Tommaso Vinci

List of Publications by Year in descending order

109 papers	2,495 citations	186265 28 h-index	206112 48 g-index
112 all docs	112 docs citations	112 times ranked	2625 citing authors

#	Article	IF	Citations
1	Simple adaptations to speed-up the Particle-In-Cell code Smilei on the ARM-based Fujitsu A64FX processor. , 2022, , .		1
2	Characterization of the stability and dynamics of a laser-produced plasma expanding across a strong magnetic field. Matter and Radiation at Extremes, 2022, 7, .	3.9	3
3	X-ray diffraction study of phase transformation dynamics of Fe and Fe-Si alloys along the shock Hugoniot using an x-ray free electron laser. Physical Review B, 2022, 105, .	3.2	1
4	A task programming implementation for the particle in cell code smilei. , 2022, , .		0
5	Metallization of Shock-Compressed Liquid Ammonia. Physical Review Letters, 2021, 126, 025003.	7.8	21
6	X-ray radiography based on the phase-contrast imaging with using LiF detector. Journal of Physics: Conference Series, 2021, 1787, 012027.	0.4	0
7	Electrical conductivity of warm dense silica from double-shock experiments. Nature Communications, 2021, 12, 840.	12.8	9
8	Numerical study of Langmuir wave coalescence in laser-plasma interaction. Physics of Plasmas, 2021, 28, .	1.9	3
9	Micron-scale phenomena observed in a turbulent laser-produced plasma. Nature Communications, 2021, 12, 2679.	12.8	17
10	Measuring the structure and equation of state of polyethylene terephthalate at megabar pressures. Scientific Reports, 2021, 11, 12883.	3.3	10
11	X-ray powder diffraction in reflection geometry on multi-beam kJ-type laser facilities. Review of Scientific Instruments, 2021, 92, 013902.	1.3	6
12	Laboratory disruption of scaled astrophysical outflows by a misaligned magnetic field. Nature Communications, 2021, 12, 762.	12.8	14
13	Effect of plasma hydrodynamics on laser-produced bremsstrahlung MeV photon dose. Physics of Plasmas, 2020, 27, .	1.9	2
14	Direct Observation of Shockâ€•Induced Disordering of Enstatite Below the Melting Temperature. Geophysical Research Letters, 2020, 47, e2020GL088887.	4.0	9
15	White-line evolution in shocked solid Ta evidenced by synchrotron x-ray absorption spectroscopy. Physical Review B, 2020, 102, .	3.2	3
16	In situ X-ray diffraction of silicate liquids and glasses under dynamic and static compression to megabar pressures. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 11981-11986.	7.1	20
17	Laser-Plasma Interaction Experiment for Solar Burst Studies. Physical Review Letters, 2020, 124, 135001.	7.8	4
18	Laser-driven shock compression of â€œsynthetic planetary mixturesâ€•of water, ethanol, and ammonia. Scientific Reports, 2019, 9, 10155.	3.3	19

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19	X-ray absorption near edge spectroscopy study of warm dense MgO. Physics of Plasmas, 2019, 26, 112703.	1.9	3
20	Adaptive SIMD optimizations in particle-in-cell codes with fine-grain particle sorting. Computer Physics Communications, 2019, 244, 246-263.	7.5	12
21	Laboratory investigation of particle acceleration and magnetic field compression in collisionless colliding fast plasma flows. Communications Physics, 2019, 2, .	5.3	14
22	Characterizing equation of state and optical properties of dynamically pre-compressed materials. Physics of Plasmas, 2019, 26, 042704.	1.9	6
23	Smilei : A collaborative, open-source, multi-purpose particle-in-cell code for plasma simulation. Computer Physics Communications, 2018, 222, 351-373.	7.5	282
24	From quantum to classical modeling of radiation reaction: a focus on the radiation spectrum. Plasma Physics and Controlled Fusion, 2018, 60, 094002.	2.1	15
25	Ultrafast observation of lattice dynamics in laser-irradiated gold foils. Applied Physics Letters, 2017, 110, .	3.3	20
26	Detailed characterization of laser-produced astrophysically-relevant jets formed via a poloidal magnetic nozzle. High Energy Density Physics, 2017, 23, 48-59.	1.5	25
27	Enhancement of Quasistationary Shocks and Heating via Temporal Staging in a Magnetized Laser-Plasma Jet. Physical Review Letters, 2017, 119, 255002.	7.8	18
28	Dynamic fracture of tantalum under extreme tensile stress. Science Advances, 2017, 3, e1602705.	10.3	41
29	Optimization of interaction conditions for efficient short laser pulse amplification by stimulated Brillouin scattering in the strongly coupled regime. Physics of Plasmas, 2016, 23, .	1.9	22
30	Dissociation along the principal Hugoniot of the Laser MÃ©gajoule ablator material. Physical Review E, 2016, 94, 023204.	2.1	14
31	Decaying shock studies of phase transitions in MgOâ€“SiO₂ systems: Implications for the superâ€Earths' interiors. Geophysical Research Letters, 2016, 43, 9475-9483.	4.0	48
32	Kinetics of the iron<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Î±</mml:mi><mml:mo>â†’</mml:mo><mml:mi>ε</mml:m transition at high-strain rates: Experiment and model. Physical Review B, 2016, 93, .	3.2	36
33	Probing local and electronic structure in Warm Dense Matter: single pulse synchrotron x-ray absorption spectroscopy on shocked Fe. Scientific Reports, 2016, 6, 26402.	3.3	50
34	X-ray emission spectroscopy of well-characterised non-LTE plasmas. Journal of Physics: Conference Series, 2016, 688, 012039.	0.4	0
35	X-ray absorption spectroscopy of iron at multimegabar pressures in laser shock experiments. Physical Review B, 2015, 92, .	3.2	51
36	Are long gamma-ray bursts biased tracers of star formation? Clues from the host galaxies of theSwift/BAT6 complete sample of LGRBs. Astronomy and Astrophysics, 2015, 581, A102.	5.1	95

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37	Production and Diagnostics of Dense Matter. Contributions To Plasma Physics, 2015, 55, 67-77.	1.1	3
38	Probing iron at Super-Earth core conditions. Physics of Plasmas, 2015, 22, .	1.9	9
39	Analysis of X-ray and Thomson scattering data from non-LTE Nb and Ta plasmas. High Energy Density Physics, 2015, 16, 41-52.	1.5	0
40	Laser-ablation and induced nanoparticle synthesis. Laser and Particle Beams, 2014, 32, 1-7.	1.0	18
41	Laboratory formation of a scaled protostellar jet by coaligned poloidal magnetic field. Science, 2014, 346, 325-328.	12.6	173
42	Characterization of laser-driven ultrafast shockless compression using gold targets. Journal of Applied Physics, 2014, 116, 043521.	2.5	0
43	Progress in warm dense matter study with applications to planetology. Physica Scripta, 2014, T161, 014060.	2.5	54
44	Generation of high pressure shocks relevant to the shock-ignition intensity regime. Physics of Plasmas, 2014, 21, .	1.9	55
45	Experimental Demonstration of an Inertial Collimation Mechanism in Nested Outflows. Physical Review Letters, 2014, 112, 155001.	7.8	17
46	A new target design for laser shock-compression studies of carbon reflectivity in the megabar regime. European Physical Journal D, 2013, 67, 1.	1.3	9
47	Advances in the investigation of shock-induced reflectivity of porous carbon. Laser and Particle Beams, 2013, 31, 457-464.	1.0	1
48	Astrophysics of Magnetically Collimated Jets Generated from Laser-Produced Plasmas. Physical Review Letters, 2013, 110, 025002.	7.8	61
49	Direct laser-driven ramp compression studies of iron: A first step toward the reproduction of planetary core conditions. High Energy Density Physics, 2013, 9, 243-246.	1.5	21
50	Production of large volume, strongly magnetized laser-produced plasmas by use of pulsed external magnetic fields. Review of Scientific Instruments, 2013, 84, 043505.	1.3	57
51	Time-resolved spectroscopic observations of shockinduced silicate ionization. AIP Conference Proceedings, 2012, , .	0.4	4
52	Laser-driven quasi-isentropic compression experiments and numerical studies of the iron alpha-epsilon transition in the context of planetology. , 2012, , .		4
53	Shockâ€induced silicate vaporization: The role of electrons. Journal of Geophysical Research, 2012, 117, .	3.3	16
54	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

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55	Characterizing counter-streaming interpenetrating plasmas relevant to astrophysical collisionless shocks. Physics of Plasmas, 2012, 19, .	1.9	101
56	Magnetically Guided Fast Electrons in Cylindrically Compressed Matter. Physical Review Letters, 2011, 107, 065004.	7.8	45
57	Investigation of carbon in megabar regime. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 653, 116-120.	1.6	0
58	Astrophysical outflows simulated by laser-driven plasma jets. Proceedings of the International Astronomical Union, 2010, 6, 402-403.	0.0	0
59	Simulating earth core using high energy lasers. High Energy Density Physics, 2010, 6, 210-214.	1.5	7
60	From lasers to the universe: Scaling laws in laboratory astrophysics. High Energy Density Physics, 2010, 6, 368-380.	1.5	29
61	EOS measurements of pressure standard materials using laser-driven ramp-wave compression technique. Journal of Physics: Conference Series, 2010, 215, 012199.	0.4	3
62	Enhanced Isochoric Heating from Fast Electrons Produced by High-Contrast, Relativistic-Intensity Laser Pulses. Physical Review Letters, 2010, 104, 085001.	7.8	49
63	Optical interferometry and data analysis of laser-produced plasmas. , 2010, , .		0
64	High-power laser shock-induced dynamic fragmentation of iron foils. Physical Review B, 2010, 82, .	3.2	14
65	Proton radiography of a shock-compressed target. Physical Review E, 2010, 82, 016407.	2.1	23
66	Porous carbon EOS: numerical analysis. Radiation Effects and Defects in Solids, 2010, 165, 566-572.	1.2	4
67	Study of plasma heating induced by fast electrons. Physics of Plasmas, 2009, 16, 122701.	1.9	7
68	Propagation of laser-generated plasma jet in an ambient medium. Plasma Physics and Controlled Fusion, 2009, 51, 124027.	2.1	6
69	Classification of and recent research involving radiative shocks. Astrophysics and Space Science, 2009, 322, 77-84.	1.4	38
70	Shock Hugoniot and temperature data for polystyrene obtained with quartz standard. Physics of Plasmas, 2009, 16, .	1.9	46
71	MICROSTRUCTURAL INVESTIGATION OF LASER-SHOCKED IRON FOILS. , 2009, , .		0
72	Recent Laboratory Astrophysics Experiments at LULI. Plasma and Fusion Research, 2009, 4, 044-044.	0.7	5

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73	Coronal hydrodynamics of laser-produced plasmas. Physical Review E, 2008, 78, 046404.	2.1	6
74	Hard x-ray radiography for density measurement in shock compressed matter. Physics of Plasmas, 2008, 15, .	1.9	39
75	Hydrodynamics of laser-produced plasma corona measured by optical interferometry. Plasma Physics and Controlled Fusion, 2008, 50, 105013.	2.1	8
76	Inhibition of fast electron energy deposition due to preplasma filling of cone-attached targets. Physics of Plasmas, 2008, 15, .	1.9	85
77	Density measurement of low-Zshocked material from monochromatic x-ray two-dimensional images. Physical Review E, 2008, 77, 045402.	2.1	14
78	Link between laboratory and astrophysical radiative shocks. Journal of Physics: Conference Series, 2008, 112, 042013.	0.4	6
79	Laboratory astrophysics using high energy lasers: need for 2D simulation. Journal of Physics: Conference Series, 2008, 112, 042012.	0.4	2
80	Recent experiment on fast electron transport in ultra-high intensity laser interaction. Journal of Physics: Conference Series, 2008, 112, 022048.	0.4	2
81	Plasma jet experiments in vacuum and in ambient medium using high energy lasers. Journal of Physics: Conference Series, 2008, 112, 042022.	0.4	2
82	Classification of and recent research involving radiative shocks. , 2008, , 77-84.		0
83	Radiative Shocks And Plasma Jets As Laboratory Astrophysics Experiments. AIP Conference Proceedings, 2007, , .	0.4	0
84	Supersonic-Jet Experiments Using a High-Energy Laser. Physical Review Letters, 2007, 99, 265001.	7.8	58
85	Theoretical and Experimental Studies of Radiative Shocks. Astrophysics and Space Science, 2007, 307, 159-164.	1.4	11
86	Radiative shocks: An opportunity to study laboratory astrophysics. Physics of Plasmas, 2006, 13, 056504.	1.9	54
87	Hugoniot data of plastic foams obtained from laser-driven shocks. Physical Review E, 2006, 73, 047401.	2.1	30
88	Laser-driven shock waves for the study of extreme matter states. Plasma Physics and Controlled Fusion, 2006, 48, B347-B358.	2.1	38
89	Laser-driven flyer impact experiments at the LULI 2000 laserÂfacility. European Physical Journal Special Topics, 2006, 133, 1101-1105.	0.2	6
90	High density energy physics experiments on LULI 2000 facility. European Physical Journal Special Topics, 2006, 133, 1065-1070.	0.2	0

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91	Radiative shocks: New results for laboratory astrophysics. European Physical Journal Special Topics, 2006, 133, 1039-1041.	0.2	4
92	Novel diagnostic of low-Z shock compressed material. High Energy Density Physics, 2006, 2, 1-6.	1.5	9
93	Equations of state data of plastic foams obtained from laser driven shocks at PALS (Prague Asterix) Tj ETQq1 1 0.784314 rgBT /Overlock	0.4	0
94	Time-Resolved Analysis of High-Power-Laser Produced Plasma Expansion. AIP Conference Proceedings, 2006, , .	0.4	1
95	High Energy Density Physics on LULI2000 Laser Facility. AIP Conference Proceedings, 2006, , .	0.4	4
96	Temperature and electron density measurements on laser driven radiative shocks. Physics of Plasmas, 2006, 13, 010702.	1.9	20
97	Observation of collapsing radiative shocks in laboratory experiments. Physics of Plasmas, 2006, 13, 082901.	1.9	85
98	Laser-driven shocks in precompressed water samples. European Physical Journal Special Topics, 2006, 133, 1093-1095.	0.2	3
99	Experimental and numerical studies of radiative shocks. European Physical Journal Special Topics, 2006, 133, 1013-1017.	0.2	2
100	Theoretical and Experimental Studies of Radiative Shocks. , 2006, , 159-164.		0
101	Radiative Shock Experiments At Luli. Astrophysics and Space Science, 2005, 298, 69-74.	1.4	15
102	Novel Diagnostic of Shock Fronts in Low-Z Dense Plasmas. Astrophysics and Space Science, 2005, 298, 313-316.	1.4	1
103	Density and Temperature Measurements on Laser Generated Radiative Shocks. Astrophysics and Space Science, 2005, 298, 333-336.	1.4	6
104	Time-Resolved Analysis of High-Power-Laser Produced Plasma Expansion in Vacuum. AIP Conference Proceedings, 2005, , .	0.4	2
105	Temperature and melting of laser-shocked iron releasing into an LiF window. Physics of Plasmas, 2005, 12, 060701.	1.9	46
106	Progress in the study of warm dense matter. Plasma Physics and Controlled Fusion, 2005, 47, B441-B449.	2.1	120
107	Experimental Study of Laser Shock-Released States of Iron into a LiF Window. AIP Conference Proceedings, 2004, , .	0.4	0
108	Interface velocity of laser shocked Fe/LiF targets. Physics of Plasmas, 2004, 11, L61-L64.	1.9	10

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109	High pressures generated by laser driven shocks: applications to planetary physics. Nuclear Fusion, 2004, 44, S208-S214.	3.5	30