Troy A Carter

List of Publications by Year
in descending order

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105 papers	2,855 citations	147801 31 h-index	189892 50 g-index
110 all docs	110 docs citations	110 times ranked	1821 citing authors

#	Article	IF	Citations
1	Study of driven magnetic reconnection in a laboratory plasma. Physics of Plasmas, 1997, 4, 1936-1944.	1.9	248
2	Intermittent turbulence and turbulent structures in a linear magnetized plasma. Physics of Plasmas, 2006, 13, 010701.	1.9	144
3	The upgraded Large Plasma Device, a machine for studying frontier basic plasma physics. Review of Scientific Instruments, 2016, 87, 025105.	1.3	112
4	Measurements of core electron temperature and density fluctuations in DIII-D and comparison to nonlinear gyrokinetic simulations. Physics of Plasmas, 2008, 15, .	1.9	102
5	Measurement of Lower-Hybrid Drift Turbulence in a Reconnecting Current Sheet. Physical Review Letters, 2001, 88, 015001.	7.8	99
6	Experimental investigation of the neutral sheet profile during magnetic reconnection. Physics of Plasmas, 2000, 7, 1781-1787.	1.9	83
7	Identification of Y-Shaped and O-Shaped Diffusion Regions During Magnetic Reconnection in a Laboratory Plasma. Physical Review Letters, 1997, 78, 3117-3120.	7.8	78
8	Measurements of the cross-phase angle between density and electron temperature fluctuations and comparison with gyrokinetic simulations. Physics of Plasmas, 2010, 17, 056103.	1.9	77
9	Modifications of turbulence and turbulent transport associated with a bias-induced confinement transition in the Large Plasma Device. Physics of Plasmas, 2009, 16, .	1.9	76
10	A multichannel, frequency-modulated, tunable Doppler backscattering and reflectometry system. Review of Scientific Instruments, 2009, 80, 083507.	1.3	71
11	Modulation of Core Turbulent Density Fluctuations by Large-Scale Neoclassical Tearing Mode Islands in the DIII-D Tokamak. Physical Review Letters, 2016, 116, 215001.	7.8	69
12	Experimental investigation of geodesic acoustic mode spatial structure, intermittency, and interaction with turbulence in the DIII-D tokamak. Physics of Plasmas, 2012, 19, .	1.9	66
13	Magnetic reconnection with Sweet-Parker characteristics in two-dimensional laboratory plasmas. Physics of Plasmas, 1999, 6, 1743-1750.	1.9	60
14	Experimental study of lower-hybrid drift turbulence in a reconnecting current sheet. Physics of Plasmas, 2002, 9, 3272-3288.	1.9	55
15	The many faces of shear AlfvÃ©n waves. Physics of Plasmas, 2011, 18, 055501.	1.9	55
16	Transition from Bohm to classical diffusion due to edge rotation of a cylindrical plasma. Physics of Plasmas, 2007, 14, 052507.	1.9	51
17	Experimental study of ion heating and acceleration during magnetic reconnection. Physics of Plasmas, 2001, 8, 1916-1928.	1.9	49
18	Exponential frequency spectrum and Lorentzian pulses in magnetized plasmas. Physics of Plasmas, 2008, 15, .	1.9	49

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19	Modification of Turbulent Transport with Continuous Variation of Flow Shear in the Large Plasma Device. Physical Review Letters, 2012, 109, 135002.	7.8	49
20	Local Measurement of Nonclassical Ion Heating during Magnetic Reconnection. Physical Review Letters, 2000, 84, 3859-3862.	7.8	48
21	Measurement of the transverse Spitzer resistivity during collisional magnetic reconnection. Physics of Plasmas, 2003, 10, 319-322.	1.9	47
22	Non-perturbative measurement of cross-field thermal diffusivity reduction at the O-point of 2/1 neoclassical tearing mode islands in the DIII-D tokamak. Physics of Plasmas, 2016, 23, .	1.9	46
23	Multi-field/-scale interactions of turbulence with neoclassical tearing mode magnetic islands in the DIII-D tokamak. Physics of Plasmas, 2017, 24, .	1.9	46
24	A correlation electron cyclotron emission diagnostic and the importance of multifield fluctuation measurements for testing nonlinear gyrokinetic turbulence simulations. Review of Scientific Instruments, 2008, 79, 103505.	1.3	44
25	Toward Astrophysical Turbulence in the Laboratory. Physical Review Letters, 2012, 109, 255001.	7.8	43
26	Observation of a Critical Gradient Threshold for Electron Temperature Fluctuations in the DIII-D Tokamak. Physical Review Letters, 2013, 110, 045003.	7.8	43
27	Effect of magnetic islands on profiles, flows, turbulence and transport in nonlinear gyrokinetic simulations. Plasma Physics and Controlled Fusion, 2017, 59, 034004.	2.1	41
28	Laboratory Observation of a Nonlinear Interaction between Shear AlfvÃ©n Waves. Physical Review Letters, 2006, 96, 155001.	7.8	40
29	New plasma measurements with a multichannel millimeter-wave fluctuation diagnostic system in the DIII-D tokamak (invited). Review of Scientific Instruments, 2010, 81, 10D907.	1.3	38
30	Detection of zonal flow spectra in DIII-D by a dual-channel Doppler backscattering system. Review of Scientific Instruments, 2008, 79, 10F113.	1.3	36
31	Vorticity probes and the characterization of vortices in the Kelvinâ€“Helmholtz instability in the large plasma device experiment. Physics of Plasmas, 2005, 12, 022303.	1.9	35
32	Observation of an AlfvÃ©n Wave Parametric Instability in a Laboratory Plasma. Physical Review Letters, 2016, 116, 195002.	7.8	30
33	Spectral gap of shear AlfvÃ©n waves in a periodic array of magnetic mirrors. Physics of Plasmas, 2008, 15, .	1.9	29
34	Analysis of plasma instabilities and verification of the <scp>BOUT</scp> code for the Large Plasma Device. Physics of Plasmas, 2010, 17, .	1.9	29
35	Exponential Frequency Spectrum in Magnetized Plasmas. Physical Review Letters, 2008, 101, 085001.	7.8	28
36	Simultaneous measurement of core electron temperature and density fluctuations during electron cyclotron heating on DIII-D. Physics of Plasmas, 2010, 17, .	1.9	26

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37	AlfvÃ©n wave collisions, the fundamental building block of plasma turbulence. IV. Laboratory experiment. Physics of Plasmas, 2013, 20, .	1.9	24
38	Impact of neoclassical tearing modeâ€“turbulence multi-scale interaction in global confinement degradation and magnetic island stability. Physics of Plasmas, 2017, 24, .	1.9	22
39	Energy dynamics in a simulation of LAPD turbulence. Physics of Plasmas, 2012, 19, .	1.9	21
40	Experimental characterization of multiscale and multifield turbulence as a critical gradient threshold is surpassed in the DIII-D tokamak. Physics of Plasmas, 2013, 20, .	1.9	21
41	Observation of Reduced Electron-Temperature Fluctuations in the Coreof H-Mode Plasmas. Physical Review Letters, 2008, 100, 035002.	7.8	20
42	Shrinking of core neoclassical tearing mode magnetic islands due to edge localized modes and the role of ion-scale turbulence in island recovery in DIII-D. Physics of Plasmas, 2017, 24, .	1.9	20
43	Study of strong cross-field sheared flow with the vorticity probe in the Large Plasma Device. Physics of Plasmas, 2006, 13, 055701.	1.9	19
44	Bispectral analysis of low- to high-confinement mode transitions in the National Spherical Torus Experiment. Physics of Plasmas, 2006, 13, 072301.	1.9	19
45	Modeling of plasma turbulence and transport in the Large Plasma Device. Physics of Plasmas, 2010, 17, .	1.9	19
46	Numerical simulation and analysis of plasma turbulence the Large Plasma Device. Physics of Plasmas, 2011, 18, .	1.9	19
47	Turbulent transport of fast ions in the Large Plasma Device. Physics of Plasmas, 2010, 17, .	1.9	18
48	2D full wave modeling for a synthetic Doppler backscattering diagnostic. Review of Scientific Instruments, 2012, 83, 10E331.	1.3	17
49	Turbulence and transport suppression scaling with flow shear on the Large Plasma Device. Physics of Plasmas, 2013, 20, .	1.9	17
50	Nonlinear Excitation of Acoustic Modes by Large-Amplitude AlfvÃ©n Waves in a Laboratory Plasma. Physical Review Letters, 2013, 110, 195001.	7.8	16
51	AlfvÃ©n wave collisions, the fundamental building block of plasma turbulence. III. Theory for experimental design. Physics of Plasmas, 2013, 20, .	1.9	15
52	Laboratory measurements of the physics of auroral electron acceleration by AlfvÃ©n waves. Nature Communications, 2021, 12, 3103.	12.8	15
53	Spontaneous Thermal Waves in a Magnetized Plasma. Physical Review Letters, 2008, 101, 035003.	7.8	14
54	Control of Gradient-Driven Instabilities Using Shear AlfvÃ©n Beat Waves. Physical Review Letters, 2010, 105, 135005.	7.8	14

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55	Sheared-flow induced confinement transition in a linear magnetized plasma. Physics of Plasmas, 2012, 19, 012116.	1.9	14
56	Dependence of fast-ion transport on the nature of the turbulence in the Large Plasma Device. Physics of Plasmas, 2011, 18, 082104.	1.9	13
57	Three-dimensional two-fluid Braginskii simulations of the large plasma device. Physics of Plasmas, 2015, 22, .	1.9	11
58	Gyrokinetic GENE simulations of DIII-D near-edge L-mode plasmas. Physics of Plasmas, 2019, 26, .	1.9	11
59	Observation of fast-ion Doppler-shifted cyclotron resonance with shear AlfvÃ©n waves. Physics of Plasmas, 2008, 15, .	1.9	10
60	Observation of reduced core electron temperature fluctuations and intermediate wavenumber density fluctuations in H-mode plasmas. Nuclear Fusion, 2009, 49, 095004.	3.5	10
61	Stabilization of AlfvÃ©n Eigenmodes in DIII-D via Controlled Energetic Ion Density Ramp and Validation of Theory and Simulations. Physical Review Letters, 2021, 126, 155001.	7.8	10
62	Novel internal measurements of ion cyclotron frequency range fast-ion driven modes. Nuclear Fusion, 0, , .	3.5	10
63	An AlfvÃ©n wave maser in the laboratory. Physics of Plasmas, 2005, 12, 013103.	1.9	9
64	Structures generated in a temperature filament due to drift-wave convection. Physics of Plasmas, 2009, 16, .	1.9	9
65	Interaction between Faraday rotation and Cottonâ€“Mouton effects in polarimetry modeling for NSTX. Review of Scientific Instruments, 2010, 81, 10D519.	1.3	9
66	Nonlinear instability in simulations of Large Plasma Device turbulence. Physics of Plasmas, 2013, 20, .	1.9	9
67	A basic plasma test for gyrokinetics: GDC turbulence in LAPD. Plasma Physics and Controlled Fusion, 2017, 59, 024006.	2.1	9
68	Chaotic edge density fluctuations in the Alcator C-Mod tokamak. Physics of Plasmas, 2017, 24, .	1.9	9
69	Generation of AlfvÃ©n waves by high power pulse at the electron plasma frequency. Geophysical Research Letters, 2005, 32, .	4.0	8
70	Doppler-shifted cyclotron resonance of fast ions with circularly polarized shear AlfvÃ©n waves. Physics of Plasmas, 2009, 16, 055706.	1.9	8
71	Linear Technique to Understand Non-Normal Turbulence Applied to a Magnetized Plasma. Physical Review Letters, 2014, 113, 025003.	7.8	8
72	A non-modal analytical method to predict turbulent properties applied to the Hasegawa-Wakatani model. Physics of Plasmas, 2015, 22, 012307.	1.9	8

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73	Particle pinch mitigated by radial currents in the electric tokamak. Nuclear Fusion, 2005, 45, 1634-1641.	3.5	7
74	Role of Nonlinear Coupling and Density Fluctuations in Magnetic-Fluctuation-Induced Particle Transport. Physical Review Letters, 2012, 108, 175001.	7.8	7
75	Measurements of the nonlinear beat wave produced by the interaction of counterpropagating AlfvÃ©n waves. Physics of Plasmas, 2016, 23, .	1.9	7
76	Direct measurement of electron sloshing of an inertial AlfvÃ©n wave. Geophysical Research Letters, 2016, 43, 4701-4707.	4.0	7
77	Linear theory and measurements of electron oscillations in an inertial AlfvÃ©n wave. Physics of Plasmas, 2017, 24, 032902.	1.9	7
78	Study of local reconnection physics in a laboratory plasma. Earth, Planets and Space, 2001, 53, 539-545.	2.5	6
79	Comment on â€œAn alternative analysis of some recent diffusion experiments on the large plasma deviceâ€• [Phys. Plasmas 15, 022507 (2008)]. Physics of Plasmas, 2008, 15, 074701.	1.9	6
80	Resonant drive and nonlinear suppression of gradient-driven instabilities via interaction with shear AlfvÃ©n waves. Physics of Plasmas, 2011, 18, 055708.	1.9	6
81	Design of a millimeter-wave polarimeter for NSTX-Upgrade and initial test on DIII-D. Review of Scientific Instruments, 2012, 83, 10E321.	1.3	6
82	On generation of AlfvÃ©nic-like fluctuations by drift waveâ€“zonal flow system in large plasma device experiments. Physics of Plasmas, 2009, 16, 092102.	1.9	5
83	Measured Reduction in AlfvÃ©n Wave Energy Propagating through Longitudinal Gradients Scaled to Match Solar Coronal Holes. Astrophysical Journal, 2019, 882, 183.	4.5	5
84	A sensitivity assessment of millimeter-wave polarimetry for measurement of magnetic fluctuations associated with microtearing modes in NSTX-U. Plasma Physics and Controlled Fusion, 2013, 55, 045011.	2.1	4
85	Non-linear AlfvÃ©n wave interaction leading to resonant excitation of an acoustic mode in the	1.9	4
86	Interaction of magnetic islands with turbulent electron temperature fluctuations in DIII-D and in GENE nonlinear gyrokinetic simulations. Plasma Physics and Controlled Fusion, 2020, 62, 025020.	2.1	4
87	Simultaneous density and magnetic field fluctuation measurements by far-infrared interferometry and polarimetry in MST. Review of Scientific Instruments, 2008, 79, 10E714.	1.3	3
88	Analysis of Magnetic Fields in Inertial AlfvÃ©n Wave Collisions. IEEE Transactions on Plasma Science, 2014, 42, 2534-2535.	1.3	3
89	Evolution of an arched magnetized laboratory plasma in a sheared magnetic field. Journal of Plasma Physics, 2021, 87, .	2.1	3
90	Studies of large amplitude Alfvèn waves and wave-wave interactions in a laboratory plasma. AIP Conference Proceedings, 2007, , .	0.4	2

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91	Thermal plasma and fast ion transport in electrostatic turbulence in the large plasma device. Physics of Plasmas, 2012, 19, 055904.	1.9	2
92	Grid Convergence Study in a Simulation of LAPD Turbulence. Contributions To Plasma Physics, 2012, 52, 412-416.	1.1	2
93	Experimental validation of Mueller-Stokes theory and investigation of the influence of the Cotton-Mouton effect on polarimetry in a magnetized fusion plasma. Physics of Plasmas, 2013, 20, 102519.	1.9	2
94	Electron density measurement using a partially covered hairpin resonator in an inductively coupled plasma. Review of Scientific Instruments, 2020, 91, 113502.	1.3	2
95	10.1063/1.3527987.1. , 2010, , .		2
96	Reduction in RF sheath rectification with insulating antenna enclosure walls. Nuclear Fusion, 2022, 62, 086043.	3.5	2
97	Fusion in the Era of Burning Plasma Studies: Workforce Planning for 2004â€“2014. Journal of Fusion Energy, 2003, 22, 139-172.	1.2	1
98	Study of the Design and Assembly of a High Harmonic Fast Wave Antenna for an LAPD. Science and Technology of Nuclear Installations, 2021, 2021, 1-8.	0.8	1
99	Electromagnetic turbulence in increased Î² plasmas in the Large Plasma Device. Journal of Plasma Physics, 2021, 87, .	2.1	1
100	Design and thermal-hydraulic analysis of tokamak divertor armor tiles. , 0, , .		0
101	Intermittent turbulence and turbulent structures in LAPD and ET. AIP Conference Proceedings, 2006, , .	0.4	0
102	Overview of plasma wave studies using the Basic Plasma Science Facility. , 2019, , .		0
103	Overview of plasma wave studies using the Basic Plasma Science Facility1. , 2021, , .		0
104	Resonant interactions of AlfvÃ©n waves and electrons in the LAPD and the acceleration of auroral electrons. , 2021, , .		0
105	Propagation of shear AlfvÃ©n waves in a two-ion plasma and application as a diagnostic for the ion density ratio. Journal of Plasma Physics, 2020, 86, .	2.1	0