Xavier Ribeyre

List of Publications by Year
in descending order

103 papers	2,040 citations	218677 26 h-index	265206 42 g-index
103 all docs	103 docs citations	103 times ranked	1067 citing authors

#	Article	IF	Citations
1	Detailed characterization of a laboratory magnetized supercritical collisionless shock and of the associated proton energization. Matter and Radiation at Extremes, 2022, 7, .	3.9	11
2	Gravitational influence of high power laser pulses. Physical Review D, 2022, 105, .	4.7	3
3	Laboratory evidence for proton energization by collisionless shock surfing. Nature Physics, 2021, 17, 1177-1182.	16.7	10
4	Shocks and phase space vortices driven by a density jump between two clouds of electrons and protons. Plasma Physics and Controlled Fusion, 2020, 62, 025022.	2.1	9
5	Power Scaling for Collimated <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:mi>Î³</mml:mi></mml:math> -Ray Beams Generated by Structured Laser-Irradiated Targets and Its Application to Two-Photon Pair Production. Physical Review Applied, 2020, 13, .	3.8	45
6	Mildly relativistic collisionless shock formed by magnetic piston. Physics of Plasmas, 2020, 27, 122106.	1.9	3
7	Collisionless Shocks Driven by Supersonic Plasma Flows with Self-Generated Magnetic Fields. Physical Review Letters, 2019, 123, 055002.	7.8	26
8	Failed self-reformation of a sub-critical fast magnetosonic shock in collisionless plasma. Plasma Research Express, 2019, 1, 035001.	0.9	3
9	Proton acceleration by collisionless shocks using a supersonic H2 gas-jet target and high-power infrared laser pulses. Physics of Plasmas, 2019, 26, .	1.9	22
10	X-ray absorption radiography for high pressure shock wave studies. Journal of Instrumentation, 2018, 13, C01013-C01013.	1.2	3
11	Tree code for collision detection of large numbers of particles applied to the Breitâ€“Wheeler process. Journal of Computational Physics, 2018, 355, 582-596.	3.8	6
12	The control of hot-electron preheat in shock-ignition implosions. Physics of Plasmas, 2018, 25, .	1.9	20
13	Impact of the electron to ion mass ratio on unstable systems in particle-in-cell simulations. Physics of Plasmas, 2018, 25, .	1.9	5
14	Towards a novel stellar opacity measurement scheme using stability properties of double ablation front structures. Physics of Plasmas, 2018, 25, 072707.	1.9	1
15	Effect of differential cross section in Breitâ€“Wheeler pair production. Plasma Physics and Controlled Fusion, 2018, 60, 104001.	2.1	8
16	Quasi-perpendicular fast magnetosonic shock with wave precursor in collisionless plasma. Physics of Plasmas, 2018, 25, 074502.	1.9	1
17	Shock generation comparison with planar and hemispherical targets in shock ignition relevant experiment. Physics of Plasmas, 2017, 24, .	1.9	8
18	Laser-driven shock waves studied by x-ray radiography. Physical Review E, 2017, 95, 063205.	2.1	22

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19	The role of hot electrons in the dynamics of a laser-driven strong converging shock. Physics of Plasmas, 2017, 24, .	1.9	17
20	Electronâ€“positron pairs beaming in the Breitâ€“Wheeler process. Plasma Physics and Controlled Fusion, 2017, 59, 014024.	2.1	12
21	Enhanced hot-electron production and strong-shock generation in hydrogen-rich ablators for shock ignition. Physics of Plasmas, 2017, 24, .	1.9	19
22	Influence of laser induced hot electrons on the threshold for shock ignition of fusion reactions. Physics of Plasmas, 2016, 23, .	1.9	20
23	The preplasma effect on the properties of the shock wave driven by a fast electron beam. Physics of Plasmas, 2016, 23, 082702.	1.9	4
24	Pair creation in collision of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>Î³</mml:mi></mml:math>-ray beams produced with high-intensity lasers. Physical Review E, 2016, 93, 013201.	2.1	57
25	Study of shock waves generation, hot electron production and role of parametric instabilities in an intensity regime relevant for the shock ignition. Journal of Physics: Conference Series, 2016, 688, 012003.	0.4	1
26	Physics of laser-plasma interaction for shock ignition of fusion reactions. Plasma Physics and Controlled Fusion, 2016, 58, 014018.	2.1	7
27	Simulations on Pair Creation in Collision of Î³-Beams Produced with High Intensity Lasers. , 2016, , .		0
28	Coupled hydrodynamic model for laser-plasma interaction and hot electron generation. Physical Review E, 2015, 92, 041101.	2.1	41
29	Dense plasma heating and shock wave generation by a beam of fast electrons. Physics of Plasmas, 2015, 22, 102704.	1.9	11
30	Modeling of the cross-beam energy transfer with realistic inertial-confinement-fusion beams in a large-scale hydrocode. Physical Review E, 2015, 91, 013102.	2.1	27
31	Gigabar Spherical Shock Generation on the OMEGA Laser. Physical Review Letters, 2015, 114, 045001.	7.8	100
32	New opacity measurement principle for LMJ-PETAL laser facility. High Energy Density Physics, 2015, 17, 162-167.	1.5	4
33	Spherical strong-shock generation for shock-ignition inertial fusion. Physics of Plasmas, 2015, 22, .	1.9	49
34	Heating a plasma by a broadband stream of fast electrons: Fast ignition, shock ignition, and Gbar shock wave applications. Journal of Experimental and Theoretical Physics, 2015, 121, 529-540.	0.9	3
35	A 3D cell-centered Lagrangian scheme applied to the simulation of 3D non-stationary Rayleighâ€“Taylor Instability in supernova remnants. High Energy Density Physics, 2015, 17, 151-156.	1.5	2
36	Experiment on laser interaction with a planar target for conditions relevant to shock ignition. Physica Scripta, 2014, T161, 014017.	2.5	2

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37	Shock-ignition relevant experiments with planar targets on OMEGA. Physics of Plasmas, 2014, 21, 022702.	1.9	42
38	Deleterious effects of nonthermal electrons in shock ignition concept. Physical Review E, 2014, 89, 033107.	2.1	21
39	Physics issues for shock ignition. Nuclear Fusion, 2014, 54, 054009.	3.5	100
40	Shock ignition of thermonuclear fuel: principles and modelling. Nuclear Fusion, 2014, 54, 054008.	3.5	67
41	Generation of high pressure shocks relevant to the shock-ignition intensity regime. Physics of Plasmas, 2014, 21, .	1.9	55
42	Finite Mach number spherical shock wave, application to shock ignition. Physics of Plasmas, 2013, 20, 082702.	1.9	10
43	Optimal conditions for shock ignition of scaled cryogenic deuteriumâ€“tritium targets. Physics of Plasmas, 2013, 20, .	1.9	13
44	Dense plasma heating and Gbar shock formation by a high intensity flux of energetic electrons. Physics of Plasmas, 2013, 20, 062705.	1.9	46
45	Recent results from experimental studies on laserâ€“plasma coupling in a shock ignition relevant regime. Plasma Physics and Controlled Fusion, 2013, 55, 124045.	2.1	30
46	Analytical criterion for shock ignition of fusion reaction in hot spot. EPJ Web of Conferences, 2013, 59, 03005.	0.3	0
47	Hydrodynamic modeling and simulations of shock ignition thresholds. EPJ Web of Conferences, 2013, 59, 03002.	0.3	0
48	Progress in the shock-ignition inertial confinement fusion concept. EPJ Web of Conferences, 2013, 59, 03001.	0.3	1
49	Laser plasma physics in shock ignition â€“ transition from collisional to collisionless absorption. EPJ Web of Conferences, 2013, 59, 05008.	0.3	1
50	Spherical shock-ignition experiments with the 40 + 20-beam configuration on OMEGA. Physics of Plasmas, 2012, 19, .	1.9	78
51	Ablation Pressure Driven by an Energetic Electron Beam in a Dense Plasma. Physical Review Letters, 2012, 109, 255004.	7.8	73
52	Preliminary results from recent experiments and future roadmap to Shock Ignition of Fusion Targets. Journal of Physics: Conference Series, 2012, 399, 012005.	0.4	8
53	Experiment in Planar Geometry for Shock Ignition Studies. Physical Review Letters, 2012, 108, 195002.	7.8	42
54	The HiPER project for inertial confinement fusion and some experimental results on advanced ignition schemes. Plasma Physics and Controlled Fusion, 2011, 53, 124041.	2.1	18

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55	Laser plasma interaction studies in the context of shock ignitionâ€"Transition from collisional to collisionless absorption. Physics of Plasmas, 2011, 18, .	1.9	56
56	Experimental results performed in the framework of the HIPER European Project. , 2011, , .		0
57	Investigation of laser plasmas relevant to shock ignition at PALS. Proceedings of SPIE, 2011, , .	0.8	1
58	Experimental study of fast electron propagation in compressed matter. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 653, 176-180.	1.6	6
59	Studying ignition schemes on European laser facilities. Nuclear Fusion, 2011, 51, 094025.	3.5	7
60	The scalability of the accretion column in magnetic cataclysmic variables: the POLAR project. Astrophysics and Space Science, 2011, 336, 81-85.	1.4	19
61	Linear and non-linear amplification of high-mode perturbations at the ablation front in HiPER targets. Plasma Physics and Controlled Fusion, 2011, 53, 015015.	2.1	5
62	HiPER laser: from capsule design to the laser reference design. Proceedings of SPIE, 2011, , .	0.8	8
63	Laser-driven cylindrical compression of targets for fast electron transport study in warm and dense plasmas. Physics of Plasmas, 2011, 18, 043108.	1.9	16
64	Parametric instabilities study in a shock ignition relevant regime. Proceedings of SPIE, 2011, , .	0.8	1
65	Analytic criteria for shock ignition of fusion reactions in a central hot spot. Physics of Plasmas, 2011, 18, 102702.	1.9	21
66	X-ray diagnostics of fast electrons propagation in high density plasmas obtained by cylindrical compression. Journal of Physics: Conference Series, 2010, 244, 022027.	0.4	1
67	Target design for shock ignition. Journal of Physics: Conference Series, 2010, 244, 022013.	0.4	3
68	Gain curves and hydrodynamic modeling for shock ignition. Physics of Plasmas, 2010, 17, 052704.	1.9	54
69	Relativistic hole boring and fast ion ignition with ultra-intense laser pulses. Journal of Physics: Conference Series, 2010, 244, 022069.	0.4	2
70	Creation of persistent, straight, 2 mm long laser driven channels in underdense plasmas. Physics of Plasmas, 2010, 17, .	1.9	22
71	Fast ion ignition with ultra-intense laser pulses. Nuclear Fusion, 2010, 50, 045003.	3.5	30
72	Radiation hydrodynamic theory of double ablation fronts in direct-drive inertial confinement fusion. Physics of Plasmas, 2009, 16, 082704.	1.9	23

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73	Hydrodynamic and symmetry safety factors of HiPER's targets. Plasma Physics and Controlled Fusion, 2009, 51, 014001.	2.1	22
74	Studies on targets for inertial fusion ignition demonstration at the HiPER facility. Nuclear Fusion, 2009, 49, 055008.	3.5	41
75	Simulations of the supersonic radiative jet propagation in plasmas. Astrophysics and Space Science, 2009, 322, 85-90.	1.4	0
76	Supersonic plasma jet interaction with gases and plasmas. Astrophysics and Space Science, 2009, 322, 11-17.	1.4	10
77	Numerical simulations of the HiPER baseline target. European Physical Journal: Special Topics, 2009, 175, 83-88.	2.6	1
78	Shock ignition: an alternative scheme for HiPER. Plasma Physics and Controlled Fusion, 2009, 51, 015013.	2.1	100
79	Shock ignition: modelling and target design robustness. Plasma Physics and Controlled Fusion, 2009, 51, 124030.	2.1	44
80	Modeling of two-dimensional effects in hot spot relaxation in laser-produced plasmas. Physics of Plasmas, 2008, 15, .	1.9	15
81	Compression phase study of the HiPER baseline target. Plasma Physics and Controlled Fusion, 2008, 50, 025007.	2.1	38
82	Laboratory modeling of supersonic radiative jets propagation in plasmas and their scaling to astrophysical conditions. Plasma Physics and Controlled Fusion, 2008, 50, 124056.	2.1	18
83	Numerical simulations of the HiPER baseline target. Journal of Physics: Conference Series, 2008, 112, 022067.	0.4	0
84	Fast ignitor target studies for the HiPER project. Physics of Plasmas, 2008, 15, 056311.	1.9	79
85	Studies of supersonic, radiative plasma jet interaction with gases at the Prague Asterix Laser System facility. Physics of Plasmas, 2008, 15, .	1.9	29
86	Fast ignitor target studies for HiPER. Journal of Physics: Conference Series, 2008, 112, 022062.	0.4	3
87	Ion beam manufacturing of a graded-phase mirror for the generation of square "top hat" laser beams. , 2008, , .		0
88	Supersonic plasma jet interaction with gases and plasmas. , 2008, , 11-17.		0
89	Nonstationary Rayleigh-Taylor instability in supernova ejecta. Physics of Plasmas, 2007, 14, 112902.	1.9	3
90	Non-Stationary Rayleigh-Taylor Instabilities in Pulsar Wind Interaction with a Supernova Shell. Astrophysics and Space Science, 2007, 307, 169-172.	1.4	3

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91	Non-stationary Rayleigh-Taylor instability in plerions. European Physical Journal Special Topics, 2006, 133, 1055-1057.	0.2	1
92	Non-Stationary Rayleigh-Taylor Instabilities in Pulsar Wind Interaction with a Supernova Shell. , 2006, , 169-172.		0
93	Analytical Study of Supernova Remnant Non-Stationary Expansions. Astrophysics and Space Science, 2005, 298, 75-80.	1.4	8
94	Response to â€œComment on â€˜Compressible Rayleighâ€"Taylor instabilities in supernova remnantsâ€™â€•[Phys. Fluids 17, 069101 (2005)]. Physics of Fluids, 2005, 17, 069102.	4.0	8
95	Compressible Rayleighâ€"Taylor instabilities in supernova remnants. Physics of Fluids, 2004, 16, 4661-4670.	4.0	55
96	Diode-Pumped Regenerative Amplifier Front End for the Petawatt Laser Chain at LULI. Springer Series in Optical Sciences, 2004, , 315-320.	0.7	0
97	Design and optical characterization of a large continuous phase plate for Laser Integration Line and laser Megajoule facilities. Applied Optics, 2003, 42, 2377.	2.1	62
98	Nd:glass diode-pumped regenerative amplifier, multimillijoule short-pulse chirped-pulse-amplifier laser. Optics Letters, 2003, 28, 1374.	3.3	14
99	All-optical programmable 100 GHz phase modulation of narrow band nanosecond energetic pulses. , 2002, , .		0
100	All-optical programmable shaping of narrow-band nanosecond pulses with picosecond accuracy by use of adapted chirps and quadratic nonlinearities. Optics Letters, 2001, 26, 1173.	3.3	16
101	Large transmission 1Ï‰ and 3Ï‰ gratings for the LIL laser. , 2001, 4438, 41.		0
102	Broadband computations using the Miro software. , 1999, , .		1
103	Electron-positron pair production in the collision of real photon beams with wide energy distributions. Plasma Physics and Controlled Fusion, 0, , .	2.1	7