Carlos Paz-Soldan

List of Publications by Year
in descending order

142 papers	3,148 citations	159585 30 h-index	223800 46 g-index
142 all docs	142 docs citations	142 times ranked	1538 citing authors

#	Article	IF	Citations
1	Overview of the SPARC tokamak. Journal of Plasma Physics, 2020, 86, .	2.1	181
2	Pedestal Bifurcation and Resonant Field Penetration at the Threshold of Edge-Localized Mode Suppression in the DIII-D Tokamak. Physical Review Letters, 2015, 114, 105002.	7.8	141
3	Observation of a Multimode Plasma Response and its Relationship to Density Pumpout and Edge-Localized Mode Suppression. Physical Review Letters, 2015, 114, 105001.	7.8	124
4	Compatibility of internal transport barrier with steady-state operation in the high bootstrap fraction regime on DIII-D. Nuclear Fusion, 2015, 55, 123025.	3.5	83
5	Experimental conditions to suppress edge localised modes by magnetic perturbations in the ASDEX Upgrade tokamak. Nuclear Fusion, 2018, 58, 096031.	3.5	73
6	An ITPA joint experiment to study runaway electron generation and suppression. Physics of Plasmas, 2014, 21, .	1.9	71
7	First Direct Observation of Runaway-Electron-Driven Whistler Waves in Tokamaks. Physical Review Letters, 2018, 120, 155002.	7.8	68
8	An upgrade of the magnetic diagnostic system of the DIII-D tokamak for non-axisymmetric measurements. Review of Scientific Instruments, 2014, 85, 083503.	1.3	60
9	Growth and decay of runaway electrons above the critical electric field under quiescent conditions. Physics of Plasmas, 2014, 21, 022514.	1.9	60
10	Spatiotemporal Evolution of Runaway Electron Momentum Distributions in Tokamaks. Physical Review Letters, 2017, 118, 255002.	7.8	53
11	Kink instabilities of the post-disruption runaway electron beam at low safety factor. Plasma Physics and Controlled Fusion, 2019, 61, 054001.	2.1	51
12	The density dependence of edge-localized-mode suppression and pump-out by resonant magnetic perturbations in the DIII-D tokamak. Physics of Plasmas, 2019, 26, .	1.9	51
13	Measurement of runaway electron energy distribution function during high-Z gas injection into	1.9	50
14	High fusion performance in Super H-mode experiments on Alcator C-Mod and DIII-D. Nuclear Fusion, 2019, 59, 086017.	3.5	48
15	The quiescent H-mode regime for high performance edge localized mode-stable operation in future	1.9	45
16	Role of Kinetic Instability in Runaway-Electron Avalanches and Elevated Critical Electric Fields. Physical Review Letters, 2018, 120, 265001.	7.8	45
17	The spectral basis of optimal error field correction on DIII-D. Nuclear Fusion, 2014, 54, 073013.	3.5	44
18	Validation of the model for ELM suppression with 3D magnetic fields using low torque ITER baseline scenario discharges in DIII-D. Physics of Plasmas, 2017, 24, .	1.9	43

#	Article	IF	Citations
19	Fast ion transport during applied 3D magnetic perturbations on DIII-D. Nuclear Fusion, 2015, 55, 073028.	3.5	42
20	Dissipation of post-disruption runaway electron plateaus by shattered pellet injection in DIII-D. Nuclear Fusion, 2018, 58, 056006.	3.5	41
21	Demonstration of Safe Termination of Megaampere Relativistic Electron Beams in Tokamaks. Physical Review Letters, 2021, 126, 175001.	7.8	41
22	Experimental tests of linear and nonlinear three-dimensional equilibrium models in DIII-D. Physics of Plasmas, 2015, 22, .	1.9	40
23	Wide Operational Windows of Edge-Localized Mode Suppression by Resonant Magnetic Perturbations in the DIII-D Tokamak. Physical Review Letters, 2020, 125, 045001.	7.8	40
24	The importance of matched poloidal spectra to error field correction in DIII-D. Physics of Plasmas, 2014, 21, .	1.9	39
25	The role of edge resonant magnetic perturbations in edge-localized-mode suppression and density pump-out in low-collisionality DIII-D plasmas. Nuclear Fusion, 2020, 60, 076001.	3.5	36
26	Grassy-ELM regime with edge resonant magnetic perturbations in fully noninductive plasmas in the DIII-D tokamak. Nuclear Fusion, 2018, 58, 106010.	3.5	35
27	The effect of plasma shape and neutral beam mix on the rotation threshold for RMP-ELM suppression. Nuclear Fusion, 2019, 59, 056012.	3.5	35
28	The role of kinetic instabilities in formation of the runaway electron current after argon injection in DIII-D. Plasma Physics and Controlled Fusion, 2018, 60, 124003.	2.1	34
29	Impact of ideal MHD stability limits on high-beta hybrid operation. Plasma Physics and Controlled Fusion, 2017, 59, 014027.	2.1	31
30	Resolving runaway electron distributions in space, time, and energy. Physics of Plasmas, 2018, 25, 056105.	1.9	31
31	MHD stability and disruptions in the SPARC tokamak. Journal of Plasma Physics, 2020, 86, .	2.1	31
32	Investigation of the role of pedestal pressure and collisionality on type-I ELM divertor heat loads in DIII-D. Nuclear Fusion, 2018, 58, 096023.	3.5	29
33	The role of MHD in 3D aspects of massive gas injection. Nuclear Fusion, 2015, 55, 073032.	3.5	28
34	Effects of resistivity and rotation on the linear plasma response to non-axisymmetric magnetic perturbations on DIII-D. Plasma Physics and Controlled Fusion, 2015, 57, 025015.	2.1	27
35	MeV range particle physics studies in tokamak plasmas using gamma-ray spectroscopy. Plasma Physics and Controlled Fusion, 2020, 62, 014015.	2.1	27
36	Observation of rapid frequency chirping instabilities driven by runaway electrons in a tokamak. Nuclear Fusion, 2019, 59, 124004.	3.5	26

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37	MARS-F modeling of post-disruption runaway beam loss by magnetohydrodynamic instabilities in DIII-D. Nuclear Fusion, 2019, 59, 126021.	3.5	26
38	First demonstration of full ELM suppression in low input torque plasmas to support ITER research plan using n = 4 RMP in EAST. Nuclear Fusion, 2021, 61, 106037.	3.5	26
39	Role of a continuous MHD dynamo in the formation of 3D equilibria in fusion plasmas. Nuclear Fusion, 2017, 57, 076014.	3.5	25
40	Advances in the steady-state hybrid regime in DIII-Dâ€”a fully non-inductive, ELM-suppressed scenario for ITER. Nuclear Fusion, 2017, 57, 116057.	3.5	25
41	Ballooning instability preventing the H-mode access in plasmas with negative triangularity shape on the DIIIâ€“D tokamak. Plasma Physics and Controlled Fusion, 2021, 63, 105006.	2.1	25
42	Shattered pellet injection experiments at JET in support of the ITER disruption mitigation system design. Nuclear Fusion, 2022, 62, 026012.	3.5	25
43	Characterization of MHD activity and its influence on radiation asymmetries during massive gas injection in DIII-D. Nuclear Fusion, 2015, 55, 073029.	3.5	24
44	Runaway electron seed formation at reactor-relevant temperature. Nuclear Fusion, 2020, 60, 056020.	3.5	23
45	Role of 3D neoclassical particle flux in density pump-out during ELM control by RMP in DIII-D. Nuclear Fusion, 2020, 60, 036018.	3.5	23
46	Decoupled recovery of energy and momentum with correction ofnâ€‰â€‰=â€‰â€‰2 error fields. Nuclear Fusion, 2015, 55, 083012.	3.5	22
47	Dependence of neoclassical toroidal viscosity on the poloidal spectrum of applied nonaxisymmetric fields. Nuclear Fusion, 2016, 56, 036008.	3.5	21
48	Equilibrium drives of the low and high field side nâ€‰â€‰=â€‰â€‰2 plasma response and impact on global confinement. Nuclear Fusion, 2016, 56, 056001.	3.5	21
49	Evidence of Toroidally Localized Turbulence with Applied 3D Fields in the DIII-D Tokamak. Physical Review Letters, 2016, 117, 135001.	7.8	21
50	Avoidance of tearing mode locking with electro-magnetic torque introduced by feedback-based mode rotation control in DIII-D and RFX-mod. Nuclear Fusion, 2017, 57, 016035.	3.5	21
51	A novel path to runaway electron mitigation via deuterium injection and current-driven MHD instability. Nuclear Fusion, 2021, 61, 116058.	3.5	21
52	Lâ€“H transition trigger physics in ITER-similar plasmas with applied nâ€‰â€‰=â€‰â€‰3 magnetic perturbations. Nuclear Fusion, 2019, 59, 126010.	3.5	20
53	Low-frequency whistler waves in quiescent runaway electron plasmas. Plasma Physics and Controlled Fusion, 2019, 61, 014007.	2.1	20
54	Study of argon expulsion from the post-disruption runaway electron plateau following low-Z massive gas injection in DIII-D. Physics of Plasmas, 2020, 27, .	1.9	20

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55	Predicting operational windows of ELMs suppression by resonant magnetic perturbations in the DIII-D and KSTAR tokamaks. Physics of Plasmas, 2021, 28, .	1.9	20
56	Diverted negative triangularity plasmas on DIII-D: the benefit of high confinement without the liability of an edge pedestal. Nuclear Fusion, 2021, 61, 116010.	3.5	20
57	Identification of multi-modal plasma responses to applied magnetic perturbations using the plasma reluctance. Physics of Plasmas, 2016, 23, .	1.9	19
58	Impact of toroidal and poloidal mode spectra on the control of non-axisymmetric fields in tokamaks. Physics of Plasmas, 2017, 24, .	1.9	19
59	Empirical scaling of the nâ€‰=â€‰2 error field penetration threshold in tokamaks. Nuclear Fusion, 2020, 60, 086010.	3.5	19
60	Tokamak Operation with Safety Factor <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>q</mml:mi></mml:mrow><mml:mrow><mml:mn>95</mml:mn></mml:mrow></mml:msub></mml:mrow></mml:math> via Control of MHD Stability. Physical Review Letters, 2014, 113, 045003.	7.8	18
61	Rotation profile flattening and toroidal flow shear reversal due to the coupling of magnetic islands in tokamaks. Physics of Plasmas, 2016, 23, 056107.	1.9	18
62	Dynamic divertor control using resonant mixed toroidal harmonic magnetic fields during ELM suppression in DIII-D. Physics of Plasmas, 2018, 25, 056102.	1.9	17
63	Plasma performance and operational space without ELMs in DIII-D. Plasma Physics and Controlled Fusion, 2021, 63, 083001.	2.1	17
64	Control of plasma stored energy for burn control using DIII-D in-vessel coils. Nuclear Fusion, 2015, 55, 053001.	3.5	16
65	Applying the new gamma ray imager diagnostic to measurements of runaway electron Bremsstrahlung radiation in the DIII-D Tokamak (invited). Review of Scientific Instruments, 2016, 87, 11E602.	1.3	16
66	Suppression of type-I ELMs with reduced RMP coil set on DIII-D. Nuclear Fusion, 2016, 56, 036020.	3.5	16
67	Effect of rotation zero-crossing on single-fluid plasma response to three-dimensional magnetic perturbations. Plasma Physics and Controlled Fusion, 2017, 59, 044001.	2.1	16
68	Study of Z scaling of runaway electron plateau final loss energy deposition into wall of DIII-D. Physics of Plasmas, 2017, 24, .	1.9	16
69	Integrated ELM and divertor power flux control using RMPs with low input torque in EAST in support of the ITER research plan. Nuclear Fusion, 2021, 61, 106023.	3.5	16
70	Measurements of the toroidal torque balance of error field penetration locked modes. Plasma Physics and Controlled Fusion, 2015, 57, 025016.	2.1	15
71	Stellarator Research Opportunities: A Report of the National Stellarator Coordinating Committee. Journal of Fusion Energy, 2018, 37, 51-94.	1.2	15
72	Toroidal modeling of runaway electron loss due to 3-D fields in DIII-D and COMPASS. Physics of Plasmas, 2020, 27, 102507.	1.9	15

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73	Nonlinear modeling of the scaling law for the $m/n = 3/2$ error field penetration threshold. Nuclear Fusion, 2020, 60, 076006.	3.5	15
74	Feedback-assisted extension of the tokamak operating space to low safety factor. Physics of Plasmas, 2014, 21, .	1.9	14
75	Study of argon assimilation into the post-disruption runaway electron plateau in DIII-D and comparison with a 1D diffusion model. Nuclear Fusion, 2019, 59, 106014.	3.5	14
76	Resistive versus ideal plasma response to RMP fields in DIII-D: roles of q ₉₅ and X-point geometry. Nuclear Fusion, 2019, 59, 086012.	3.5	14
77	On the stability and stationarity of the Super H-mode combined with an ion transport barrier in the core. Plasma Physics and Controlled Fusion, 2021, 63, 025017.	2.1	14
78	Interaction of external nâ€‰â€‰=â€‰â€‰1 magnetic fields with the sawtooth instability in low-q RFX-mod and DIII-D tokamaks. Nuclear Fusion, 2016, 56, 106012.	3.5	13
79	Modeling of 3D magnetic equilibrium effects on edge turbulence stability during RMP ELM suppression in tokamaks. Nuclear Fusion, 2017, 57, 116003.	3.5	13
80	Predict-first experimental analysis using automated and integrated magnetohydrodynamic modeling. Physics of Plasmas, 2018, 25, .	1.9	13
81	Recent DIII-D advances in runaway electron measurement and model validation. Nuclear Fusion, 2019, 59, 066025.	3.5	13
82	Optimizing the Super H-mode pedestal to improve performance and facilitate divertor integration. Physics of Plasmas, 2020, 27, 102506.	1.9	13
83	Passive deconfinement of runaway electrons using an in-vessel helical coil. Nuclear Fusion, 2021, 61, 106033.	3.5	13
84	Creation and sustainment of wide pedestal quiescent H-mode with zero net neutral beam torque. Nuclear Fusion, 2020, 60, 086005.	3.5	13
85	Use of Ar pellet ablation rate to estimate initial runaway electron seed population in DIII-D rapid shutdown experiments. Nuclear Fusion, 2017, 57, 016008.	3.5	12
86	Interpretation of runaway electron synchrotron and bremsstrahlung images. Nuclear Fusion, 2018, 58, 082001.	3.5	12
87	Edge localized mode suppression and plasma response using mixed toroidal harmonic resonant magnetic perturbations in DIII-D. Nuclear Fusion, 2019, 59, 026012.	3.5	12
88	Real-time pedestal optimization and ELM control with 3D fields and gas flows on DIII-D. Nuclear Fusion, 2020, 60, 076004.	3.5	12
89	Prospects for H-mode inhibition in negative triangularity tokamak reactor plasmas. Nuclear Fusion, 2022, 62, 096020.	3.5	12
90	Error field optimization in DIII-D using extremum seeking control. Nuclear Fusion, 2016, 56, 076003.	3.5	11

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91	Use of reconstructed 3D VMEC equilibria to match effects of toroidally rotating discharges in DIII-D. Nuclear Fusion, 2017, 57, 016013.	3.5	11
92	The effects of kinetic instabilities on the electron cyclotron emission from runaway electrons. Nuclear Fusion, 2018, 58, 096030.	3.5	11
93	DIII-D research advancing the physics basis for optimizing the tokamak approach to fusion energy. Nuclear Fusion, 2022, 62, 042024.	3.5	11
94	Two-dimensional axisymmetric and three-dimensional helical equilibrium in the line-tied screw pinch. Physics of Plasmas, 2011, 18, 052114.	1.9	10
95	Magnetic polarization measurements of the multi-modal plasma response to 3D fields in the EAST tokamak. Nuclear Fusion, 2018, 58, 076016.	3.5	10
96	Expanding the parameter space of the wide-pedestal QH-mode towards ITER conditions. Nuclear Fusion, 2020, 60, 092006.	3.5	10
97	Compressional AlfvÃ©n eigenmodes excited by runaway electrons. Nuclear Fusion, 2021, 61, 036011.	3.5	10
98	Design and initial operation of multichord soft x-ray detection arrays on the STOR-M tokamak. Review of Scientific Instruments, 2008, 79, 10E926.	1.3	9
99	Three-dimensional equilibria and island energy transport due to resonant magnetic perturbation edge localized mode suppression on DIII-D. Physics of Plasmas, 2015, 22, .	1.9	9
100	A path to stable low-torque plasma operation in ITER with test blanket modules. Nuclear Fusion, 2017, 57, 036004.	3.5	9
101	Modal analysis of the full poloidal structure of the plasma response to nâ€‰=â€‰2 magnetic perturbations. Physics of Plasmas, 2018, 25, 072509.	1.9	9
102	Impurity transport in the pedestal of H-mode plasmas with resonant magnetic perturbations. Plasma Physics and Controlled Fusion, 2020, 62, 095021.	2.1	9
103	Resistive and ferritic-wall plasma dynamos in a sphere. Physics of Plasmas, 2012, 19, .	1.9	8
104	Boundary perturbations coupled to core 3/2 tearing modes on the DIII-D tokamak. Plasma Physics and Controlled Fusion, 2013, 55, 095006.	2.1	8
105	Optimizing multi-modal, non-axisymmetric plasma response metrics with additional coil rows on DIII-D. Nuclear Fusion, 2019, 59, 086060.	3.5	8
106	Quasisymmetric Optimization of Nonaxisymmetry in Tokamaks. Physical Review Letters, 2021, 126, 125001.	7.8	8
107	The rotating wall machine: A device to study ideal and resistive magnetohydrodynamic stability under variable boundary conditions. Review of Scientific Instruments, 2010, 81, 123503.	1.3	7
108	Stabilization of the Resistive Wall Mode by a Rotating Solid Conductor. Physical Review Letters, 2011, 107, 245001.	7.8	7

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109	Pedestal collapse by resonant magnetic perturbations. Nuclear Fusion, 2021, 61, 044001.	3.5	7
110	Influence of up-down asymmetry in plasma shape on RMP response. Plasma Physics and Controlled Fusion, 2021, 63, 065003.	2.1	7
111	Effect of thick blanket modules on neoclassical tearing mode locking in ITER. Nuclear Fusion, 2017, 57, 014004.	3.5	7
112	Physics of runaway electrons with shattered pellet injection at JET. Plasma Physics and Controlled Fusion, 2022, 64, 034002.	2.1	7
113	Helical variation of density profiles and fluctuations in the tokamak pedestal with applied 3D fields and implications for confinement. Physics of Plasmas, 2018, 25, .	1.9	6
114	Seeding of neoclassical tearing modes by internal crash events in the ASDEX Upgrade and DIII-D tokamaks. Nuclear Fusion, 2019, 59, 066038.	3.5	6
115	The non-thermal origin of the tokamak low-density stability limit. Nuclear Fusion, 2016, 56, 056010.	3.5	5
116	Enhanced helium exhaust during edge-localized mode suppression by resonant magnetic perturbations at DIII-D. Nuclear Fusion, 2020, 60, 054004.	3.5	5
117	Self-consistent simulation of resistive kink instabilities with runaway electrons. Plasma Physics and Controlled Fusion, 2021, 63, 125031.	2.1	5
118	Wall-locking of kink modes in a line-tied screw pinch with a rotating wall. Physics of Plasmas, 2012, 19, 056104.	1.9	4
119	Lack of dependence on resonant error field of locked mode island size in ohmic plasmas in DIII-D. Nuclear Fusion, 2015, 55, 023011.	3.5	4
120	Landau resonant modification of multiple kink mode contributions to 3D tokamak equilibria. Nuclear Fusion, 2016, 56, 014003.	3.5	4
121	A new stabilizing regime of tearing mode entrainment in the presence of a static error field. Nuclear Fusion, 2019, 59, 126015.	3.5	4
122	Polarized imaging of visible synchrotron emission from runaway electron plateaus in DIII-D. Physics of Plasmas, 2021, 28, .	1.9	4
123	Results on quiescent and post-disruption runaway electrons studies at Frascati Tokamak Upgrade: RE mitigation via solid deuterium pellets and anomalous Doppler instability. Nuclear Fusion, 2021, 61, 116050.	3.5	4
124	Modeling plasma toroidal flow profile control via NTV torque with n = 2 3D fields in MAST-U. Nuclear Fusion, 2020, 60, 096026.	3.5	4
125	Controlling the size of non-axisymmetric magnetic footprints using resonant magnetic perturbations. Nuclear Fusion, 2022, 62, 026018.	3.5	4
126	Dynamic measurement of impurity ion transport in runaway electron plateaus in DIII-D. Physics of Plasmas, 2022, 29, 022503.	1.9	4

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127	Influence of triangularity on the plasma response to resonant magnetic perturbations. Nuclear Fusion, 2022, 62, 076031.	3.5	4
128	Asymmetric error field interaction with rotating conducting walls. Physics of Plasmas, 2012, 19, 072511.	1.9	3
129	First observation of plasma healing via helical equilibrium in tokamak disruptions. Nuclear Fusion, 2019, 59, 094002.	3.5	3
130	Non-planar coil winding angle optimization for compatibility with non-insulated high-temperature superconducting magnets. Journal of Plasma Physics, 2020, 86, .	2.1	3
131	Robustness of the tokamak error field correction tolerance scaling. Plasma Physics and Controlled Fusion, 2020, 62, 084001.	2.1	3
132	Novel compact hard x-ray spectrometer with MCps counting rate capabilities for runaway electron measurements on DIII-D. Review of Scientific Instruments, 2021, 92, 043517.	1.3	3
133	Estimate of pre-thermal quench non-thermal electron density profile during Ar pellet shutdowns of low-density target plasmas in DIII-D. Physics of Plasmas, 2021, 28, 072501.	1.9	3
134	Impact of negative triangularity plasma shaping on the n = 0 resistive wall mode in a tokamak. Nuclear Fusion, 2021, 61, 096033.	3.5	3
135	Toroidal modeling of runaway electron loss due to 3D fields in ITER. Nuclear Fusion, 2022, 62, 066026.	3.5	3
136	Non-axisymmetric magneto- hydrodynamic equilibrium in the presence of internal magnetic islands and external magnetic perturbation coils. Plasma Physics and Controlled Fusion, 2013, 55, 125009.	2.1	2
137	Impact of shape on pedestal characteristics in the wide pedestal quiescent H-mode in the DIII-D tokamak. Nuclear Fusion, 2021, 61, 036032.	3.5	2
138	Toroidal modeling of runaway avalanche in DIII-D discharges. Nuclear Fusion, 2021, 61, 066038.	3.5	2
139	Development of an integrated coreâ€“edge scenario using the super H-mode. Nuclear Fusion, 2021, 61, 126064.	3.5	2
140	Pellet triggering of edge localized modes in low collisionality pedestals at DIII-D. Nuclear Fusion, 2022, 62, 026017.	3.5	2
141	Experimental evidence of runaway electron tail generation via localized helical structure in pellet-triggered tokamak disruptions. Nuclear Fusion, 2021, 61, 104001.	3.5	1
142	Measurement of toroidal variation in conducted heat loads in locked mode induced disruptions on DIII-D. Physics of Plasmas, 2018, 25, 102502.	1.9	0