Juan Carlos Fernandez

List of Publications by Year
in descending order

124 papers	6,282 citations	71102 41 h-index	66911 78 g-index
128 all docs	128 docs citations	128 times ranked	2365 citing authors

#	Article	IF	Citations
1	Monte Carlo Study of Imaging Plate Response to Laser-Driven Aluminum Ion Beams. Applied Sciences (Switzerland), 2021, 11, 820.	2.5	7
2	Response to â€œComment on â€˜Requirements and sensitivity analysis for temporally- and spatially-resolved thermometry using neutron resonance spectroscopyâ€™â€•[Rev. Sci. Instrum. 90, 094901 (2019)]. Review of Scientific Instruments, 2021, 92, 037102.	1.3	0
3	Short-Pulse Laser-Driven Moderated Neutron Source. EPJ Web of Conferences, 2020, 231, 01008.	0.3	4
4	Requirements and sensitivity analysis for temporally- and spatially-resolved thermometry using neutron resonance spectroscopy. Review of Scientific Instruments, 2019, 90, 094901.	1.3	6
5	MeV bremsstrahlung X rays from intense laser interaction with solid foils. Laser and Particle Beams, 2018, 36, 502-506.	1.0	19
6	Technology risk mitigation research and development for the matter-radiation interactions in extremes (MaRIE) project. AIP Conference Proceedings, 2018, , .	0.4	10
7	Laser-plasmas in the relativistic-transparency regime: Science and applications. Physics of Plasmas, 2017, 24, 056702.	1.9	44
8	Laser-based fast-neutron spectroscopy (Conference Presentation). , 2017, , .		0
9	A bright neutron source driven by relativistic transparency of solids. Journal of Physics: Conference Series, 2016, 688, 012094.	0.4	2
10	Neutron imaging with the short-pulse laser driven neutron source at the Trident laser facility. Journal of Applied Physics, 2016, 120, .	2.5	32
11	Linear dependence of surface expansion speed on initial plasma temperature in warm dense matter. Scientific Reports, 2016, 6, 29441.	3.3	8
12	Scaling of ion energies in the relativistic-induced transparency regime. Laser and Particle Beams, 2015, 33, 695-703.	1.0	15
13	Uniform heating of materials into the warm dense matter regime with laser-driven quasimonoenergetic ion beams. Physical Review E, 2015, 92, 063101.	2.1	29
14	Visualization of expanding warm dense gold and diamond heated rapidly by laser-generated ion beams. Scientific Reports, 2015, 5, 14318.	3.3	38
15	Efficient quasi-monoenergetic ion beams from laser-driven relativistic plasmas. Nature Communications, 2015, 6, 10170.	12.8	77
16	On the analysis of inhomogeneous magnetic field spectrometer for laser-driven ion acceleration. Review of Scientific Instruments, 2015, 86, 033303.	1.3	4
17	Characterization of deuterium clusters mixed with helium gas for an application in beam-target-fusion experiments. Physical Review E, 2014, 90, 063109.	2.1	10
18	Fast ignition driven by quasi-monoenergetic ions: Optimal ion type and reduction of ignition energies with an ion beam array. Laser and Particle Beams, 2014, 32, 419-427.	1.0	21

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19	High energy ion acceleration and neutron production using relativistic transparency in solids. , 2014, , .		0
20	Fast ignition with laser-driven proton and ion beams. Nuclear Fusion, 2014, 54, 054006.	3.5	119
21	Laser-driven 1â€‰GeV carbon ions from preheated diamond targets in the break-out afterburner regime. Physics of Plasmas, 2013, 20, 083103.	1.9	65
22	Beam profiles of proton and carbon ions in the relativistic transparency regime. New Journal of Physics, 2013, 15, 123035.	2.9	43
23	Coherent synchrotron emission in transmission from ultrathin relativistic laser plasmas. New Journal of Physics, 2013, 15, 015025.	2.9	29
24	Bright Laser-Driven Neutron Source Based on the Relativistic Transparency of Solids. Physical Review Letters, 2013, 110, 044802.	7.8	271
25	Characterization of a novel, short pulse laser-driven neutron source. Physics of Plasmas, 2013, 20, .	1.9	43
26	Laser-driven ion acceleration from relativistically transparent nanotargets. New Journal of Physics, 2013, 15, 085015.	2.9	75
27	Laser-ion acceleration from transparent overdense plasmas at the Texas Petawatt. Proceedings of SPIE, 2013, , .	0.8	1
28	Single-Shot 60 dB Dynamic Range Laser Contrast Measurement Using Fourth-Order Cross-Correlation from Self-Referencing-Spectral-Interferometry (FOX-SRSI). , 2013, , .		1
29	Efficient carbon ion beam generation from laser-driven volume acceleration. New Journal of Physics, 2013, 15, 023007.	2.9	66
30	Fast ignition by quasimonoenergetic ion beams. EPJ Web of Conferences, 2013, 59, 03013.	0.3	2
31	Challenges and Progress of Laser-driven Ion Acceleration beyond 100 MeV/amu. , 2013, , .		0
32	Fast Ignition With Laser-Driven Ion Beams: Progress On Ignitor Beam Development Based On A New Relativistic Laser-Plasma Regime. , 2013, , .		0
33	Laser Driven Neutron Generation at the Texas Petawatt. , 2013, , .		0
34	Coherent synchrotron emission from electron nanobunches formed in relativistic laserâ€“plasma interactions. Nature Physics, 2012, 8, 804-808.	16.7	132
35	Dynamics of relativistic transparency and optical shuttering in expanding overdense plasmas. Nature Physics, 2012, 8, 763-769.	16.7	155
36	Three-Dimensional Dynamics of Breakout Afterburner Ion Acceleration Using High-Contrast Short-Pulse Laser and Nanoscale Targets. Physical Review Letters, 2011, 107, 045003.	7.8	155

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37	Experimental studies for ultrahigh laser intensity interaction with targets with new cluster loading. , 2011, , .		0
38	Nonlinear coherent Thomson scattering from relativistic electron sheets as a means to produce isolated ultrabright attosecond x-ray pulses. Physical Review Special Topics: Accelerators and Beams, 2011, 14, .	1.8	26
39	A novel high resolution ion wide angle spectrometer. Review of Scientific Instruments, 2011, 82, 043301.	1.3	34
40	Experimental demonstration of particle energy, conversion efficiency and spectral shape required for ion-based fast ignition. Nuclear Fusion, 2011, 51, 083011.	3.5	57
41	Monoenergetic Ion Beam Generation by Driving Ion Solitary Waves with Circularly Polarized Laser Light. Physical Review Letters, 2011, 107, 115002.	7.8	67
42	Mono-energetic ion beam acceleration in solitary waves during relativistic transparency using high-contrast circularly polarized short-pulse laser and nanoscale targets. Physics of Plasmas, 2011, 18, 053103.	1.9	24
43	Improving beam spectral and spatial quality by double-foil target in laser ion acceleration. Physical Review Special Topics: Accelerators and Beams, 2011, 14, .	1.8	9
44	A double-foil target for improving beam quality in laser ion acceleration with thin foils. Physics of Plasmas, 2011, 18, .	1.9	17
45	Ultrahigh acceleration of plasma blocks from direct converting laser energy into motion by nonlinear forces. , 2011, , .		3
46	Break-out afterburner ion acceleration in the longer laser pulse length regime. Physics of Plasmas, 2011, 18, .	1.9	51
47	Development of a high resolution and high dispersion Thomson parabola. Review of Scientific Instruments, 2011, 82, 013306.	1.3	57
48	Transport of laser accelerated proton beams and isochoric heating of matter. Journal of Physics: Conference Series, 2010, 244, 012009.	0.4	5
49	Ultraintense laser interaction with nanoscale targets: a simple model for layer expansion and ion acceleration. Journal of Physics: Conference Series, 2010, 244, 042022.	0.4	4
50	Fast ignition by laser-driven carbon beams. Journal of Physics: Conference Series, 2010, 244, 022038.	0.4	7
51	Pulse shape measurements using single shot-frequency resolved optical gating for high energy (80 J) short pulse (600 fs) laser. Review of Scientific Instruments, 2010, 81, 10E103.	1.3	14
52	Uniform Laser-Driven Relativistic Electron Layer for Coherent Thomson Scattering. Physical Review Letters, 2010, 104, 234801.	7.8	78
53	An overview of short-pulse laser research at Los Alamos. , 2009, , .		0
54	Recent progress on ion-driven fast ignition. , 2009, , .		0

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55	Fast ignition of inertial fusion targets by laser-driven carbon beams. Physics of Plasmas, 2009, 16, .	1.9	98
56	Onset and saturation of backward stimulated Raman scattering of laser in trapping regime in three spatial dimensions. Physics of Plasmas, 2009, 16, 113101.	1.9	50
57	INERTIAL CONFINEMENT FUSION RESEARCH AT LOS ALAMOS NATIONAL LABORATORY. , 2009, , .		0
58	First observation of quasi-monoenergetic electron bunches driven out of ultra-thin diamond-like carbon (DLC) foils. European Physical Journal D, 2009, 55, 427-432.	1.3	34
59	Generation of 0.5GEV C6+ ions from irradiation of ultra-thin foils with high contrast, high intensity laser pulses. , 2009, , .		0
60	High-temporal contrast using low-gain optical parametric amplification. Optics Letters, 2009, 34, 2273.	3.3	92
61	Progress and prospects of ion-driven fast ignition. Nuclear Fusion, 2009, 49, 065004.	3.5	117
62	Enhanced Laser-Driven Ion Acceleration in the Relativistic Transparency Regime. Physical Review Letters, 2009, 103, 045002.	7.8	208
63	Proton acceleration experiments and warm dense matter research using high power lasers. Plasma Physics and Controlled Fusion, 2009, 51, 124039.	2.1	26
64	Laser beam-profile impression and target thickness impact on laser-accelerated protons. Physics of Plasmas, 2008, 15, .	1.9	34
65	Increased efficiency of short-pulse laser-generated proton beams from novel flat-top cone targets. Physics of Plasmas, 2008, 15, .	1.9	61
66	Studies in capsule design for mid-Z ion-driven fast ignition. Journal of Physics: Conference Series, 2008, 112, 022029.	0.4	11
67	Progress on ion based fast ignition. Journal of Physics: Conference Series, 2008, 112, 022051.	0.4	21
68	Comparative spectra and efficiencies of ions laser-accelerated forward from the front and rear surfaces of thin solid foils. Physics of Plasmas, 2007, 14, 053105.	1.9	62
69	Relativistic Buneman instability in the laser breakout afterburner. Physics of Plasmas, 2007, 14, .	1.9	88
70	Laser-driven ion accelerators: Spectral control, monoenergetic ions and new acceleration mechanisms. Laser and Particle Beams, 2007, 25, 3-8.	1.0	80
71	Monoenergetic and GeV ion acceleration from the laser breakout afterburner using ultrathin targets. Physics of Plasmas, 2007, 14, 056706.	1.9	299
72	Overview of inertial fusion research in the United States. Nuclear Fusion, 2007, 47, S686-S695.	3.5	26

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73	Laser ion acceleration with micro-grooved targets. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2007, 577, 186-190.	1.6	21
74	The first target experiments on the National Ignition Facility. European Physical Journal D, 2007, 44, 273-281.	1.3	11
75	Nonlinear backward stimulated Raman scattering from electron beam acoustic modes in the kinetic regime. Physics of Plasmas, 2006, 13, 072701.	1.9	42
76	GeV laser ion acceleration from ultrathin targets: The laser break-out afterburner. Laser and Particle Beams, 2006, 24, 291-298.	1.0	283
77	Particle-in-cell studies of laser-driven hot spots and a statistical model for mesoscopic properties of Raman backscatter. European Physical Journal Special Topics, 2006, 133, 253-257.	0.2	11
78	Effects of ion composition on backward stimulated Raman and Brillouin scattering in a laser-driven hot spot. European Physical Journal Special Topics, 2006, 133, 335-337.	0.2	3
79	Theory and modeling of ion acceleration from the interaction of ultra-intense lasers with solid density targets. European Physical Journal Special Topics, 2006, 133, 467-471.	0.2	5
80	Spectroscopic diagnostics for multi-TW laser-produced plasmas. European Physical Journal Special Topics, 2006, 133, 529-531.	0.2	0
81	Radiation hydrodynamics with backscatter and beam spray in gas filled hohlraum experiments at the National Ignition Facility. European Physical Journal Special Topics, 2006, 133, 129-133.	0.2	0
82	Ablation cleaning techniques for high-power short-pulse laser-produced heavy ion targets. , 2006, 6261, 649.		5
83	Laser acceleration of quasi-monoenergetic MeV ion beams. Nature, 2006, 439, 441-444.	27.8	659
84	Laser accelerated heavy particles â€" Tailoring of ion beams on a nano-scale. Optics Communications, 2006, 264, 519-524.	2.1	9
85	Theory of Laser Acceleration of Light-Ion Beams from Interaction of Ultrahigh-Intensity Lasers with Layered Targets. Physical Review Letters, 2006, 97, 115002.	7.8	66
86	Gas-filled hohlraum experiments at the National Ignition Facility. Physics of Plasmas, 2006, 13, 056319.	1.9	13
87	Different kÎ»D regimes for nonlinear effects on Langmuir waves. Physics of Plasmas, 2006, 13, 055906.	1.9	61
88	The first experiments on the national ignition facility. European Physical Journal Special Topics, 2006, 133, 43-45.	0.2	1
89	Measurements of gas filled halfraum energetics at the national ignition facility using a single quad. European Physical Journal Special Topics, 2006, 133, 919-923.	0.2	3
90	Ultrashort-laser-produced heavy ion generation via target laser-ablation cleaning. European Physical Journal Special Topics, 2006, 133, 1117-1122.	0.2	7

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91	Laser-ablation treatment of short-pulse laser targets: Toward an experimental program on energetic-ion interactions with dense plasmas. Laser and Particle Beams, 2005, 23, .	1.0	62
92	Laser accelerated ions in ICF research prospects and experiments. Plasma Physics and Controlled Fusion, 2005, 47, B841-B850.	2.1	26
93	Progress in long scale length laserâ€“plasma interactions. Nuclear Fusion, 2004, 44, S185-S190.	3.5	29
94	Ultralow Emittance, Multi-MeV Proton Beams from a Laser Virtual-Cathode Plasma Accelerator. Physical Review Letters, 2004, 92, 204801.	7.8	494
95	Recent Trident single hot spot experiments: Evidence for kinetic effects, and observation of Langmuir decay instability cascade. Physics of Plasmas, 2002, 9, 2311-2320.	1.9	126
96	Observation of Stimulated Electron-Acoustic-Wave Scattering. Physical Review Letters, 2001, 87, 155001.	7.8	149
97	The spatial location of laser-driven, forward-propagating waves in a National-Ignition-Facility-relevant plasma. Physics of Plasmas, 2000, 7, 323-332.	1.9	10
98	Flow-Induced Beam Steering in a Single Laser Hot Spot. Physical Review Letters, 2000, 84, 678-681.	7.8	33
99	Observed insensitivity of stimulated Raman scattering on electron density. Physics of Plasmas, 2000, 7, 3743-3750.	1.9	51
100	Characterization of plasma and laser conditions for single hot spot experiments. Laser and Particle Beams, 1999, 17, 349-359.	1.0	52
101	Evidence of plasma fluctuations and their effect on the growth of stimulated Brillouin and stimulated Raman scattering in laser plasmas. Physics of Plasmas, 1998, 5, 1973-1980.	1.9	65
102	Increased Saturated Levels of Stimulated Brillouin Scattering of a Laser by Seeding a Plasma with an External Light Source. Physical Review Letters, 1998, 81, 2252-2255.	7.8	20
103	Full aperture backscatter station imager diagnostics system for far-field imaging of laser plasma instabilities on Nova. Review of Scientific Instruments, 1997, 68, 672-675.	1.3	5
104	Target diagnostic system for the national ignition facility (invited). Review of Scientific Instruments, 1997, 68, 868-879.	1.3	40
105	Time resolved side scatter diagnostics at NOVA. Review of Scientific Instruments, 1997, 68, 664-667.	1.3	3
106	Measurements of laser-plasma instability relevant to ignition hohlraums. Physics of Plasmas, 1997, 4, 1849-1856.	1.9	35
107	A Re-Examination of Spheromak Experiments and Opportunities. Fusion Science and Technology, 1996, 29, 191-205.	0.6	22
108	Laserâ€“plasma interactions in ignitionâ€scale hohlraum plasmas. Physics of Plasmas, 1996, 3, 2029-2040.	1.9	148

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109	Observed Dependence of Stimulated Raman Scattering on Ion-Acoustic Damping in Hohlraum Plasmas. Physical Review Letters, 1996, 77, 2702-2705.	7.8	71
110	Dependence of stimulated Brillouin scattering on focusing opticFnumber in long scaleâ€length plasmas. Physics of Plasmas, 1996, 3, 1091-1095.	1.9	20
111	Dependence of stimulated Brillouin scattering on laser intensity, laserfnumber, and ion species in hohlraum plasmas. Physical Review E, 1996, 53, 2747-2750.	2.1	26
112	Gasâ€filled targets for large scaleâ€length plasma interaction experiments on Nova. Physics of Plasmas, 1995, 2, 2473-2479.	1.9	35
113	Improved optical diagnostics for the NOVA laser. Review of Scientific Instruments, 1995, 66, 626-628.	1.3	3
114	Ion temperature profile deconvolution and corrections to confinement parameters in spheromaks. Physics of Fluids B, 1993, 5, 4002-4010.	1.7	9
115	Development of a holographic polaroâ€interferometer to study longâ€scale length plasmas. Review of Scientific Instruments, 1992, 63, 5206-5208.	1.3	0
116	Time of flight measurement of ion temperatures in spheromaks. Nuclear Fusion, 1991, 31, 2087-2095.	3.5	12
117	Improved energy confinement in spheromaks with reduced field errors. Physical Review Letters, 1990, 65, 40-43.	7.8	34
118	Ion heating and current drive from relaxation in decaying spheromaks in mesh flux conservers. Nuclear Fusion, 1990, 30, 67-80.	3.5	25
119	The m=1 helicity source spheromak experiment. Physics of Fluids B, 1989, 1, 1254-1270.	1.7	20
120	Evidence for a Pressure-Driven Instability in the CTX Spheromak. Physical Review Letters, 1988, 61, 2457-2460.	7.8	37
121	Energy confinement studies in spheromaks with mesh flux conservers. Nuclear Fusion, 1988, 28, 1555-1594.	3.5	49
122	Experimental determination of the conservation of magnetic helicity from the balance between source and spheromak. Physics of Fluids, 1986, 29, 3415.	1.4	93
123	Observation of a curvature-driven, trapped particle mode created by a potential barrier. Physics of Fluids, 1986, 29, 1208.	1.4	15
124	Increased particle confinement observed with the use of an external dc bias field in a spheromak experiment. Physics of Fluids, 1985, 28, 3443.	1.4	16