

Per Helander

List of Publications by Year in descending order

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104
papers

3,459
citations

101543

36
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155660

55
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106
all docs

106
docs citations

106
times ranked

1503
citing authors

#	ARTICLE	IF	CITATIONS
1	Experimental confirmation of efficient island divertor operation and successful neoclassical transport optimization in Wendelstein 7-X. Nuclear Fusion, 2022, 62, 042022.	3.5	24
2	Heat conduction in an irregular magnetic field. Part 2. Heat transport as a measure of the effective non-integrable volume. Journal of Plasma Physics, 2022, 88, .	2.1	5
3	Turbulence mitigation in maximum-J stellarators with electron-density gradient. Journal of Plasma Physics, 2022, 88, .	2.1	11
4	On heat conduction in an irregular magnetic field. Part 1. Journal of Plasma Physics, 2022, 88, .	2.1	2
5	Energetic bounds on gyrokinetic instabilities. Part 1. Fundamentals. Journal of Plasma Physics, 2022, 88, .	2.1	2
6	Available Energy of Trapped Electrons and Its Relation to Turbulent Transport. Physical Review Letters, 2022, 128, 175001.	7.8	11
7	Energetic bounds on gyrokinetic instabilities. Part 2. Modes of optimal growth. Journal of Plasma Physics, 2022, 88, .	2.1	1
8	Coulomb collisions in strongly anisotropic plasmas II. Cyclotron cooling in laboratory pair plasmas. Journal of Plasma Physics, 2021, 87, .	2.1	2
9	Coulomb collisions in strongly anisotropic plasmas I. Cyclotron cooling in electron-ion plasmas. Journal of Plasma Physics, 2021, 87, .	2.1	2
10	Combined plasma-coil optimization algorithms. Journal of Plasma Physics, 2021, 87, .	2.1	12
11	Understanding detachment of the W7-X island divertor. Nuclear Fusion, 2021, 61, 086012.	3.5	29
12	W7-X and the sawtooth instability: towards realistic simulations of current-driven magnetic reconnection. Nuclear Fusion, 2021, 61, 086001.	3.5	5
13	Modelling of parallel dynamics of a pellet-produced plasmoid. Journal of Plasma Physics, 2021, 87, .	2.1	5
14	Demonstration of reduced neoclassical energy transport in Wendelstein 7-X. Nature, 2021, 596, 221-226.	27.8	69
15	Self-similar expansion of a plasmoid supplied by pellet ablation. Plasma Physics and Controlled Fusion, 2021, 63, 095008.	2.1	8
16	Representing the boundary of stellarator plasmas. Journal of Plasma Physics, 2021, 87, .	2.1	5
17	Model for current drive induced crash cycles in W7-X. Nuclear Fusion, 2021, 61, 126040.	3.5	7
18	Magnetic reconnection in 3D fusion devices: non-linear reduced equations and linear current-driven instabilities. Plasma Physics and Controlled Fusion, 2021, 63, 025001.	2.1	6

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19	Upper Bounds on Gyrokinetic Instabilities in Magnetized Plasmas. Physical Review Letters, 2021, 127, 155001.	7.8	4
20	Direct construction of optimized stellarator shapes. Part 3. Omnigenity near the magnetic axis " ERRATUM. Journal of Plasma Physics, 2021, 87, .	2.1	2
21	Turbulence Mechanisms of Enhanced Performance Stellarator Plasmas. Physical Review Letters, 2020, 125, 075001.	7.8	32
22	A new frontier in laboratory physics: magnetized electron-positron plasmas. Journal of Plasma Physics, 2020, 86, .	2.1	31
23	Linear gyrokinetics of electron-positron plasmas in closed field-line systems. Journal of Plasma Physics, 2020, 86, .	2.1	5
24	Stellarators with Permanent Magnets. Physical Review Letters, 2020, 124, 095001.	7.8	28
25	Necessary and sufficient conditions for quasisymmetry. Physics of Plasmas, 2020, 27, .	1.9	30
26	Available energy from diffusive and reversible phase space rearrangements. Physics of Plasmas, 2020, 27, .	1.9	6
27	Effects of collisions on impurity transport driven by electrostatic modes. Journal of Plasma Physics, 2020, 86, .	2.1	1
28	Improving fast-particle confinement in quasi-axisymmetric stellarator optimization. Plasma Physics and Controlled Fusion, 2020, 62, 014023.	2.1	10
29	Effect of plasma elongation on current dynamics during tokamak disruptions. Journal of Plasma Physics, 2020, 86, .	2.1	15
30	Bootstrap current and parallel ion velocity in imperfectly optimized stellarators. Journal of Plasma Physics, 2020, 86, .	2.1	2
31	Available energy of magnetically confined plasmas. Journal of Plasma Physics, 2020, 86, .	2.1	11
32	Suppression of electrostatic micro-instabilities in maximum-J stellarators. Plasma Physics and Controlled Fusion, 2020, 62, 035005.	2.1	37
33	Bootstrap current and parallel ion velocity in imperfectly optimized stellarators Corrigendum. Journal of Plasma Physics, 2020, 86, .	2.1	0
34	Performance of Wendelstein 7-X stellarator plasmas during the first divertor operation phase. Physics of Plasmas, 2019, 26, .	1.9	83
35	Overview of first Wendelstein 7-X high-performance operation. Nuclear Fusion, 2019, 59, 112004.	3.5	165
36	Study of up-down poloidal density asymmetry of high-impurities with the new impurity version of XGCa. Journal of Plasma Physics, 2019, 85, .	2.1	10

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37	Direct construction of optimized stellarator shapes. Part 3. Omnigenity near the magnetic axis. Journal of Plasma Physics, 2019, 85, .	2.1	23
38	Optimisation of stellarator equilibria with ROSE. Nuclear Fusion, 2019, 59, 016010.	3.5	41
39	Properties of a new quasi-axisymmetric configuration. Nuclear Fusion, 2019, 59, 026014.	3.5	58
40	Plasma ion heating by cryogenic pellet injection. Journal of Plasma Physics, 2019, 85, .	2.1	11
41	Electrostatic stability of electron-positron plasmas in dipole geometry. Journal of Plasma Physics, 2018, 84, .	2.1	10
42	Gyrokinetic stability of electron-positron-ion plasmas. Journal of Plasma Physics, 2018, 84, .	2.1	10
43	Threshold for the destabilisation of the ion-temperature-gradient mode in magnetically confined toroidal plasmas. Journal of Plasma Physics, 2018, 84, .	2.1	20
44	Quasi-axisymmetric magnetic fields: weakly non-axisymmetric case in a vacuum. Journal of Plasma Physics, 2018, 84, .	2.1	26
45	Linear electrostatic gyrokinetics for electron-positron plasmas. Journal of Plasma Physics, 2018, 84, .	2.1	7
46	Analysis of electron cyclotron emission with extended electron cyclotron forward modeling. Plasma Physics and Controlled Fusion, 2018, 60, 105010.	2.1	24
47	Kinetic ballooning modes in tokamaks and stellarators. Journal of Plasma Physics, 2018, 84, .	2.1	20
48	Magnetic configuration effects on the Wendelstein 7-X stellarator. Nature Physics, 2018, 14, 855-860.	16.7	110
49	Quasilinear particle transport from gyrokinetic instabilities in general magnetic geometry. Plasma Physics and Controlled Fusion, 2018, 60, 084006.	2.1	14
50	Generation of electrostatic oscillations in the ion cyclotron frequency range by modulated ECRH. Nuclear Fusion, 2018, 58, 104003.	3.5	12
51	Stellarator bootstrap current and plasma flow velocity at low collisionality. Journal of Plasma Physics, 2017, 83, .	2.1	11
52	Major results from the first plasma campaign of the Wendelstein 7-X stellarator. Nuclear Fusion, 2017, 57, 102020.	3.5	128
53	Electrostatic potential variation on the flux surface and its impact on impurity transport. Nuclear Fusion, 2017, 57, 056004.	3.5	39
54	Impurity transport and bulk ion flow in a mixed collisionality stellarator plasma. Journal of Plasma Physics, 2017, 83, .	2.1	17

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55	Impurity Transport in a Mixed-Collisionality Stellarator Plasma. <i>Physical Review Letters</i> , 2017, 118, 155002.	7.8	41
56	Available energy and ground states of collisionless plasmas. <i>Journal of Plasma Physics</i> , 2017, 83, .	2.1	24
57	Equilibrium β -limits in classical stellarators. <i>Journal of Plasma Physics</i> , 2017, 83, .	2.1	22
58	Collisionless microinstabilities in stellarators. Part 4. The ion-driven trapped-electron mode. <i>Journal of Plasma Physics</i> , 2017, 83, .	2.1	14
59	Confirmation of the topology of the Wendelstein 7-X magnetic field to better than 1:100,000. <i>Nature Communications</i> , 2016, 7, 13493.	12.8	85
60	Gyrokinetic stability theory of electron-positron plasmas. <i>Journal of Plasma Physics</i> , 2016, 82, .	2.1	24
61	On the W7-X divertor performance under detached conditions. <i>Nuclear Fusion</i> , 2016, 56, 126011.	3.5	18
62	Existence of three-dimensional ideal-magnetohydrodynamic equilibria with current sheets. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	37
63	The universal instability in general geometry. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	11
64	Advances in stellarator gyrokinetics. <i>Nuclear Fusion</i> , 2015, 55, 053030.	3.5	42
65	The impact of poloidal asymmetries on tungsten transport in the core of JET H-mode plasmas. <i>Physics of Plasmas</i> , 2015, 22, 055902.	1.9	49
66	Electrostatic potential variations along flux surfaces in stellarators. <i>Nuclear Fusion</i> , 2015, 55, 052001.	3.5	24
67	Selective ECR heating of trapped/passing electrons in the W7-X stellarator. , 2014, , .		1
68	Neoclassical transport of heavy impurities with poloidally asymmetric density distribution in tokamaks. <i>Plasma Physics and Controlled Fusion</i> , 2014, 56, 124001.	2.1	74
69	Fast particle confinement with optimized coil currents in the W7-X stellarator. <i>Nuclear Fusion</i> , 2014, 54, 073002.	3.5	67
70	Collisionless microinstabilities in stellarators. III. The ion-temperature-gradient mode. <i>Physics of Plasmas</i> , 2014, 21, .	1.9	40
71	Controlling Turbulence in Present and Future Stellarators. <i>Physical Review Letters</i> , 2014, 113, 155001.	7.8	70
72	Microstability of Magnetically Confined Electron-Positron Plasmas. <i>Physical Review Letters</i> , 2014, 113, 135003.	7.8	45

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73	Comparison of particle trajectories and collision operators for collisional transport in nonaxisymmetric plasmas. <i>Physics of Plasmas</i> , 2014, 21, .	1.9	79
74	Theory of plasma confinement in non-axisymmetric magnetic fields. <i>Reports on Progress in Physics</i> , 2014, 77, 087001.	20.1	206
75	Passive runaway electron suppression in tokamak disruptions. <i>Physics of Plasmas</i> , 2013, 20, .	1.9	20
76	Technical challenges in the construction of the steady-state stellarator Wendelstein 7-X. <i>Nuclear Fusion</i> , 2013, 53, 126001.	3.5	77
77	Towards assembly completion and preparation of experimental campaigns of Wendelstein 7-X in the perspective of a path to a stellarator fusion power plant. <i>Fusion Engineering and Design</i> , 2013, 88, 461-465.	1.9	56
78	Collisionless microinstabilities in stellarators. I. Analytical theory of trapped-particle modes. <i>Physics of Plasmas</i> , 2013, 20, 122505.	1.9	38
79	Collisionless microinstabilities in stellarators. II. Numerical simulations. <i>Physics of Plasmas</i> , 2013, 20, .	1.9	29
80	ESTELL: A Quasi-Toroidally Symmetric Stellarator. <i>Contributions To Plasma Physics</i> , 2013, 53, 459-468.	1.1	37
81	Resilience of Quasi-Isodynamic Stellarators against Trapped-Particle Instabilities. <i>Physical Review Letters</i> , 2012, 108, 245002.	7.8	59
82	Stellarator and tokamak plasmas: a comparison. <i>Plasma Physics and Controlled Fusion</i> , 2012, 54, 124009.	2.1	111
83	On the bootstrap current in stellarators and tokamaks. <i>Physics of Plasmas</i> , 2011, 18, .	1.9	26
84	Plasma rotation in a quasi-symmetric stellarator. <i>Plasma Physics and Controlled Fusion</i> , 2011, 53, 024005.	2.1	11
85	Gyrokinetic Theory of Rotation in Stellarators. <i>Contributions To Plasma Physics</i> , 2010, 50, 695-700.	1.1	2
86	Neoclassical momentum transport in a collisional stellarator and a rippled tokamak. <i>Physics of Plasmas</i> , 2009, 16, 042503.	1.9	17
87	Bootstrap current and neoclassical transport in quasi-isodynamic stellarators. <i>Plasma Physics and Controlled Fusion</i> , 2009, 51, 055004.	2.1	47
88	Runaway electron generation during plasma shutdown by killer pellet injection. <i>Plasma Physics and Controlled Fusion</i> , 2008, 50, 055006.	2.1	19
89	Collisionality dependence of the quasilinear particle flux due to microinstabilities. <i>Physics of Plasmas</i> , 2008, 15, 072308.	1.9	7
90	Intrinsic Ambipolarity and Rotation in Stellarators. <i>Physical Review Letters</i> , 2008, 101, 145003.	7.8	79

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91	Curvature particle pinch in tokamak and stellarator geometry. <i>Physics of Plasmas</i> , 2007, 14, 102308.	1.9	7
92	Resistive stability of a plasma with runaway electrons. <i>Physics of Plasmas</i> , 2007, 14, .	1.9	28
93	Runaway electrons and the evolution of the plasma current in tokamak disruptions. <i>Physics of Plasmas</i> , 2006, 13, 102502.	1.9	59
94	Tokamak current driven by poloidally asymmetric fueling. <i>Physics of Plasmas</i> , 2006, 13, 102506.	1.9	6
95	Destabilization of magnetosonic-whistler waves by a relativistic runaway beam. <i>Physics of Plasmas</i> , 2006, 13, 062506.	1.9	61
96	Relativistic electron distribution function of a plasma in a near-critical electric field. <i>Physics of Plasmas</i> , 2006, 13, 072108.	1.9	12
97	Runaway electron generation in a cooling plasma. <i>Physics of Plasmas</i> , 2005, 12, 122505.	1.9	47
98	Current Dynamics during Disruptions in Large Tokamaks. <i>Physical Review Letters</i> , 2004, 92, 205004.	7.8	69
99	Electron kinetics in a cooling plasma. <i>Physics of Plasmas</i> , 2004, 11, 5704-5709.	1.9	37
100	Effect of the inductive electric field on ion flow in tokamaks. <i>Physics of Plasmas</i> , 2001, 8, 3334-3341.	1.9	4
101	Damping of relativistic electron beams by synchrotron radiation. <i>Physics of Plasmas</i> , 2001, 8, 5221-5229.	1.9	70
102	Nonlinear neoclassical transport in a rotating impure plasma with large gradients. <i>Physics of Plasmas</i> , 1999, 6, 3066-3075.	1.9	64
103	Bifurcated neoclassical particle transport. <i>Physics of Plasmas</i> , 1998, 5, 3999-4004.	1.9	59
104	Fluid equations for a partially ionized plasma. <i>Physics of Plasmas</i> , 1994, 1, 3174-3180.	1.9	65