Kai Germaschewski

List of Publications by Year
in descending order

56 papers	1,997 citations	236925 25 h-index	243625 44 g-index
59 all docs	59 docs citations	59 times ranked	1992 citing authors

#	Article	IF	Citations
1	PERPENDICULAR ION HEATING BY LOW-FREQUENCY ALFVÃ‰N-WAVE TURBULENCE IN THE SOLAR WIND. Astrophysical Journal, 2010, 720, 503-515.	4.5	248
2	Filamentation Instability of Counterstreaming Laser-Driven Plasmas. Physical Review Letters, 2013, 111, 225002.	7.8	158
3	ADIOS 2: The Adaptable Input Output System. A framework for high-performance data management. SoftwareX, 2020, 12, 100561.	2.6	102
4	Magnetic Reconnection between Colliding Magnetized Laser-Produced Plasma Plumes. Physical Review Letters, 2014, 113, 105003.	7.8	97
5	Adaptive Mesh Refinement for Singular Solutions of the Incompressible Euler Equations. Physical Review Letters, 1998, 80, 4177-4180.	7.8	81
6	Fast Magnetic Reconnection in Laser-Produced Plasma Bubbles. Physical Review Letters, 2011, 106, 215003.	7.8	79
7	The Plasma Simulation Code: A modern particle-in-cell code with patch-based load-balancing. Journal of Computational Physics, 2016, 318, 305-326.	3.8	77
8	Generation and Evolution of High-Mach-Number Laser-Driven Magnetized Collisionless Shocks in the Laboratory. Physical Review Letters, 2017, 119, 025001.	7.8	66
9	Linear plasmoid instability of thin current sheets with shear flow. Physics of Plasmas, 2010, 17, .	1.9	65
10	Current singularities: Drivers of impulsive reconnection. Physics of Plasmas, 2005, 12, 042305.	1.9	62
11	Comparison of multi-fluid moment models with particle-in-cell simulations of collisionless magnetic reconnection. Physics of Plasmas, 2015, 22, .	1.9	60
12	Anisotropic fluid turbulence in the interstellar medium and solar wind. Physics of Plasmas, 2003, 10, 1954-1962.	1.9	58
13	Magnetic reconnection in high-energy-density laser-produced plasmas. Physics of Plasmas, 2012, 19, .	1.9	51
14	Initiation of ballooning instability in the near-Earth plasma sheet prior to the 23 March 2007 THEMIS substorm expansion onset. Annales Geophysicae, 2009, 27, 1129-1138.	1.6	48
15	Global Tenâ€Moment Multifluid Simulations of the Solar Wind Interaction with Mercury: From the Planetary Conducting Core to the Dynamic Magnetosphere. Geophysical Research Letters, 2019, 46, 11584-11596.	4.0	44
16	OpenMP and MPI implementations of an elasto-viscoplastic fast Fourier transform-based micromechanical solver for fast crystal plasticity modeling. Advances in Engineering Software, 2018, 126, 46-60.	3.8	39
17	Hall magnetohydrodynamic reconnection in the plasmoid unstable regime. Physics of Plasmas, 2011, 18, .	1.9	38
18	Electron Physics in 3â€D Twoâ€Fluid 10â€Moment Modeling of Ganymede's Magnetosphere. Journal of Geophysical Research: Space Physics, 2018, 123, 2815-2830.	2.4	36

#	Article	IF	Citations
19	The island coalescence problem: Scaling of reconnection in extended fluid models including higher-order moments. Physics of Plasmas, 2015, 22, .	1.9	35
20	Direct Observations of Particle Dynamics in Magnetized Collisionless Shock Precursors in Laser-Produced Plasmas. Physical Review Letters, 2019, 122, 245001.	7.8	33
21	A multi-GPU implementation of a full-field crystal plasticity solver for efficient modeling of high-resolution microstructures. Computer Physics Communications, 2020, 254, 107231.	7.5	30
22	Hyperbolic Shock Waves of the Optical Self-Focusing with Normal Group-Velocity Dispersion. Physical Review Letters, 2002, 89, 153902.	7.8	28
23	Generation of Electron Whistler Waves at the Mirror Mode Magnetic Holes: MMS Observations and PIC Simulation. Journal of Geophysical Research: Space Physics, 2018, 123, 6383-6393.	2.4	27
24	Splittings, coalescence, bunch and snake patterns in the 3D nonlinear Schrödinger equation with anisotropic dispersion. Physica D: Nonlinear Phenomena, 2001, 151, 175-198.	2.8	26
25	Effects of electron temperature anisotropy on proton mirror instability evolution. Journal of Geophysical Research: Space Physics, 2016, 121, 5350-5365.	2.4	26
26	Kinetic simulation of magnetic field generation and collisionless shock formation in expanding laboratory plasmas. Physics of Plasmas, 2018, 25, .	1.9	26
27	Synthesis of 3‐D Coronal‐Solar Wind Energetic Particle Acceleration Modules. Space Weather, 2014, 12, 323-328.	3.7	23
28	High-Mach number, laser-driven magnetized collisionless shocks. Physics of Plasmas, 2017, 24, .	1.9	23
29	Simulation of magnetic holes formation in the magnetosheath. Physics of Plasmas, 2017, 24, .	1.9	23
30	Instability-enhanced friction in the presheath of two-ion-species plasmas. Plasma Sources Science and Technology, 2015, 24, 015034.	3.1	19
31	Three-dimensional magnetic reconnection in particle-in-cell simulations of anisotropic plasma turbulence. Journal of Plasma Physics, 2021, 87, .	2.1	19
32	Intermediate nonlinear regime of a line-tied g mode. Physics of Plasmas, 2007, 14, 055903.	1.9	18
33	Exact and locally implicit source term solvers for multifluid-Maxwell systems. Journal of Computational Physics, 2020, 415, 109510.	3.8	16
34	Three-dimensional MHD high-resolution computations with CWENO employing adaptive mesh refinement. Computer Physics Communications, 2004, 158, 47-56.	7.5	15
35	Graphics processing unit accelerated phase field dislocation dynamics: Application to bi-metallic interfaces. Advances in Engineering Software, 2018, 115, 248-267.	3.8	15
36	Nonlinear ballooning instability in the near-Earth magnetotail: Growth, structure, and possible role in substorms. Journal of Geophysical Research, 2007, 112, n/a-n/a.	3.3	14

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37	Using OpenGGCM to Compute and Separate Magnetosphere Magnetic Perturbations Measured on Board Low Earth Orbiting Satellites. Space Science Reviews, 2017, 206, 601-620.	8.1	14
38	Coupling of a multi-GPU accelerated elasto-visco-plastic fast Fourier transform constitutive model with the implicit finite element method. Computational Materials Science, 2022, 208, 111348.	3.0	13
39	Electron acceleration by parallel and perpendicular electric fields during magnetic reconnection without guide field. Journal of Geophysical Research: Space Physics, 2015, 120, 9355-9367.	2.4	12
40	Biermann-Battery-Mediated Magnetic Reconnection in 3D Colliding Plasmas. Physical Review Letters, 2018, 121, 095001.	7.8	12
41	Kinetic simulations of piston-driven collisionless shock formation in magnetized laboratory plasmas. Physics of Plasmas, 2020, 27, .	1.9	12
42	Spatial coupling of gyrokinetic simulations, a generalized scheme based on first-principles. Physics of Plasmas, 2021, 28, .	1.9	12
43	The Exascale Framework for High Fidelity coupled Simulations (EFFIS): Enabling whole device modeling in fusion science. International Journal of High Performance Computing Applications, 2022, 36, 106-128.	3.7	11
44	A Comparison of Spectral Element and Finite Difference Methods Using Statically Refined Nonconforming Grids for the MHD Island Coalescence Instability Problem. Astrophysical Journal, Supplement Series, 2008, 177, 613-625.	7.7	10
45	Intermediate Nonlinear Evolution of the Parker Instability: Formation of Convection-Induced Discontinuities and Absence of Finite-Time Singularities. Physical Review Letters, 2006, 96, 065001.	7.8	9
46	Discrete kinetic eigenmode spectra of electron plasma oscillations in weakly collisional plasma: A numerical study. Physics of Plasmas, 2013, 20, 012125.	1.9	9
47	First coupled GENEâ€"XGC microturbulence simulations. Physics of Plasmas, 2021, 28, 012303.	1.9	9
48	Toward exascale whole-device modeling of fusion devices: Porting the GENE gyrokinetic microturbulence code to GPU. Physics of Plasmas, 2021, 28, .	1.9	9
49	Longitudinal and transversal structure functions in two-dimensional electron magnetohydrodynamic flows. Physics of Plasmas, 1999, 6, 3788-3793.	1.9	8
50	Origin and structure of electromagnetic generator regions at the edge of the electron diffusion region. Physics of Plasmas, 2021, 28, .	1.9	8
51	Reply to comment by Remya et al. on â€œEffects of electron temperature anisotropy on proton mirror instability evolutionâ€. Journal of Geophysical Research: Space Physics, 2017, 122, 748-752.	2.4	7
52	Intermediate nonlinear regimes of line-tied g mode and ballooning instability. Nuclear Fusion, 2009, 49, 095009.	3.5	3
53	Regimes of magnetic reconnection in colliding laser-produced magnetized plasma bubbles. Physics of Plasmas, 2018, 25, .	1.9	3
54	Energy Balance and Time Dependence of a Magnetotail Electron Diffusion Region. Journal of Geophysical Research: Space Physics, 2020, 125, e2020JA028290.	2.4	3

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55	Kinetic Simulations of Electron Pre-energization by Magnetized Collisionless Shocks in Expanding Laboratory Plasmas. Astrophysical Journal Letters, 2021, 908, L52.	8.3	3
56	Using Krylov-Schwarz methods in an adaptive mesh refinement environment. Lecture Notes in Computational Science and Engineering, 2005, , 115-124.	0.3	2