Andrew J Schmitt

List of Publications by Year
in descending order

87 papers	3,292 citations	147801 31 h-index	149698 56 g-index
87 all docs	87 docs citations	87 times ranked	1322 citing authors

#	Article	IF	Citations
1	Direct-drive inertial confinement fusion: A review. Physics of Plasmas, 2015, 22, .	1.9	521
2	Direct-drive laser fusion: Status and prospects. Physics of Plasmas, 1998, 5, 1901-1918.	1.9	319
3	Theory of induced spatial incoherence. Journal of Applied Physics, 1987, 62, 2680-2701.	2.5	177
4	The Nike KrF laser facility: Performance and initial target experiments. Physics of Plasmas, 1996, 3, 2098-2107.	1.9	157
5	The effects of optical smoothing techniques on filamentation in laser plasmas. Physics of Fluids, 1988, 31, 3079.	1.4	109
6	High-gain direct-drive target design for laser fusion. Physics of Plasmas, 2000, 7, 2298-2301.	1.9	108
7	Time-dependent filamentation and stimulated Brillouin forward scattering in inertial confinement fusion plasmas. Physics of Plasmas, 1998, 5, 503-517.	1.9	93
8	Demonstration of Fuel Hot-Spot Pressure in Excess of 50ÂGbar for Direct-Drive, Layered Deuterium-Tritium Implosions on OMEGA. Physical Review Letters, 2016, 117, 025001.	7.8	72
9	Reduction of Raman Scattering in a Plasma to Convective Levels Using Induced Spatial Incoherence. Physical Review Letters, 1989, 62, 768-771.	7.8	71
10	Shock ignition target design for inertial fusion energy. Physics of Plasmas, 2010, 17, 042701.	1.9	70
11	Direct Observation of Mass Oscillations Due to Ablative Richtmyer-Meshkov Instability in Plastic Targets. Physical Review Letters, 2001, 87, 265001.	7.8	68
12	Richtmyerâ€"Meshkov-like instabilities and early-time perturbation growth in laser targets and Z-pinch loads. Physics of Plasmas, 2000, 7, 1662-1671.	1.9	67
13	Basic hydrodynamics of Richtmyerâ€"Meshkov-type growth and oscillations in the inertial confinement fusion-relevant conditions. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2010, 368, 1739-1768.	3.4	63
14	Measurements of laser-imprinted perturbations and Rayleighâ€"Taylor growth with the Nike KrF laser. Physics of Plasmas, 1997, 4, 1969-1977.	1.9	61
15	Effects of thin high-Z layers on the hydrodynamics of laser-accelerated plastic targets. Physics of Plasmas, 2002, 9, 2234-2243.	1.9	61
16	Observation of Rayleighâ€"Taylor growth to short wavelengths on Nike. Physics of Plasmas, 1999, 6, 565-570.	1.9	58
17	Direct observation of mass oscillations due to ablative Richtmyerâ€"Meshkov instability and feedout in planar plastic targets. Physics of Plasmas, 2002, 9, 2264-2276.	1.9	53
18		1.9	52

#	ARTICLE	IF	CITATIONS
19	Computational modeling of direct-drive fusion pellets and KrF-driven foil experiments. Physics of Plasmas, 1998, 5, 1935-1944.	1.9	51
20	The Science and Technologies for Fusion Energy With Lasers and Direct-Drive Targets. IEEE Transactions on Plasma Science, 2010, 38, 690-703.	1.3	51
21	Absolutely uniform illumination of laser fusion pellets. Applied Physics Letters, 1984, 44, 399-401.	3.3	47
22	Laser imprint reduction with a short shaping laser pulse incident upon a foam-plastic target. Physics of Plasmas, 2002, 9, 5050-5058.	1.9	43
23	Threeâ€dimensional filamentation of light in laser plasmas. Physics of Fluids B, 1991, 3, 186-194.	1.7	38
24	A Laser Based Fusion Test Facility. Fusion Science and Technology, 2009, 56, 594-603.	1.1	38
25	Feedout and Richtmyerâ€"Meshkov instability at large density difference. Physics of Plasmas, 2001, 8, 592-605.	1.9	36
26	Acceleration to high velocities and heating by impact using Nike KrF laser. Physics of Plasmas, 2010, 17, 056317.	1.9	36
27	Direct Drive Fusion Energy Shock Ignition Designs for Sub-MJ Lasers. Fusion Science and Technology, 2009, 56, 377-383.	1.1	35
28	Pathway to a lower cost high repetition rate ignition facility. Physics of Plasmas, 2006, 13, 056320.	1.9	34
29	Effects of radiation on direct-drive laser fusion targets. Physics of Plasmas, 2000, 7, 2046-2054.	1.9	33
30	Direct Observation of Feedout-Related Mass Oscillations in Plastic Targets. Physical Review Letters, 2001, 87, 265002.	7.8	33
31	Large-scale high-resolution simulations of high gain direct-drive inertial confinement fusion targets. Physics of Plasmas, 2004, 11, 2716-2722.	1.9	31
32	Shock front distortion and Richtmyer-Meshkov-type growth caused by a small preshock nonuniformity. Physics of Plasmas, 2007, 14, .	1.9	29
33	Measurements of plasma opacity from laser-produced optically thin strongly coupled plasmas. Physical Review Letters, 1991, 66, 612-615.	7.8	28
34	Growth of pellet imperfections and laser imprint in direct drive inertial confinement fusion targets. Physics of Plasmas, 2001, 8, 2287-2295.	1.9	27
35	Three-dimensional hydrodynamic simulations of OMEGA implosions. Physics of Plasmas, 2017, 24, .	1.9	26
36	Illumination uniformity of laserâ€fusion pellets using induced spatial incoherence. Journal of Applied Physics, 1986, 60, 6-13.	2.5	24

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37	First Measurement of Short Length-Scale Density Fluctuations in a Large Laser Plasma. Physical Review Letters, 1999, 83, 1783-1786.	7.8	24
38	Laser imprint reduction with a shaping pulse, oscillatory Richtmyerâ€“Meshkov to Rayleighâ€“Taylor transition and other coherent effects in plastic-foam targets. Physics of Plasmas, 2003, 10, 1897-1905.	1.9	23
39	Enhanced Direct-Drive Implosions with Thin High-<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Z</mml:mi></mml:math>Ablation Layers. Physical Review Letters, 2008, 100, 075002.	7.8	23
40	Laser requirements for a laser fusion energy powerÂplant. High Power Laser Science and Engineering, 2013, 1, 2-10.	4.6	22
41	Optimization of irradiation configuration in laser fusion utilizing self-organizing electrodynamic system. Physics of Plasmas, 2010, 17, .	1.9	20
42	Numerical simulations of the ablative Rayleigh-Taylor instability in planar inertial-confinement-fusion targets using the FastRad3D code. Physics of Plasmas, 2016, 23, .	1.9	20
43	Direct drive with the argon fluoride laser as a path to high fusion gain with sub-megajoule laser energy. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20200031.	3.4	20
44	Pulse shaping and energy storage capabilities of angularly multiplexed KrF laser fusion drivers. Journal of Applied Physics, 2009, 106, .	2.5	18
45	Observation of Strong Oscillations of Areal Mass in an Unsupported Shock Wave. Physical Review Letters, 2012, 109, 085001.	7.8	18
46	Perturbation evolution started by Richtmyer-Meshkov instability in planar laser targets. Physics of Plasmas, 2006, 13, 080703.	1.9	17
47	Modeling fluid instabilities in inertial confinement fusion hydrodynamics codes. Physics of Plasmas, 2005, 12, 056311.	1.9	16
48	Strong shock wave and areal mass oscillations associated with impulsive loading of planar laser targets. Physics of Plasmas, 2003, 10, 3270-3282.	1.9	13
49	Experimental investigation of short scalelength density fluctuations in laser-produced plasmas. Physics of Plasmas, 2000, 7, 2114-2125.	1.9	12
50	Stability of a Shock-Decelerated Ablation Front. Physical Review Letters, 2009, 103, 085002.	7.8	12
51	Simulations of high-gain shock-ignited inertial-confinement-fusion implosions using less than 1MJ of direct KrF-laser energy. High Energy Density Physics, 2010, 6, 128-134.	1.5	12
52	Calculations of nonlocal electron energy transport in laser produced plasmas in one and two dimensions using the velocity dependent Krook model. Physics of Plasmas, 2012, 19, 056317.	1.9	12
53	The National Direct-Drive Program: OMEGA to the National Ignition Facility. Fusion Science and Technology, 2018, 73, 89-97.	1.1	12
54	Absolute Hugoniot measurements for CH foams in the 2â€“9 Mbar range. Physics of Plasmas, 2018, 25, 032705.	1.9	11

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55	The effects of plasma flow on thermal and ponderomotive light filamentation. Physics of Fluids B, 1989, 1, 1287-1294.	1.7	10
56	Study of radiative plasma structures in laser driven ablating plasmas. Physics of Plasmas, 1999, 6, 4015-4021.	1.9	10
57	Multimode evolution of the ablative Richtmyer-Meshkov and Landau-Darrieus instability in laser imprint of planar targets. Physics of Plasmas, 2006, 13, 122703.	1.9	10
58	Laser plasma instability experiments with KrF lasers. Physics of Plasmas, 2007, 14, 056316.	1.9	10
59	Classical and ablative Richtmyerâ€“Meshkov instability and other ICF-relevant plasma flows diagnosed with monochromatic x-ray imaging. Physica Scripta, 2008, T132, 014021.	2.5	10
60	Rarefaction Flows and Mitigation of Imprint in Direct-Drive Implosions. Physical Review Letters, 2019, 123, 065001.	7.8	10
61	Direct-drive laser target designs for sub-megajoule energies. Physics of Plasmas, 2007, 14, 056317.	1.9	9
62	Observed transition from Richtmyer-Meshkov jet formation through feedout oscillations to Rayleigh-Taylor instability in a laser target. Physics of Plasmas, 2012, 19, .	1.9	9
63	Observation of parametric instabilities in the quarter critical density region driven by the Nike KrF laser. Physics of Plasmas, 2013, 20, 022701.	1.9	9
64	Multimode Hydrodynamic Instability Growth of Preimposed Isolated Defects in Ablatively Driven Foils. Physical Review Letters, 2020, 125, 055001.	7.8	9
65	Order-of-magnitude laser imprint reduction using pre-expanded high-Z coatings on targets driven by a third harmonic Nd:glass laser. Physics of Plasmas, 2021, 28, .	1.9	9
66	Measurements of near forward scattered laser light in a large inertial confinement fusion plasma (invited). Review of Scientific Instruments, 1999, 70, 677-681.	1.3	8
67	StarDriver: an estimate of the bandwidth required to suppress the 2<i>Ï‰</i>_{pe}instability. Plasma Physics and Controlled Fusion, 2016, 58, 115006.	2.1	8
68	Measurements of laser-imprint-induced shock velocity nonuniformities in plastic targets with the Nike KrF laser. Physics of Plasmas, 2021, 28, .	1.9	7
69	Thermal filamentation in plasmas with nonlocal thermal conductivity. Physics of Fluids B, 1993, 5, 932-943.	1.7	6
70	Isolated defect evolution in laser accelerated targets. Physics of Plasmas, 2020, 27, 072706.	1.9	6
71	Multi-mode hydrodynamic evolution of perturbations seeded by isolated surface defects. Physics of Plasmas, 2020, 27, .	1.9	6
72	Radiative and atomic properties of C and CH plasmas in the warm-dense-matter regime. Physical Review E, 2018, 98, .	2.1	5

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73	Illumination uniformity of spherical targets using kilojouleâ€scale lasers with optical smoothing. Journal of Applied Physics, 1990, 67, 2303-2309.	2.5	3
74	Absolutely calibrated vacuum ultraviolet spectra in the 150â€"250-nm range from plasmas generated by the NIKE KrF laser. Physics of Plasmas, 2005, 12, 062701.	1.9	3
75	<title>New direct-drive radiation preheated high-gain target designs for laser fusion</title>. , 2001, , .		2
76	Size distribution and energy spectrum in the mixed state induced by Rayleigh-Taylor instability. Physical Review E, 2006, 73, 047303.	2.1	2
77	Kinetic theoretical approach to turbulence in variable-density incompressible, statistically inhomogeneous fluids. Physical Review E, 2010, 81, 026314.	2.1	2
78	Comment on â€œMeasurements of Rayleigh-Taylor Growth Rate of Planar Targets Irradiated Directly by Partially Coherent Lightâ€. Physical Review Letters, 1998, 80, 3414-3414.	7.8	1
79	<title>Nike direct-drive ICF program</title>. , 2001, , .		1
80	Observations of strong areal mass oscillations in a rippled target hit by a short pulse on the nike laser. , 2011, , .		1
81	Plasma hydrodynamic experiments on NRL Nike KrF laser. High Energy Density Physics, 2020, 37, 100866.	1.5	1
82	Critical Science Issues for Direct Drive Inertial Fusion Energy. Journal of Fusion Energy, 1998, 17, 227-229.	1.2	0
83	High Gain Direct Drive Target Designs and Supporting Experiments with KrF. Plasma and Fusion Research, 2013, 8, 3404042-3404042.	0.7	0
84	Hot spot formation and stagnation properties in simulations of direct-drive NIF implosions. Journal of Physics: Conference Series, 2016, 717, 012047.	0.4	0
85	Absolute Hugoniot Measurements for CH Foams in the 2-9 MBAR Range. , 2018, , .		0
86	Numerical Modeling of Radiation for the NRL ArF* Laser. , 2021, , .		0
87	Rayleigh-Taylor Growth of Isolated Bubbles and Spikes in Laser-Driven Foils. , 2020, , .		0