

Sophia Chen

List of Publications by Year in descending order

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46
papers

1,367
citations

394421

19
h-index

345221

36
g-index

47
all docs

47
docs citations

47
times ranked

1420
citing authors

#	ARTICLE	IF	CITATIONS
1	Detailed characterization of a laboratory magnetized supercritical collisionless shock and of the associated proton energization. <i>Matter and Radiation at Extremes</i> , 2022, 7, .	3.9	11
2	Enhanced X-ray emission arising from laser-plasma confinement by a strong transverse magnetic field. <i>Scientific Reports</i> , 2021, 11, 8180.	3.3	14
3	Inferring possible magnetic field strength of accreting inflows in EXor-type objects from scaled laboratory experiments. <i>Astronomy and Astrophysics</i> , 2021, 648, A81.	5.1	10
4	Laboratory evidence for proton energization by collisionless shock surfing. <i>Nature Physics</i> , 2021, 17, 1177-1182.	16.7	10
5	Laboratory disruption of scaled astrophysical outflows by a misaligned magnetic field. <i>Nature Communications</i> , 2021, 12, 762.	12.8	14
6	Laboratory evidence for an asymmetric accretion structure upon slanted matter impact in young stars. <i>Astronomy and Astrophysics</i> , 2020, 642, A38.	5.1	7
7	Analyzing x-ray emission of target impurities to determine the parameters of recombining laser plasma. <i>Journal of Physics: Conference Series</i> , 2020, 1556, 012006.	0.4	0
8	Extreme brightness laser-based neutron pulses as a pathway for investigating nucleosynthesis in the laboratory. <i>Matter and Radiation at Extremes</i> , 2019, 4, .	3.9	23
9	Highly-collimated, high-charge and broadband MeV electron beams produced by magnetizing solids irradiated by high-intensity lasers. <i>Matter and Radiation at Extremes</i> , 2019, 4, .	3.9	11
10	X-ray spectroscopy evidence for plasma shell formation in experiments modeling accretion columns in young stars. <i>Matter and Radiation at Extremes</i> , 2019, 4, .	3.9	10
11	Laboratory investigation of particle acceleration and magnetic field compression in collisionless colliding fast plasma flows. <i>Communications Physics</i> , 2019, 2, .	5.3	14
12	Laser-Produced Magnetic-Rayleigh-Taylor Unstable Plasma Slabs in a 20ÂT Magnetic Field. <i>Physical Review Letters</i> , 2019, 123, 205001.	7.8	31
13	First demonstration of multi-MeV proton acceleration from a cryogenic hydrogen ribbon target. <i>Plasma Physics and Controlled Fusion</i> , 2018, 60, 044010.	2.1	18
14	Laser-accelerated particle beams for stress testing of materials. <i>Nature Communications</i> , 2018, 9, 372.	12.8	54
15	Self-generated surface magnetic fields inhibit laser-driven sheath acceleration of high-energy protons. <i>Nature Communications</i> , 2018, 9, 280.	12.8	54
16	Experimental evidence for the enhanced and reduced stopping regimes for protons propagating through hot plasmas. <i>Scientific Reports</i> , 2018, 8, 14586.	3.3	13
17	Collimated protons accelerated from an overdense gas jet irradiated by a 1â€‰Åµm wavelength high-intensity short-pulse laser. <i>Scientific Reports</i> , 2017, 7, 13505.	3.3	37
18	Observation of extremely strong shock waves in solids launched by petawatt laser heating. <i>Physics of Plasmas</i> , 2017, 24, .	1.9	8

#	ARTICLE	IF	CITATIONS
19	Acceleration of collimated 45 MeV protons by collisionless shocks driven in low-density, large-scale gradient plasmas by a 1020 W/cm ² , 1 μm laser. <i>Scientific Reports</i> , 2017, 7, 16463.	3.3	23
20	Laboratory unraveling of matter accretion in young stars. <i>Science Advances</i> , 2017, 3, e1700982.	10.3	35
21	Enhancement of Quasistationary Shocks and Heating via Temporal Staging in a Magnetized Laser-Plasma Jet. <i>Physical Review Letters</i> , 2017, 119, 255002.	7.8	18
22	Density and temperature characterization of long-scale length, near-critical density controlled plasma produced from ultra-low density plastic foam. <i>Scientific Reports</i> , 2016, 6, 21495.	3.3	31
23	Diagnostics of laser-produced plasmas based on the analysis of intensity ratios of He-like ions X-ray emission. <i>Physics of Plasmas</i> , 2016, 23, .	1.9	9
24	Absolute dosimetric characterization of Gafchromic EBT3 and HDv2 films using commercial flat-bed scanners and evaluation of the scanner response function variability. <i>Review of Scientific Instruments</i> , 2016, 87, 073301.	1.3	34
25	Parameters of supersonic astrophysically-relevant plasma jets collimating via poloidal magnetic field measured by x-ray spectroscopy method. <i>Journal of Physics: Conference Series</i> , 2016, 774, 012114.	0.4	4
26	A compact broadband ion beam focusing device based on laser-driven megagauss thermoelectric magnetic fields. <i>Review of Scientific Instruments</i> , 2015, 86, 043502.	1.3	5
27	Monochromatic short pulse laser produced ion beam using a compact passive magnetic device. <i>Review of Scientific Instruments</i> , 2014, 85, 043504.	1.3	12
28	Topology of Megagauss Magnetic Fields and of Heat-Carrying Electrons Produced in a High-Power Laser-Solid Interaction. <i>Physical Review Letters</i> , 2014, 113, 235001.	7.8	36
29	Passive tailoring of laser-accelerated ion beam cut-off energy by using double foil assembly. <i>Physics of Plasmas</i> , 2014, 21, .	1.9	8
30	Investigation of longitudinal proton acceleration in exploded targets irradiated by intense short-pulse laser. <i>Physics of Plasmas</i> , 2014, 21, .	1.9	18
31	Laboratory formation of a scaled protostellar jet by coaligned poloidal magnetic field. <i>Science</i> , 2014, 346, 325-328.	12.6	173
32	Production of large volume, strongly magnetized laser-produced plasmas by use of pulsed external magnetic fields. <i>Review of Scientific Instruments</i> , 2013, 84, 043505.	1.3	57
33	Charge Equilibrium of a Laser-Generated Carbon-Ion Beam in Warm Dense Matter. <i>Physical Review Letters</i> , 2013, 110, 135003.	7.8	17
34	Focusing Dynamics of High-Energy Density, Laser-Driven Ion Beams. <i>Physical Review Letters</i> , 2012, 108, 055001.	7.8	24
35	Large-scale molecular dynamics simulations of dense plasmas: The Cimarron Project. <i>High Energy Density Physics</i> , 2012, 8, 105-131.	1.5	99
36	Proton radiography of magnetic fields in a laser-produced plasma. <i>High Energy Density Physics</i> , 2010, 6, 365-367.	1.5	6

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37	Time and space resolved interferometry for laser-generated fast electron measurements. Review of Scientific Instruments, 2010, 81, 113302.	1.3	14
38	Relativistic Quasimonoenergetic Positron Jets from Intense Laser-Solid Interactions. Physical Review Letters, 2010, 105, 015003.	7.8	161
39	An imaging proton spectrometer for short-pulse laser plasma experiments. Review of Scientific Instruments, 2010, 81, 10D314.	1.3	14
40	Effect of reentrant cone geometry on energy transport in intense laser-plasma interactions. Physical Review E, 2009, 80, 045401.	2.1	4
41	X-ray spectroscopy of buried layer foils irradiated at laser intensities in excess of 10^{20} W/cm ² . Physics of Plasmas, 2009, 16, .	1.9	15
42	Making relativistic positrons using ultraintense short pulse lasers. Physics of Plasmas, 2009, 16, 122702.	1.9	42
43	Space and time resolved measurements of the heating of solids to ten million kelvin by a petawatt laser. New Journal of Physics, 2008, 10, 043046.	2.9	70
44	Density measurement of shock compressed foam using two-dimensional x-ray radiography. Review of Scientific Instruments, 2008, 79, 106104.	1.3	11
45	Creation of hot dense matter in short-pulse laser-plasma interaction with tamped titanium foils. Physics of Plasmas, 2007, 14, 102701.	1.9	42
46	Surface heating of wire plasmas using laser-irradiated cone geometries. Nature Physics, 2007, 3, 853-856.	16.7	44