Pedro Velarde Mayol

List of Publications by Year
in descending order

55 papers	502 citations	687363 13 h-index	713466 21 g-index
57 all docs	57 docs citations	57 times ranked	331 citing authors

#	Article	IF	Citations
1	Analysis of directly driven ICF targets. Laser and Particle Beams, 1986, 4, 349-392.	1.0	43
2	Development of a radiation transport fluid dynamic code under AMR scheme. Journal of Quantitative Spectroscopy and Radiative Transfer, 2001, 71, 541-550.	2.3	43
3	A proposal for multi-tens of GW fully coherent femtosecond soft X-ray lasers. Nature Photonics, 2012, 6, 764-767.	31.4	38
4	Comparison between jet collision and shell impact concepts for fast ignition. Laser and Particle Beams, 2005, 23, .	1.0	35
5	Comparison of natural and forced amplification regimes in plasma-based soft-x-ray lasers seeded by high-order harmonics. Physical Review A, 2011, 84, .	2.5	35
6	Counterpropagating Radiative Shock Experiments on the Orion Laser. Physical Review Letters, 2017, 119, 055001.	7.8	24
7	Structure of a laser-driven radiative shock. High Energy Density Physics, 2015, 17, 106-113.	1.5	21
8	Optimization of soft x-ray amplifier by tailoring plasma hydrodynamics. Optics Letters, 2009, 34, 2640.	3.3	20
9	Non-Maxwellian electron distributions in time-dependent simulations of low-Z materials illuminated by a high-intensity X-ray laser. High Energy Density Physics, 2013, 9, 542-547.	1.5	17
10	Development of a Godunov method for Maxwell's equations with Adaptive Mesh Refinement. Journal of Computational Physics, 2015, 300, 186-201.	3.8	17
11	Hydrodynamic study of plasma amplifiers for soft-x-ray lasers: A transition in hydrodynamic behavior for plasma columns with widths ranging from<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mn>20</mml:mn><mml:mtext>â€‚</mml:mtext><mml:mi>Î¼</mml:mi><mml:mtext>m</mml:mtext> 2 mm. Physical Review E, 2010, 82, 056408.	2.1	16
12	Transverse spatial improvement of a transiently pumped soft-x-ray amplifier. Physical Review A, 2006, 74, .	2.5	15
13	Radiative properties for warm and hot dense matter. High Energy Density Physics, 2011, 7, 163-168.	1.5	15
14	Interaction of supernova remnants: From the circumstellar medium to the terrestrial laboratory. Physics of Plasmas, 2006, 13, 092901.	1.9	13
15	Producing ultrashort, ultraintense plasma-based soft-x-ray laser pulses by high-harmonic seeding. Physical Review A, 2010, 81, .	2.5	13
16	Simulation of radiative shock waves in Xe of last PALS experiments. High Energy Density Physics, 2015, 17, 68-73.	1.5	12
17	Experimental study of the interaction of two laser-driven radiative shocks at the PALS laser. High Energy Density Physics, 2017, 23, 20-30.	1.5	12
18	Counter-propagating radiative shock experiments on the Orion laser and the formation of radiative precursors. High Energy Density Physics, 2017, 23, 60-72.	1.5	12

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19	Hydrodynamic evolution of plasma waveguides for soft-x-ray amplifiers. Physical Review E, 2018, 97, 023203.	2.1	11
20	Equation of State for laboratory astrophysics applications. Astrophysics and Space Science, 2011, 336, 53-59.	1.4	10
21	First radiative shock experiments on the SG-II laser. High Power Laser Science and Engineering, 2021, 9, .	4.6	10
22	Recent results in the analysis of heavy-ion-beam-driven ICF targets. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1989, 278, 105-109.	1.6	7
23	Comparison of Acceleration Methods in a Radiation Transport Code With Adaptive Mesh Refinement. IEEE Transactions on Plasma Science, 2010, 38, 2359-2366.	1.3	7
24	2D numerical comparison between <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si3.gif" overflow="scroll"><mml:mrow><mml:msub><mml:mrow><mml:mtext>S</mml:mtext></mml:mrow><mml:mrow><mml:mi>n</mml:mi> and <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si4.gif" overflow="scroll"><mml:mrow><mml:msub><mml:mrow><mml:mtext>M</mml:mtext></mml:mrow><mml:mrow><mml:mn>1</mml:mn> radiation transp. Annals of Nuclear Energy, 2009, 36, 886-895.	1.8	6
25	Interaction of Hemispherical Blast Waves with Inhomogeneous Spheres: Probing the Collision of a Supernova Ejecta with a Nearby Companion Star in the Laboratory. Astrophysical Journal, 2019, 871, 177.	4.5	6
26	A FCT Method for Staggered Mesh. Journal of Computational Physics, 1993, 108, 27-37.	3.8	5
27	Numerical and theoretical studies on the ignition of ICF plasmas driven by ion beams. Il Nuovo Cimento A, 1993, 106, 1873-1881.	0.2	5
28	DAGON: a 3D Maxwell-Bloch code. Proceedings of SPIE, 2017, , .	0.8	5
29	Study of rapid ionisation for simulation of soft X-ray lasers with the 2D hydro-radiative code ARWEN. High Energy Density Physics, 2011, 7, 294-302.	1.5	4
30	X-ray Chirped Pulse Amplification: towards GW Soft X-ray Lasers. Applied Sciences (Switzerland), 2013, 3, 581-592.	2.5	4
31	EMcLAW: An unsplit Godunov method for Maxwell â€™s equations including polarization, metals, divergence control and AMR. Computer Physics Communications, 2021, 260, 107268.	7.5	4
32	Fast-ignition heavy-ion fusion target by jet impact. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2005, 544, 329-332.	1.6	3
33	Quantum interference of high-order harmonics from mixed gases. Physical Review A, 2016, 94, .	2.5	3
34	3D multi-scale modelling of plasma-based seeded soft X-ray lasers. European Physical Journal D, 2021, 75, 1.	1.3	3
35	Advances in implosion physics, alternative targets design, and neutron effects on heavy ion fusion reactors. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2001, 464, 61-71.	1.6	2
36	Simulations of radiative shocks and jet formation in laboratory plasmas. Journal of Physics: Conference Series, 2008, 112, 042010.	0.4	2

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37	Heavy ion fusion research in Spain. Fusion Engineering and Design, 1996, 32-33, 45-53.	1.9	1
38	Inertial fusion activities in Spain. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1998, 415, 35-43.	1.6	1
39	Study of the impact of small-scale plasma modulations and the size of the plasma on seeded soft x-ray laser homogeneity.. Journal of Physics: Conference Series, 2008, 112, 042066.	0.4	1
40	Modelling and design of high harmonic seeding in soft x-ray laser plasmas with both direct and stretched amplification techniques: application to ELI facilities. , 2011, , .		1
41	Conical targets and pinch confinement for inertial fusion. Laser and Particle Beams, 1996, 14, 665-678.	1.0	0
42	Recent theoretical and experimental results on inertial fusion energy physics. , 2003, , .		0
43	Soft X-ray laser of second generation. , 2005, , .		0
44	Optimized soft x-ray amplifier by tailoring plasma hydrodynamics. , 2009, , .		0
45	Optimization of soft x-ray amplifiers by controlling plasma hydrodynamics. AIP Conference Proceedings, 2010, , .	0.4	0
46	Fully coherent, wake and ASE-suppressed 15 Î¼J, 120 fs amplified high order harmonic pulse demonstrated with 1D time-dependant Bloch-Maxwell code. , 2011, , .		0
47	Bloch-Maxwell modelling of multi-mJ 100 fs fully coherent amplified high harmonic pulse. Proceedings of SPIE, 2011, , .	0.8	0
48	Blochâ€“Maxwell treatment of amplification of high harmonic seed in soft x-ray laser amplifiers in both direct and chirped amplifications. High Energy Density Physics, 2011, 7, 230-233.	1.5	0
49	Architecture and Bloch-Maxwell modelling of multi-mJ 100 fs fully-coherent soft X-ray laser based on X-ray CPA. , 2012, , .		0
50	Equation of state and opacities for warm dense matter. EPJ Web of Conferences, 2013, 59, 14007.	0.3	0
51	Influence of non-maxwellian electron distribution in low-Z elements iluminated by a high intensity x-ray lasers. Proceedings of SPIE, 2013, , .	0.8	0
52	Multi-tens of GW peak power plasma-based soft x-ray laser. Proceedings of SPIE, 2013, , .	0.8	0
53	Time-Dependent Simulation of Carbon Illuminated by a High Intensity X-Ray Laser. Springer Proceedings in Physics, 2014, , 83-87.	0.2	0
54	Interaction of supernovae remnants: From the circumstellar medium to the terrestrial laboratory. European Physical Journal Special Topics, 2006, 133, 1035-1037.	0.2	0

#	Article	IF	Citations
55	2D and 3D modelling of plasma amplifiers of UV, XUV, and soft x-rays. , 2019, , .		0