Brian Albright

List of Publications by Year
in descending order

101 papers	5,237 citations	87723 38 h-index	85405 71 g-index
106 all docs	106 docs citations	106 times ranked	2801 citing authors

#	Article	IF	Citations
1	Laser acceleration of quasi-monoenergetic MeV ion beams. Nature, 2006, 439, 441-444.	13.7	659
2	Role of electron physics in the development of turbulent magnetic reconnection in collisionless plasmas. Nature Physics, 2011, 7, 539-542.	6.5	474
3	Ultrahigh performance three-dimensional electromagnetic relativistic kinetic plasma simulation. Physics of Plasmas, 2008, 15, .	0.7	379
4	Monoenergetic and GeV ion acceleration from the laser breakout afterburner using ultrathin targets. Physics of Plasmas, 2007, 14, 056706.	0.7	299
5	GeV laser ion acceleration from ultrathin targets: The laser break-out afterburner. Laser and Particle Beams, 2006, 24, 291-298.	0.4	283
6	Transition from collisional to kinetic regimes in large-scale reconnection layers. Physical Review Letters, 2009, 103, 065004.	2.9	210
7	Enhanced Laser-Driven Ion Acceleration in the Relativistic Transparency Regime. Physical Review Letters, 2009, 103, 045002.	2.9	208
8	Three-Dimensional Dynamics of Breakout Afterburner Ion Acceleration Using High-Contrast Short-Pulse Laser and Nanoscale Targets. Physical Review Letters, 2011, 107, 045003.	2.9	155
9	Advances in petascale kinetic plasma simulation with VPIC and Roadrunner. Journal of Physics: Conference Series, 2009, 180, 012055.	0.3	144
10	Relativistic Buneman instability in the laser breakout afterburner. Physics of Plasmas, 2007, 14, .	0.7	88
11	Knudsen Layer Reduction of Fusion Reactivity. Physical Review Letters, 2012, 109, 095001.	2.9	77
12	Saturation of Backward Stimulated Scattering of a Laser Beam in the Kinetic Regime. Physical Review Letters, 2007, 99, 265004.	2.9	75
13	Laser-driven ion acceleration from relativistically transparent nanotargets. New Journal of Physics, 2013, 15, 085015.	1.2	75
14	Influence of Coulomb collisions on the structure of reconnection layers. Physics of Plasmas, 2009, 16, .	0.7	68
15	Monoenergetic Ion Beam Generation by Driving Ion Solitary Waves with Circularly Polarized Laser Light. Physical Review Letters, 2011, 107, 115002.	2.9	67
16	Theory of Laser Acceleration of Light-Ion Beams from Interaction of Ultrahigh-Intensity Lasers with Layered Targets. Physical Review Letters, 2006, 97, 115002.	2.9	66
17	Efficient carbon ion beam generation from laser-driven volume acceleration. New Journal of Physics, 2013, 15, 023007.	1.2	66
18	Laser-driven 1â€‰GeV carbon ions from preheated diamond targets in the break-out afterburner regime. Physics of Plasmas, 2013, 20, 083103.	0.7	65

#	Article	IF	Citations
19	Design considerations for indirectly driven double shell capsules. Physics of Plasmas, 2018, 25, .	0.7	65
20	Saturation of backward stimulated scattering of laser in kinetic regime: Wavefront bowing, trapped particle modulational instability, and trapped particle self-focusing of plasma waves. Physics of Plasmas, 2008, 15, .	0.7	64
21	Different kÎ»D regimes for nonlinear effects on Langmuir waves. Physics of Plasmas, 2006, 13, 055906.	0.7	61
22	Development of a high resolution and high dispersion Thomson parabola. Review of Scientific Instruments, 2011, 82, 013306.	0.6	57
23	Particle energization in 3D magnetic reconnection of relativistic pair plasmas. Physics of Plasmas, 2011, 18, .	0.7	56
24	Control of Stimulated Raman Scattering in the Strongly Nonlinear and Kinetic Regime Using Spike Trains of Uneven Duration and Delay. Physical Review Letters, 2014, 113, 045002.	2.9	53
25	Break-out afterburner ion acceleration in the longer laser pulse length regime. Physics of Plasmas, 2011, 18, .	0.7	51
26	Three-Dimensional Dynamics of Collisionless Magnetic Reconnection in Large-Scale Pair Plasmas. Physical Review Letters, 2008, 101, 125001.	2.9	50
27	Onset and saturation of backward stimulated Raman scattering of laser in trapping regime in three spatial dimensions. Physics of Plasmas, 2009, 16, 113101.	0.7	50
28	Trapping induced nonlinear behavior of backward stimulated Raman scattering in multi-speckled laser beams. Physics of Plasmas, 2012, 19, .	0.7	50
29	Small-angle Coulomb collision model for particle-in-cell simulations. Journal of Computational Physics, 2009, 228, 1391-1403.	1.9	47
30	Revised Knudsen-layer reduction of fusion reactivity. Physics of Plasmas, 2013, 20, .	0.7	45
31	Use of external magnetic fields in hohlraum plasmas to improve laser-coupling. Physics of Plasmas, 2015, 22, .	0.7	45
32	Beam profiles of proton and carbon ions in the relativistic transparency regime. New Journal of Physics, 2013, 15, 123035.	1.2	43
33	Nonlinear backward stimulated Raman scattering from electron beam acoustic modes in the kinetic regime. Physics of Plasmas, 2006, 13, 072701.	0.7	42
34	Self-organized coherent bursts of stimulated Raman scattering and speckle interaction in multi-speckled laser beams. Physics of Plasmas, 2013, 20, 012702.	0.7	42
35	Observation of persistent species temperature separation in inertial confinement fusion mixtures. Nature Communications, 2020, 11, 544.	5.8	41
36	Nonlinear development of stimulated Raman scattering from electrostatic modes excited by self-consistent non-Maxwellian velocity distributions. Physical Review E, 2006, 73, 025401.	0.8	40

#	Article	IF	Citations
37	0.374 Pflop/s trillion-particle kinetic modeling of laser plasma interaction on roadrunner. , 2008, , .		39
38	Particle in cell simulations of fast magnetosonic wave turbulence in the ion cyclotron frequency range. Physics of Plasmas, 2009, 16, 122310.	0.7	39
39	Visualization of expanding warm dense gold and diamond heated rapidly by laser-generated ion beams. Scientific Reports, 2015, 5, 14318.	1.6	38
40	Approximate models for the ion-kinetic regime in inertial-confinement-fusion capsule implosions. Physics of Plasmas, 2015, 22, 052707.	0.7	38
41	Low Fuel Convergence Path to Direct-Drive Fusion Ignition. Physical Review Letters, 2016, 116, 255003.	2.9	36
42	A novel high resolution ion wide angle spectrometer. Review of Scientific Instruments, 2011, 82, 043301.	0.6	34
43	Plasma kinetic effects on interfacial mix. Physics of Plasmas, 2016, 23, .	0.7	32
44	Effects of dimensionality on kinetic simulations of laser-ion acceleration in the transparency regime. Physics of Plasmas, 2017, 24, .	0.7	32
45	VPIC 2.0: Next Generation Particle-in-Cell Simulations. IEEE Transactions on Parallel and Distributed Systems, 2022, 33, 952-963.	4.0	32
46	Self-Organized Bursts of Coherent Stimulated Raman Scattering and Hot Electron Transport in Speckled Laser Plasma Media. Physical Review Letters, 2012, 108, 245004.	2.9	30
47	Uniform heating of materials into the warm dense matter regime with laser-driven quasimonoenergetic ion beams. Physical Review E, 2015, 92, 063101.	0.8	29
48	Driven magnetic reconnection near the Dreicer limit. Physics of Plasmas, 2010, 17, .	0.7	25
49	Mono-energetic ion beam acceleration in solitary waves during relativistic transparency using high-contrast circularly polarized short-pulse laser and nanoscale targets. Physics of Plasmas, 2011, 18, 053103.	0.7	24
50	Observation of amplification of light by Langmuir waves and its saturation on the electron kinetic timescale. Journal of Plasma Physics, 2011, 77, 521-528.	0.7	24
51	Saturation of cross-beam energy transfer for multispeckled laser beams involving both ion and electron dynamics. Physics of Plasmas, 2019, 26, 082708.	0.7	24
52	The density and clustering of magnetic nulls in stochastic magnetic fields. Physics of Plasmas, 1999, 6, 4222-4228.	0.7	23
53	Multi-dimensional dynamics of stimulated Brillouin scattering in a laser speckle: Ion acoustic wave bowing, breakup, and laser-seeded two-ion-wave decay. Physics of Plasmas, 2016, 23, .	0.7	23
54	Progress on ion based fast ignition. Journal of Physics: Conference Series, 2008, 112, 022051.	0.3	21

#	Article	IF	Citations
55	Stimulated scattering in laser driven fusion and high energy density physics experiments. Physics of Plasmas, 2014, 21, .	0.7	21
56	Cross-Beam Energy Transfer Saturation by Ion Heating. Physical Review Letters, 2021, 126, 075002.	2.9	19
57	Plasma kinetic effects on interfacial mix and burn rates in multispatial dimensions. Physics of Plasmas, 2019, 26, .	0.7	18
58	A mechanism for reduced compression in indirectly driven layered capsule implosions. Physics of Plasmas, 2022, 29, .	0.7	18
59	Secondary Island Formation in Collisional and Collisionless Kinetic Simulations of Magnetic Reconnection. AIP Conference Proceedings, 2011, , .	0.3	17
60	A double-foil target for improving beam quality in laser ion acceleration with thin foils. Physics of Plasmas, 2011, 18, .	0.7	17
61	The rate of development of atomic mixing and temperature equilibration in inertial confinement fusion implosions. Physics of Plasmas, 2020, 27, .	0.7	17
62	Diffusion-driven fluid dynamics in ideal gases and plasmas. Physics of Plasmas, 2018, 25, 062102.	0.7	12
63	Particle-in-cell studies of laser-driven hot spots and a statistical model for mesoscopic properties of Raman backscatter. European Physical Journal Special Topics, 2006, 133, 253-257.	0.2	11
64	Studies in capsule design for mid-Z ion-driven fast ignition. Journal of Physics: Conference Series, 2008, 112, 022029.	0.3	11
65	Development of the Marble experimental platform at the National Ignition Facility. Physics of Plasmas, 2020, 27, .	0.7	11
66	Investigation of laser plasma instabilities using picosecond laser pulses. Journal of Physics: Conference Series, 2008, 112, 022042.	0.3	10
67	Characterization of deuterium clusters mixed with helium gas for an application in beam-target-fusion experiments. Physical Review E, 2014, 90, 063109.	0.8	10
68	Study of the ion kinetic effects in ICF run-away burn using a quasi-1D hybrid model. Physics of Plasmas, 2017, 24, .	0.7	10
69	Experiments and simulations of isochorically heated warm dense carbon foam at the Texas Petawatt Laser. Matter and Radiation at Extremes, 2021, 6, .	1.5	10
70	Cross-beam energy transfer in direct-drive ICF. II. Theory and simulation of mitigation through increased laser bandwidth. Physics of Plasmas, 2022, 29, .	0.7	10
71	Parallel heat diffusion and subdiffusion in random magnetic fields. Physics of Plasmas, 2001, 8, 777-787.	0.7	9
72	Improving beam spectral and spatial quality by double-foil target in laser ion acceleration. Physical Review Special Topics: Accelerators and Beams, 2011, 14, .	1.8	9

#	Article	IF	Citations
73	Linear dependence of surface expansion speed on initial plasma temperature in warm dense matter. Scientific Reports, 2016, 6, 29441.	1.6	8
74	Influence of binary Coulomb collisions on nonlinear stimulated Raman backscatter in the kinetic regime. Physics of Plasmas, 2011, 18, 032707.	0.7	7
75	Cross-beam energy transfer saturation by ion trapping-induced detuning. Physics of Plasmas, 2021, 28, 082705.	0.7	7
76	Plasma transport simulations of Rayleighâ€“Taylor instability in near-ICF deceleration regimes. Physics of Plasmas, 2021, 28, .	0.7	7
77	Experimental quantification of the impact of heterogeneous mix on thermonuclear burn. Physics of Plasmas, 2022, 29, .	0.7	7
78	Cross-beam energy transfer in direct-drive ICF. I. Nonlinear and kinetic effects. Physics of Plasmas, 2022, 29, .	0.7	7
79	Harnessing the relativistic Buneman instability for laser-ion acceleration in the transparency regime. Physics of Plasmas, 2018, 25, .	0.7	6
80	Theory and modeling of ion acceleration from the interaction of ultra-intense lasers with solid density targets. European Physical Journal Special Topics, 2006, 133, 467-471.	0.2	5
81	Experimental validation of shock propagation through a foam with engineered macro-pores. Physics of Plasmas, 2021, 28, 012702.	0.7	5
82	Ultraintense laser interaction with nanoscale targets: a simple model for layer expansion and ion acceleration. Journal of Physics: Conference Series, 2010, 244, 042022.	0.3	4
83	On the analysis of inhomogeneous magnetic field spectrometer for laser-driven ion acceleration. Review of Scientific Instruments, 2015, 86, 033303.	0.6	4
84	A model for radiative heating of a high-Z pusher. Physics of Plasmas, 2020, 27, .	0.7	4
85	Forward and backward stimulated Raman scattering in multi-speckled beams: Density dependence and effects on cross-beam energy transfer. Physics of Plasmas, 2021, 28, .	0.7	4
86	Cross-beam energy transfer saturation: ion heating and pump depletion. Plasma Physics and Controlled Fusion, 2022, 64, 034003.	0.9	4
87	Effects of ion composition on backward stimulated Raman and Brillouin scattering in a laser-driven hot spot. European Physical Journal Special Topics, 2006, 133, 335-337.	0.2	3
88	Single and double shell ignition targets for the national ignition facility at 527â€‰nm. Physics of Plasmas, 2021, 28, .	0.7	3
89	Kinetic simulations of stimulated Raman and Brillouin scattering of trident short-pulse laser in a single-hot-spot. Journal of Physics: Conference Series, 2008, 112, 022033.	0.3	2
90	Creating QED photon jets with present-day lasers. Physical Review Research, 2021, 3, .	1.3	2

#	Article	IF	Citations
91	Evidence for trapping-induced nonlinear frequency shifts in Langmuir waves driven via stimulated Raman scattering. Physics of Plasmas, 2021, 28, 092103.	0.7	2
92	New Insights Into Collisionless Magnetic Reconnection Enabled by Ultra-High Performance Three-Dimensional Kinetic Simulations. IEEE Transactions on Plasma Science, 2008, 36, 1110-1111.	0.6	1
93	Kinetic studies of ICF implosions. Journal of Physics: Conference Series, 2016, 717, 012027.	0.3	1
94	Laser-ion acceleration using mixed compositions: Tailoring the target for each species. Physics of Plasmas, 2019, 26, .	0.7	1
95	Electron transport dependence on target surface conditionsÂand laser spot shape. European Physical Journal Special Topics, 2006, 133, 503-505.	0.2	0
96	Recent progress on ion-driven fast ignition. , 2009, , .		0
97	Particle-in-cell simulations of tearing modes in reversed-field-pinch-like plasma. Physics of Plasmas, 2009, 16, 022504.	0.7	0
98	INERTIAL CONFINEMENT FUSION RESEARCH AT LOS ALAMOS NATIONAL LABORATORY. , 2009, , .		0
99	A Simple Model of Hohlraum Power Balance and Mitigation of SRS. Journal of Physics: Conference Series, 2016, 688, 012002.	0.3	0
100	Challenges and Progress of Laser-driven Ion Acceleration beyond 100 MeV/amu. , 2013, , .		0
101	Fast Ignition With Laser-Driven Ion Beams: Progress On Ignitor Beam Development Based On A New Relativistic Laser-Plasma Regime. , 2013, , .		0