

Laurent Villard

List of Publications by Year in descending order

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66
papers

2,202
citations

257450

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all docs

66
docs citations

66
times ranked

987
citing authors

#	ARTICLE	IF	CITATIONS
1	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
2	Electron-cyclotron resonance heating and current drive source for flux-driven gyrokinetic simulations of tokamaks. Plasma Physics and Controlled Fusion, 2022, 64, 095008.	2.1	3
3	Gyrokinetic simulations on many- and multi-core architectures with the global electromagnetic Particle-In-Cell Code ORB5. Computer Physics Communications, 2021, 262, 107208.	7.5	6
4	Implementation of energy transfer technique in ORB5 to study collisionless wave-particle interactions in phase-space. Computer Physics Communications, 2021, 262, 107032.	7.5	9
5	Simulations of microturbulence in magnetised plasmas using a delta-f gyrokinetic approach with an evolving background Maxwellian. Journal of Physics: Conference Series, 2021, 1785, 012003.	0.4	1
6	Nonlocal effects in negative triangularity TCV plasmas. Plasma Physics and Controlled Fusion, 2021, 63, 044001.	2.1	21
7	Quasilinear treatment of wave-particle interactions in the electron cyclotron range and its implementation in a gyrokinetic code. Plasma Physics and Controlled Fusion, 2021, 63, 064001.	2.1	4
8	Gyrokinetic investigation of Alfvén instabilities in the presence of turbulence. Plasma Physics and Controlled Fusion, 2021, 63, 065009.	2.1	20
9	Numerics and computation in gyrokinetic simulations of electromagnetic turbulence with global particle-in-cell codes. Plasma Physics and Controlled Fusion, 2021, 63, 084007.	2.1	8
10	An optimisation of allreduce communication in message-passing systems. Parallel Computing, 2021, 107, 102812.	2.1	4
11	Moment approach of the multi-species non-linear Coulomb collision operator adapted to particle-in-cell codes. Plasma Physics and Controlled Fusion, 2021, 63, 025006.	2.1	6
12	Orb5: A global electromagnetic gyrokinetic code using the PIC approach in toroidal geometry. Computer Physics Communications, 2020, 251, 107072.	7.5	66
13	Nonlinear gyrokinetic PIC simulations in stellarators with the code EUTERPE. Journal of Plasma Physics, 2020, 86, .	2.1	18
14	Finite $\hat{\rho}^2$ effects on short wavelength ion temperature gradient modes. Physics of Plasmas, 2020, 27, 052509.	1.9	3
15	Nonlinear dynamics of energetic-particle driven geodesic acoustic modes in ASDEX Upgrade. Physics of Plasmas, 2020, 27, 042512.	1.9	14
16	First principles gyrokinetic analysis of electromagnetic plasma instabilities. Plasma Physics and Controlled Fusion, 2019, 61, 114002.	2.1	1
17	L-mode-edge negative triangularity tokamak reactor. Nuclear Fusion, 2019, 59, 056017.	3.5	45
18	Pullback scheme implementation in ORB5. Computer Physics Communications, 2019, 238, 194-202.	7.5	25

#	ARTICLE	IF	CITATIONS
19	Global turbulence features across marginality and non-local pedestal-core interactions. Plasma Physics and Controlled Fusion, 2019, 61, 034003.	2.1	9
20	Investigating the radial structure of axisymmetric fluctuations in the TCV tokamak with local and global gyrokinetic GENE simulations. Plasma Physics and Controlled Fusion, 2018, 60, 034003.	2.1	14
21	Gradient- and flux-driven global gyrokinetic simulations of ITC and TEM turbulence with an improved hybrid kinetic electron model. Journal of Physics: Conference Series, 2018, 1125, 012014.	0.4	6
22	Verification of Gyrokinetic codes: Theoretical background and applications. Physics of Plasmas, 2017, 24, .	1.9	17
23	An arbitrary wavelength solver for global gyrokinetic simulations. Application to the study of fine radial structures on microturbulence due to non-adiabatic passing electron dynamics. Physics of Plasmas, 2017, 24, .	1.9	23
24	PadÃ© approximation of the adiabatic electron contribution to the gyrokinetic quasi-neutrality equation in the ORB5 code. Journal of Physics: Conference Series, 2016, 775, 012006.	0.4	9
25	Towards the optimization of a gyrokinetic Particle-In-Cell (PIC) code on large-scale hybrid architectures. Journal of Physics: Conference Series, 2016, 775, 012010.	0.4	7
26	A portable platform for accelerated PIC codes and its application to GPUs using OpenACC. Computer Physics Communications, 2016, 207, 69-82.	7.5	20
27	Investigating profile stiffness and critical gradients in shaped TCV discharges using local gyrokinetic simulations of turbulent transport. Plasma Physics and Controlled Fusion, 2015, 57, 054010.	2.1	35
28	Accuracy of momentum and gyrodensity transport in global gyrokinetic particle-in-cell simulations. Physics of Plasmas, 2014, 21, 052501.	1.9	3
29	Global gyrokinetic stability of collisionless microtearing modes in large aspect ratio tokamaks. Physics of Plasmas, 2014, 21, 082513.	1.9	23
30	Complete multi-field characterization of the geodesic acoustic mode in the TCV tokamak. Plasma Physics and Controlled Fusion, 2014, 56, 072001.	2.1	65
31	Turbulence and zonal flow structures in the core and L-mode pedestal of tokamak plasmas. Journal of Physics: Conference Series, 2014, 561, 012022.	0.4	5
32	Role of Trapped Electrons on Global Gyrokinetic Linear Stability of Collisionless Microtearing Modes. Journal of Physics: Conference Series, 2014, 561, 012017.	0.4	7
33	Global gyrokinetic simulations of TEM microturbulence. Plasma Physics and Controlled Fusion, 2013, 55, 074016.	2.1	16
34	Global gyrokinetic ion temperature gradient turbulence simulations of ITER. Plasma Physics and Controlled Fusion, 2013, 55, 074017.	2.1	22
35	Synergy between ion temperature gradient turbulence and neoclassical processes in global gyrokinetic particle-in-cell simulations. Physics of Plasmas, 2012, 19, .	1.9	14
36	Short wavelength ion temperature gradient turbulence. Physics of Plasmas, 2012, 19, .	1.9	10

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37	Global simulations of tokamak microturbulence: finite- \hat{r}^2 effects and collisions. Plasma Physics and Controlled Fusion, 2011, 53, 124027.	2.1	47
38	Predictions on heat transport and plasma rotation from global gyrokinetic simulations. Nuclear Fusion, 2011, 51, 103023.	3.5	56
39	Flux- and gradient-driven global gyrokinetic simulation of tokamak turbulence. Physics of Plasmas, 2011, 18, .	1.9	50
40	Interaction of large scale flow structures with gyrokinetic turbulence. Physics of Plasmas, 2011, 18, .	1.9	23
41	Sluggish response of untrapped electrons and global electrostatic micro-instabilities in a tokamak. Journal of Physics: Conference Series, 2010, 208, 012058.	0.4	4
42	Rapid Fourier space solution of linear partial integro-differential equations in toroidal magnetic confinement geometries. Computer Physics Communications, 2010, 181, 715-719.	7.5	20
43	Toroidal universal drift instability: A global gyrokinetic study. Physics of Plasmas, 2010, 17, 102105.	1.9	9
44	System Size Effects on Gyrokinetic Turbulence. Physical Review Letters, 2010, 105, 155001.	7.8	102
45	Nonlinear quasisteady state benchmark of global gyrokinetic codes. Physics of Plasmas, 2010, 17, .	1.9	37
46	Neoclassical equilibria as starting point for global gyrokinetic microturbulence simulations. Physics of Plasmas, 2010, 17, .	1.9	42
47	Gyrokinetic simulations of turbulent transport. Nuclear Fusion, 2010, 50, 043002.	3.5	295
48	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
49	A comprehensive gyrokinetic description of global electrostatic microinstabilities in a tokamak. Physics of Plasmas, 2009, 16, 052507.	1.9	9
50	Short wavelength ion temperature gradient mode and coupling with trapped electrons. Physics of Plasmas, 2009, 16, .	1.9	9
51	Quasisteady and steady states in global gyrokinetic particle-in-cell simulations. Physics of Plasmas, 2009, 16, 052307.	1.9	11
52	The effect of plasma triangularity on turbulent transport: modeling TCV experiments by linear and non-linear gyrokinetic simulations. Plasma Physics and Controlled Fusion, 2009, 51, 055016.	2.1	61
53	Long global gyrokinetic simulations: Source terms and particle noise control. Physics of Plasmas, 2008, 15, .	1.9	78
54	The role of plasma elongation on the linear damping of zonal flows. Physics of Plasmas, 2008, 15, .	1.9	35

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55	Global full-f gyrokinetic simulations of plasma turbulence. Plasma Physics and Controlled Fusion, 2007, 49, B173-B182.	2.1	82
56	Nonlinear low noise particle-in-cell simulations of electron temperature gradient driven turbulence. Physics of Plasmas, 2007, 14, 010701.	1.9	52
57	A global collisionless PIC code in magnetic coordinates. Computer Physics Communications, 2007, 177, 409-425.	7.5	185
58	On the definition of a kinetic equilibrium in global gyrokinetic simulations. Physics of Plasmas, 2006, 13, 052304.	1.9	47
59	A full radius gyrokinetic stability analysis for large aspect ratio finite- \hat{I}^2 tokamaks. Physics of Plasmas, 2004, 11, 3106-3130.	1.9	15
60	Full radius linear and nonlinear gyrokinetic simulations for tokamaks and stellarators: zonal flows, applied E \times B flows, trapped electrons and finite beta. Nuclear Fusion, 2004, 44, 172-180.	3.5	60
61	Simulations of global electrostatic microinstabilities in ASDEX Upgrade discharges. Physics of Plasmas, 2004, 11, 198-206.	1.9	32
62	Gyrokinetic global three-dimensional simulations of linear ion-temperature-gradient modes in Wendelstein 7-X. Physics of Plasmas, 2004, 11, 3196-3202.	1.9	73
63	Global-gyrokinetic study of finite \hat{I}^2 effects on linear microinstabilities. Physics of Plasmas, 2003, 10, 1424-1436.	1.9	47
64	Global linear gyrokinetic simulations in quasi-symmetric configurations. Physics of Plasmas, 2001, 8, 3321-3333.	1.9	54
65	Negative Triangularity Tokamak as Fusion Energy System. , 0, , .		4
66	Linear and nonlinear excitation of TAE modes by external electromagnetic perturbations using ORB5. Plasma Physics and Controlled Fusion, 0, , .	2.1	1