Matteo Passoni

List of Publications by Year
in descending order

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124	4,226	159585	123424
papers	citations	30	61
		h-index	g-index

128	128	128	3951
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Ion acceleration by superintense laser-plasma interaction. Reviews of Modern Physics, 2013, 85, 751-793.	45.6	1,126
2	Target normal sheath acceleration: theory, comparison with experiments and future perspectives. New Journal of Physics, 2010, 12, 045012.	2.9	156
3	Raman spectroscopy of Biâ€Te thin films. Journal of Raman Spectroscopy, 2008, 39, 205-210.	2.5	109
4	Targets for high repetition rate laser facilities: needs, challenges and perspectives. High Power Laser Science and Engineering, 2017, 5, .	4.6	106
5	Evidence of Resonant Surface-Wave Excitation in the Relativistic Regime through Measurements of Proton Acceleration from Grating Targets. Physical Review Letters, 2013, 111, 185001.	7.8	100
6	Charge separation effects in solid targets and ion acceleration with a two-temperature electron distribution. Physical Review E, 2004, 69, 026411.	2.1	95
7	Thermoelectric properties of Biâ€“Te films with controlled structure and morphology. Journal of Applied Physics, 2009, 105, .	2.5	93
8	Ultra-low density carbon foams produced by pulsed laser deposition. Carbon, 2013, 56, 358-365.	10.3	92
9	Theory of Light-Ion Acceleration Driven by a Strong Charge Separation. Physical Review Letters, 2008, 101, 115001.	7.8	89
10	Laser ion acceleration using a solid target coupled with a low-density layer. Physical Review E, 2012, 85, 036405.	2.1	87
11	Pulsed laser deposition of Bi2Te3 thermoelectric films. Applied Surface Science, 2007, 254, 1249-1254.	6.1	80
12	Plasmaâ€“wall interaction studies within the EUROfusion consortium: progress on plasma-facing components development and qualification. Nuclear Fusion, 2017, 57, 116041.	3.5	75
13	Development of foam-based layered targets for laser-driven ion beam production. Plasma Physics and Controlled Fusion, 2016, 58, 034019.	2.1	61
14	Recovery of local density of states using scanning tunneling spectroscopy. Physical Review B, 2009, 79, .	3.2	56
15	Nanostructured and amorphous-like tungsten films grown by pulsed laser deposition. Journal of Applied Physics, 2012, 112, .	2.5	56
16	Relativistic electromagnetic solitons in a warm quasineutral electronâ€“ion plasma. Physics of Plasmas, 2003, 10, 639-649.	1.9	53
17	Electron Acceleration by Relativistic Surface Plasmons in Laser-Grating Interaction. Physical Review Letters, 2016, 116, 015001.	7.8	53
18	Pulsed laser deposition of single-layer MoS₂ on Au(111): from nanosized crystals to large-area films. Nanoscale Advances, 2019, 1, 643-655.	4.6	52

#	Article	IF	Citations
19	Toward high-energy laser-driven ion beams: Nanostructured double-layer targets. Physical Review Accelerators and Beams, 2016, 19, .	1.6	48
20	Energetic ions at moderate laser intensities using foam-based multi-layered targets. Plasma Physics and Controlled Fusion, 2014, 56, 045001.	2.1	47
21	Scanning tunneling spectroscopy of the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mtext>Fe</mml:mtext><mml:mrow><mml:mo>(</mml:mo><mml:mrow><mml:mn>001</mml:mn> Physical Review B, 2009, 79, .	3.2	43
22	Disclosing the Early Stages of Electrochemical Anion Intercalation in Graphite by a Combined Atomic Force Microscopy/Scanning Tunneling Microscopy Approach. Journal of Physical Chemistry C, 2016, 120, 6088-6093.	3.1	43
23	Direct observation of the basic mechanisms of Pd island nucleation on Au(111). Physical Review B, 2009, 79, .	3.2	42
24	One-dimensional model of the electrostatic ion acceleration in the ultraintense laserâ€“solid interaction. Laser and Particle Beams, 2004, 22, 163-169.	1.0	41
25	A kinetic model for the one-dimensional electromagnetic solitons in an isothermal plasma. Physics of Plasmas, 2002, 9, 2562-2568.	1.9	40
26	Bulk Cr tips for scanning tunneling microscopy and spin-polarized scanning tunneling microscopy. Applied Physics Letters, 2007, 91, .	3.3	39
27	Energy dispersive x-ray spectroscopy for nanostructured thin film density evaluation. Science and Technology of Advanced Materials, 2015, 16, 025007.	6.1	38
28	Ultra-intense laser interaction with nanostructured near-critical plasmas. Scientific Reports, 2018, 8, 3834.	3.3	35
29	Advanced laser-driven ion sources and their applications in materials and nuclear science. Plasma Physics and Controlled Fusion, 2020, 62, 014022.	2.1	35
30	Atomic corrugation in scanning tunneling microscopy images of the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mtext>Fe</mml:mtext><mml:mrow><mml:mo>(</mml:mo><mml:mrow><mml:mn>001</mml:mn> Physical Review B, 2010, 81, .	3.2	33
31	Electrostatic field distribution at the sharp interface between high density matter and vacuum. Physics of Plasmas, 2006, 13, 042102.	1.9	31
32	Boron films produced by high energy Pulsed Laser Deposition. Materials and Design, 2017, 134, 35-43.	7.0	31
33	Advanced strategies for ion acceleration using high-power lasers. Plasma Physics and Controlled Fusion, 2013, 55, 124020.	2.1	30
34	Advances in target normal sheath acceleration theory. Physics of Plasmas, 2013, 20, .	1.9	28
35	Electromagnetic solitons produced by stimulated Brillouin pulsations in plasmas. Physics of Plasmas, 2005, 12, 112107.	1.9	26
36	Transfer Hamiltonian analytical theory of scanning tunneling spectroscopy. Physical Review B, 2007, 76, .	3.2	25

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37	Nanostructured rhodium films produced by pulsed laser deposition for nuclear fusion applications. Journal of Nuclear Materials, 2010, 404, 1-5.	2.7	24
38	Tungsten oxide nanowires grown on amorphous-like tungsten films. Nanotechnology, 2015, 26, 365601.	2.6	24
39	Reference-free evaluation of thin films mass thickness and composition through energy dispersive X-ray spectroscopy. Materials Characterization, 2019, 153, 92-102.	4.4	24
40	Superintense Laser-driven Ion Beam Analysis. Scientific Reports, 2019, 9, 9202.	3.3	24
41	Thermomechanical properties of amorphous metallic tungsten-oxygen and tungsten-oxide coatings. Materials and Design, 2019, 165, 107565.	7.0	24
42	Nanostructured rhodium films for advanced mirrors produced by Pulsed Laser Deposition. Journal of Nuclear Materials, 2013, 432, 261-265.	2.7	23
43	Pulsed laser deposition of two-dimensional ZnO nanocrystals on Au(111): growth, surface structure and electronic properties. Nanotechnology, 2016, 27, 475703.	2.6	23
44	Microscopic Analysis of the Different Perchlorate Anions Intercalation Stages of Graphite. Journal of Physical Chemistry C, 2017, 121, 14246-14253.	3.1	23
45	Hydrogen permeation through disordered nanostructured tungsten films. Journal of Nuclear Materials, 2012, 429, 92-98.	2.7	22
46	Microstructural characterisation of tungsten coatings deposited using plasma sputtering on Si substrates. Thin Solid Films, 2014, 558, 189-193.	1.8	22
47	Evolution of the graphite surface in phosphoric acid: an AFM and Raman study. Beilstein Journal of Nanotechnology, 2016, 7, 1878-1884.	2.8	22
48	A theoretical model of laser-driven ion acceleration from near-critical double-layer targets. Communications Physics, 2020, 3, .	5.3	22
49	Different W cluster deposition regimes in pulsed laser ablation observed by in situ scanning tunneling microscopy. Surface Science, 2007, 601, 1892-1897.	1.9	21
50	Deuterium retention and surface modifications of nanocrystalline tungsten films exposed to high-flux plasma. Journal of Nuclear Materials, 2015, 463, 989-992.	2.7	19
51	In situcleaning of diagnostic first mirrors: an experimental comparison between plasma and laser cleaning in ITER-relevant conditions. Nuclear Fusion, 2017, 57, 046014.	3.5	19
52	Parametric investigation of laser interaction with uniform and nanostructured near-critical plasmas. European Physical Journal D, 2017, 71, 1.	1.3	19
53	Structured targets for advanced laser-driven sources. Plasma Physics and Controlled Fusion, 2018, 60, 014013.	2.1	19
54	ERO2.0 modelling of the effects of surface roughness on molybdenum erosion and redeposition in the PSI-2 linear plasma device. Physica Scripta, 2020, T171, 014057.	2.5	19

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55	Integrated quantitative PIXE analysis and EDX spectroscopy using a laser-driven particle source. Science Advances, 2021, 7, .	10.3	19
56	Electromagnetic solitary waves in the saturation regime of stimulated Brillouin backscattering. Laser and Particle Beams, 2006, 24, 125-129.	1.0	18
57	Thermal annealing and exposure to divertor-like deuterium plasma of tailored tungsten oxide coatings. Journal of Nuclear Materials, 2015, 463, 1041-1044.	2.7	18
58	Amorphous, ultra-nano- and nano-crystalline tungsten-based coatings grown by Pulsed Laser Deposition: mechanical characterization by Surface Brillouin Spectroscopy. Materials and Design, 2016, 106, 14-21.	7.0	18
59	Laser cleaning of diagnostic mirrors from tungstenâ€“oxygen tokamak-like contaminants. Nuclear Fusion, 2016, 56, 086008.	3.5	18
60	Electron heating in subpicosecond laser interaction with overdense and near-critical plasmas. Physical Review E, 2016, 94, 053201.	2.1	18
61	Growth dynamics of pulsed laser deposited nanofoams. Physical Review Materials, 2019, 3, .	2.4	17
62	Strain effect on local electronic properties of Fe nanoislands grown on Au(111). Physical Review B, 2011, 83, .	3.2	16
63	Extensive comparison among Target Normal Sheath Acceleration theoretical models. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 653, 89-93.	1.6	16
64	Laser cleaning of pulsed laser deposited rhodium films for fusion diagnostic mirrors. Fusion Engineering and Design, 2013, 88, 1347-1351.	1.9	16
65	Ammonia formation and W coatings interaction with deuterium/nitrogen plasmas in the linear device GyM. Journal of Nuclear Materials, 2015, 463, 680-683.	2.7	16
66	Simulations of Argon plasmas in the linear plasma device GyM with the SOLPS-ITER code. Plasma Physics and Controlled Fusion, 2020, 62, 055005.	2.1	16
67	Influence of surface roughness on the sputter yield of Mo under keV D ion irradiation. Journal of Nuclear Materials, 2021, 555, 153135.	2.7	16
68	Raman spectroscopy of nonstacked graphene flakes produced by plasma microjet deposition. Journal of Raman Spectroscopy, 2012, 43, 884-888.	2.5	15
69	Laser cleaning of diagnostic mirrors from tokamak-like carbon contaminants. Journal of Nuclear Materials, 2015, 463, 944-947.	2.7	15
70	Nanosecond laser pulses for mimicking thermal effects on nanostructured tungsten-based materials. Nuclear Fusion, 2018, 58, 036019.	3.5	15
71	Energetic ions from next generation ultraintense ultrashort lasers: Scaling laws for Target Normal Sheath Acceleration. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2010, 620, 46-50.	1.6	14
72	Nucleation and growth mechanisms of Fe on Au(111) in the sub-monolayer regime. Surface Science, 2012, 606, 702-710.	1.9	14

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73	Deuterium retention in dense and disordered nanostructured tungsten coatings. Journal of Nuclear Materials, 2018, 507, 226-240.	2.7	14
74	Coefficient of thermal expansion of nanostructured tungsten based coatings assessed by substrate curvature method. Materials and Design, 2018, 137, 192-203.	7.0	14
75	Nanocrystalline diamond produced by direct current micro-plasma: Investigation of growth dynamics. Diamond and Related Materials, 2017, 74, 212-221.	3.9	13
76	Gross and net erosion balance of plasma-facing materials in full-W tokamaks. Nuclear Fusion, 2021, 61, 116006.	3.5	13
77	LIBS study of ITER relevant tungstenâ€“oxygen coatings exposed to deuterium plasma in Magnum-PSI. Journal of Nuclear Materials, 2021, 544, 152660.	2.7	12
78	Numerical modelling of an enhanced perpendicular transport regime in the scrape-off layer of ASDEX Upgrade. Plasma Physics and Controlled Fusion, 2021, 63, 075003.	2.1	12
79	Efficient laser-driven proton and bremsstrahlung generation from cluster-assembled foam targets. New Journal of Physics, 2021, 23, 093015.	2.9	12
80	Carbon Structures Grown by Direct Current Microplasma: Diamonds, Single-Wall Nanotubes, and Graphene. Journal of Physical Chemistry C, 2014, 118, 24714-24722.	3.1	11
81	Enhanced laser-driven hadron sources with nanostructured double-layer targets. New Journal of Physics, 2020, 22, 033045.	2.9	11
82	The diffusion limit of ballistic transport in the scrape-off layer. Physics of Plasmas, 2020, 27, .	1.9	11
83	Energetic regimes and growth mechanisms of pulsed laser deposited Pd clusters on Au(111) investigated byin situscanning tunneling microscopy. Physical Review B, 2011, 84, .	3.2	10
84	Three-dimensional approach to scanning tunneling spectroscopy and application to Shockley states. New Journal of Physics, 2011, 13, 053058.	2.9	10
85	Two-dimensional TiO _x nanostructures on Au(111): a scanning tunneling microscopy and spectroscopy investigation. 2D Materials, 2015, 2, 045011.	4.4	10
86	Post-mortem analysis of tungsten plasma facing components in tokamaks: Raman microscopy measurements on compact, porous oxide and nitride films and nanoparticles. Nuclear Fusion, 2020, 60, 086004.	3.5	10
87	Superintense laser-driven photon activation analysis. Communications Physics, 2021, 4, .	5.3	10
88	Self-assembly and electronic effects of Er₃N@C₈₀ and Sc₃N@C₈₀ on Au(111) and Ag/Si(111) surfaces. Journal of Physics: Conference Series, 2008, 100, 052080.	0.4	9
89	Effects of a nitrogen seeded plasma on nanostructured tungsten films having fusion-relevant features. Nuclear Materials and Energy, 2020, 25, 100808.	1.3	9
90	The impact of surface morphology on the erosion of metallic surfaces â€“ Modelling with the 3D Monte-Carlo code ERO2.0. Nuclear Materials and Energy, 2021, 27, 100987.	1.3	9

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91	In-situ LIBS and NRA deuterium retention study in porous W-O and compact W coatings loaded by Magnum-PSI. Fusion Engineering and Design, 2021, 168, 112403.	1.9	9
92	Parametric investigations of target normal sheath acceleration experiments. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 653, 94-97.	1.6	8
93	Helium load on W-O coatings grown by pulsed laser deposition. Surface and Coatings Technology, 2018, 355, 215-221.	4.8	8
94	Proton Maximum Energy Cutoff Scaling Laws For Bulk Targets. , 2009, , .		7
95	Deposition of boronâ€“carbon multilayer coatings by RF plasma sputtering. Surface and Coatings Technology, 2013, 214, 59-62.	4.8	7
96	Growth and electronic properties of Ti nanoislands on Au(111). Surface Science, 2014, 619, 77-82.	1.9	7
97	Pulsed laser deposition of carbon nanofoam. Applied Surface Science, 2022, 599, 153859.	6.1	7
98	Nondrifting relativistic electromagnetic solitons in plasmas. Laser and Particle Beams, 2003, 21, 541-544.	1.0	6
99	Target normal sheath acceleration analytical modeling, comparative study and developments. Review of Scientific Instruments, 2012, 83, 02B502.	1.3	6
100	Exposures of bulk W and nanostructured W coatings to medium flux D plasmas. Nuclear Materials and Energy, 2020, 24, 100779.	1.3	6
101	A point plasma model for linear plasma devices based on SOLPS-ITER equations: application to helium plasma. Nuclear Fusion, 2021, 61, 066036.	3.5	6
102	ERO2.0 modelling of nanoscale surface morphology evolution. Nuclear Fusion, 2021, 61, 066039.	3.5	6
103	Formation of dust in low-pressure magnetized hydrocarbon plasmas. New Journal of Physics, 2011, 13, 063006.	2.9	5
104	Deuterium plasma exposure of rhodium films: Role of morphology and crystal structure. Journal of Nuclear Materials, 2014, 446, 106-112.	2.7	5
105	Early stages of diamond growth on substrates with different carbon diffusivity. Diamond and Related Materials, 2017, 80, 69-75.	3.9	5
106	Role of energetic ions in the growth of fcc and Ï‰ crystalline phases in Ti films deposited by HiPIMS. Applied Surface Science, 2021, 556, 149678.	6.1	5
107	Non-equilibrium effects in a relativistic plasma sheath model. New Journal of Physics, 2020, 22, 053020.	2.9	5
108	Relativistic Electromagnetic Solitons Produced by Ultrastrong Laser Pulses in Plasmas. AIP Conference Proceedings, 2002, , .	0.4	4

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109	Electronic and magnetic properties of bulk Cr tips for scanning tunneling spectroscopy. Physical Review B, 2013, 87, .	3.2	4
110	Retention of nanocrystalline WNx layers exposed to high-fluence deuterium plasmas. Journal of Nuclear Materials, 2015, 466, 621-626.	2.7	4
111	Enhanced electron acceleration via ultra-intense laser interaction with structured targets. Proceedings of SPIE, 2015, , .	0.8	4
112	Production of Carbon Nanofoam by Pulsed Laser Deposition on Flexible Substrates. Carbon Materials, 2022, , 135-157.	1.2	4
113	High energy pulsed laser deposition of ohmic tungsten contacts on silicon at room temperature. Thin Solid Films, 2018, 666, 121-129.	1.8	2
114	Modeling and simulations of ultra-intense laser-driven bremsstrahlung with double-layer targets. Plasma Physics and Controlled Fusion, 0, , .	2.1	2
115	Target Normal Sheath Acceleration at ultrahigh intensities: a theoretical parametric investigation. , 2010, , .		1
116	Removing of Mixed Coatings by Plasma Discharges. Journal of Fusion Energy, 2013, 32, 642-646.	1.2	1
117	Laser plasma proton acceleration experiments using foam-covered and grating targets. Proceedings of SPIE, 2013, , .	0.8	1
118	Note: Fabrication and characterization of molybdenum tips for scanning tunneling microscopy and spectroscopy. Review of Scientific Instruments, 2015, 86, 016112.	1.3	1
119	Ultraintense Electromagnetic Radiation in Plasmas: Part II. Relativistic Electromagnetic Solitons and Laser-Driven Ion Acceleration. Springer Series in Chemical Physics, 2007, , 341-363.	0.2	1
120	Electromagnetic droplets created by stimulated Brillouin backscattering. European Physical Journal Special Topics, 2006, 133, 265-269.	0.2	1
121	Pulsed Laser Deposition and In Situ Scanning Tunneling Microscopy of Pd clusters supported on alumina. Materials Research Society Symposia Proceedings, 2011, 1351, 116701.	0.1	0
122	Fe nanoparticles on ZnSe: Reversible temperature dependence of the surface barrier potential. Physical Review B, 2012, 85, .	3.2	0
123	Role of Energetic Ions in the Growth of fcc and Ï‰ Crystalline Phases in Ti Films Deposited by HiPIMS. SSRN Electronic Journal, 0, , .	0.4	0
124	Pulsed Laser Deposition of Carbon Nanofoam. SSRN Electronic Journal, 0, , .	0.4	0