Alain Brizard

List of Publications by Year
in descending order

87 papers	2,577 citations	361413 20 h-index	206112 48 g-index
92 all docs	92 docs citations	92 times ranked	1223 citing authors

#	ARTICLE	IF	CITATIONS
1	On the validity of the guiding-center approximation in a magnetic dipole field. Physics of Plasmas, 2022, 29, 022101.	1.9	2
2	Action–angle coordinates for motion in a straight magnetic field with constant gradient. Communications in Nonlinear Science and Numerical Simulation, 2022, 114, 106652.	3.3	3
3	Metriplectic foundations of gyrokinetic Vlasov–Maxwell–Landau theory. Physics of Plasmas, 2022, 29, .	1.9	1
4	Exact conservation laws for gauge-free electromagnetic gyrokinetic equations. Journal of Plasma Physics, 2021, 87, .	2.1	7
5	Asymptotic limit-cycle analysis of oscillating chemical reactions. Journal of Mathematical Chemistry, 2021, 59, 2098-2132.	1.5	1
6	Hamiltonian structure of the guiding-center Vlasov–Maxwell equations. Physics of Plasmas, 2021, 28, 102303.	1.9	3
7	Hamiltonian structure of a gauge-free gyrokinetic Vlasov–Maxwell model. Physics of Plasmas, 2021, 28, .	1.9	2
8	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
9	Hamiltonian formulations for perturbed dissipationless plasma equations. Physics of Plasmas, 2020, 27, 122111.	1.9	4
10	Gauge-free electromagnetic gyrokinetic theory. Physics Letters, Section A: General, Atomic and Solid State Physics, 2019, 383, 2172-2175.	2.1	17
11	Comment on "Exact solutions and singularities of an X-point collapse in Hall magnetohydrodynamics" [J. Math. Phys. 59, 061509 (2018)]. Journal of Mathematical Physics, 2019, 60, 024101.	1.1	2
12	Centrifugal particle confinement in mirror geometry. Physics of Plasmas, 2018, 25, .	1.9	11
13	Perturbative variational formulation of the Vlasov-Maxwell equations. Physics of Plasmas, 2018, 25, 112112.	1.9	3
14	Differential formulation of the gyrokinetic Landau operator. Journal of Plasma Physics, 2017, 83, .	2.1	8
15	On the validity of the guiding-center approximation in the presence of strong magnetic gradients. Physics of Plasmas, 2017, 24, 042115.	1.9	10
16	Variational principle for the parallel-symplectic representation of electromagnetic gyrokinetic theory. Physics of Plasmas, 2017, 24, 081201.	1.9	4
17	Gyrokinetic particle simulations of the effects of compressional magnetic perturbations on drift-Alfvenic instabilities in tokamaks. Physics of Plasmas, 2017, 24, .	1.9	23
18	Motion in an asymmetric double well. Communications in Nonlinear Science and Numerical Simulation, 2017, 43, 351-368.	3.3	7

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19	Variational formulations of guiding-center Vlasov-Maxwell theory. Physics of Plasmas, 2016, 23, 062107.	1.9	21
20	Lifting of the Vlasovâ€"Maxwell bracket by Lie-transform method. Journal of Plasma Physics, 2016, 82, .	2.1	10
21	Guiding-centre transformation of the radiationâ€"reaction force in a non-uniform magnetic field. Journal of Plasma Physics, 2015, 81, .	2.1	13
22	Energetically consistent collisional gyrokinetics. Physics of Plasmas, 2015, 22, .	1.9	18
23	Lagrangian and Hamiltonian constraints for guiding-center Hamiltonian theories. Physics of Plasmas, 2015, 22, .	1.9	22
24	Hamiltonian gyrokinetic Vlasovâ€"Maxwell system. Physics Letters, Section A: General, Atomic and Solid State Physics, 2015, 379, 2073-2077.	2.1	34
25	Canonical transformation for trapped/passing guiding-center orbits in axisymmetric tokamak geometry. Physics of Plasmas, 2014, 21, .	1.9	6
26	Compact formulas for bounce/transit averaging in axisymmetric tokamak geometry. Physics of Plasmas, 2014, 21, 122510.	1.9	14
27	Jacobi zeta function and action-angle coordinates for the pendulum. Communications in Nonlinear Science and Numerical Simulation, 2013, 18, 511-518.	3.3	15
28	Beyond linear gyrocenter polarization in gyrokinetic theory. Physics of Plasmas, 2013, 20, .	1.9	28
29	Comment on â€œGeometric phase of the gyromotion for charged particles in a time-dependent magnetic fieldâ€•[Phys. Plasmas 18, 072505 (2011)]. Physics of Plasmas, 2012, 19, 094701.	1.9	7
30	Rooms with a view: A novel approach to iterated multidimensional wave conversion. Communications in Nonlinear Science and Numerical Simulation, 2012, 17, 2161-2170.	3.3	5
31	Dirac-bracket structure in multidimensional mode conversion. Communications in Nonlinear Science and Numerical Simulation, 2012, 17, 2014-2020.	3.3	1
32	Higher-order energy-conserving gyrokinetic theory. Physics of Plasmas, 2011, 18, .	1.9	10
33	Exact momentum conservation laws for the gyrokinetic Vlasov-Poisson equations. Physics of Plasmas, 2011, 18, 082307.	1.9	34
34	Compact formulas for guiding-center orbits in axisymmetric tokamak geometry. Physics of Plasmas, 2011, 18, .	1.9	20
35	Noether derivation of exact conservation laws for dissipationless reduced-fluid models. Physics of Plasmas, 2010, 17, .	1.9	10
36	Orbit-averaged guiding-center Fokkerâ€"Planck operator for numerical applications. Physics of Plasmas, 2010, 17, .	1.9	12

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37	Perturbation analysis of trapped-particle dynamics in axisymmetric dipole geometry. Physics of Plasmas, 2010, 17, 102903.	1.9	2
38	Exact energy conservation laws for full and truncated nonlinear gyrokinetic equations. Physics of Plasmas, 2010, 17, .	1.9	15
39	Guiding-center recursive Vlasov and Lie-transform methods in plasma physics. Journal of Plasma Physics, 2009, 75, 675-696.	2.1	15
40	Orbit-averaged guiding-center Fokker–Planck operator. Physics of Plasmas, 2009, 16, 102304.	1.9	13
41	A primer on elliptic functions with applications in classical mechanics. European Journal of Physics, 2009, 30, 729-750.	0.6	23
42	Variational principles for reduced plasma physics. Journal of Physics: Conference Series, 2009, 169, 012003.	0.4	19
43	Hamiltonian theory of guiding-center motion. Reviews of Modern Physics, 2009, 81, 693-738.	45.6	233
44	On the dynamical reduction of the Vlasov equation. Communications in Nonlinear Science and Numerical Simulation, 2008, 13, 24-33.	3.3	22
45	Nonlinear finite-Larmor-radius effects in reduced fluid models. Physics of Plasmas, 2008, 15, 082302.	1.9	14
46	Recirculation in multiple wave conversions. Physics of Plasmas, 2008, 15, 082116.	1.9	3
47	Extended Budden problem associated with an energetic-particle population. AIP Conference Proceedings, 2007, , .	0.4	0
48	Hamiltonian theory of adiabatic motion of relativistic charged particles. Physics of Plasmas, 2007, 14, .	1.9	39
49	Foundations of nonlinear gyrokinetic theory. Reviews of Modern Physics, 2007, 79, 421-468.	45.6	791
50	Noether methods for fluids and plasmas. Journal of Plasma Physics, 2005, 71, 225-236.	2.1	11
51	Triplicate Budden resonance in the presence of sheared flow. AIP Conference Proceedings, 2005, , .	0.4	2
52	Nonlocal nonlinear electrostatic gyrofluid equations: A four-moment model. Physics of Plasmas, 2005, 12, 052517.	1.9	31
53	Helical rays in two-dimensional resonant wave conversion. Physics of Plasmas, 2005, 12, 022101.	1.9	7
54	Energy-conserving finite-β electromagnetic drift-fluid equations. Physics of Plasmas, 2005, 12, 092302.	1.9	12

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55	Relativistic quasilinear diffusion in axisymmetric magnetic geometry for arbitrary-frequency electromagnetic fluctuations. Physics of Plasmas, 2004, 11, 4220-4229.	1.9	22
56	A guiding-center Fokker–Planck collision operator for nonuniform magnetic fields. Physics of Plasmas, 2004, 11, 4429-4438.	1.9	64
57	Ray-based methods in multidimensional linear wave conversion. Physics of Plasmas, 2003, 10, 2147-2154.	1.9	42
58	Mini-conference on Hamiltonian and Lagrangian methods in fluid and plasma physics. Physics of Plasmas, 2003, 10, 2163-2168.	1.9	4
59	Linear wave spectrum associated with collective neutrino-plasma interactions in the early universe. New Journal of Physics, 2002, 4, 97-97.	2.9	5
60	A geometric view of Hamiltonian perturbation theory. Physics Letters, Section A: General, Atomic and Solid State Physics, 2001, 291, 146-149.	2.1	8
61	Relativistic bounce-averaged quasilinear diffusion equation for low-frequency electromagnetic fluctuations. Physics of Plasmas, 2001, 8, 4762-4771.	1.9	49
62	Nonlinear bounce-gyrocenter Hamiltonian dynamics in general magnetic field geometry. Physics of Plasmas, 2000, 7, 3238-3246.	1.9	24
63	Magnetic field generation from self-consistent collective neutrino-plasma interactions. Physical Review E, 2000, 61, 4410-4421.	2.1	24
64	New Variational Principle for the Vlasov-Maxwell Equations. Physical Review Letters, 2000, 84, 5768-5771.	7.8	51
65	Variational principle for nonlinear gyrokinetic Vlasov–Maxwell equations. Physics of Plasmas, 2000, 7, 4816-4822.	1.9	81
66	Nonlinear relativistic gyrokinetic Vlasov-Maxwell equations. Physics of Plasmas, 1999, 6, 4548-4558.	1.9	52
67	Lagrangian formulation for neutrino–plasma interactions. Physics of Plasmas, 1999, 6, 1323-1328.	1.9	8
68	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
69	Mode conversion in the Gulf of Guinea. Journal of Fluid Mechanics, 1999, 394, 175-192.	3.4	16
70	A new Lagrangian formulation for laser-plasma interactions. Physics of Plasmas, 1998, 5, 1110-1117.	1.9	12
71	Double-crossing mode conversion in nonuniform media. Physics of Plasmas, 1998, 5, 45-59.	1.9	11
72	Negative-energy energetic-ion Bernstein-wave propagation in a nonuniform magnetic field: Two linear-conversion phenomena. , 1996, , .		0

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73	Generalized Case–van Kampen modes in a multidimensional non-uniform plasma with application to gyroresonance heating. Journal of Plasma Physics, 1996, 55, 449-486.	2.1	5
74	Variational structure for dissipationless linear drift–wave equations. Physics of Plasmas, 1996, 3, 744-748.	1.9	8
75	Double-Cross Instability: An Absolute Instability Caused by Counter-Propagating Positive- and Negative-Energy Waves. Physical Review Letters, 1996, 77, 1500-1503.	7.8	7
76	How a Wave Flips Its Energy Sign by Linear Conversion. Physical Review Letters, 1996, 76, 1639-1642.	7.8	5
77	Linear–conversion theory of energetic minority–ion Bernstein–wave propagation across gyroresonance in nonuniform magnetic field. Physics of Plasmas, 1996, 3, 64-71.	1.9	7
78	Local Manley-Rowe Relations for Noneikonal Wave Fields. Physical Review Letters, 1995, 74, 4567-4570.	7.8	19
79	Nonlinear gyrokinetic Vlasov equation for toroidally rotating axisymmetric tokamaks. Physics of Plasmas, 1995, 2, 459-471.	1.9	110
80	Quadratic free energy for the linearized gyrokinetic Vlasov–Maxwell equations. Physics of Plasmas, 1994, 1, 2473-2479.	1.9	10
81	Eulerian action principles for linearized reduced dynamical equations. Physics of Plasmas, 1994, 1, 2460-2472.	1.9	21
82	On the relation between pseudo-Hermiticity and dissipation. Physics Letters, Section A: General, Atomic and Solid State Physics, 1994, 187, 382-390.	2.1	6
83	Two-dimensional reflection of magnetosonic radiation by gyroballistic waves: an analytic theory. Physics Letters, Section A: General, Atomic and Solid State Physics, 1993, 178, 413-418.	2.1	6
84	Wave-action conservation for pseudo-Hermitian fields. Physical Review Letters, 1993, 70, 521-524.	7.8	16
85	Nonlinear gyrofluid description of turbulent magnetized plasmas. Physics of Fluids B, 1992, 4, 1213-1228.	1.7	126
86	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
87	Visualization and wave-field construction. , 0, , 154-182.		0