

Tobias GÄrler

List of Publications by Year in descending order

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105
papers

3,099
citations

136950

32
h-index

189892

50
g-index

106
all docs

106
docs citations

106
times ranked

1627
citing authors

#	ARTICLE	IF	CITATIONS
1	Progress from ASDEX Upgrade experiments in preparing the physics basis of ITER operation and DEMO scenario development. Nuclear Fusion, 2022, 62, 042006.	3.5	15
2	EUROfusion-theory and advanced simulation coordination (E-TASC): programme and the role of high performance computing. Plasma Physics and Controlled Fusion, 2022, 64, 034005.	2.1	2
3	Turbulence mitigation in maximum-J stellarators with electron-density gradient. Journal of Plasma Physics, 2022, 88, .	2.1	11
4	Core transport barriers induced by fast ions in global gyrokinetic GENE simulations. Plasma Physics and Controlled Fusion, 2022, 64, 064003.	2.1	4
5	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
6	Gyrokinetic analysis of an argon-seeded EDA H-mode in ASDEX Upgrade. Journal of Plasma Physics, 2022, 88, .	2.1	3
7	Nonlinear electromagnetic interplay between fast ions and ion-temperature-gradient plasma turbulence. Journal of Plasma Physics, 2021, 87, .	2.1	16
8	Benchmark of quasi-linear models against gyrokinetic single scale simulations in deuterium and tritium plasmas for a JET high beta hybrid discharge. Nuclear Fusion, 2021, 61, 066032.	3.5	8
9	New High-Confinement Regime with Fast Ions in the Core of Fusion Plasmas. Physical Review Letters, 2021, 127, 025002.	7.8	34
10	Experimental investigation and gyrokinetic simulations of multi-scale electron heat transport in JET, AUG, TCV. Nuclear Fusion, 2021, 61, 116071.	3.5	4
11	Developments towards an ELM-free pedestal radiative cooling scenario using noble gas seeding in ASDEX Upgrade. Nuclear Fusion, 2021, 61, 016002.	3.5	33
12	Global electromagnetic turbulence simulations of W7-X-like plasmas with GENE-3D. Journal of Plasma Physics, 2021, 87, .	2.1	13
13	Exploring fusion-reactor physics with high-power electron cyclotron resonance heating on ASDEX Upgrade. Plasma Physics and Controlled Fusion, 2020, 62, 024012.	2.1	16
14	GENE-3D: A global gyrokinetic turbulence code for stellarators. Journal of Computational Physics, 2020, 420, 109694.	3.8	17
15	Linear gyrokinetics of electron-positron plasmas in closed field-line systems. Journal of Plasma Physics, 2020, 86, .	2.1	5
16	Multi-species collisions for delta-f gyrokinetic simulations: Implementation and verification with GENE. Computer Physics Communications, 2020, 255, 107360.	7.5	16
17	Fullwave Doppler reflectometry simulations for density turbulence spectra in ASDEX Upgrade using GENE and IPF-FD3D. Plasma Science and Technology, 2020, 22, 064006.	1.5	8
18	Impact of fast ions on a trapped-electron-mode dominated plasma in a JT-60U hybrid scenario. Nuclear Fusion, 2020, 60, 046026.	3.5	16

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19	Sensitivity-driven adaptive sparse stochastic approximations in plasma microinstability analysis. <i>Journal of Computational Physics</i> , 2020, 410, 109394.	3.8	7
20	Overview of physics studies on ASDEX Upgrade. <i>Nuclear Fusion</i> , 2019, 59, 112014.	3.5	38
21	A new mechanism for increasing density peaking in tokamaks: improvement of the inward particle pinch with edge $E \times B$ shearing. <i>Plasma Physics and Controlled Fusion</i> , 2019, 61, 104002.	2.1	12
22	First principles and integrated modelling achievements towards trustful fusion power predictions for JET and ITER. <i>Nuclear Fusion</i> , 2019, 59, 086047.	3.5	36
23	Electromagnetic turbulence suppression by energetic particle driven modes. <i>Nuclear Fusion</i> , 2019, 59, 124001.	3.5	57
24	Advances in turbulence measurements using new Correlation ECE and nT-phase diagnostics at ASDEX Upgrade. <i>EPJ Web of Conferences</i> , 2019, 203, 03001.	0.3	1
25	Growth rates of ITG modes in the presence of flow shear. <i>Physics of Plasmas</i> , 2019, 26, 012502.	1.9	3
26	The role of the source versus the collisionality in predicting a reactor density profile as observed on ASDEX Upgrade discharges. <i>Nuclear Fusion</i> , 2019, 59, 076042.	3.5	30
27	Resonant interaction of energetic ions with bulk-ion plasma micro-turbulence. <i>Physics of Plasmas</i> , 2019, 26, 052504.	1.9	20
28	A Look at Phase Space Intermittency in Magnetized Plasma Turbulence. <i>Astrophysical Journal</i> , 2019, 886, 65.	4.5	6
29	Gyrokinetic investigation of the ASDEX Upgrade I-mode pedestal. <i>Physics of Plasmas</i> , 2019, 26, 122504.	1.9	11
30	Non-Maxwellian fast particle effects in gyrokinetic GENE simulations. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	29
31	Isotope and fast ions turbulence suppression effects: Consequences for high- β^2 ITER plasmas. <i>Physics of Plasmas</i> , 2018, 25, 055902.	1.9	44
32	Validation of gyrokinetic simulations with measurements of electron temperature fluctuations and density-temperature phase angles on ASDEX Upgrade. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	32
33	Fast-ion stabilization of tokamak plasma turbulence. <i>Nuclear Fusion</i> , 2018, 58, 054002.	3.5	48
34	Investigating the radial structure of axisymmetric fluctuations in the TCV tokamak with local and global gyrokinetic GENE simulations. <i>Plasma Physics and Controlled Fusion</i> , 2018, 60, 034003.	2.1	14
35	Identifying microturbulence regimes in a TCV discharge making use of physical constraints on particle and heat fluxes. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	15
36	Turbulence in high-beta ASDEX upgrade advanced scenarios. <i>Nuclear Fusion</i> , 2018, 58, 016044.	3.5	25

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37	Using Fullwave Simulations to Understand the Turbulent Wavenumber Spectrum Measured by Doppler Reflectometry. EPJ Web of Conferences, 2018, 187, 01012.	0.3	0
38	Validation study of GENE on ASDEX Upgrade using perturbative thermal diffusivity measured with partial sawtooth heat pulses. Nuclear Fusion, 2018, 58, 126001.	3.5	6
39	Impact of electron-scale turbulence and multi-scale interactions in the JET tokamak. Nuclear Fusion, 2018, 58, 124003.	3.5	23
40	Effect of elongation on energetic particle-induced geodesic acoustic mode. Nuclear Fusion, 2018, 58, 106014.	3.5	16
41	Special issue on comparing gyrokinetic simulations to experiments. Plasma Physics and Controlled Fusion, 2017, 59, 050101.	2.1	3
42	Comparison of detailed experimental wavenumber spectra with gyrokinetic simulation aided by two-dimensional full-wave simulations. Plasma Physics and Controlled Fusion, 2017, 59, 054009.	2.1	27
43	Verification of Gyrokinetic codes: Theoretical background and applications. Physics of Plasmas, 2017, 24, .	1.9	17
44	Summary of 21st joint EU-US transport task force workshop (Leysin, September 5â€“8, 2016). Nuclear Fusion, 2017, 57, 087001.	3.5	2
45	Block-structured grids in full velocity space for Eulerian gyrokinetic simulations. Computer Physics Communications, 2017, 215, 49-62.	7.5	11
46	Gyrokinetic nonlinear isotope effects in tokamak plasmas. Nuclear Fusion, 2017, 57, 014007.	3.5	39
47	Cross-code gyrokinetic verification and benchmark on the linear collisionless dynamics of the geodesic acoustic mode. Physics of Plasmas, 2017, 24, .	1.9	22
48	X mode Doppler reflectometry<i>k</i>-spectral measurements in ASDEX Upgrade: experiments and simulations. Plasma Physics and Controlled Fusion, 2017, 59, 075006.	2.1	34
49	Challenges in the extrapolation from DD to DT plasmas: experimental analysis and theory based predictions for JET-DT. Plasma Physics and Controlled Fusion, 2017, 59, 014023.	2.1	33
50	Explaining the isotope effect on heat transport in L-mode with the collisional electron-ion energy exchange. Nuclear Fusion, 2017, 57, 066003.	3.5	53
51	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
52	Characterization with microturbulence simulations of the zero particle flux condition in case of a TCV discharge showing toroidal rotation reversal. Journal of Physics: Conference Series, 2016, 775, 012007.	0.4	3
53	Interaction between neoclassical effects and ion temperature gradient turbulence in gradient- and flux-driven gyrokinetic simulations. Physics of Plasmas, 2016, 23, 042509.	1.9	13
54	On the Validation of Gyrokinetic L-Mode Simulations. Fusion Science and Technology, 2016, 69, 537-545.	1.1	6

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55	Gyrokinetic study of turbulence suppression in a JET-ILW power scan. Plasma Physics and Controlled Fusion, 2016, 58, 115005.	2.1	22
56	Benchmarking the GENE and GYRO codes through the relative roles of electromagnetic and $E \times B$ stabilization in JET high-performance discharges. Plasma Physics and Controlled Fusion, 2016, 58, 125018.	1.9	17
57	Quasi-symmetry and the nature of radial turbulent transport in quasi-poloidal stellarators. Physics of Plasmas, 2016, 23, 102308.	1.9	2
58	Comparisons between global and local gyrokinetic simulations of an ASDEX Upgrade H-mode plasma. Physics of Plasmas, 2016, 23, .	1.9	9
59	Linear multispecies gyrokinetic flux tube benchmarks in shaped tokamak plasmas. Physics of Plasmas, 2016, 23, 032104.	1.9	10
60	Microtearing turbulence limiting the JET-ILW pedestal. Nuclear Fusion, 2016, 56, 104003.	3.5	84
61	Intercode comparison of gyrokinetic global electromagnetic modes. Physics of Plasmas, 2016, 23, .	1.9	44
62	Residual zonal flows in tokamaks and stellarators at arbitrary wavelengths. Plasma Physics and Controlled Fusion, 2016, 58, 045018.	2.1	23
63	Block-structured grids for Eulerian gyrokinetic simulations. Computer Physics Communications, 2016, 198, 105-117.	7.5	17
64	How non-adiabatic passing electron layers of linear microinstabilities affect turbulent transport. Physics of Plasmas, 2015, 22, .	1.9	31
65	Global electromagnetic simulations of the outer core of an ASDEX Upgrade L-mode plasma. Physics of Plasmas, 2015, 22, .	1.9	2
66	Comprehensive comparisons of geodesic acoustic mode characteristics and dynamics between Tore Supra experiments and gyrokinetic simulations. Physics of Plasmas, 2015, 22, 062508.	1.9	23
67	DSHARK: A dispersion relation solver for obliquely propagating waves in κ -distributed plasmas. Journal of Geophysical Research: Space Physics, 2015, 120, 7107-7120.	2.4	33
68	Electromagnetic stabilization of tokamak microturbulence in a high- β^2 regime. Plasma Physics and Controlled Fusion, 2015, 57, 014032.	2.1	70
69	Key impact of finite-beta and fast ions in core and edge tokamak regions for the transition to advanced scenarios. Nuclear Fusion, 2015, 55, 053007.	3.5	56
70	Microturbulence study of the isotope effect. Physics of Plasmas, 2015, 22, .	1.9	51
71	Experimental turbulence studies for gyro-kinetic code validation using advanced microwave diagnostics. Nuclear Fusion, 2015, 55, 083027.	3.5	24
72	Core turbulence behavior moving from ion-temperature-gradient regime towards trapped-electron-mode regime in the ASDEX Upgrade tokamak and comparison with gyrokinetic simulation. Physics of Plasmas, 2015, 22, 032503.	1.9	43

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73	Gyrokinetic studies of core turbulence features in ASDEX Upgrade H-mode plasmas. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	29
74	Investigating profile stiffness and critical gradients in shaped TCV discharges using local gyrokinetic simulations of turbulent transport. <i>Plasma Physics and Controlled Fusion</i> , 2015, 57, 054010.	2.1	35
75	A study of self organized criticality in ion temperature gradient mode driven gyrokinetic turbulence. <i>Physics of Plasmas</i> , 2014, 21, .	1.9	5
76	A flux-matched gyrokinetic analysis of DIII-D L-mode turbulence. <i>Physics of Plasmas</i> , 2014, 21, .	1.9	62
77	Controlling Turbulence in Present and Future Stellarators. <i>Physical Review Letters</i> , 2014, 113, 155001.	7.8	70
78	Extreme Heat Fluxes in Gyrokinetic Simulations: A New Critical β . <i>Physical Review Letters</i> , 2013, 110, 155005.	7.8	39
79	Characterizing turbulent transport in ASDEX Upgrade L-mode plasmas via nonlinear gyrokinetic simulations. <i>Physics of Plasmas</i> , 2013, 20, 122312.	1.9	50
80	Investigation of the transport shortfall in Alcator C-Mod L-mode plasmas. <i>Physics of Plasmas</i> , 2013, 20, .	1.9	37
81	Properties of high- β microturbulence and the non-zonal transition. <i>Physics of Plasmas</i> , 2013, 20, .	1.9	32
82	On secondary and tertiary instability in electromagnetic plasma microturbulence. <i>Physics of Plasmas</i> , 2013, 20, .	1.9	30
83	Global gyrokinetic simulations of TEM microturbulence. <i>Plasma Physics and Controlled Fusion</i> , 2013, 55, 074016.	2.1	16
84	Global and local gyrokinetic simulations of high-performance discharges in view of ITER. <i>Nuclear Fusion</i> , 2013, 53, 073003.	3.5	20
85	Progress in characterization of the pedestal stability and turbulence during the edge-localized-mode cycle on National Spherical Torus Experiment. <i>Nuclear Fusion</i> , 2013, 53, 093026.	3.5	28
86	Gyrokinetic prediction of microtearing turbulence in standard tokamaks. <i>Physics of Plasmas</i> , 2012, 19, .	1.9	59
87	Dynamic procedure for filtered gyrokinetic simulations. <i>Physics of Plasmas</i> , 2012, 19, 012311.	1.9	12
88	Identifying the role of non-adiabatic passing electrons in ITG/TEM microturbulence by comparing fully kinetic and hybrid electron simulations. <i>Journal of Physics: Conference Series</i> , 2012, 401, 012006.	0.4	10
89	Gyrokinetic large eddy simulations. <i>Physics of Plasmas</i> , 2011, 18, .	1.9	21
90	The global version of the gyrokinetic turbulence code GENE. <i>Journal of Computational Physics</i> , 2011, 230, 7053-7071.	3.8	274

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91	Free Energy Cascade in Gyrokinetic Turbulence. Physical Review Letters, 2011, 106, 055001.	7.8	44
92	Non-linear gyrokinetic simulations of microturbulence in TCV electron internal transport barriers. Plasma Physics and Controlled Fusion, 2011, 53, 054011.	2.1	13
93	Flux- and gradient-driven global gyrokinetic simulation of tokamak turbulence. Physics of Plasmas, 2011, 18, .	1.9	50
94	Free energy balance in gyrokinetic turbulence. Physics of Plasmas, 2011, 18, .	1.9	30
95	Nonlocal effects in gyrokinetic turbulence simulations using GENE. Journal of Physics: Conference Series, 2010, 260, 012011.	0.4	10
96	Gyrokinetic simulations of turbulent transport: size scaling and chaotic behaviour. Plasma Physics and Controlled Fusion, 2010, 52, 124038.	2.1	19
97	System Size Effects on Gyrokinetic Turbulence. Physical Review Letters, 2010, 105, 155001.	7.8	102
98	Nonlinear quasisteady state benchmark of global gyrokinetic codes. Physics of Plasmas, 2010, 17, .	1.9	37
99	Direct multiscale coupling of a transport code to gyrokinetic turbulence codes. Physics of Plasmas, 2010, 17, .	1.9	66
100	Gyrokinetic Turbulence Investigations Involving Ion and Electron Scales. , 2010, , 491-501.		0
101	Clarifications to the limitations of the $s\text{-}\hat{r}\pm$ equilibrium model for gyrokinetic computations of turbulence. Physics of Plasmas, 2009, 16, .	1.9	101
102	Multiscale features of density and frequency spectra from nonlinear gyrokinetics. Physics of Plasmas, 2008, 15, .	1.9	39
103	Scale Separation between Electron and Ion Thermal Transport. Physical Review Letters, 2008, 100, 185002.	7.8	101
104	Nonlinear Gyrokinetic Simulations of Ion-Temperature-Gradient Turbulence for the Optimized Wendelstein 7-X Stellarator. Physical Review Letters, 2007, 99, 035002.	7.8	65
105	Signatures of nonlocality in the first-order coherence of scattered light. Laser Physics, 2007, 17, 903-907.	1.2	3