
157	Production of Picosecond, Kilojoule, and Petawatt Laser Pulses via Raman Amplification of Nanosecond Pulses. Physical Review Letters, 2011, 107, 105002.	7.8	57
158	Simulations of efficient Raman amplification into the multipetawatt regime. Nature Physics, 2011, 7, 87-92.	16.7	154
159	PIC Codes in New Processors: A Full Relativistic PIC Code in CUDA-Enabled Hardware With Direct Visualization. IEEE Transactions on Plasma Science, 2011, 39, 675-685.	1.3	12
160	Studying ignition schemes on European laser facilities. Nuclear Fusion, 2011, 51, 094025.	3.5	7
161	Polarized beam conditioning in plasma based acceleration. Physical Review Special Topics: Accelerators and Beams, 2011, 14, .	1.8	38
162	Three-Dimensional Simulations of Laserâ€“Plasma Interactions at Ultrahigh Intensities. IEEE Transactions on Plasma Science, 2011, 39, 2618-2619.	1.3	6

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163	X-Ray Modeling in Laser-Wakefield Accelerators. IEEE Transactions on Plasma Science, 2011, 39, 2826-2827.	1.3	3
164	Efficient modeling of laserâ€“plasma interactions in high energy density scenarios. Plasma Physics and Controlled Fusion, 2011, 53, 074004.	2.1	17
165	Study of near-GeV acceleration of electrons in a non-linear plasma wave driven by a self-guided laser pulse. Plasma Physics and Controlled Fusion, 2011, 53, 014008.	2.1	12
166	Numerical Simulation of Plasma-Based Raman Amplification of Laser Pulses to Petawatt Powers. IEEE Transactions on Plasma Science, 2011, 39, 2622-2623.	1.3	1
167	Simulations of Two-Bunch Plasma Wakefield Accelerator Experiments at FACET. , 2010, , .		1
168	Simulation of Current Filamentation Instability for an Accelerator Beam in a Capillary Plasma. , 2010, , .		0
169	THE NONLINEAR SATURATION OF THE NON-RESONANT KINETICALLY DRIVEN STREAMING INSTABILITY. Astrophysical Journal Letters, 2010, 711, L127-L132.	8.3	24
170	Overrun effects in nuclear fusion within a single Coulomb exploding nanodroplet. European Physical Journal D, 2010, 57, 327-334.	1.3	7
171	Numerical simulations of laser wakefield accelerators in optimal Lorentz frames. Computer Physics Communications, 2010, 181, 869-875.	7.5	31
172	Exploring laser-wakefield-accelerator regimes for near-term lasers using particle-in-cell simulation in Lorentz-boosted frames. Nature Physics, 2010, 6, 311-316.	16.7	134
173	Bright spatially coherent synchrotron X-rays from a table-top source. Nature Physics, 2010, 6, 980-983.	16.7	392
174	Radiation in 1.5 GeV and 12 GeV Laser Wakefield Acceleration Stages from PIC Simulations. , 2010, , .		1
175	Applications of the wave kinetic approach: from laser wakefields to drift wave turbulence. Journal of Plasma Physics, 2010, 76, 903-914.	2.1	1
176	Relativistic effects on the collisionlessâ€“collisional transition of the filamentation instability in fast ignition. Journal of Plasma Physics, 2010, 76, 813-832.	2.1	4
177	All-Optical Steering of Laser-Wakefield-Accelerated Electron Beams. Physical Review Letters, 2010, 105, 215001.	7.8	94
178	Two-pulse driving of D+D nuclear fusion within a single Coulomb exploding nanodroplet. Physics of Plasmas, 2010, 17, 022702.	1.9	4
179	High-brilliance synchrotron radiation induced by the plasma magnetostatic mode. Physical Review Special Topics: Accelerators and Beams, 2010, 13, .	1.8	7
180	Laser wakefield acceleration at reduced density in the self-guided regime. Physics of Plasmas, 2010, 17, 056709.	1.9	28

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181	Exploring the future of laser-plasma acceleration with massively parallel simulations in OSIRIS. , 2010, , .		0
182	Modeling laser wakefield accelerator experiments with ultrafast particle-in-cell simulations in boosted frames. Physics of Plasmas, 2010, 17, 056705.	1.9	14
183	Onset of self-steepening of intense laser pulses in plasmas. New Journal of Physics, 2010, 12, 045025.	2.9	36
184	Electron trapping and acceleration on a downward density ramp: a two-stage approach. New Journal of Physics, 2010, 12, 045027.	2.9	15
185	Self-Guided Laser Wakefield Acceleration beyond 1ÂGeV Using Ionization-Induced Injection. Physical Review Letters, 2010, 105, 105003.	7.8	338
186	Numerical simulations of LWFA for the next generation of laser systems. , 2009, , .		3
187	Controlled generation of short-wavelength periodic megagauss magnetic fields in plasmas. , 2009, , .		0
188	Measurements of the Critical Power for Self-Injection of Electrons in a Laser Wakefield Accelerator. Physical Review Letters, 2009, 103, 215006.	7.8	128
189	Publisherâ€™s Note: Near-GeV Acceleration of Electrons by a Nonlinear Plasma Wave Driven by a Self-Guided Laser Pulse [Phys. Rev. Lett.103, 035002 (2009)]. Physical Review Letters, 2009, 103, .	7.8	4
190	Beam loading by electrons in nonlinear plasma wakes. Physics of Plasmas, 2009, 16, .	1.9	96
191	Photon acceleration and modulational instability during wakefield excitation using long laser pulses. Plasma Physics and Controlled Fusion, 2009, 51, 024008.	2.1	14
192	ION DYNAMICS AND ACCELERATION IN RELATIVISTIC SHOCKS. Astrophysical Journal, 2009, 695, L189-L193.	4.5	143
193	Prospects for all-optical ultrafast muon acceleration. Plasma Physics and Controlled Fusion, 2009, 51, 024006.	2.1	4
194	Radiation post-processing in PIC codes. Proceedings of SPIE, 2009, , .	0.8	34
195	Laser electron acceleration with 10 PW lasers. Comptes Rendus Physique, 2009, 10, 167-175.	0.9	3
196	dt nuclear fusion within a single Coulomb exploding composite nanodroplet. European Physical Journal D, 2009, 54, 71-75.	1.3	2
197	Recent results and future challenges for large scale particle-in-cell simulations of plasma-based accelerator concepts. Journal of Physics: Conference Series, 2009, 180, 012005.	0.4	6
198	Near-GeV Acceleration of Electrons by a Nonlinear Plasma Wave Driven by a Self-Guided Laser Pulse. Physical Review Letters, 2009, 103, 035002.	7.8	239

#	Article	IF	Citations
199	Intense laser-plasma interactions: New frontiers in high energy density physics. Physics of Plasmas, 2009, 16, .	1.9	45
200	Applications of the wave kinetic approach: From laser wakefields to drift wave turbulence. Physics of Plasmas, 2009, 16, 055904.	1.9	12
201	A simulation study of fast ignition with ultrahigh intensity lasers. Physics of Plasmas, 2009, 16, .	1.9	23
202	Statistical kinetic treatment of relativistic binary collisions. Physical Review E, 2009, 79, 025701.	2.1	30
203	Short-wavelength magnetic structures from the plasma magnetic mode and their applications. Proceedings of SPIE, 2009, , .	0.8	1
204	Simulating relativistic beam and plasma systems using an optimal boosted frame. Journal of Physics: Conference Series, 2009, 180, 012006.	0.4	8
205	Towards a compact 0.1-10 MeV broadband betatron photon source. Proceedings of SPIE, 2009, , .	0.8	0
206	Streaming the Boris Pusher: a CUDA implementation. , 2009, , .		4
207	Benchmarking the codes VORPAL, OSIRIS, and QuickPIC with Laser Wakefield Acceleration Simulations. , 2009, , .		3
208	All-optical trapping and acceleration of heavy particles. New Journal of Physics, 2008, 10, 033028.	2.9	12
209	Direct Acceleration of Ions With Variable-Frequency Lasers. IEEE Transactions on Plasma Science, 2008, 36, 1857-1865.	1.3	11
210	The interaction of a flowing plasma with a dipole magnetic field: measurements and modelling of a diamagnetic cavity relevant to spacecraft protection. Plasma Physics and Controlled Fusion, 2008, 50, 124025.	2.1	31
211	One-to-One Full-Scale Simulations of Laser-Wakefield Acceleration Using QuickPIC. IEEE Transactions on Plasma Science, 2008, 36, 1722-1727.	1.3	5
212	Computational studies and optimization of wakefield accelerators. Journal of Physics: Conference Series, 2008, 125, 012002.	0.4	13
213	Simulation of zonal flow excitation by drift mode turbulence: applications to tokamaks and the magnetopause. Plasma Physics and Controlled Fusion, 2008, 50, 124048.	2.1	2
214	One-to-one direct modeling of experiments and astrophysical scenarios: pushing the envelope on kinetic plasma simulations. Plasma Physics and Controlled Fusion, 2008, 50, 124034.	2.1	180
215	Direct observation of betatron oscillations in a laser-plasma electron accelerator. Europhysics Letters, 2008, 81, 64001.	2.0	43
216	Expansion of nanoplasmas and laser-driven nuclear fusion in single exploding clusters. Plasma Physics and Controlled Fusion, 2008, 50, 124049.	2.1	8

#	Article	IF	Citations
217	Particle-in-cell simulations for fast ignition. Journal of Physics: Conference Series, 2008, 125, 012046.	0.4	1
218	Expansion of nanoplasmas and laser-driven nuclear fusion in single exploding clusters. AIP Conference Proceedings, 2008, , .	0.4	0
219	Studies of Zonal Flows Driven by Drift Mode Turbulence in Laboratory and Space Plasmas. , 2008, , .		1
220	Hybrid simulations of mini-magnetospheres in the laboratory. Plasma Physics and Controlled Fusion, 2008, 50, 074017.	2.1	21
221	Expansion of a Plasma Cloud Into the Solar Wind. IEEE Transactions on Plasma Science, 2008, 36, 1168-1169.	1.3	3
222	Three-Dimensional Structure of the Laser Wakefield Accelerator in the Blowout Regime. IEEE Transactions on Plasma Science, 2008, 36, 1124-1125.	1.3	1
223	Beam Loading in the Nonlinear Regime of Plasma-Based Acceleration. Physical Review Letters, 2008, 101, 145002.	7.8	228
224	SHEET CROSSING AND WAVE BREAKING IN THE LASER WAKEFIELD ACCELERATOR. International Journal of Modern Physics B, 2007, 21, 439-446.	2.0	1
225	The physical picture of beam loading in the blowout regime. , 2007, , .		2
226	Spontaneous Generation of Self-Organized Solitary Wave Structures at Earthâ€™s Magnetopause. Physical Review Letters, 2007, 99, 205006.	7.8	35
227	White-Light Parametric Instabilities in Plasmas. Physical Review Letters, 2007, 98, 235001.	7.8	18
228	Ergodic model for the expansion of spherical nanoplasmas. Physical Review E, 2007, 75, 066403.	2.1	15
229	Dynamics and control of the expansion of finite-size plasmas produced in ultraintense laser-matter interactions. Physics of Plasmas, 2007, 14, 056704.	1.9	31
230	Designing LWFA in the blowout regime. , 2007, , .		2
231	Cluster magnetic fields from large scale structure shocks. AIP Conference Proceedings, 2007, , .	0.4	0
232	Reflection of an electron beam by a photon mirror. Journal of Plasma Physics, 2007, 73, 627-634.	2.1	16
233	Generating multi-GeV electron bunches using single stage laser wakefield acceleration in a 3D nonlinear regime. Physical Review Special Topics: Accelerators and Beams, 2007, 10, .	1.8	710
234	PLASMA WAKES DRIVEN BY NEUTRINOS, PHOTONS AND ELECTRON BEAMS. International Journal of Modern Physics B, 2007, 21, 343-350.	2.0	0

#	Article	IF	Citations
235	Stability of arbitrary electron velocity distribution functions to electromagnetic modes. Physics of Plasmas, 2007, 14, 062108.	1.9	11
236	dHybrid: A massively parallel code for hybrid simulations of space plasmas. Computer Physics Communications, 2007, 176, 419-425.	7.5	56
237	Simulation of monoenergetic electron generation via laser wakefield accelerators for 5â€“25TW lasers. Physics of Plasmas, 2006, 13, 056708.	1.9	83
238	Space-Charge Effects in the Current-Filamentation or Weibel Instability. Physical Review Letters, 2006, 96, 105002.	7.8	91
239	Cluster Magnetic Fields from Large-Scale Structure and Galaxy Cluster Shocks. Astrophysical Journal, 2006, 642, L1-L4.	4.5	75
240	Physical Problems (Microphysics) in Relativistic Plasma Flows. AIP Conference Proceedings, 2006, , .	0.4	18
241	Baryon loading and the Weibel instability in gamma-ray bursts. Monthly Notices of the Royal Astronomical Society, 2006, 372, 1851-1855.	4.4	33
242	Modeling Laser Wake Field Acceleration with the Quasi-Static PIC Code QuickPIC. AIP Conference Proceedings, 2006, , .	0.4	1
243	QuickPIC: a highly efficient fully parallelized PIC code for plasma-based acceleration. Journal of Physics: Conference Series, 2006, 46, 190-199.	0.4	16
244	Exact analytical models of the streaming instability driven by intense neutrino beams. Journal of Cosmology and Astroparticle Physics, 2006, 2006, 011-011.	5.4	13
245	A global simulation for laser-driven MeV electrons in 50-Î¼m-diameter fast ignition targets. Physics of Plasmas, 2006, 13, 056308.	1.9	30
246	Controlled shock shells and intracluster fusion reactions in the explosion of large clusters. Physical Review A, 2006, 73, .	2.5	24
247	Kinetics of the Collisionless Expansion of Spherical Nanoplasmas. Physical Review Letters, 2006, 96, 175002.	7.8	38
248	Very High Mach-Number Electrostatic Shocks in Collisionless Plasmas. Physical Review Letters, 2006, 96, 045005.	7.8	79
249	Evidence of photon acceleration by laser wake fields. Physics of Plasmas, 2006, 13, 033108.	1.9	88
250	A QuasiParticle Approach to Modulational Instabilities in WavePlasma Interactions. Physica Scripta, 2005, , 75.	2.5	2
251	Physical problems of artificial magnetospheric propulsion. Journal of Plasma Physics, 2005, 71, 495-501.	2.1	5
252	Wave kinetic treatment of forward four-wave stimulated scattering instabilities. Journal of Plasma Physics, 2005, 71, 899.	2.1	10

#	Article	IF	Citations
253	Creation and expansion of a magnetized plasma bubble for plasma propulsion. Journal of Atmospheric and Solar-Terrestrial Physics, 2005, 67, 1315-1320.	1.6	3
254	Quasiparticle Approach to the Modulational Instability of Drift Waves Coupling to Zonal Flows. Physical Review Letters, 2005, 94, 165002.	7.8	32
255	Three-dimensional wakes driven by intense relativistic beams in gas targets. IEEE Transactions on Plasma Science, 2005, 33, 558-559.	1.3	4
256	Wigner-Moyal description of free variable mass Klein-Gordon fields. Journal of Mathematical Physics, 2005, 46, 102901.	1.1	9
257	Dynamics and Control of Shock Shells in the Coulomb Explosion of Very Large Deuterium Clusters. Physical Review Letters, 2005, 94, 033401.	7.8	55
258	Long-Time Evolution of Magnetic Fields in Relativistic Gamma-Ray Burst Shocks. Astrophysical Journal, 2005, 618, L75-L78.	4.5	165
259	Neutrino plasma coupling in dense astrophysical plasmas. Plasma Physics and Controlled Fusion, 2004, 46, B327-B334.	2.1	14
260	Global Simulation for Laser-Driven MeV Electrons in Fast Ignition. Physical Review Letters, 2004, 93, 185004.	7.8	79
261	Near-GeV-Energy Laser-Wakefield Acceleration of Self-Injected Electrons in a Centimeter-Scale Plasma Channel. Physical Review Letters, 2004, 93, 185002.	7.8	168
262	Ion acceleration from the shock front induced by hole boring in ultraintense laser-plasma interactions. Physical Review E, 2004, 70, 046414.	2.1	60
263	Laser pulse frequency up-shifts by relativistic ionization fronts. Europhysics Letters, 2004, 66, 371-377.	2.0	25
264	Pulse Compression and Frequency Up-Shift with Nonlinear Plasma Waves. Physica Scripta, 2004, , 118.	2.5	2
265	Proton Shock Acceleration in Laser-Plasma Interactions. Physical Review Letters, 2004, 92, 015002.	7.8	431
266	Neutrino Beam Plasma Interactions. Physica Scripta, 2004, T107, 9.	2.5	1
267	GENERATION OF MAGNETIC FIELDS IN COSMOLOGICAL SHOCKS. Journal of the Korean Astronomical Society, 2004, 37, 533-541.	1.5	31
268	Three-dimensional Weibel instability in astrophysical scenarios. Physics of Plasmas, 2003, 10, 1979-1984.	1.9	115
269	Plasma channels produced by a laser-triggered high-voltage discharge. Physical Review E, 2003, 68, 035402.	2.1	16
270	Interpenetrating Plasma Shells: Near-Equipartition Magnetic Field Generation and Nonthermal Particle Acceleration. Astrophysical Journal, 2003, 596, L121-L124.	4.5	333

#	Article	IF	Citations
271	Classical mode conversion description of neutrino oscillations in dense magnetized plasmas. Physics of Plasmas, 2003, 10, 4903-4906.	1.9	3
272	Electroweak Interactions in Dense Plasmas. AIP Conference Proceedings, 2003, , .	0.4	0
273	Two-dimensional collision of probe photons with relativistic ionization fronts. Physical Review E, 2002, 65, 036404.	2.1	8
274	Generation of ultra-intense single-cycle laser pulses by using photon deceleration. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 29-32.	7.1	67
275	On the role of the purely transverse Weibel instability in fast ignitor scenarios. Physics of Plasmas, 2002, 9, 2458-2461.	1.9	219
276	OSIRIS: A Three-Dimensional, Fully Relativistic Particle in Cell Code for Modeling Plasma Based Accelerators. Lecture Notes in Computer Science, 2002, , 342-351.	1.3	413
277	Three-dimensional particle-in-cell simulations of the Weibel instability in electron-positron plasmas. IEEE Transactions on Plasma Science, 2002, 30, 28-29.	1.3	18
278	Photon acceleration of ultrashort laser pulses by relativistic ionization fronts. Physical Review E, 2002, 66, 056406.	2.1	14
279	Dust acoustic waves in a periodic medium with spatial dust density distributions. Physics Letters, Section A: General, Atomic and Solid State Physics, 2002, 305, 75-78.	2.1	0
280	Neutrino effective charge in a plasma. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2002, 548, 63-67.	4.1	12
281	Neutrino-driven wakefields in an electronâ€“positron plasma. Physics Letters, Section A: General, Atomic and Solid State Physics, 2002, 305, 190-195.	2.1	7
282	Nuclear reaction rates and energy in stellar plasmas: The effect of highly damped modes. Physics of Plasmas, 2001, 8, 2454-2460.	1.9	305
283	Photon kinetic theory of self-phase modulation. Optics Communications, 2001, 196, 285-291.	2.1	25
284	Ponderomotive Force of Neutrinos in a Magnetized Plasma. Physica Scripta, 2000, T84, 57.	2.5	2
285	Neutrino Landau damping and collective neutrinoâ€“plasma processes. Journal of Plasma Physics, 2000, 64, 97-108.	2.1	6
286	Neutrino Landau damping. Physics Letters, Section A: General, Atomic and Solid State Physics, 2000, 270, 265-272.	2.1	6
287	Photon kinetics for laser-plasma interactions. IEEE Transactions on Plasma Science, 2000, 28, 1128-1134.	1.3	16
288	Neutrino Kinetics in Dense Astrophysical Plasmas. Astrophysical Journal, Supplement Series, 2000, 127, 481-484.	7.7	12

#	Article	IF	Citations
289	Collective neutrinoâ€“plasma interactions. Physics of Plasmas, 2000, 7, 2166-2172.	1.9	26
290	Electroweak plasma instabilities and supernovae. Plasma Physics and Controlled Fusion, 2000, 42, B223-B230.	2.1	5
291	The physics of collective neutrino-plasma interactions. Plasma Physics and Controlled Fusion, 1999, 41, A699-A707.	2.1	16
292	Comment on â€œPonderomotive force due to neutrinosâ€• Physical Review D, 1999, 60, .	4.7	9
293	Thermodynamics of a neutrino gas in a dense plasma. Physics of Plasmas, 1999, 6, 2640-2643.	1.9	4
294	Neutrino Driven Streaming Instabilities in a Dense Plasma. Physical Review Letters, 1999, 83, 2703-2706.	7.8	95
295	Ponderomotive force of quasiparticles in a plasma. Physical Review E, 1999, 59, 2273-2280.	2.1	37
296	Equivalent charge of photons and neutrinos in a plasma. Physics Letters, Section A: General, Atomic and Solid State Physics, 1998, 239, 373-377.	2.1	30
297	Kinetic theory of photon acceleration: Time-dependent spectral evolution of ultrashort laser pulses. Physical Review E, 1998, 57, 3423-3431.	2.1	38
298	Propagation of relativistically intense laser pulses in nonuniform plasmas. Physical Review E, 1998, 58, 4890-4896.	2.1	15
299	Scattering of Neutrinos and Gravitational Waves in Supernovae. Physica Scripta, 1998, T75, 61.	2.5	12
300	Experimental observation of photon acceleration of femtosecond laser pulses in relativistic under-dense ionization fronts. Springer Series in Chemical Physics, 1998, , 415-417.	0.2	0
301	Experimental Evidence of Photon Acceleration of Ultrashort Laser Pulses in Relativistic Ionization Fronts. Physical Review Letters, 1997, 78, 4773-4776.	7.8	93
302	Covariant formulation of wave-particle interaction in a transverse magnetic field. Physical Review E, 1997, 55, 1217-1220.	2.1	3
303	Covariant formulation of photon acceleration. Journal of Plasma Physics, 1997, 58, 647-654.	2.1	3
304	Mode coupling theory of flash ionization in a cavity. IEEE Transactions on Plasma Science, 1996, 24, 147-151.	1.3	22
305	Photon acceleration in superluminous and accelerated ionization fronts. IEEE Transactions on Plasma Science, 1996, 24, 316-322.	1.3	21
306	Regular and stochastic acceleration of photons. Physical Review E, 1994, 49, 3520-3523.	2.1	50

#	Article	IF	Citations
307	Asymmetric pendulum. Physical Review A, 1992, 46, 6700-6706.	2.5	4
308	Kinetics of Particles in Relativistic Collisionless Shocks. Geophysical Monograph Series, 0, , 65-70.	0.1	0