Alexey Mishchenko

List of Publications by Year
in descending order

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60	1,083	394421	477307
papers	citations	19	29
		h-index	g-index

60	60	60	755
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Technical challenges in the construction of the steady-state stellarator Wendelstein 7-X. Nuclear Fusion, 2013, 53, 126001.	3.5	77
2	Orb5: A global electromagnetic gyrokinetic code using the PIC approach in toroidal geometry. Computer Physics Communications, 2020, 251, 107072.	7.5	66
3	Electromagnetic gyrokinetic PIC simulation with an adjustable control variates method. Journal of Computational Physics, 2007, 225, 568-590.	3.8	54
4	Global particle-in-cell simulations of fast-particle effects on shear AlfvÃ©n waves. Physics of Plasmas, 2009, 16, 082105.	1.9	50
5	Conventional Îf-particle simulations of electromagnetic perturbations with finite elements. Physics of Plasmas, 2004, 11, 5480-5486.	1.9	42
6	Benchmark of gyrokinetic, kinetic MHD and gyrofluid codes for the linear calculation of fast particle driven TAE dynamics. Nuclear Fusion, 2018, 58, 126027.	3.5	40
7	Verification and validation of integrated simulation of energetic particles in fusion plasmas. Nuclear Fusion, 2019, 59, 066006.	3.5	40
8	Pullback transformation in gyrokinetic electromagnetic simulations. Physics of Plasmas, 2014, 21, .	1.9	39
9	Collisionless dynamics of zonal flows in stellarator geometry. Physics of Plasmas, 2008, 15, .	1.9	38
10	Global particle-in-cell simulations of AlfvÃ©nic modes. Physics of Plasmas, 2008, 15, .	1.9	34
11	A new frontier in laboratory physics: magnetized electronâ€“positron plasmas. Journal of Plasma Physics, 2020, 86, .	2.1	31
12	Particle simulations with a generalized gyrokinetic solver. Physics of Plasmas, 2005, 12, 062305.	1.9	27
13	Oscillations of zonal flows in stellarators. Plasma Physics and Controlled Fusion, 2011, 53, 054006.	2.1	27
14	Particle Transport of LHD. Fusion Science and Technology, 2010, 58, 70-90.	1.1	25
15	Pullback scheme implementation in ORB5. Computer Physics Communications, 2019, 238, 194-202.	7.5	25
16	New variables for gyrokinetic electromagnetic simulations. Physics of Plasmas, 2014, 21, .	1.9	24
17	An explicit large time step particle-in-cell scheme for nonlinear gyrokinetic simulations in the electromagnetic regime. Physics of Plasmas, 2016, 23, .	1.9	24
18	Global gyrokinetic particle-in-cell simulations of internal kink instabilities. Physics of Plasmas, 2012, 19, 122104.	1.9	20

#	Article	IF	Citations
19	Gyrokinetic investigation of AlfvÃ©n instabilities in the presence of turbulence. Plasma Physics and Controlled Fusion, 2021, 63, 065009.	2.1	20
20	Zonal flows in stellarators in an ambient radial electric field. Physics of Plasmas, 2012, 19, .	1.9	19
21	Mitigation of the cancellation problem in the gyrokinetic particle-in-cell simulations of global electromagnetic modes. Physics of Plasmas, 2017, 24, 081206.	1.9	19
22	Nonlinear gyrokinetic PIC simulations in stellarators with the code EUTERPE. Journal of Plasma Physics, 2020, 86, .	2.1	18
23	Fluid electron, gyrokinetic ion simulations of linear internal kink and energetic particle modes. Physics of Plasmas, 2014, 21, .	1.9	17
24	Linear gyrokinetic particle-in-cell simulations of AlfvÃ©n instabilities in tokamaks. Physics of Plasmas, 2016, 23, 012108.	1.9	17
25	Gyrokinetic investigation of the damping channels of AlfvÃ©n modes in ASDEX Upgrade. Physics of Plasmas, 2020, 27, 042501.	1.9	17
26	From kinetic MHD in stellarators to a fully kinetic description of wave particle interaction. , 2008, , .		16
27	Guiding-center recursive Vlasov and Lie-transform methods in plasma physics. Journal of Plasma Physics, 2009, 75, 675-696.	2.1	15
28	Simulation of Residual Zonal Flow Levels in Stellarators Including a Radial Electric Field. Contributions To Plasma Physics, 2010, 50, 766-769.	1.1	15
29	Reduction of the statistical error in electromagnetic gyrokinetic particle-in-cellÂsimulations. Journal of Plasma Physics, 2019, 85, .	2.1	14
30	Global linear gyrokinetic particle-in-cell simulations including electromagnetic effects in shaped plasmas. Nuclear Fusion, 2015, 55, 053006.	3.5	13
31	Semianalytical calculation of the zonal-flow oscillation frequency in stellarators. Plasma Physics and Controlled Fusion, 2017, 59, 065005.	2.1	13
32	Global particle-in-cell simulations of plasma pressure effects on AlfvÃ©nic modes. Physics of Plasmas, 2011, 18, 012504.	1.9	12
33	Higher-order energy-conserving gyrokinetic theory. Physics of Plasmas, 2011, 18, .	1.9	10
34	Nonlinear interplay of AlfvÃ©n instabilities and energetic particles in tokamaks. Plasma Physics and Controlled Fusion, 2017, 59, 054004.	2.1	10
35	Electrostatic stability of electronâ€“positron plasmas in dipole geometry. Journal of Plasma Physics, 2018, 84, .	2.1	10
36	Gyrokinetic stability of electronâ€“positronâ€“ion plasmas. Journal of Plasma Physics, 2018, 84, .	2.1	10

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37	Gyrokinetic investigation of the nonlinear interaction of AlfvÃ©n instabilities and energetic particle-driven geodesic acoustic modes. Physics of Plasmas, 2021, 28, 072504.	1.9	10
38	Toroidal AlfvÃ©n eigenmodes with nonlinear gyrokinetic and fluid hybrid models. Physics of Plasmas, 2017, 24, 022508.	1.9	9
39	Global turbulence features across marginality and non-local pedestal-core interactions. Plasma Physics and Controlled Fusion, 2019, 61, 034003.	2.1	9
40	Effect of the electron redistribution on the nonlinear saturation of AlfvÃ©n eigenmodes and the excitation of zonal flows. Journal of Plasma Physics, 2020, 86, .	2.1	9
41	Global hybrid-gyrokinetic simulations of fast-particle effects on AlfvÃ©n Eigenmodes in stellarators. Nuclear Fusion, 2014, 54, 104003.	3.5	8
42	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
43	Curvature particle pinch in tokamak and stellarator geometry. Physics of Plasmas, 2007, 14, 102308.	1.9	7
44	Gyrokinetic particle-in-cell simulations of AlfvÃ©n eigenmodes in presence of continuum effects. Physics of Plasmas, 2014, 21, 052114.	1.9	7
45	Linear electrostatic gyrokinetics for electronâ€“positron plasmas. Journal of Plasma Physics, 2018, 84, .	2.1	7
46	Kinetic infernal modes for Wendelstein 7-X-like -profiles. Journal of Plasma Physics, 2019, 85, .	2.1	7
47	A hierarchy of electromagnetic gyrokinetic and fluid hybrid models for the simulation of global modes. Plasma Physics and Controlled Fusion, 2015, 57, 054013.	2.1	6
48	Local gyrokinetic stability theory of plasmas of arbitrary degree of neutrality. Journal of Plasma Physics, 2019, 85, .	2.1	6
49	Tokamak ITG-KBM transition benchmarking with the mixed variables/pullback transformation electromagnetic gyrokinetic scheme. Physics of Plasmas, 2021, 28, 034501.	1.9	6
50	Linear gyrokinetics of electronâ€“positron plasmas in closed field-line systems. Journal of Plasma Physics, 2020, 86, .	2.1	5
51	W7-X and the sawtooth instability: towards realistic simulations of current-driven magnetic reconnection. Nuclear Fusion, 2021, 61, 086001.	3.5	5
52	The MHD continuum with a radial electric field. Physics of Plasmas, 2020, 27, .	1.9	5
53	Multi-scale analysis of global electromagnetic instabilities in ITER pre-fusion-power operation plasmas. Nuclear Fusion, 2022, 62, 112007.	3.5	5
54	Linear gyrokinetic studies with ORB5 en route to pair plasmas. Journal of Plasma Physics, 2019, 85, .	2.1	4

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55	An iterative approach to an arbitrarily short-wavelength solver in global gyrokineticÂsimulations. Journal of Plasma Physics, 2019, 85, .	2.1	4
56	Global linear gyrokinetic particle-in-cell simulations of fine-scale modes in a tokamak. AIP Conference Proceedings, 2006, , .	0.4	3
57	A many-particle approach to the gyro-kinetic theory. Journal of Plasma Physics, 2007, 73, 757-772.	2.1	3
58	Nonlinear gyrokinetic simulation of fast ion-driven modes including continuum interaction. Physics of Plasmas, 2018, 25, 012301.	1.9	1
59	Linear and nonlinear excitation of TAE modes by external electromagnetic perturbations using ORB5. Plasma Physics and Controlled Fusion, 0, , .	2.1	1
60	Mode excitation by an antenna in global gyrokinetic simulations. Journal of Physics: Conference Series, 2018, 1125, 012017.	0.4	0