

Chris C Hegna

List of Publications by Year in descending order

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89
papers

3,185
citations

185998

28
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155451

55
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93
all docs

93
docs citations

93
times ranked

1330
citing authors

#	ARTICLE	IF	CITATIONS
1	Beta limits in long-pulse tokamak discharges. <i>Physics of Plasmas</i> , 1997, 4, 1654-1664.	0.7	423
2	Observation of Nonlinear Neoclassical Pressure-Gradient-Driven Tearing Modes in TFTR. <i>Physical Review Letters</i> , 1995, 74, 4663-4666.	2.9	361
3	Threshold for neoclassical magnetic islands in a low collision frequency tokamak. <i>Physics of Plasmas</i> , 1996, 3, 248-265.	0.7	278
4	On the stabilization of neoclassical magnetohydrodynamic tearing modes using localized current drive or heating. <i>Physics of Plasmas</i> , 1997, 4, 2940-2946.	0.7	202
5	Pedestal Bifurcation and Resonant Field Penetration at the Threshold of Edge-Localized Mode Suppression in the DIII-D Tokamak. <i>Physical Review Letters</i> , 2015, 114, 105002.	2.9	141
6	Effect of Neoclassical Toroidal Viscosity on Error-Field Penetration Thresholds in Tokamak Plasmas. <i>Physical Review Letters</i> , 2007, 99, 065001.	2.9	98
7	Stability of tearing modes in tokamak plasmas. <i>Physics of Plasmas</i> , 1994, 1, 2308-2318.	0.7	73
8	Neoclassical toroidal viscosity and error-field penetration in tokamaks. <i>Physics of Plasmas</i> , 2008, 15, .	0.7	68
9	Interaction of bootstrap-current-driven magnetic islands. <i>Physics of Fluids B</i> , 1992, 4, 1855-1866.	1.7	65
10	Effect of a resistive vacuum vessel on dynamo mode rotation in reversed field pinches. <i>Physics of Plasmas</i> , 1999, 6, 3878-3889.	0.7	58
11	Dynamics of seed magnetic island formation due to geometrically coupled perturbations. <i>Physics of Plasmas</i> , 1999, 6, 130-136.	0.7	56
12	The physics of neoclassical magnetohydrodynamic tearing modes. <i>Physics of Plasmas</i> , 1998, 5, 1767-1774.	0.7	54
13	Computational modeling of fully ionized magnetized plasmas using the fluid approximation. <i>Physics of Plasmas</i> , 2006, 13, 058103.	0.7	48
14	Nonlinear tearing mode interactions and mode locking in reversed-field pinches. <i>Physics of Plasmas</i> , 1996, 3, 4646-4657.	0.7	46
15	Toroidal flow and radial particle flux in tokamak plasmas. <i>Physics of Plasmas</i> , 2009, 16, .	0.7	46
16	Fast flow phenomena in a toroidal plasma. <i>Physics of Plasmas</i> , 1995, 2, 2281-2285.	0.7	44
17	Momentum transport and flow damping in the reversed-field pinch plasma. <i>Physics of Plasmas</i> , 1998, 5, 3982-3985.	0.7	44
18	Determining the Bohm criterion in plasmas with two ion species. <i>Physics of Plasmas</i> , 2011, 18, .	0.7	44

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19	Nonlinear dynamics of pressure driven magnetic islands in low aspect ratio tokamaks. Physics of Plasmas, 1999, 6, 3980-3989.	0.7	42
20	Local three-dimensional magnetostatic equilibria. Physics of Plasmas, 2000, 7, 3921.	0.7	38
21	Momentum Transport from Nonlinear Mode Coupling of Magnetic Fluctuations. Physical Review Letters, 2000, 85, 3408-3411.	2.9	37
22	Computational modeling of neoclassical and resistive magnetohydrodynamic tearing modes in tokamaks. Physics of Plasmas, 1996, 3, 4637-4645.	0.7	34
23	Stellarator Turbulence: Subdominant Eigenmodes and Quasilinear Modeling. Physical Review Letters, 2016, 116, 085001.	2.9	34
24	Plasma transport in mixed magnetic topologies. Physics of Fluids B, 1993, 5, 1804-1808.	1.7	32
25	On the stability of Mercier and ballooning modes in stellarator configurations. Physics of Plasmas, 1998, 5, 1336-1344.	0.7	32
26	Transport equations in tokamak plasmas. Physics of Plasmas, 2010, 17, 056113.	0.7	32
27	Stability of bootstrap current-driven magnetic islands in stellarators. Physics of Plasmas, 1994, 1, 3135-3137.	0.7	29
28	Theory of ITG turbulent saturation in stellarators: Identifying mechanisms to reduce turbulent transport. Physics of Plasmas, 2018, 25, .	0.7	29
29	Geometrical influences on neoclassical magnetohydrodynamic tearing modes. Physics of Plasmas, 1998, 5, 455-460.	0.7	28
30	Onset of high-n ballooning modes during tokamak sawtooth crashes. Physics of Plasmas, 1999, 6, 4685-4692.	0.7	28
31	Gyrokinetic studies of trapped electron mode turbulence in the Helically Symmetric eXperiment stellarator. Physics of Plasmas, 2015, 22, .	0.7	26
32	Saturation scalings of toroidal ion temperature gradient turbulence. Physics of Plasmas, 2018, 25, .	0.7	26
33	Stellarator microinstabilities and turbulence at low magnetic shear. Journal of Plasma Physics, 2018, 84, .	0.7	26
34	Tearing mode analysis in tokamaks, revisited. Physics of Plasmas, 1998, 5, 4292-4299.	0.7	25
35	Kinetic theory of instability-enhanced collisional effects. Physics of Plasmas, 2010, 17, .	0.7	23
36	A model for microinstability destabilization and enhanced transport in the presence of shielded 3D magnetic perturbations. Nuclear Fusion, 2013, 53, 013004.	1.6	21

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37	Pressure profiles, resonant Pfirsch-Schlüter currents, thermal instabilities, and magnetic island formation. <i>Physics of Fluids B</i> , 1992, 4, 4072-4079.	1.7	20
38	Calculating electron cyclotron current drive stabilization of resistive tearing modes in a nonlinear magnetohydrodynamic model. <i>Physics of Plasmas</i> , 2010, 17, 012502.	0.7	20
39	A kinetic equation for unstable plasmas in a finite space-time domain. <i>Physics of Plasmas</i> , 2008, 15, .	0.7	18
40	A closure scheme for modeling rf modifications to the fluid equations. <i>Physics of Plasmas</i> , 2009, 16, 112501.	0.7	18
41	Ideal ballooning stability near an equilibrium magnetic island. <i>Physics of Fluids B</i> , 1992, 4, 3031-3037.	1.7	17
42	Peak neoclassical toroidal viscosity at low toroidal rotation in the DIII-D tokamak. <i>Physics of Plasmas</i> , 2011, 18, 055711.	0.7	17
43	Advancing the physics basis for quasi-helically symmetric stellarators. <i>Journal of Plasma Physics</i> , 2020, 86, .	0.7	17
44	Conductive electron heat flow along an inhomogeneous magnetic field. <i>Physics of Plasmas</i> , 2003, 10, 3933-3938.	0.7	16
45	Electron thermal transport within magnetic islands in the reversed-field pinch. <i>Physics of Plasmas</i> , 2010, 17, 056115.	0.7	16
46	Nonlinear modeling of forced magnetic reconnection in slab geometry with NIMROD. <i>Physics of Plasmas</i> , 2017, 24, .	0.7	16
47	Loss of Second-Ballooning Stability in Three-Dimensional Equilibria. <i>Physical Review Letters</i> , 2001, 87, 035001.	2.9	15
48	Stabilizing effects of edge current density on pedestal instabilities. <i>Physics of Plasmas</i> , 2012, 19, 032503.	0.7	15
49	Resonant-magnetic-perturbation-induced plasma transport in H-mode pedestals. <i>Physics of Plasmas</i> , 2012, 19, .	0.7	15
50	Violating Suydam criterion produces feeble instabilities. <i>Physics of Plasmas</i> , 2002, 9, 3395-3401.	0.7	14
51	Effects of a weakly 3-D equilibrium on ideal magnetohydrodynamic instabilities. <i>Physics of Plasmas</i> , 2014, 21, .	0.7	14
52	Analytical theory of the shear Alfvén continuum in the presence of a magnetic island. <i>Physics of Plasmas</i> , 2015, 22, .	0.7	14
53	Self-consistent mean-field forces in turbulent plasmas: Current and momentum relaxation. <i>Physics of Plasmas</i> , 1998, 5, 2257-2263.	0.7	12
54	Marginal stability boundaries for infinite-n ballooning modes in a quasisymmetric stellarator. <i>Physics of Plasmas</i> , 2003, 10, 4716-4727.	0.7	12

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55	Nature of axial tail instability and bubbleâ€blob formation in near-Earth plasma sheet. Journal of Geophysical Research: Space Physics, 2013, 118, 653-663.	0.8	12
56	Mode penetration induced by transient magnetic perturbations. Physics of Plasmas, 2018, 25, 082507.	0.7	12
57	A comparison of turbulent transport in quasi-helical and a quasi-axisymmetric stellarator. Journal of Plasma Physics, 2019, 85, .	0.7	12
58	Ideal magnetohydrodynamic ballooning stability boundaries in three-dimensional equilibria. Physics of Plasmas, 2002, 9, 2014-2019.	0.7	11
59	Properties of Ballooning Modes in the Planar Axis Heliotron Configurations with a Large Shafranov Shift. Fusion Science and Technology, 2007, 51, 79-91.	0.6	11
60	Disruptive neoclassical tearing mode seeding in DIII-D with implications for ITER. Nuclear Fusion, 0, , .	1.6	11
61	Time-dependent neoclassical viscosity. Physics of Plasmas, 2005, 12, 052516.	0.7	10
62	Nonlinear cyclotron harmonic absorption. Physics of Plasmas, 2009, 16, .	0.7	10
63	Unified theory of resistive and inertial ballooning modes in three-dimensional configurations. Physics of Plasmas, 2009, 16, 102505.	0.7	10
64	Controlling tokamak geometry with three-dimensional magnetic perturbations. Physics of Plasmas, 2014, 21, 100702.	0.7	10
65	Effect of triangularity on ion-temperature-gradient-driven turbulence. Physics of Plasmas, 2022, 29, .	0.7	9
66	Marginal stability diagrams for infinite-n ballooning modes in quasi-symmetric stellarators. Plasma Physics and Controlled Fusion, 2004, 46, 869-876.	0.9	8
67	Drift waves in helically symmetric stellarators. Physics of Plasmas, 2005, 12, 112505.	0.7	7
68	Self-consistent simulations of nonlinear magnetohydrodynamics and profile evolution in stellarator configurations. Physics of Plasmas, 2013, 20, .	0.7	7
69	Forces and moments within layers of driven tearing modes with sheared rotation. Physics of Plasmas, 2015, 22, .	0.7	7
70	The effect of three-dimensional fields on bounce averaged particle drifts in a tokamak. Physics of Plasmas, 2015, 22, .	0.7	7
71	Drift-resistive-inertial ballooning modes in quasihelical stellarators. Physics of Plasmas, 2010, 17, .	0.7	6
72	Improving the stellarator through advances in plasma theory. Nuclear Fusion, 2022, 62, 042012.	1.6	5

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73	Criteria for second stability for ballooning modes in stellarators. <i>Physics of Plasmas</i> , 2004, 11, L53-L56.	0.7	4
74	Dissipative trapped-electron instability in quasihelically symmetric stellarators. <i>Physics of Plasmas</i> , 2006, 13, 062501.	0.7	4
75	Effects of electron cyclotron resonance heating (ECRH)-induced direct loss flux on neoclassical transport in a bumpy stellarator. <i>Physics of Plasmas</i> , 2007, 14, 082505.	0.7	4
76	Wall-locking of kink modes in a line-tied screw pinch with a rotating wall. <i>Physics of Plasmas</i> , 2012, 19, 056104.	0.7	4
77	The effect of sheared toroidal rotation on pressure driven magnetic islands in toroidal plasmas. <i>Physics of Plasmas</i> , 2016, 23, .	0.7	4
78	Sheared flow effects on ballooning instabilities in three-dimensional equilibria. <i>Physics of Plasmas</i> , 2005, 12, 122502.	0.7	3
79	Asymmetric error field interaction with rotating conducting walls. <i>Physics of Plasmas</i> , 2012, 19, 072511.	0.7	3
80	The effect of anisotropic heat transport on magnetic islands in 3-D configurations. <i>Physics of Plasmas</i> , 2012, 19, .	0.7	3
81	Bootstrap current and Ware pinch in drift-wave turbulent transport. <i>Physics of Fluids B</i> , 1991, 3, 3263-3270.	1.7	2
82	Title is missing!. <i>Journal of Fusion Energy</i> , 2000, 19, 229-244.	0.5	2
83	Electron thermal confinement in a partially stochastic magnetic structure. <i>Physics of Plasmas</i> , 2018, 25, .	0.7	2
84	Benchmarking NIMROD continuum kinetic formulations through the steady-state poloidal flow. <i>Physics of Plasmas</i> , 2021, 28, 082503.	0.7	2
85	Role of bumpy fields on single particle orbit in near quasihelically symmetric stellarators. <i>Physics of Plasmas</i> , 2004, 11, 3672-3675.	0.7	1
86	Magnetic island effects on axisymmetric equilibria. <i>Physics of Plasmas</i> , 2004, 11, 4824-4829.	0.7	1
87	Compressibility effect on magnetic-shear-localized ideal magnetohydrodynamic interchange instability. <i>Physics of Plasmas</i> , 2005, 12, 082105.	0.7	1
88	Enhanced electron scattering due to the ion acoustic instability. , 2008, , .		0
89	Rotation Properties of Tokamak Plasmas. <i>Fusion Science and Technology</i> , 2011, 59, 623-624.	0.6	0