Mauro Temporal

List of Publications by Year
in descending order

90 papers	2,335 citations	218677 26 h-index	223800 46 g-index
90 all docs	90 docs citations	90 times ranked	991 citing authors

#	Article	IF	Citations
1	Numerical study of fast ignition of ablatively imploded deuteriumâ€“tritium fusion capsules by ultra-intense proton beams. Physics of Plasmas, 2002, 9, 3098-3107.	1.9	159
2	Proposal for the Study of Thermophysical Properties of High-Energy-Density Matter Using Current and Future Heavy-Ion Accelerator Facilities at GSI Darmstadt. Physical Review Letters, 2005, 95, 035001.	7.8	158
3	Relative Consistency of Equations of State by Laser Driven Shock Waves. Physical Review Letters, 1995, 74, 2260-2263.	7.8	143
4	A first analysis of fast ignition of precompressed ICF fuel by laser-accelerated protons. Nuclear Fusion, 2002, 42, L1-L4.	3.5	132
5	Progress and prospects of ion-driven fast ignition. Nuclear Fusion, 2009, 49, 065004.	3.5	117
6	Fast ignition of inertial fusion targets by laser-driven carbon beams. Physics of Plasmas, 2009, 16, .	1.9	98
7	Symmetry analysis of cylindrical implosions driven by high-frequency rotating ion beams. Plasma Physics and Controlled Fusion, 2003, 45, 1733-1745.	2.1	68
8	Generation of a hollow ion beam: Calculation of the rotation frequency required to accommodate symmetry constraint. Physical Review E, 2003, 67, 017501.	2.1	67
9	The CERN Large Hadron Collider as a Tool to Study High-Energy Density Matter. Physical Review Letters, 2005, 94, 135004.	7.8	59
10	Fundamental issues in fast ignition physics: from relativistic electron generation to proton driven ignition. Nuclear Fusion, 2003, 43, 362-368.	3.5	52
11	High-gain shock ignition of direct-drive ICF targets for the Laser MÃ©gajoule. New Journal of Physics, 2010, 12, 043037.	2.9	51
12	Numerical analysis of a multilayered cylindrical target compression driven by a rotating intense heavy ion beam. Laser and Particle Beams, 2003, 21, 609-614.	1.0	49
13	Influence of the equation of state on the compression and heating of hydrogen. Physical Review B, 2003, 67, .	3.2	48
14	Studies of heavy ion-induced high-energy density states in matter at the GSI Darmstadt SIS-18 and future FAIR facility. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2005, 544, 16-26.	1.6	48
15	Compression of a cylindrical hydrogen sample driven by an intense co-axial heavy ion beam. Laser and Particle Beams, 2005, 23, 137-142.	1.0	47
16	Fast ignition of a compressed inertial confinement fusion hemispherical capsule by two proton beams. Physics of Plasmas, 2006, 13, 122704.	1.9	47
17	Impact of 7-TeVâˆ•c large hadron collider proton beam on a copper target. Journal of Applied Physics, 2005, 97, 083532.	2.5	45
18	High-gain direct-drive target design for the Laser MÃ©gajoule. Nuclear Fusion, 2004, 44, 1118-1129.	3.5	43

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19	Target heating in high-energy-density matter experiments at the proposed GSI FAIR facility: Non-linear bunch rotation in SIS100 and optimization of spot size and pulse length. Laser and Particle Beams, 2004, 22, 485-493.	1.0	43
20	Studies of equation of state properties of high-energy density matter using intense heavy ion beams at the future FAIR facility: The HEDgeHOB collaboration. Nuclear Instruments & Methods in Physics Research B, 2006, 245, 85-93.	1.4	42
21	Use of low-density foams as pressure amplifiers in equation-of-state experiments with laser-driven shock waves. Physical Review E, 2001, 63, 046410.	2.1	39
22	High-gain direct-drive inertial confinement fusion for the Laser MÃ©gajoule: recent progress. Plasma Physics and Controlled Fusion, 2007, 49, B601-B610.	2.1	32
23	Ignition conditions for inertial confinement fusion targets with a nuclear spin-polarized DT fuel. Nuclear Fusion, 2012, 52, 103011.	3.5	31
24	Fast ion ignition with ultra-intense laser pulses. Nuclear Fusion, 2010, 50, 045003.	3.5	30
25	Three-dimensional study of radiation symmetrization in some indirectly driven heavy ion ICF targets. Nuclear Fusion, 1992, 32, 557-566.	3.5	29
26	Proton-beam driven fast ignition of inertially confined fuels: Reduction of the ignition energy by the use of two proton beams with radially shaped profiles. Physics of Plasmas, 2008, 15, 052702.	1.9	26
27	Low initial aspect-ratio direct-drive target designs for shock- or self-ignition in the context of the laser Megajoule. Nuclear Fusion, 2014, 54, 083016.	3.5	26
28	Self-consistent analysis of the hot spot dynamics for inertial confinement fusion capsules. Physics of Plasmas, 2005, 12, 112702.	1.9	24
29	Dynamics of laser produced shocks in foamâ€“solid targets. Physics of Plasmas, 1998, 5, 2827-2829.	1.9	23
30	Irradiation uniformity and zooming performances for a capsule directly driven by a 32Ã—9 laser beams configuration. Physics of Plasmas, 2010, 17, .	1.9	23
31	Shock ignition of direct-drive double-shell targets. Nuclear Fusion, 2011, 51, 062001.	3.5	23
32	Irradiation uniformity at the Laser MegaJoule facility in the context of the shock ignition scheme. High Power Laser Science and Engineering, 2014, 2, .	4.6	23
33	Numerical analysis of the direct drive illumination uniformity for the Laser MegaJoule facility. Physics of Plasmas, 2014, 21, .	1.9	23
34	Creation of persistent, straight, 2 mm long laser driven channels in underdense plasmas. Physics of Plasmas, 2010, 17, .	1.9	22
35	Production of ion beams in high-power laserâ€“plasma interactions and their applications. Laser and Particle Beams, 2004, 22, 19-24.	1.0	21
36	Optical smoothing for shock-wave generation: Application to the measurement of equations of state. Laser and Particle Beams, 1996, 14, 211-223.	1.0	20

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37	Converging geometry Rayleighâ€“Taylor instability and central ignition of inertial confinement fusion targets. Plasma Physics and Controlled Fusion, 2004, 46, B111-B120.	2.1	20
38	Numerical analysis of the irradiation uniformity of a directly driven inertial confinement fusion capsule. European Physical Journal D, 2009, 55, 139-145.	1.3	20
39	Fast ignition induced by shocks generated by laser-accelerated proton beams. Plasma Physics and Controlled Fusion, 2009, 51, 035010.	2.1	20
40	Optimization of irradiation configuration in laser fusion utilizing self-organizing electrodynamic system. Physics of Plasmas, 2010, 17, .	1.9	20
41	Effects of alpha stopping power modelling on the ignition threshold in a directly-driven inertial confinement fusion capsule. European Physical Journal D, 2017, 71, 1.	1.3	19
42	Mechanism of growth reduction of the deceleration-phase ablative Rayleigh-Taylor instability. Physical Review E, 2003, 67, 057401.	2.1	18
43	Irradiation uniformity of directly driven inertial confinement fusion targets in the context of the shock-ignition scheme. Plasma Physics and Controlled Fusion, 2011, 53, 124008.	2.1	18
44	Hydrodynamic instabilities in ablative tamped flows. Physics of Plasmas, 2006, 13, 122701.	1.9	16
45	2D analysis of direct-drive shock-ignited HiPER-like target implosions with the full laser megajoule. Laser and Particle Beams, 2012, 30, 183-188.	1.0	16
46	Studies of Strongly Coupled Plasmas Using Intense Heavy Ion Beams at the Future FAIR Facility: the HEDgeHOB Collaboration. Contributions To Plasma Physics, 2005, 45, 229-235.	1.1	14
47	Polar direct drive illumination uniformity provided by the Orion facility. European Physical Journal D, 2013, 67, 1.	1.3	13
48	Shock impedance matching experiments in foam - solid targets: implications for `foam-buffered ICF'. Plasma Physics and Controlled Fusion, 1998, 40, 1567-1574.	2.1	12
49	Intense heavy ion beams as a tool to induce high-energy-density states in matter. Contributions To Plasma Physics, 2003, 43, 373-376.	1.1	12
50	Elastoplastic effects on the Rayleigh-Taylor instability in an accelerated solid slab. EPJ Applied Physics, 2005, 29, 247-252.	0.7	12
51	Illumination uniformity of a capsule directly driven by a laser facility with 32 or 48 directions of irradiation. Physics of Plasmas, 2010, 17, .	1.9	12
52	Marginally igniting direct-drive target designs for the laser megajoule. Laser and Particle Beams, 2013, 31, 141-148.	1.0	12
53	Three-dimensional symmetry analysis of a direct-drive irradiation scheme for the laser megajoule facility. Physics of Plasmas, 2014, 21, 082710.	1.9	11
54	Analysis of three-dimensional effects in laser driven thin-shell capsule implosions. Matter and Radiation at Extremes, 2019, 4, .	3.9	11

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55	Analysis of the impedance mismatch effect in foam-solid targets compressed by laser-driven shock waves. European Physical Journal D, 2000, 12, 509-511.	1.3	10
56	Stochastic homogenization of the laser intensity to improve the irradiation uniformity of capsules directly driven by thousands laser beams. European Physical Journal D, 2011, 65, 447-451.	1.3	10
57	European fusion target work. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2001, 464, 45-51.	1.6	9
58	Target design for the cylindrical compression of matter driven by heavy ion beams. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2005, 544, 27-33.	1.6	9
59	Optimal laser intensity profiles for a uniform target illumination in direct-drive inertial confinement fusion. High Power Laser Science and Engineering, 2014, 2, .	4.6	9
60	Analytical Models for the Design of the LAPLAS Experiment. Contributions To Plasma Physics, 2007, 47, 213-222.	1.1	8
61	A three-dimensional ray-tracing code dedicated to x-ray laser amplification simulation. Physics of Plasmas, 2001, 8, 1363.	1.9	7
62	Fast ignition by laser-driven carbon beams. Journal of Physics: Conference Series, 2010, 244, 022038.	0.4	7
63	Studying ignition schemes on European laser facilities. Nuclear Fusion, 2011, 51, 094025.	3.5	7
64	Comparison between illumination model and hydrodynamic simulation for a direct drive laser irradiated target. Laser and Particle Beams, 2014, 32, 549-556.	1.0	6
65	Uniformity of spherical shock wave dynamically stabilized by two successive laser profiles in direct-drive inertial confinement fusion implosions. Physics of Plasmas, 2015, 22, 102709.	1.9	5
66	Overlapping laser profiles used to mitigate the negative effects of beam uncertainties in direct-drive LMJ configurations. European Physical Journal D, 2015, 69, 1.	1.3	5
67	Studies on radiation symmetrization in heavy-ion-driven hohlraum targets. Il Nuovo Cimento A, 1993, 106, 1925-1930.	0.2	4
68	Numerical calculations of the irradiation of the cone in a conically guided capsule. Physics of Plasmas, 2009, 16, 074503.	1.9	4
69	Studies on shock ignition targets for inertial fusion energy. EPJ Web of Conferences, 2013, 59, 01005.	0.3	3
70	Direct-drive target designs as energetic particle sources for the Laser MÃ©gaJoule facility. Journal of Plasma Physics, 2021, 87, .	2.1	3
71	Target design activities for the European study group: heavy ion ignition facility. Fusion Engineering and Design, 1996, 32-33, 61-71.	1.9	2
72	Energetics and symmetry of hohlraum targets driven by ion beam pulses with simple time shape. Fusion Engineering and Design, 1996, 32-33, 595-601.	1.9	2

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73	3D ray-tracing package dedicated to the irradiation study of a directly driven inertial confinement fusion capsule. Journal of Physics: Conference Series, 2010, 244, 022008.	0.4	2
74	Relativistic hole boring and fast ion ignition with ultra-intense laser pulses. Journal of Physics: Conference Series, 2010, 244, 022069.	0.4	2
75	Direct-drive shock-ignition for the Laser MÃ©gaJoule. EPJ Web of Conferences, 2013, 59, 03003.	0.3	2
76	Systematic analysis of direct-drive baseline designs for shock ignition with the Laser MÃ©gaJoule. EPJ Web of Conferences, 2013, 59, 03004.	0.3	2
77	Symmetry issues in Directly Irradiated Targets. EPJ Web of Conferences, 2013, 59, 02017.	0.3	2
78	Effect of the laser intensity profile on the shock non-uniformity in a directly driven spherical target. Journal of Plasma Physics, 2015, 81, .	2.1	2
79	Thermodynamic properties of thermonuclear fuel in inertial confinement fusion. Laser and Particle Beams, 2016, 34, 539-544.	1.0	2
80	EOS impedance matching experiments at high pressure with smoothed laser beam. AIP Conference Proceedings, 1996, , .	0.4	1
81	Design of absolute equation of state measurements in optically thick materials by laser-driven shock waves. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1998, 415, 668-673.	1.6	1
82	Dependence of inertial confinement fusion ignition energy threshold on electron thermal conduction. European Physical Journal D, 2019, 73, 1.	1.3	1
83	Dependence of Inertial Confinement Fusion capsule performance on fuel reaction rate. European Physical Journal D, 2021, 75, 1.	1.3	1
84	Lasing at 139 Ã… in nickel-like silver plasmas. Comptes Rendus Physique, 2000, 1, 1025-1033.	0.1	0
85	Numerical codes development issues. Laser and Particle Beams, 2002, 20, 423-426.	1.0	0
86	Numerical and theoretical studies on basic issues for fast ignition: from fast particle generation to beam driven ignition. , 2003, , .		0
87	Illumination uniformity of capsules directly driven by a facility with thousands of laser beams. EPJ Web of Conferences, 2013, 59, 02015.	0.3	0
88	Time evolution of the fuel areal density and electronic temperature provided by secondary nuclear fusion reactions. European Physical Journal D, 2019, 73, 1.	1.3	0
89	3D ray-tracing simulation of X-ray laser amplification. European Physical Journal Special Topics, 2001, 11, Pr2-305-Pr2-308.	0.2	0
90	Effect of hot-electron energy distribution in the thermonuclear burn degradation in Directly-Driven Inertial Confinement Fusion. European Physical Journal D, 2021, 75, 1.	1.3	0