

Francis Casson

List of Publications by Year in descending order

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53
papers

2,167
citations

236925

25
h-index

223800

46
g-index

55
all docs

55
docs citations

55
times ranked

1265
citing authors

#	ARTICLE	IF	CITATIONS
1	The nonlinear gyro-kinetic flux tube code GKW. Computer Physics Communications, 2009, 180, 2650-2672.	7.5	238
2	Transport of Parallel Momentum Induced by Current-Symmetry Breaking in Toroidal Plasmas. Physical Review Letters, 2009, 102, 125001.	7.8	108
3	Theoretical description of heavy impurity transport and its application to the modelling of tungsten in JET and ASDEX upgrade. Plasma Physics and Controlled Fusion, 2015, 57, 014031.	2.1	107
4	Off-diagonal particle and toroidal momentum transport: a survey of experimental, theoretical and modelling aspects. Nuclear Fusion, 2012, 52, 114003.	3.5	102
5	Intrinsic Toroidal Rotation, Density Peaking, and Turbulence Regimes in the Core of Tokamak Plasmas. Physical Review Letters, 2011, 107, 215003.	7.8	99
6	Gyrokinetic simulations of spherical tokamaks. Plasma Physics and Controlled Fusion, 2009, 51, 124020.	2.1	84
7	Pedestal confinement and stability in JET-ILW ELMy H-modes. Nuclear Fusion, 2015, 55, 113031.	3.5	82
8	Impact of the background toroidal rotation on particle and heat turbulent transport in tokamak plasmas. Physics of Plasmas, 2009, 16, .	1.9	80
9	Influence of the centrifugal force and parallel dynamics on the toroidal momentum transport due to small scale turbulence in a tokamak. Physics of Plasmas, 2009, 16, .	1.9	75
10	Anomalous parallel momentum transport due to $E\tilde{A}$ -B flow shear in a tokamak plasma. Physics of Plasmas, 2009, 16, .	1.9	73
11	The nonlinear coupling between gyroradius scale turbulence and mesoscale magnetic islands in fusion plasmas. Physics of Plasmas, 2010, 17, .	1.9	70
12	Gyrokinetic simulations including the centrifugal force in a rotating tokamak plasma. Physics of Plasmas, 2010, 17, 102305.	1.9	64
13	Progress at JET in integrating ITER-relevant core and edge plasmas within the constraints of an ITER-like wall. Plasma Physics and Controlled Fusion, 2015, 57, 035004.	2.1	64
14	Novel free-boundary equilibrium and transport solver with theory-based models and its validation against ASDEX Upgrade current ramp scenarios. Plasma Physics and Controlled Fusion, 2013, 55, 124028.	2.1	58
15	Fast modeling of turbulent transport in fusion plasmas using neural networks. Physics of Plasmas, 2020, 27, .	1.9	58
16	Tractable flux-driven temperature, density, and rotation profile evolution with the quasilinear gyrokinetic transport model QuaLiKiz. Plasma Physics and Controlled Fusion, 2017, 59, 124005.	2.1	57
17	Characterizing turbulent transport in ASDEX Upgrade L-mode plasmas via nonlinear gyrokinetic simulations. Physics of Plasmas, 2013, 20, 122312.	1.9	50
18	The impact of poloidal asymmetries on tungsten transport in the core of JET H-mode plasmas. Physics of Plasmas, 2015, 22, 055902.	1.9	49

#	ARTICLE	IF	CITATIONS
19	Intrinsic rotation driven by the electrostatic turbulence in up-down asymmetric toroidal plasmas. <i>Physics of Plasmas</i> , 2009, 16, .	1.9	45
20	Predictive multi-channel flux-driven modelling to optimise ICRH tungsten control and fusion performance in JET. <i>Nuclear Fusion</i> , 2020, 60, 066029.	3.5	45
21	Interaction of turbulence with magnetic islands: effect on bootstrap current. <i>Plasma Physics and Controlled Fusion</i> , 2011, 53, 054008.	2.1	41
22	The influence of the self-consistent mode structure on the Coriolis pinch effect. <i>Physics of Plasmas</i> , 2009, 16, .	1.9	40
23	Experimental Evidence of Momentum Transport Induced by an Up-Down Asymmetric Magnetic Equilibrium in Toroidal Plasmas. <i>Physical Review Letters</i> , 2010, 105, 135003.	7.8	36
24	On seed island generation and the non-linear self-consistent interaction of the tearing mode With electromagnetic gyro-kinetic turbulence. <i>Plasma Physics and Controlled Fusion</i> , 2015, 57, 054018.	2.1	35
25	Analytic formulae for centrifugal effects on turbulent transport of trace impurities in tokamak plasmas. <i>Physics of Plasmas</i> , 2012, 19, .	1.9	32
26	Toroidal momentum transport in a tokamak caused by symmetry breaking parallel derivatives. <i>Physics of Plasmas</i> , 2013, 20, 042506.	1.9	21
27	The linear tearing instability in three dimensional, toroidal gyro-kinetic simulations. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	21
28	Gradient-driven flux-tube simulations of ion temperature gradient turbulence close to the non-linear threshold. <i>Physics of Plasmas</i> , 2016, 23, .	1.9	21
29	New H-mode regimes with small ELMs and high thermal confinement in the Joint European Torus. <i>Physics of Plasmas</i> , 2022, 29, .	1.9	21
30	Experimental demonstration of an up-down asymmetry effect on intrinsic rotation in the TCV tokamak. <i>Plasma Physics and Controlled Fusion</i> , 2010, 52, 124037.	2.1	20
31	Angular momentum transport modeling: achievements of a gyrokinetic quasi-linear approach. <i>Plasma Physics and Controlled Fusion</i> , 2014, 56, 015011.	2.1	18
32	The non-linear evolution of the tearing mode in electromagnetic turbulence using gyrokinetic simulations. <i>Plasma Physics and Controlled Fusion</i> , 2016, 58, 014028.	2.1	16
33	Flux-driven integrated modelling of main ion pressure and trace tungsten transport in ASDEX Upgrade. <i>Nuclear Fusion</i> , 2019, 59, 016003.	3.5	16
34	On the nonlinear coupling between micro turbulence and mesoscale magnetic islands in a plasma. <i>Europhysics Letters</i> , 2010, 91, 45001.	2.0	15
35	Ion temperature gradient instability at sub-Larmor radius scales with non-zero ballooning angle. <i>Physics of Plasmas</i> , 2013, 20, .	1.9	14
36	Toroidal momentum transport in a tokamak due to profile shearing. <i>Physics of Plasmas</i> , 2014, 21, .	1.9	14

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37	Charge dependence of neoclassical and turbulent transport of light impurities on MAST. Plasma Physics and Controlled Fusion, 2015, 57, 095001.	2.1	14
38	High Z neoclassical transport: Application and limitation of analytical formulae for modelling JET experimental parameters. Physics of Plasmas, 2018, 25, .	1.9	14
39	Multiple-isotope pellet cycles captured by turbulent transport modelling in the JET tokamak. Nuclear Fusion, 2021, 61, 036042.	3.5	14
40	Neural network surrogate of QualiKiz using JET experimental data to populate training space. Physics of Plasmas, 2021, 28, .	1.9	14
41	H-mode plasmas in the pre-fusion power operation 1 phase of the ITER research plan. Nuclear Fusion, 2021, 61, 076012.	3.5	14
42	Gyrokinetic modeling of impurity peaking in JET H-mode plasmas. Physics of Plasmas, 2017, 24, .	1.9	13
43	Gyrokinetic determination of the electrostatic potential of rotating magnetic islands in tokamaks. Physics of Plasmas, 2011, 18, .	1.9	12
44	Interplay between toroidal rotation and flow shear in turbulence stabilisation. Physics of Plasmas, 2016, 23, .	1.9	12
45	Integrated modelling and multiscale gyrokinetic validation study of ETG turbulence in a JET hybrid H-mode scenario. Nuclear Fusion, 2022, 62, 086025.	3.5	11
46	Verification of a magnetic island in gyro-kinetics by comparison with analytic theory. Physics of Plasmas, 2015, 22, .	1.9	10
47	Linear multispecies gyrokinetic flux tube benchmarks in shaped tokamak plasmas. Physics of Plasmas, 2016, 23, 032104.	1.9	10
48	Modelling and theoretical understanding of the isotope effect from JET experiments in view of reliable predictions for deuterium-tritium plasmas. Plasma Physics and Controlled Fusion, 2022, 64, 054001.	2.1	9
49	Parametric study of linear stability of toroidal Alfvén eigenmode in JET and KSTAR. Nuclear Fusion, 2020, 60, 066008.	3.5	8
50	A new quasilinear saturation rule for tokamak turbulence with application to the isotope scaling of transport. Nuclear Fusion, 2022, 62, 096005.	3.5	7
51	Fusion power predictions for $\hat{I}^2 _N \hat{\alpha}^{\wedge} 1.8$ baseline scenario with 50â€“50 Dâ€“T fuel mix and NBI injection in preparation to Dâ€“T operations at JET. Nuclear Fusion, 2022, 62, 076024.	3.5	4
52	On the criteria guiding the design of the upper electron-cyclotron launcher for ITER. EPJ Web of Conferences, 2015, 87, 01008.	0.3	2
53	Kinetic effects on the currents determining the stability of a magnetic island in tokamaks. Plasma Physics Reports, 2016, 42, 450-464.	0.9	2