

Alain Brizard

List of Publications by Year in descending order

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87
papers

2,577
citations

361413

20
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92
docs citations

92
times ranked

1223
citing authors

#	ARTICLE	IF	CITATIONS
1	Foundations of nonlinear gyrokinetic theory. <i>Reviews of Modern Physics</i> , 2007, 79, 421-468.	45.6	791
2	Hamiltonian theory of guiding-center motion. <i>Reviews of Modern Physics</i> , 2009, 81, 693-738.	45.6	233
3	Nonlinear gyrofluid description of turbulent magnetized plasmas. <i>Physics of Fluids B</i> , 1992, 4, 1213-1228.	1.7	126
4	Nonlinear gyrokinetic Vlasov equation for toroidally rotating axisymmetric tokamaks. <i>Physics of Plasmas</i> , 1995, 2, 459-471.	1.9	110
5	Variational principle for nonlinear gyrokinetic Vlasov-Maxwell equations. <i>Physics of Plasmas</i> , 2000, 7, 4816-4822.	1.9	81
6	A guiding-center Fokker-Planck collision operator for nonuniform magnetic fields. <i>Physics of Plasmas</i> , 2004, 11, 4429-4438.	1.9	64
7	Nonlinear relativistic gyrokinetic Vlasov-Maxwell equations. <i>Physics of Plasmas</i> , 1999, 6, 4548-4558.	1.9	52
8	New Variational Principle for the Vlasov-Maxwell Equations. <i>Physical Review Letters</i> , 2000, 84, 5768-5771.	7.8	51
9	Relativistic bounce-averaged quasilinear diffusion equation for low-frequency electromagnetic fluctuations. <i>Physics of Plasmas</i> , 2001, 8, 4762-4771.	1.9	49
10	Ray-based methods in multidimensional linear wave conversion. <i>Physics of Plasmas</i> , 2003, 10, 2147-2154.	1.9	42
11	Hamiltonian theory of adiabatic motion of relativistic charged particles. <i>Physics of Plasmas</i> , 2007, 14, .	1.9	39
12	Exact momentum conservation laws for the gyrokinetic Vlasov-Poisson equations. <i>Physics of Plasmas</i> , 2011, 18, 082307.	1.9	34
13	Hamiltonian gyrokinetic Vlasov-Maxwell system. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2015, 379, 2073-2077.	2.1	34
14	Nonlocal nonlinear electrostatic gyrofluid equations: A four-moment model. <i>Physics of Plasmas</i> , 2005, 12, 052517.	1.9	31
15	Beyond linear gyrocenter polarization in gyrokinetic theory. <i>Physics of Plasmas</i> , 2013, 20, .	1.9	28
16	Nonlinear bounce-gyrocenter Hamiltonian dynamics in general magnetic field geometry. <i>Physics of Plasmas</i> , 2000, 7, 3238-3246.	1.9	24
17	Magnetic field generation from self-consistent collective neutrino-plasma interactions. <i>Physical Review E</i> , 2000, 61, 4410-4421.	2.1	24
18	A primer on elliptic functions with applications in classical mechanics. <i>European Journal of Physics</i> , 2009, 30, 729-750.	0.6	23

#	ARTICLE	IF	CITATIONS
19	Gyrokinetic particle simulations of the effects of compressional magnetic perturbations on drift-Alfvénic instabilities in tokamaks. <i>Physics of Plasmas</i> , 2017, 24, .	1.9	23
20	Relativistic quasilinear diffusion in axisymmetric magnetic geometry for arbitrary-frequency electromagnetic fluctuations. <i>Physics of Plasmas</i> , 2004, 11, 4220-4229.	1.9	22
21	On the dynamical reduction of the Vlasov equation. <i>Communications in Nonlinear Science and Numerical Simulation</i> , 2008, 13, 24-33.	3.3	22
22	Lagrangian and Hamiltonian constraints for guiding-center Hamiltonian theories. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	22
23	Eulerian action principles for linearized reduced dynamical equations. <i>Physics of Plasmas</i> , 1994, 1, 2460-2472.	1.9	21
24	Variational formulations of guiding-center Vlasov-Maxwell theory. <i>Physics of Plasmas</i> , 2016, 23, 062107.	1.9	21
25	Compact formulas for guiding-center orbits in axisymmetric tokamak geometry. <i>Physics of Plasmas</i> , 2011, 18, .	1.9	20
26	Local Manley-Rowe Relations for Nonlinear Wave Fields. <i>Physical Review Letters</i> , 1995, 74, 4567-4570.	7.8	19
27	Variational principles for reduced plasma physics. <i>Journal of Physics: Conference Series</i> , 2009, 169, 012003.	0.4	19
28	Energetically consistent collisional gyrokinetics. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	18
29	Gauge-free electromagnetic gyrokinetic theory. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2019, 383, 2172-2175.	2.1	17
30	Wave-action conservation for pseudo-Hermitian fields. <i>Physical Review Letters</i> , 1993, 70, 521-524.	7.8	16
31	Mode conversion in the Gulf of Guinea. <i>Journal of Fluid Mechanics</i> , 1999, 394, 175-192.	3.4	16
32	Guiding-center recursive Vlasov and Lie-transform methods in plasma physics. <i>Journal of Plasma Physics</i> , 2009, 75, 675-696.	2.1	15
33	Exact energy conservation laws for full and truncated nonlinear gyrokinetic equations. <i>Physics of Plasmas</i> , 2010, 17, .	1.9	15
34	Jacobi zeta function and action-angle coordinates for the pendulum. <i>Communications in Nonlinear Science and Numerical Simulation</i> , 2013, 18, 511-518.	3.3	15
35	Nonlinear finite-Larmor-radius effects in reduced fluid models. <i>Physics of Plasmas</i> , 2008, 15, 082302.	1.9	14
36	Compact formulas for bounce/transit averaging in axisymmetric tokamak geometry. <i>Physics of Plasmas</i> , 2014, 21, 122510.	1.9	14

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37	Hermitian structure for linearized ideal MHD equations with equilibrium flows. Physics Letters, Section A: General, Atomic and Solid State Physics, 1992, 168, 357-362.	2.1	13
38	Orbit-averaged guiding-center Fokker-Planck operator. Physics of Plasmas, 2009, 16, 102304.	1.9	13
39	Guiding-centre transformation of the radiation reaction force in a non-uniform magnetic field. Journal of Plasma Physics, 2015, 81, .	2.1	13
40	A new Lagrangian formulation for laser-plasma interactions. Physics of Plasmas, 1998, 5, 1110-1117.	1.9	12
41	Energy-conserving finite- \hat{r}^2 electromagnetic drift-fluid equations. Physics of Plasmas, 2005, 12, 092302.	1.9	12
42	Orbit-averaged guiding-center Fokker-Planck operator for numerical applications. Physics of Plasmas, 2010, 17, .	1.9	12
43	Double-crossing mode conversion in nonuniform media. Physics of Plasmas, 1998, 5, 45-59.	1.9	11
44	Noether methods for fluids and plasmas. Journal of Plasma Physics, 2005, 71, 225-236.	2.1	11
45	Centrifugal particle confinement in mirror geometry. Physics of Plasmas, 2018, 25, .	1.9	11
46	Quadratic free energy for the linearized gyrokinetic Vlasov-Maxwell equations. Physics of Plasmas, 1994, 1, 2473-2479.	1.9	10
47	Noether derivation of exact conservation laws for dissipationless reduced-fluid models. Physics of Plasmas, 2010, 17, .	1.9	10
48	Higher-order energy-conserving gyrokinetic theory. Physics of Plasmas, 2011, 18, .	1.9	10
49	Lifting of the Vlasov-Maxwell bracket by Lie-transform method. Journal of Plasma Physics, 2016, 82, .	2.1	10
50	On the validity of the guiding-center approximation in the presence of strong magnetic gradients. Physics of Plasmas, 2017, 24, 042115.	1.9	10
51	Energy and momentum conservation in the Euler-Poincaré formulation of local Vlasov-Maxwell-type systems. Journal of Physics A: Mathematical and Theoretical, 2020, 53, 235204.	2.1	10
52	Variational structure for dissipationless linear drift-wave equations. Physics of Plasmas, 1996, 3, 744-748.	1.9	8
53	Lagrangian formulation for neutrino-plasma interactions. Physics of Plasmas, 1999, 6, 1323-1328.	1.9	8
54	The dissipative Budden problem: Effect of converted-wave damping on primary-wave reflection. Physics Letters, Section A: General, Atomic and Solid State Physics, 1999, 252, 43-48.	2.1	8

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55	A geometric view of Hamiltonian perturbation theory. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2001, 291, 146-149.	2.1	8
56	Differential formulation of the gyrokinetic Landau operator. <i>Journal of Plasma Physics</i> , 2017, 83, .	2.1	8
57	Double-Cross Instability: An Absolute Instability Caused by Counter-Propagating Positive- and Negative-Energy Waves. <i>Physical Review Letters</i> , 1996, 77, 1500-1503.	7.8	7
58	Linearâ€conversion theory of energetic minorityâ€ion Bernsteinâ€wave propagation across gyroresonance in nonuniform magnetic field. <i>Physics of Plasmas</i> , 1996, 3, 64-71.	1.9	7
59	Helical rays in two-dimensional resonant wave conversion. <i>Physics of Plasmas</i> , 2005, 12, 022101.	1.9	7
60	Comment on â€Geometric phase of the gyromotion for charged particles in a time-dependent magnetic fieldâ€[<i>Phys. Plasmas</i> 18, 072505 (2011)]. <i>Physics of Plasmas</i> , 2012, 19, 094701.	1.9	7
61	Motion in an asymmetric double well. <i>Communications in Nonlinear Science and Numerical Simulation</i> , 2017, 43, 351-368.	3.3	7
62	Exact conservation laws for gauge-free electromagnetic gyrokinetic equations. <i>Journal of Plasma Physics</i> , 2021, 87, .	2.1	7
63	Two-dimensional reflection of magnetosonic radiation by gyroballistic waves: an analytic theory. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1993, 178, 413-418.	2.1	6
64	On the relation between pseudo-Hermiticity and dissipation. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1994, 187, 382-390.	2.1	6
65	Canonical transformation for trapped/passing guiding-center orbits in axisymmetric tokamak geometry. <i>Physics of Plasmas</i> , 2014, 21, .	1.9	6
66	Generalized Caseâ€van Kampen modes in a multidimensional non-uniform plasma with application to gyroresonance heating. <i>Journal of Plasma Physics</i> , 1996, 55, 449-486.	2.1	5
67	How a Wave Flips Its Energy Sign by Linear Conversion. <i>Physical Review Letters</i> , 1996, 76, 1639-1642.	7.8	5
68	Linear wave spectrum associated with collective neutrino-plasma interactions in the early universe. <i>New Journal of Physics</i> , 2002, 4, 97-97.	2.9	5
69	Rooms with a view: A novel approach to iterated multidimensional wave conversion. <i>Communications in Nonlinear Science and Numerical Simulation</i> , 2012, 17, 2161-2170.	3.3	5
70	Mini-conference on Hamiltonian and Lagrangian methods in fluid and plasma physics. <i>Physics of Plasmas</i> , 2003, 10, 2163-2168.	1.9	4
71	Variational principle for the parallel-symplectic representation of electromagnetic gyrokinetic theory. <i>Physics of Plasmas</i> , 2017, 24, 081201.	1.9	4
72	Hamiltonian formulations for perturbed dissipationless plasma equations. <i>Physics of Plasmas</i> , 2020, 27, 122111.	1.9	4

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73	Recirculation in multiple wave conversions. <i>Physics of Plasmas</i> , 2008, 15, 082116.	1.9	3
74	Perturbative variational formulation of the Vlasov-Maxwell equations. <i>Physics of Plasmas</i> , 2018, 25, 112112.	1.9	3
75	Hamiltonian structure of the guiding-center Vlasov-Maxwell equations. <i>Physics of Plasmas</i> , 2021, 28, 102303.	1.9	3
76	Action-angle coordinates for motion in a straight magnetic field with constant gradient. <i>Communications in Nonlinear Science and Numerical Simulation</i> , 2022, 114, 106652.	3.3	3
77	Triplicate Budden resonance in the presence of sheared flow. <i>AIP Conference Proceedings</i> , 2005, , .	0.4	2
78	Perturbation analysis of trapped-particle dynamics in axisymmetric dipole geometry. <i>Physics of Plasmas</i> , 2010, 17, 102903.	1.9	2
79	Comment on "Exact solutions and singularities of an X-point collapse in Hall magnetohydrodynamics" [J. Math. Phys. 59, 061509 (2018)]. <i>Journal of Mathematical Physics</i> , 2019, 60, 024101.	1.1	2
80	On the validity of the guiding-center approximation in a magnetic dipole field. <i>Physics of Plasmas</i> , 2022, 29, 022101.	1.9	2
81	Hamiltonian structure of a gauge-free gyrokinetic Vlasov-Maxwell model. <i>Physics of Plasmas</i> , 2021, 28, .	1.9	2
82	Dirac-bracket structure in multidimensional mode conversion. <i>Communications in Nonlinear Science and Numerical Simulation</i> , 2012, 17, 2014-2020.	3.3	1
83	Asymptotic limit-cycle analysis of oscillating chemical reactions. <i>Journal of Mathematical Chemistry</i> , 2021, 59, 2098-2132.	1.5	1
84	Metriplectic foundations of gyrokinetic Vlasov-Maxwell-Landau theory. <i>Physics of Plasmas</i> , 2022, 29, .	1.9	1
85	Negative-energy energetic-ion Bernstein-wave propagation in a nonuniform magnetic field: Two linear-conversion phenomena. , 1996, , .		0
86	Extended Budden problem associated with an energetic-particle population. <i>AIP Conference Proceedings</i> , 2007, , .	0.4	0
87	Visualization and wave-field construction. , 0, , 154-182.		0