

# Scott C Hsu

## List of Publications by Year in descending order

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104  
papers

2,355  
citations

236925

25  
h-index

223800

46  
g-index

106  
all docs

106  
docs citations

106  
times ranked

1264  
citing authors

#	ARTICLE	IF	CITATIONS
1	Progress toward fusion energy breakeven and gain as measured against the Lawson criterion. Physics of Plasmas, 2022, 29, .	1.9	39
2	Formation of transient high- $\hat{I}^2$ plasmas in a magnetized, weakly collisional regime. Journal of Plasma Physics, 2021, 87, .	2.1	1
3	Potential Early Markets for Fusion Energy. Journal of Fusion Energy, 2021, 40, 1.	1.2	9
4	Development of a directly driven multi-shell platform: Laser drive energetics. Physics of Plasmas, 2020, 27, 022706.	1.9	7
5	Experimental characterization of a section of a spherically imploding plasma liner formed by merging hypersonic plasma jets. Physics of Plasmas, 2020, 27, .	1.9	8
6	Observation of shock-front separation in multi-ion-species collisional plasma shocks. Physics of Plasmas, 2020, 27, 042302.	1.9	5
7	Magnetized Plasma Target for Plasma-Jet-Driven Magneto-Inertial Fusion. Journal of Fusion Energy, 2019, 38, 182-198.	1.2	13
8	First experiments on Revolver shell collisions at the OMEGA laser. Physics of Plasmas, 2019, 26, .	1.9	12
9	Neutronics Calculations for a Hypothetical Plasma-Jet-Driven Magneto-Inertial-Fusion Reactor. Fusion Science and Technology, 2019, 75, 438-451.	1.1	3
10	Retrospective of the ARPA-E ALPHA Fusion Program. Journal of Fusion Energy, 2019, 38, 506-521.	1.2	14
11	Experimental study of ion heating in obliquely merging hypersonic plasma jets. Physics of Plasmas, 2019, 26, 082110.	1.9	4
12	Progress on observations of interspecies ion separation in inertial-confinement-fusion implosions via imaging x-ray spectroscopy. Physics of Plasmas, 2019, 26, 062702.	1.9	7
13	Plasma-Jet-Driven Magneto-Inertial Fusion. Fusion Science and Technology, 2019, 75, 581-598.	1.1	21
14	Simulation study of the influence of experimental variations on the structure and quality of plasma liners. Physics of Plasmas, 2019, 26, 032704.	1.9	6
15	Experiment to Form and Characterize a Section of a Spherically Imploding Plasma Liner. IEEE Transactions on Plasma Science, 2018, 46, 1951-1961.	1.3	24
16	Experimental investigation of coaxial-gun-formed plasmas injected into a background transverse magnetic field or plasma. Physics of Plasmas, 2018, 25, .	1.9	11
17	Physics Criteria for a Subscale Plasma Liner Experiment. Journal of Fusion Energy, 2018, 37, 103-110.	1.2	5
18	Experimental Measurements of Ion Heating in Collisional Plasma Shocks and Interpenetrating Supersonic Plasma Flows. Physical Review Letters, 2018, 121, 185001.	7.8	14

#	ARTICLE	IF	CITATIONS
19	Measurement of Ion Heating in Collisional and Semi-Collisional Plasma Shocks. , 2018, , .		0
20	Observation and modeling of interspecies ion separation in inertial confinement fusion implosions via imaging x-ray spectroscopy. Physics of Plasmas, 2017, 24, 056305.	1.9	15
21	Semi-analytic model of plasma-jet-driven magneto-inertial fusion. Physics of Plasmas, 2017, 24, 032704.	1.9	16
22	Emergent kink stability of a magnetized plasma jet injected into a transverse background magnetic field. Physics of Plasmas, 2017, 24, .	1.9	10
23	Kinetic studies of ICF implosions. Journal of Physics: Conference Series, 2016, 717, 012027.	0.4	1
24	Observation of interspecies ion separation in inertial-confinement-fusion implosions. Europhysics Letters, 2016, 115, 65001.	2.0	21
25	Coaxial guns for the ARPA-E PLX-1± project “ Design and initial experimental results. , 2016, , .		0
26	Magneto-Inertial Fusion. Journal of Fusion Energy, 2016, 35, 69-77.	1.2	51
27	Benchmarking simulations of plasma-liner-driven magneto-inertial fusion with advanced equation of state. , 2016, , .		0
28	Development of a polar direct drive platform for mix and burn experiments on the National Ignition Facility. Journal of Physics: Conference Series, 2016, 688, 012075.	0.4	3
29	Observation of Rayleigh-Taylor-instability evolution in a plasma with magnetic and viscous effects. Physical Review E, 2015, 92, 051101.	2.1	10
30	Laser irradiance scaling in polar direct drive implosions on the National Ignition Facility. Physics of Plasmas, 2015, 22, .	1.9	11
31	Experimental characterization of a transition from collisionless to collisional interaction between	1.9	24
32	Laboratory plasma physics experiments using merging supersonic plasma jets. Journal of Plasma Physics, 2015, 81, .	2.1	20
33	The HelCat basic plasma science device. Journal of Plasma Physics, 2015, 81, .	2.1	16
34	Experimental evidence for collisional shock formation via two obliquely merging supersonic plasma jets. Physics of Plasmas, 2014, 21, 055703.	1.9	39
35	Particle-in-cell simulations of laser beat-wave magnetization of dense plasmas. Physics of Plasmas, 2014, 21, 032704.	1.9	10
36	Multiple-view spectrally resolved x-ray imaging observations of polar-direct-drive implosions on OMEGA. Physics of Plasmas, 2014, 21, 122704.	1.9	5

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37	Designing symmetric polar direct drive implosions on the Omega laser facility. Physics of Plasmas, 2014, 21, .	1.9	12
38	Observation of early shell-dopant mix in OMEGA direct-drive implosions and comparisons with radiation-hydrodynamic simulations. Physics of Plasmas, 2014, 21, .	1.9	25
39	Experimental Characterization of the Stagnation Layer between Two Obliquely Merging Supersonic Plasma Jets. Physical Review Letters, 2013, 111, 085003.	7.8	43
40	Toward imploding spherical plasma liner formation via an array of merging supersonic plasma jets. , 2013, , .		0
41	Ideal hydrodynamic scaling relations for a stagnated imploding spherical plasma liner formed by an array of merging plasma jets. Physics of Plasmas, 2013, 20, 032706.	1.9	22
42	Development of a polar direct-drive platform for studying inertial confinement fusion implosion mix on the National Ignition Facility. Physics of Plasmas, 2013, 20, .	1.9	21
43	Numerical simulations of collisionless shock formation in merging plasma jet experiments. , 2013, , .		0
44	Numerical simulations of collisionless shock formation in merging plasma jet experiments. , 2013, , .		0
45	Particle-in-cell simulations of collisionless shock formation via head-on merging of two laboratory supersonic plasma jets. Physics of Plasmas, 2013, 20, 082128.	1.9	21
46	Defect-induced mix experiment for NIF. EPJ Web of Conferences, 2013, 59, 04005.	0.3	2
47	Analysis of mix experiments on Omega. EPJ Web of Conferences, 2013, 59, 04004.	0.3	3
48	Multi-chord fiber-coupled interferometer with a long coherence length laser. Review of Scientific Instruments, 2012, 83, 033506.	1.3	16
49	Multi-chord fiber-coupled interferometry of supersonic plasma jets (invited). Review of Scientific Instruments, 2012, 83, 10D523.	1.3	14
50	Simulations of Magnetic Field Generation in Unmagnetized Plasmas via Beat-Wave Current Drive. Physical Review Letters, 2012, 109, 225002.	7.8	7
51	One-dimensional radiation-hydrodynamic simulations of imploding spherical plasma liners with detailed equation-of-state modeling. Physics of Plasmas, 2012, 19, .	1.9	17
52	Asymmetric directly driven capsule implosions: Modeling and experimentsâ€”A requirement for the National Ignition Facility. Physics of Plasmas, 2012, 19, 122713.	1.9	14
53	Tendency of spherically imploding plasma liners formed by merging plasma jets to evolve toward spherical symmetry. Physics of Plasmas, 2012, 19, 052702.	1.9	24
54	Role of shocks and mix caused by capsule defects. Physics of Plasmas, 2012, 19, .	1.9	25

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55	Experimental characterization of railgun-driven supersonic plasma jets motivated by high energy density physics applications. <i>Physics of Plasmas</i> , 2012, 19, 123514.	1.9	48
56	Spherically Imploding Plasma Liners as a Standoff Driver for Magnetoinertial Fusion. <i>IEEE Transactions on Plasma Science</i> , 2012, 40, 1287-1298.	1.3	77
57	Scaling Laws for Merging and Implosion of Discrete Plasma Jets. , 2011, , .		0
58	Imploding plasma liners as a standoff driver for magneto-inertial fusion. , 2011, , .		1
59	Ideal magnetohydrodynamic simulations of unmagnetized dense plasma jet injection into a hot strongly magnetized plasma. <i>Nuclear Fusion</i> , 2011, 51, 073026.	3.5	7
60	One-dimensional radiation-hydrodynamic scaling studies of imploding spherical plasma liners. <i>Physics of Plasmas</i> , 2011, 18, .	1.9	28
61	Bounce-free spherical hydrodynamic implosion. <i>Physics of Plasmas</i> , 2011, 18, 120702.	1.9	5
62	Diagnostics for the Plasma Liner Experiment. <i>Review of Scientific Instruments</i> , 2010, 81, 10E115.	1.3	8
63	Design of a compact coaxial magnetized plasma gun for magnetic bubble expansion experiments. , 2009, , .		0
64	Design of a compact coaxial magnetized plasma gun for magnetic bubble expansion experiments. , 2009, , .		1
65	Estimates of confinement time and energy gain for plasma liner driven magnetoinertial fusion using an analytic self-similar converging shock model. <i>Physics of Plasmas</i> , 2009, 16, 112707.	1.9	31
66	DESIGN AND FEATURES OF A MAGNETIZED TARGET FUSION EXPERIMENT. , 2009, , .		0
67	FRC COMPRESSION HEATING EXPERIMENT (CHX) AT AFRL. , 2009, , .		0
68	Ideal magnetohydrodynamic simulations of low beta compact toroid injection into a hot strongly magnetized plasma. <i>Nuclear Fusion</i> , 2009, 49, 095008.	3.5	10
69	Technical Summary of the First U.S. Plasma Jet Workshop. <i>Journal of Fusion Energy</i> , 2009, 28, 246-257.	1.2	15
70	Estimates of dwell time for plasma liner driven magneto-inertial fusion using an analytic self-similar converging shock model. , 2009, , .		2
71	Experiments on field reversed configuration (FRC) formation and their compression using liners. , 2009, , .		0
72	Physics Basis and Progress for a Translating FRC for MTF. <i>Journal of Fusion Energy</i> , 2008, 27, 57-60.	1.2	6

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73	Ideal magnetohydrodynamic simulation of magnetic bubble expansion as a model for extragalactic radio lobes. <i>Physics of Plasmas</i> , 2008, 15, .	1.9	6
74	Magnetic design calculation and FRC formation modeling for the field reversed experiment liner. <i>Journal of Applied Physics</i> , 2008, 104, .	2.5	3
75	Power balance in a high-density field reversed configuration plasma. <i>Physics of Plasmas</i> , 2008, 15, 062502.	1.9	3
76	Long-Term Evolution of Magnetized Bubbles in Galaxy Clusters. <i>Astrophysical Journal</i> , 2008, 684, L57-L60.	4.5	7
77	FRC compression heating experiment (FRCHX) at AFRL. , 2007, , .		3
78	Proposed Experiment to Study Relaxation Formation of a Spherical Tokamak with a Plasma Center Column. <i>Journal of Fusion Energy</i> , 2007, 26, 85-90.	1.2	5
79	Magnetic Field and Inductance Calculations in Theta-Pinch and Z-Pinch Geometries. <i>Journal of Fusion Energy</i> , 2007, 26, 17-20.	1.2	1
80	Twenty-channel bolometer array for studying impurity radiation and transport in the TCS field-reversed configuration. <i>Review of Scientific Instruments</i> , 2006, 77, 10E511.	1.3	1
81	Simulating Astrophysical Jets in Laboratory Experiments. <i>Astrophysics and Space Science</i> , 2005, 298, 203-209.	1.4	32
82	A Penning-assisted subkilovolt coaxial plasma source. <i>Review of Scientific Instruments</i> , 2005, 76, 033501.	1.3	12
83	Coalescence of two magnetic flux ropes via collisional magnetic reconnection. <i>Physics of Plasmas</i> , 2005, 12, 055702.	1.9	37
84	On the jets, kinks, and spheromaks formed by a planar magnetized coaxial gun. <i>Physics of Plasmas</i> , 2005, 12, 032103.	1.9	59
85	Simulating Astrophysical Jets in Laboratory Experiments. , 2005, , 203-209.		4
86	Mini-conference and related sessions on laboratory plasma astrophysics. <i>Physics of Plasmas</i> , 2004, 11, 2976-2983.	1.9	3
87	Multielement magnetic probe using commercial chip inductors. <i>Review of Scientific Instruments</i> , 2004, 75, 2664-2667.	1.3	39
88	A High-Density Field Reversed Configuration Plasma for Magnetized Target Fusion. <i>IEEE Transactions on Plasma Science</i> , 2004, 32, 152-160.	1.3	32
89	A high density field reversed configuration (FRC) target for magnetized target fusion: First internal profile measurements of a high density FRC. <i>Physics of Plasmas</i> , 2004, 11, 2580-2585.	1.9	69
90	Simulating Solar and Astrophysical Plasmas in Laboratory Experiments and New Models Motivated by these Experiments. <i>AIP Conference Proceedings</i> , 2004, , .	0.4	0

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91	Experimental Identification of the Kink Instability as a Poloidal Flux Amplification Mechanism for Coaxial Gun Spheromak Formation. <i>Physical Review Letters</i> , 2003, 90, 215002.	7.8	126
92	FRX-L: A field-reversed configuration plasma injector for magnetized target fusion. <i>Review of Scientific Instruments</i> , 2003, 74, 4314-4323.	1.3	68
93	Response to "The invalidity of a Mach probe model" [Phys. Plasmas 9, 1832 (2002)]. <i>Physics of Plasmas</i> , 2002, 9, 1837-1837.	1.9	0
94	Study of magnetic helicity injection via plasma imaging using a high-speed digital camera. <i>IEEE Transactions on Plasma Science</i> , 2002, 30, 10-11.	1.3	8
95	A laboratory plasma experiment for studying magnetic dynamics of accretion discs and jets. <i>Monthly Notices of the Royal Astronomical Society</i> , 2002, 334, 257-261.	4.4	90
96	Experimental study of ion heating and acceleration during magnetic reconnection. <i>Physics of Plasmas</i> , 2001, 8, 1916-1928.	1.9	49
97	Study of local reconnection physics in a laboratory plasma. <i>Earth, Planets and Space</i> , 2001, 53, 539-545.	2.5	6
98	Experimental investigation of the neutral sheet profile during magnetic reconnection. <i>Physics of Plasmas</i> , 2000, 7, 1781-1787.	1.9	83
99	Local Measurement of Nonclassical Ion Heating during Magnetic Reconnection. <i>Physical Review Letters</i> , 2000, 84, 3859-3862.	7.8	48
100	Magnetic reconnection with Sweet-Parker characteristics in two-dimensional laboratory plasmas. <i>Physics of Plasmas</i> , 1999, 6, 1743-1750.	1.9	60
101	Experimental Test of the Sweet-Parker Model of Magnetic Reconnection. <i>Physical Review Letters</i> , 1998, 80, 3256-3259.	7.8	196
102	Identification of Y-Shaped and O-Shaped Diffusion Regions During Magnetic Reconnection in a Laboratory Plasma. <i>Physical Review Letters</i> , 1997, 78, 3117-3120.	7.8	78
103	Study of driven magnetic reconnection in a laboratory plasma. <i>Physics of Plasmas</i> , 1997, 4, 1936-1944.	1.9	248
104	Calculation and interpretation of analytic high-beta poloidal equilibria in finite aspect ratio tokamaks. <i>Physics of Plasmas</i> , 1996, 3, 266-274.	1.9	19