

# 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	Reduction in RF sheath rectification with insulating antenna enclosure walls. Nuclear Fusion, 2022, 62, 086043.	3.5	2
2	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
3	Stabilization of Alfvén 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
4	Laboratory measurements of the physics of auroral electron acceleration by Alfvén waves. Nature Communications, 2021, 12, 3103.	12.8	15
5	Electromagnetic turbulence in increased $\hat{I}^2$ plasmas in the Large Plasma Device. Journal of Plasma Physics, 2021, 87, .	2.1	1
6	Overview of plasma wave studies using the Basic Plasma Science Facility1. , 2021, , .		0
7	Resonant interactions of Alfvén waves and electrons in the LAPD and the acceleration of auroral electrons. , 2021, , .		0
8	Evolution of an arched magnetized laboratory plasma in a sheared magnetic field. Journal of Plasma Physics, 2021, 87, .	2.1	3
9	Electron density measurement using a partially covered hairpin resonator in an inductively coupled plasma. Review of Scientific Instruments, 2020, 91, 113502.	1.3	2
10	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
11	Propagation of shear Alfvén 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
12	Measured Reduction in Alfvén Wave Energy Propagating through Longitudinal Gradients Scaled to Match Solar Coronal Holes. Astrophysical Journal, 2019, 882, 183.	4.5	5
13	Gyrokinetic GENE simulations of DIII-D near-edge L-mode plasmas. Physics of Plasmas, 2019, 26, .	1.9	11
14	Overview of plasma wave studies using the Basic Plasma Science Facility. , 2019, , .		0
15	A basic plasma test for gyrokinetics: GDC turbulence in LAPD. Plasma Physics and Controlled Fusion, 2017, 59, 024006.	2.1	9
16	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
17	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
18	Chaotic edge density fluctuations in the Alcator C-Mod tokamak. Physics of Plasmas, 2017, 24, .	1.9	9

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19	Linear theory and measurements of electron oscillations in an inertial Alfvén wave. Physics of Plasmas, 2017, 24, 032902.	1.9	7
20	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
21	Impact of neoclassical tearing mode-turbulence multi-scale interaction in global confinement degradation and magnetic island stability. Physics of Plasmas, 2017, 24, .	1.9	22
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	Measurements of the nonlinear beat wave produced by the interaction of counterpropagating Alfvén waves. Physics of Plasmas, 2016, 23, .	1.9	7
24	The upgraded Large Plasma Device, a machine for studying frontier basic plasma physics. Review of Scientific Instruments, 2016, 87, 025105.	1.3	112
25	Direct measurement of electron sloshing of an inertial Alfvén wave. Geophysical Research Letters, 2016, 43, 4701-4707.	4.0	7
26	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
27	Observation of an Alfvén Wave Parametric Instability in a Laboratory Plasma. Physical Review Letters, 2016, 116, 195002.	7.8	30
28	Three-dimensional two-fluid Braginskii simulations of the large plasma device. Physics of Plasmas, 2015, 22, .	1.9	11
29	A non-modal analytical method to predict turbulent properties applied to the Hasegawa-Wakatani model. Physics of Plasmas, 2015, 22, 012307.	1.9	8
30	Non-linear Alfvén wave interaction leading to resonant excitation of an acoustic mode in the	1.9	4
31	Linear Technique to Understand Non-Normal Turbulence Applied to a Magnetized Plasma. Physical Review Letters, 2014, 113, 025003.	7.8	8
32	Analysis of Magnetic Fields in Inertial Alfvén Wave Collisions. IEEE Transactions on Plasma Science, 2014, 42, 2534-2535.	1.3	3
33	Nonlinear instability in simulations of Large Plasma Device turbulence. Physics of Plasmas, 2013, 20, .	1.9	9
34	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
35	Alfvén wave collisions, the fundamental building block of plasma turbulence. IV. Laboratory experiment. Physics of Plasmas, 2013, 20, .	1.9	24
36	Turbulence and transport suppression scaling with flow shear on the Large Plasma Device. Physics of Plasmas, 2013, 20, .	1.9	17

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37	Alfvén wave collisions, the fundamental building block of plasma turbulence. III. Theory for experimental design. <i>Physics of Plasmas</i> , 2013, 20, .	1.9	15
38	A sensitivity assessment of millimeter-wave polarimetry for measurement of magnetic fluctuations associated with microtearing modes in NSTX-U. <i>Plasma Physics and Controlled Fusion</i> , 2013, 55, 045011.	2.1	4
39	Experimental validation of Mueller-Stokes theory and investigation of the influence of the Cotton-Mouton effect on polarimetry in a magnetized fusion plasma. <i>Physics of Plasmas</i> , 2013, 20, 102519.	1.9	2
40	Observation of a Critical Gradient Threshold for Electron Temperature Fluctuations in the DIII-D Tokamak. <i>Physical Review Letters</i> , 2013, 110, 045003.	7.8	43
41	Nonlinear Excitation of Acoustic Modes by Large-Amplitude Alfvén Waves in a Laboratory Plasma. <i>Physical Review Letters</i> , 2013, 110, 195001.	7.8	16
42	Energy dynamics in a simulation of LAPD turbulence. <i>Physics of Plasmas</i> , 2012, 19, .	1.9	21
43	Design of a millimeter-wave polarimeter for NSTX-Upgrade and initial test on DIII-D. <i>Review of Scientific Instruments</i> , 2012, 83, 10E321.	1.3	6
44	2D full wave modeling for a synthetic Doppler backscattering diagnostic. <i>Review of Scientific Instruments</i> , 2012, 83, 10E331.	1.3	17
45	Modification of Turbulent Transport with Continuous Variation of Flow Shear in the Large Plasma Device. <i>Physical Review Letters</i> , 2012, 109, 135002.	7.8	49
46	Role of Nonlinear Coupling and Density Fluctuations in Magnetic-Fluctuation-Induced Particle Transport. <i>Physical Review Letters</i> , 2012, 108, 175001.	7.8	7
47	Sheared-flow induced confinement transition in a linear magnetized plasma. <i>Physics of Plasmas</i> , 2012, 19, 012116.	1.9	14
48	Thermal plasma and fast ion transport in electrostatic turbulence in the large plasma device. <i>Physics of Plasmas</i> , 2012, 19, 055904.	1.9	2
49	Toward Astrophysical Turbulence in the Laboratory. <i>Physical Review Letters</i> , 2012, 109, 255001.	7.8	43
50	Experimental investigation of geodesic acoustic mode spatial structure, intermittency, and interaction with turbulence in the DIII-D tokamak. <i>Physics of Plasmas</i> , 2012, 19, .	1.9	66
51	Grid Convergence Study in a Simulation of LAPD Turbulence. <i>Contributions To Plasma Physics</i> , 2012, 52, 412-416.	1.1	2
52	The many faces of shear Alfvén waves. <i>Physics of Plasmas</i> , 2011, 18, 055501.	1.9	55
53	Dependence of fast-ion transport on the nature of the turbulence in the Large Plasma Device. <i>Physics of Plasmas</i> , 2011, 18, 082104.	1.9	13
54	Numerical simulation and analysis of plasma turbulence the Large Plasma Device. <i>Physics of Plasmas</i> , 2011, 18, .	1.9	19

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55	Resonant drive and nonlinear suppression of gradient-driven instabilities via interaction with shear Alfvén waves. <i>Physics of Plasmas</i> , 2011, 18, 055708.	1.9	6
56	New plasma measurements with a multichannel millimeter-wave fluctuation diagnostic system in the DIII-D tokamak (invited). <i>Review of Scientific Instruments</i> , 2010, 81, 10D907.	1.3	38
57	Analysis of plasma instabilities and verification of the BOUT code for the Large Plasma Device. <i>Physics of Plasmas</i> , 2010, 17, .	1.9	29
58	Control of Gradient-Driven Instabilities Using Shear Alfvén Beat Waves. <i>Physical Review Letters</i> , 2010, 105, 135005.	7.8	14
59	Modeling of plasma turbulence and transport in the Large Plasma Device. <i>Physics of Plasmas</i> , 2010, 17, .	1.9	19
60	Simultaneous measurement of core electron temperature and density fluctuations during electron cyclotron heating on DIII-D. <i>Physics of Plasmas</i> , 2010, 17, .	1.9	26
61	Measurements of the cross-phase angle between density and electron temperature fluctuations and comparison with gyrokinetic simulations. <i>Physics of Plasmas</i> , 2010, 17, 056103.	1.9	77
62	Turbulent transport of fast ions in the Large Plasma Device. <i>Physics of Plasmas</i> , 2010, 17, .	1.9	18
63	Interaction between Faraday rotation and Cotton-Mouton effects in polarimetry modeling for NSTX. <i>Review of Scientific Instruments</i> , 2010, 81, 10D519.	1.3	9
64	10.1063/1.3527987.1., 2010, , .		2
65	On generation of Alfvénic-like fluctuations by drift wave zonal flow system in large plasma device experiments. <i>Physics of Plasmas</i> , 2009, 16, 092102.	1.9	5
66	A multichannel, frequency-modulated, tunable Doppler backscattering and reflectometry system. <i>Review of Scientific Instruments</i> , 2009, 80, 083507.	1.3	71
67	Structures generated in a temperature filament due to drift-wave convection. <i>Physics of Plasmas</i> , 2009, 16, .	1.9	9
68	Modifications of turbulence and turbulent transport associated with a bias-induced confinement transition in the Large Plasma Device. <i>Physics of Plasmas</i> , 2009, 16, .	1.9	76
69	Doppler-shifted cyclotron resonance of fast ions with circularly polarized shear Alfvén waves. <i>Physics of Plasmas</i> , 2009, 16, 055706.	1.9	8
70	Observation of reduced core electron temperature fluctuations and intermediate wavenumber density fluctuations in H-mode plasmas. <i>Nuclear Fusion</i> , 2009, 49, 095004.	3.5	10
71	Spectral gap of shear Alfvén waves in a periodic array of magnetic mirrors. <i>Physics of Plasmas</i> , 2008, 15, .	1.9	29
72	Observation of fast-ion Doppler-shifted cyclotron resonance with shear Alfvén waves. <i>Physics of Plasmas</i> , 2008, 15, .	1.9	10

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73	Comment on "An alternative analysis of some recent diffusion experiments on the large plasma device" [Phys. Plasmas 15, 022507 (2008)]. Physics of Plasmas, 2008, 15, 074701.	1.9	6
74	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
75	Observation of Reduced Electron-Temperature Fluctuations in the Core of H-Mode Plasmas. Physical Review Letters, 2008, 100, 035002.	7.8	20
76	Exponential frequency spectrum and Lorentzian pulses in magnetized plasmas. Physics of Plasmas, 2008, 15, .	1.9	49
77	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
78	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
79	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
80	Exponential Frequency Spectrum in Magnetized Plasmas. Physical Review Letters, 2008, 101, 085001.	7.8	28
81	Spontaneous Thermal Waves in a Magnetized Plasma. Physical Review Letters, 2008, 101, 035003.	7.8	14
82	Transition from Bohm to classical diffusion due to edge rotation of a cylindrical plasma. Physics of Plasmas, 2007, 14, 052507.	1.9	51
83	Studies of large amplitude Alfvén waves and wave-wave interactions in a laboratory plasma. AIP Conference Proceedings, 2007, . .	0.4	2
84	Intermittent turbulence and turbulent structures in LAPD and ET. AIP Conference Proceedings, 2006, . .	0.4	0
85	Laboratory Observation of a Nonlinear Interaction between Shear Alfvén Waves. Physical Review Letters, 2006, 96, 155001.	7.8	40
86	Intermittent turbulence and turbulent structures in a linear magnetized plasma. Physics of Plasmas, 2006, 13, 010701.	1.9	144
87	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
88	Bispectral analysis of low- to high-confinement mode transitions in the National Spherical Torus Experiment. Physics of Plasmas, 2006, 13, 072301.	1.9	19
89	Particle pinch mitigated by radial currents in the electric tokamak. Nuclear Fusion, 2005, 45, 1634-1641.	3.5	7
90	Vorticity probes and the characterization of vortices in the Kelvin-Helmholtz instability in the large plasma device experiment. Physics of Plasmas, 2005, 12, 022303.	1.9	35

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91	An Alfvén wave maser in the laboratory. <i>Physics of Plasmas</i> , 2005, 12, 013103.	1.9	9
92	Generation of Alfvén waves by high power pulse at the electron plasma frequency. <i>Geophysical Research Letters</i> , 2005, 32, .	4.0	8
93	Fusion in the Era of Burning Plasma Studies: Workforce Planning for 2004–2014. <i>Journal of Fusion Energy</i> , 2003, 22, 139-172.	1.2	1
94	Measurement of the transverse Spitzer resistivity during collisional magnetic reconnection. <i>Physics of Plasmas</i> , 2003, 10, 319-322.	1.9	47
95	Experimental study of lower-hybrid drift turbulence in a reconnecting current sheet. <i>Physics of Plasmas</i> , 2002, 9, 3272-3288.	1.9	55
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	Measurement of Lower-Hybrid Drift Turbulence in a Reconnecting Current Sheet. <i>Physical Review Letters</i> , 2001, 88, 015001.	7.8	99
99	Experimental investigation of the neutral sheet profile during magnetic reconnection. <i>Physics of Plasmas</i> , 2000, 7, 1781-1787.	1.9	83
100	Local Measurement of Nonclassical Ion Heating during Magnetic Reconnection. <i>Physical Review Letters</i> , 2000, 84, 3859-3862.	7.8	48
101	Magnetic reconnection with Sweet-Parker characteristics in two-dimensional laboratory plasmas. <i>Physics of Plasmas</i> , 1999, 6, 1743-1750.	1.9	60
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	Design and thermal-hydraulic analysis of tokamak divertor armor tiles. , 0, , .		0
105	Novel internal measurements of ion cyclotron frequency range fast-ion driven modes. <i>Nuclear Fusion</i> , 0, , .	3.5	10