

Emmanuel d Humires

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

128
papers

3,280
citations

26
h-index

54
g-index

138
ext. papers

3,603
ext. citations

3
avg, IF

4.75
L-index

#	Paper	IF	Citations
128	Detailed characterization of a laboratory magnetized supercritical collisionless shock and of the associated proton energization. <i>Matter and Radiation at Extremes</i> , 2022 , 7, 014402	4.7	2
127	Laser-driven collisionless shock acceleration of protons from gas jets tailored by one or two nanosecond beams. <i>Physics of Plasmas</i> , 2021 , 28, 113102	2.1	2
126	Energetic μ particle sources produced through proton-boron reactions by high-energy high-intensity laser beams. <i>Physical Review E</i> , 2021 , 103, 053202	2.4	7
125	Over-critical sharp-gradient plasma slab produced by the collision of laser-induced blast-waves in a gas jet: Application to high-energy proton acceleration. <i>Physics of Plasmas</i> , 2021 , 28, 023103	2.1	2
124	Modeling of High-Energy Particles and Radiation Production for Multipetawatt Laser Facilities. <i>Laser and Particle Beams</i> , 2021 , 2021, 1-14	0.9	
123	Thomson parabola and time-of-flight detector cross-calibration methodology on the ALLS 100 TW laser-driven ion acceleration beamline. <i>Review of Scientific Instruments</i> , 2020 , 91, 103303	1.7	5
122	Power Scaling for Collimated μ Ray Beams Generated by Structured Laser-Irradiated Targets and Its Application to Two-Photon Pair Production. <i>Physical Review Applied</i> , 2020 , 13,	4.3	18
121	Production of relativistic electrons at subrelativistic laser intensities. <i>Physical Review E</i> , 2020 , 101, 031201	2.4	13
120	Modeling the interaction of an ultra-high intensity laser pulse with an ultra-thin nanostructured foil target. <i>Plasma Physics and Controlled Fusion</i> , 2020 , 62, 095014	2	
119	Synchrotron radiation from ultrahigh-intensity laser-plasma interactions and competition with Bremsstrahlung in thin foil targets. <i>Physical Review Research</i> , 2020 , 2,	3.9	2
118	Shocks and phase space vortices driven by a density jump between two clouds of electrons and protons. <i>Plasma Physics and Controlled Fusion</i> , 2020 , 62, 025022	2	4
117	Relativistic magnetic reconnection in laser laboratory for testing an emission mechanism of hard-state black hole system. <i>Physical Review E</i> , 2020 , 102, 033202	2.4	6
116	Generation of μ Particle Beams With a Multi-kJ, Peta-Watt Class Laser System. <i>Frontiers in Physics</i> , 2020 , 8,	3.9	11
115	Low-energy proton calibration and energy-dependence linearization of EBT-XD radiochromic films. <i>Review of Scientific Instruments</i> , 2019 , 90, 083301	1.7	7
114	Laboratory investigation of particle acceleration and magnetic field compression in collisionless colliding fast plasma flows. <i>Communications Physics</i> , 2019 , 2,	5.4	10
113	Modeling the interaction of an ultra-high intensity laser pulse with nano-layered flat-top cone targets for ion acceleration. <i>Plasma Physics and Controlled Fusion</i> , 2019 , 61, 085007	2	4
112	Comparison of longitudinal and transverse smoothing by spectral dispersion on stimulated Brillouin backscattering in inertial confinement fusion plasmas. <i>Physics of Plasmas</i> , 2019 , 26, 042707	2.1	9

111	Extreme brightness laser-based neutron pulses as a pathway for investigating nucleosynthesis in the laboratory. <i>Matter and Radiation at Extremes</i> , 2019 , 4, 054402	4.7	11
110	Collisionless Shocks Driven by Supersonic Plasma Flows with Self-Generated Magnetic Fields. <i>Physical Review Letters</i> , 2019 , 123, 055002	7.4	13
109	Failed self-reformation of a sub-critical fast magnetosonic shock in collisionless plasma. <i>Plasma Research Express</i> , 2019 , 1, 035001	1	2
108	Space and time resolved measurement of surface magnetic field in high intensity short pulse laser matter interactions. <i>Physics of Plasmas</i> , 2019 , 26, 072701	2.1	0
107	High-energy radiation and pair production by Coulomb processes in particle-in-cell simulations. <i>Physics of Plasmas</i> , 2019 , 26, 103109	2.1	8
106	Enhanced laser-driven proton acceleration using ultrasmall nanoparticles. <i>Physical Review Accelerators and Beams</i> , 2019 , 22,	1.8	6
105	Application of harmonics imaging to focal spot measurements of the BETAL laser. <i>Journal of Applied Physics</i> , 2019 , 126, 245902	2.5	4
104	Optical Smoothing with Reduced FM-to-AM Conversion in High-Power Lasers Using Spectral Distribution. <i>Physical Review Applied</i> , 2019 , 12,	4.3	5
103	Proton acceleration by collisionless shocks using a supersonic H ₂ gas-jet target and high-power infrared laser pulses. <i>Physics of Plasmas</i> , 2019 , 26, 123109	2.1	10
102	Stochastic electron heating in an interference field of several laser pulses of a picosecond duration. <i>Plasma Physics and Controlled Fusion</i> , 2019 , 61, 025015	2	5
101	Effect of differential cross section in Breit-Wheeler pair production. <i>Plasma Physics and Controlled Fusion</i> , 2018 , 60, 104001	2	3
100	Leveraging extreme laser-driven magnetic fields for gamma-ray generation and pair production. <i>Plasma Physics and Controlled Fusion</i> , 2018 , 60, 054006	2	29
99	Quasi-perpendicular fast magnetosonic shock with wave precursor in collisionless plasma. <i>Physics of Plasmas</i> , 2018 , 25, 074502	2.1	1
98	Expansion of a radially symmetric blast shell into a uniformly magnetized plasma. <i>Physics of Plasmas</i> , 2018 , 25, 052108	2.1	7
97	Tree code for collision detection of large numbers of particles applied to the Breit-Wheeler process. <i>Journal of Computational Physics</i> , 2018 , 355, 582-596	4.1	4
96	Impact of the electron to ion mass ratio on unstable systems in particle-in-cell simulations. <i>Physics of Plasmas</i> , 2018 , 25, 062125	2.1	3
95	Synchrotron emission from nanowire array targets irradiated by ultraintense laser pulses. <i>Plasma Physics and Controlled Fusion</i> , 2018 , 60, 074009	2	11
94	Stimulated Raman scattering in the relativistic regime in near-critical plasmas. <i>Physical Review E</i> , 2017 , 95, 013208	2.4	7

93	Magnetization of laser-produced plasma in a chiral hollow target. <i>New Journal of Physics</i> , 2017 , 19, 033023		8
92	Ponderomotive scaling in the radiative damping regime. <i>Physics of Plasmas</i> , 2017 , 24, 103302	2.1	3
91	Collimated protons accelerated from an overdense gas jet irradiated by a 1 μm wavelength high-intensity short-pulse laser. <i>Scientific Reports</i> , 2017 , 7, 13505	4.9	26
90	Emergence of MHD structures in a collisionless PIC simulation plasma. <i>Physics of Plasmas</i> , 2017 , 24, 094502	2.2	5
89	Modeling the ultra-high intensity laser pulse μm target interaction for ion acceleration at CETAL facility. <i>Laser and Particle Beams</i> , 2017 , 35, 458-466	0.9	6
88	Electron-positron pairs beaming in the Breit-Wheeler process. <i>Plasma Physics and Controlled Fusion</i> , 2017 , 59, 014024	2	8
87	Generation of high-energy electron-positron pairs in the collision of a laser-accelerated electron beam with a multipetawatt laser. <i>Physical Review Accelerators and Beams</i> , 2017 , 20,	1.8	40
86	Pair creation in collision of γ beams produced with high-intensity lasers. <i>Physical Review E</i> , 2016 , 93, 013201	2.4	43
85	Asymptotic-Preserving Scheme for the M1-Maxwell System in the Quasi-Neutral Regime. <i>Communications in Computational Physics</i> , 2016 , 19, 301-328	2.4	11
84	Classical transport theory for the collisional electronic. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2016 , 446, 182-194	3.3	2
83	Preparation of the high power laser system PETAL for experimental studies of inertial confinement fusion and high energy density states of matter. <i>Journal of Physics: Conference Series</i> , 2016 , 688, 012012 ^{0.3}		
82	Modeling of radiative and quantum electrodynamics effects in PIC simulations of ultra-relativistic laser-plasma interaction. <i>Journal of Physics: Conference Series</i> , 2016 , 688, 012058	0.3	23
81	A novel platform to study magnetized high-velocity collisionless shocks. <i>High Energy Density Physics</i> , 2015 , 17, 190-197	1.2	11
80	Physics of giant electromagnetic pulse generation in short-pulse laser experiments. <i>Physical Review E</i> , 2015 , 91, 043106	2.4	89
79	Gigagauss-scale quasistatic magnetic field generation in a snail-shaped target. <i>Physical Review E</i> , 2015 , 91, 043107	2.4	36
78	A compact broadband ion beam focusing device based on laser-driven megagauss thermoelectric magnetic fields. <i>Review of Scientific Instruments</i> , 2015 , 86, 043502	1.7	5
77	Longitudinal laser ion acceleration in low density targets: experimental optimization on the Titan laser facility and numerical investigation of the ultra-high intensity limit 2015 ,		2
76	TNSA-like plasmas collision in an ambient magnetic field as a route to astrophysical collisionless shock observation in a laboratory. <i>High Energy Density Physics</i> , 2015 , 17, 183-189	1.2	2

75	Dynamic model of target charging by short laser pulse interactions. <i>Physical Review E</i> , 2015 , 92, 043107	2.4	54
74	Ultrafast Synchrotron-Enhanced Thermalization of Laser-Driven Colliding Pair Plasmas. <i>Physical Review Letters</i> , 2015 , 115, 215003	7.4	39
73	Dynamics and structure of self-generated magnetics fields on solids following high contrast, high intensity laser irradiation. <i>Physics of Plasmas</i> , 2015 , 22, 123108	2.1	11
72	Laser-driven platform for generation and characterization of strong quasi-static magnetic fields. <i>New Journal of Physics</i> , 2015 , 17, 083051	2.9	108
71	Deterministic model for the transport of energetic particles: Application in the electron radiotherapy. <i>Physica Medica</i> , 2015 , 31, 912-921	2.7	12
70	Impact of FM-AM conversion on smoothing by spectral dispersion 2015 ,		2
69	The role of electron heating in electromagnetic collisionless shock formation. <i>High Energy Density Physics</i> , 2015 , 17, 175-182	1.2	4
68	Amplified short-wavelength light scattered by relativistic electrons in the laser-induced optical lattice. <i>Physical Review Special Topics: Accelerators and Beams</i> , 2015 , 18,		2
67	Target charging in short-pulse-laser-plasma experiments. <i>Physical Review E</i> , 2014 , 89, 013102	2.4	100
66	Investigation of longitudinal proton acceleration in exploded targets irradiated by intense short-pulse laser. <i>Physics of Plasmas</i> , 2014 , 21, 013102	2.1	17
65	Numerical study of positron production with short-pulse high-intensity lasers. <i>Laser and Particle Beams</i> , 2014 , 32, 171-176	0.9	6
64	Development of the PETawatt Aquitaine Laser system and new perspectives in physics. <i>Physica Scripta</i> , 2014 , T161, 014016	2.6	26
63	Collisionless plasma interpenetration in a strong magnetic field for laboratory astrophysics experiments. <i>Physics of Plasmas</i> , 2014 , 21, 022117	2.1	13
62	Bidimensional Particle-In-Cell simulations for laser-driven proton acceleration using ultra-short, ultra-high contrast laser. <i>Physics of Plasmas</i> , 2014 , 21, 123104	2.1	5
61	Ray generation enhancement by the charge separation field in laser-target interaction in the radiation dominated regime. <i>Physics of Plasmas</i> , 2014 , 21, 123120	2.1	13
60	Passive tailoring of laser-accelerated ion beam cut-off energy by using double foil assembly. <i>Physics of Plasmas</i> , 2014 , 21, 023119	2.1	6
59	Unraveling resistive versus collisional contributions to relativistic electron beam stopping power in cold-solid and in warm-dense plasmas. <i>Physics of Plasmas</i> , 2014 , 21, 033101	2.1	15
58	Investigation of laser ion acceleration in low-density targets using exploded foils. <i>Plasma Physics and Controlled Fusion</i> , 2013 , 55, 124025	2	19

57	Optimization of laser-target interaction for proton acceleration. <i>Physics of Plasmas</i> , 2013 , 20, 023103	2.1	43
56	Numerical simulations of energy transfer in counter-streaming plasmas. <i>High Energy Density Physics</i> , 2013 , 9, 231-238	1.2	17
55	The PETAL+ project: X-ray and charged particle diagnostics for plasma experiments at LMJ-PETAL. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2013 , 720, 141-143	1.2	11
54	Short intense laser pulse collapse in near-critical plasma. <i>Physical Review Letters</i> , 2013 , 110, 085001	7.4	40
53	Scattering of relativistic electron beam by two counter-propagating laser pulses: A new approach to Raman X-ray amplification. <i>EPJ Web of Conferences</i> , 2013 , 59, 18004	0.3	1
52	Modelling of radiation losses for ion acceleration at ultra-high laser intensities. <i>EPJ Web of Conferences</i> , 2013 , 59, 17019	0.3	
51	Reduction of the fast electron angular dispersion by means of varying-resistivity structured targets. <i>Physics of Plasmas</i> , 2013 , 20, 013109	2.1	13
50	Betatron emission from relativistic electrons in a high intensity optical lattice. <i>Physical Review Special Topics: Accelerators and Beams</i> , 2013 , 16,		9
49	Influence of ion mass on laser-energy absorption and synchrotron radiation at ultrahigh laser intensities. <i>Physical Review Letters</i> , 2013 , 110, 215003	7.4	49
48	Laser ion acceleration in the high laser energy and high laser intensity regimes. <i>EPJ Web of Conferences</i> , 2013 , 59, 17010	0.3	
47	X-ray emission from relativistic electrons in a transverse high intensity optical lattice. <i>Journal of Physics: Conference Series</i> , 2013 , 414, 012008	0.3	5
46	Numerical simulations of energy transfer in two collisionless interpenetrating plasmas. <i>EPJ Web of Conferences</i> , 2013 , 59, 15003	0.3	
45	Longitudinal proton probing of ultrafast and high-contrast laser-solid interactions. <i>EPJ Web of Conferences</i> , 2013 , 59, 17014	0.3	3
44	Focusing dynamics of high-energy density, laser-driven ion beams. <i>Physical Review Letters</i> , 2012 , 108, 055001	7.4	23
43	Measuring hot electron distributions in intense laser interaction with dense matter. <i>New Journal of Physics</i> , 2012 , 14, 063023	2.9	8
42	Modeling of radiation losses in ultrahigh power laser-matter interaction. <i>Physical Review E</i> , 2012 , 86, 036401	2.4	35
41	Self-proton/ion radiography of laser-produced proton/ion beam from thin foil targets. <i>Physics of Plasmas</i> , 2012 , 19, 123101	2.1	3
40	Effect of the laser pulse temporal shape on the hole boring efficiency. <i>Plasma Physics and Controlled Fusion</i> , 2012 , 54, 095008	2	10

39	Relativistic high-current electron-beam stopping-power characterization in solids and plasmas: collisional versus resistive effects. <i>Physical Review Letters</i> , 2012 , 109, 255002	7.4	32
38	Dynamic control over mega-ampere electron currents in metals using ionization-driven resistive magnetic fields. <i>Physical Review Letters</i> , 2011 , 107, 135005	7.4	51
37	New micro-cones targets can efficiently produce higher energy and lower divergence particle beams. <i>Laser and Particle Beams</i> , 2010 , 28, 513-519	0.9	10
36	Enhanced propagation for relativistic laser pulses in inhomogeneous plasmas using hollow channels. <i>Physical Review Letters</i> , 2010 , 105, 225001	7.4	14
35	Characterization of laser-produced fast electron sources for fast ignition. <i>Plasma Physics and Controlled Fusion</i> , 2010 , 52, 124024	2	12
34	Fast electron propagation in high-density plasmas created by 1D shock wave compression: Experiments and simulations. <i>Journal of Physics: Conference Series</i> , 2010 , 244, 022060	0.3	4
33	Hot electrons transverse refluxing in ultraintense laser-solid interactions. <i>Physical Review Letters</i> , 2010 , 105, 015005	7.4	90
32	Divergence of laser-driven relativistic electron beams. <i>Physical Review E</i> , 2010 , 82, 036405	2.4	82
31	Proton beam Weibel instability simulations of energy transfer in gamma-ray bursts. <i>Journal of Physics: Conference Series</i> , 2010 , 244, 042006	0.3	9
30	Investigation of high intensity laser proton acceleration with underdense targets. <i>Journal of Physics: Conference Series</i> , 2010 , 244, 042023	0.3	11
29	Integrated simulations of ignition scale fusion targets for the HiPER project. <i>Journal of Physics: Conference Series</i> , 2010 , 244, 022032	0.3	7
28	High Intensity Laser Proton Acceleration with Underdense Targets 2010 ,		3
27	Enhanced hot-electron localization and heating in high-contrast ultraintense laser irradiation of microcone targets. <i>Physical Review E</i> , 2009 , 79, 036408	2.4	21
26	Guiding, focusing, and collimated transport of hot electrons in a canal in the extended tip of cone targets. <i>Physical Review Letters</i> , 2009 , 102, 205003	7.4	20
25	Laser acceleration of high-energy protons in variable density plasmas. <i>New Journal of Physics</i> , 2009 , 11, 023038	2.9	26
24	Importance of magnetic resistive fields in the heating of a micro-cone target irradiated by a high intensity laser. <i>European Physical Journal: Special Topics</i> , 2009 , 175, 89-95	2.3	2
23	Laser-driven proton acceleration and applications: Recent results. <i>European Physical Journal: Special Topics</i> , 2009 , 175, 105-110	2.3	7
22	Spectral features of laser-accelerated protons for radiotherapy applications. <i>Physics in Medicine and Biology</i> , 2008 , 53, 4383-97	3.8	14

21	Hot and cold electron dynamics following high-intensity laser matter interaction. <i>Physical Review Letters</i> , 2008 , 101, 105004	7.4	44
20	Ultra-fast ionization modeling in laser-plasma interaction. <i>Journal of Physics: Conference Series</i> , 2008 , 112, 022108	0.3	
19	Laser-acceleration of high-energy protons in small-scale gradients. <i>Journal of Physics: Conference Series</i> , 2008 , 112, 022082	0.3	
18	Enhanced energy localization and heating in high contrast ultra-intense laser produced plasmas via novel conical micro-target design. <i>Journal of Physics: Conference Series</i> , 2008 , 112, 022050	0.3	2
17	Laser-foil acceleration of high-energy protons in small-scale plasma gradients. <i>Physical Review Letters</i> , 2007 , 99, 015002	7.4	76
16	Numerical modeling and applications of laser-accelerated ion beams. <i>Computer Physics Communications</i> , 2007 , 177, 60-63	4.2	
15	LASER-ACCELERATED PROTONS: PERSPECTIVES FOR CONTROL/OPTIMIZATION OF BEAM PROPERTIES. <i>International Journal of Modern Physics B</i> , 2007 , 21, 590-599	1.1	1
14	Laser triggered micro-lens for focusing and energy selection of MeV protons. <i>Laser and Particle Beams</i> , 2007 , 25, 71-77	0.9	24
13	Comparative spectra and efficiencies of ions laser-accelerated forward from the front and rear surfaces of thin solid foils. <i>Physics of Plasmas</i> , 2007 , 14, 053105	2.1	54
12	Energetic protons generated by ultrahigh contrast laser pulses interacting with ultrathin targets. <i>Physics of Plasmas</i> , 2007 , 14, 030701	2.1	87
11	Scaling Laws for Proton Acceleration from the Rear Surface of Laser-Irradiated Thin Foils. <i>AIP Conference Proceedings</i> , 2006 ,	0	1
10	Stochastic heating in ultra high intensity laser-plasma interaction: Theory and PIC code simulations. <i>Laser and Particle Beams</i> , 2006 , 24, 223-230	0.9	15
9	Production of energetic proton beams with lasers. <i>Review of Scientific Instruments</i> , 2006 , 77, 03B302	1.7	8
8	Ultrafast laser-driven microlens to focus and energy-select mega-electron volt protons. <i>Science</i> , 2006 , 312, 410-3	33.3	256
7	Laser-driven proton scaling laws and new paths towards energy increase. <i>Nature Physics</i> , 2006 , 2, 48-54	16.2	596
6	Ion acceleration using high-contrast ultra-intense lasers. <i>European Physical Journal Special Topics</i> , 2006 , 133, 1151-1153		17
5	Proton beam generation by ultra-high intensity laser-solid interaction. <i>Radiation Effects and Defects in Solids</i> , 2005 , 160, 631-637	0.9	
4	Practicability of protontherapy using compact laser systems. <i>Medical Physics</i> , 2004 , 31, 1587-92	4.4	222

- 3 Proton beams generated with high-intensity lasers: Applications to medical isotope production. *Applied Physics Letters*, **2003**, 83, 3039-3041 3.4 163
- 2 A case study of low-frequency waves at the magnetopause. *Annales Geophysicae*, **2001**, 19, 1463-1470 2 11
- 1 Laboratory evidence for proton energization by collisionless shock surfing. *Nature Physics*, 16.2 2