Scott Baalrud

List of Publications by Year
in descending order

74 papers	2,359 citations	236925 25 h-index	223800 46 g-index
74 all docs	74 docs citations	74 times ranked	2064 citing authors

#	Article	IF	Citations
1	Method to determine the electronâ€“ion temperature relaxation rate from test particle distributions. Physics of Plasmas, 2022, 29, .	1.9	2
2	Extended space and time correlations in strongly magnetized plasmas. Physics of Plasmas, 2021, 28, .	1.9	7
3	Kinetic model for electron-ion transport in warm dense matter. Physical Review E, 2021, 103, 063206.	2.1	10
4	Effects of Coulomb coupling on friction in strongly magnetized plasmas. Physics of Plasmas, 2021, 28, .	1.9	8
5	A kinetic model of friction in strongly coupled strongly magnetized plasmas. Physics of Plasmas, 2021, 28, .	1.9	6
6	dc electrical conductivity in strongly magnetized plasmas. Physics of Plasmas, 2021, 28, 102107.	1.9	5
7	Simulations of ion heating due to ion-acoustic instabilities in presheaths. Physics of Plasmas, 2021, 28, 123516.	1.9	6
8	Friction force in strongly magnetized plasmas. Physical Review E, 2020, 102, 041201.	2.1	15
9	Diffusion Coefficients in the Envelopes of White Dwarfs. Astrophysical Journal, 2020, 896, 2.	4.5	17
10	A generalized Boltzmann kinetic theory for strongly magnetized plasmas with application to friction. Physics of Plasmas, 2020, 27, 112101.	1.9	14
11	Viscosity of the magnetized strongly coupled one-component plasma. Physical Review E, 2020, 102, 063202.	2.1	8
12	Mean force kinetic theory applied to self-diffusion in supercritical Lennard-Jones fluids. Journal of Chemical Physics, 2020, 152, 174102.	3.0	6
13	Laser-induced fluorescence measurements of ion fluctuations in electron and ion presheaths. Physics of Plasmas, 2020, 27, .	1.9	8
14	Friction in a strongly magnetized neutral plasma. Plasma Physics and Controlled Fusion, 2020, 62, 095003.	2.1	9
15	Interaction of biased electrodes and plasmas: sheaths, double layers, and fireballs. Plasma Sources Science and Technology, 2020, 29, 053001.	3.1	46
16	Mean force kinetic theory: A convergent kinetic theory for weakly and strongly coupled plasmas. Physics of Plasmas, 2019, 26, .	1.9	27
17	Exploring the crossover between high-energy-density plasma and ultracold neutral plasma physics. Physics of Plasmas, 2019, 26, .	1.9	26
18	Transverse force induced by a magnetized wake. Plasma Physics and Controlled Fusion, 2019, 61, 125004.	2.1	12

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19	Testing thermal conductivity models with equilibrium molecular dynamics simulations of the one-component plasma. Physical Review E, 2019, 100, 043206.	2.1	22
20	Effects of Coulomb coupling on stopping power and a link to macroscopic transport. Physics of Plasmas, 2019, 26, .	1.9	13
21	The Barkas effect in plasma transport. Physics of Plasmas, 2019, 26, 032110.	1.9	13
22	On the hysteresis in fireball formation and extinction. Physics of Plasmas, 2019, 26, .	1.9	4
23	Reduction of electron heating by magnetizing ultracold neutral plasma. Physics of Plasmas, 2018, 25, .	1.9	12
24	Collisionless kinetic theory of oblique tearing instabilities. Physics of Plasmas, 2018, 25, .	1.9	5
25	Measurements of fireball onset. Physics of Plasmas, 2018, 25, .	1.9	7
26	Characteristics and transport effects of the electron drift instability in Hall-effect thrusters. Plasma Sources Science and Technology, 2017, 26, 024008.	3.1	39
27	Electron presheaths: the outsized influence of positive boundaries on plasmas. Plasma Sources Science and Technology, 2017, 26, 025009.	3.1	17
28	Experimental studies of ion flow near the sheath edge in multiple ion species plasma including argon, xenon and neon. Plasma Sources Science and Technology, 2017, 26, 055021.	3.1	10
29	Temperature anisotropy relaxation of the oneâ€component plasma. Contributions To Plasma Physics, 2017, 57, 238-251.	1.1	10
30	Thermodynamic state variables in quasiequilibrium ultracold neutral plasma. Physical Review E, 2017, 95, 043204.	2.1	10
31	Pair correlation functions of strongly coupled two-temperature plasma. Physics of Plasmas, 2017, 24, 092703.	1.9	17
32	The 2017 Plasma Roadmap: Low temperature plasma science and technology. Journal Physics D: Applied Physics, 2017, 50, 323001.	2.8	710
33	Effective potential theory for diffusion in binary ionic mixtures. Physical Review E, 2017, 95, 013206.	2.1	25
34	Theory and simulation of anode spots in low pressure plasmas. Physics of Plasmas, 2017, 24, .	1.9	13
35	Time-dependent Tonks-Langmuir model is unstable. Physical Review E, 2017, 96, 053201.	2.1	5
36	Influence of coupling on thermal forces and dynamic friction in plasmas with multiple ion species. Physics of Plasmas, 2017, 24, .	1.9	10

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37	Influence of neutral pressure on instability enhanced friction and ion velocities at the sheath edge of two-ion-species plasmas. Physics of Plasmas, 2017, 24, 123505.	1.9	6
38	Transport regimes spanning magnetization-coupling phase space. Physical Review E, 2017, 96, 043202.	2.1	25
39	Theory for the anomalous electron transport in Hall effect thrusters. II. Kinetic model. Physics of Plasmas, 2016, 23, .	1.9	94
40	The onset of plasma potential locking. Physics of Plasmas, 2016, 23, .	1.9	11
41	Ion flow and sheath structure near positively biased electrodes. Physics of Plasmas, 2016, 23, .	1.9	24
42	Effective potential kinetic theory for strongly coupled plasmas. AIP Conference Proceedings, 2016, , .	0.4	8
43	Laser-induced fluorescence measurements of argon and xenon ion velocities near the sheath boundary in 3 ion species plasmas. Physics of Plasmas, 2016, 23, .	1.9	17
44	Particle-in-cell study of the ion-to-electron sheath transition. Physics of Plasmas, 2016, 23, .	1.9	14
45	Plasma potential locking. , 2016, , .		0
46	Ionic Transport Coefficients of Dense Plasmas without Molecular Dynamics. Physical Review Letters, 2016, 116, 075002.	7.8	45
47	Influence of ion streaming instabilities on transport near plasma boundaries. Plasma Sources Science and Technology, 2016, 25, 025008.	3.1	19
48	Theory of the electron sheath and presheath. Physics of Plasmas, 2015, 22, .	1.9	54
49	Plasma transport theory spanning weak to strong coupling. AIP Conference Proceedings, 2015, , .	0.4	0
50	Extensions and applications of the Bohm criterion. Plasma Physics and Controlled Fusion, 2015, 57, 044003.	2.1	27
51	Instability-enhanced friction in the presheath of two-ion-species plasmas. Plasma Sources Science and Technology, 2015, 24, 015034.	3.1	19
52	Modified Enskog kinetic theory for strongly coupled plasmas. Physical Review E, 2015, 91, 063107.	2.1	32
53	Extending plasma transport theory to strong coupling through the concept of an effective interaction potential. Physics of Plasmas, 2014, 21, .	1.9	38
54	Response of the plasma to the size of an anode electrode biased near the plasma potential. Physics of Plasmas, 2014, 21, .	1.9	32

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55	Determination of the shear viscosity of the one-component plasma. Physical Review E, 2014, 90, 033105.	2.1	47
56	Effective Potential Theory for Transport Coefficients across Coupling Regimes. Physical Review Letters, 2013, 110, 235001.	7.8	90
57	The incomplete plasma dispersion function: Properties and application to waves in bounded plasmas. Physics of Plasmas, 2013, 20, .	1.9	10
58	The incomplete plasma dispersion function: Properties and application to waves and collisions near plasma boundaries. , 2013, , .		0
59	Reduced magnetohydrodynamic theory of oblique plasmoid instabilities. Physics of Plasmas, 2012, 19, .	1.9	48
60	Comment on â€œ<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msup><mml:mi>Ar</mml:mi><mml:mo>+</mml:mo></mml:msup></mml:math>and<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msup><mml:mi>Xe</mml:mi><mml:mo>+</mml:mo></mml:msup></mml:math>Velocities near the Presheath-Sheath Boundary in an<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Ar</mml:mi><mml:mo>/<	7.8	7
61	Reply to comment on â€ Kinetic theory of the presheath and the Bohm criterionâ€™. Plasma Sources Science and Technology, 2012, 21, 068002.	3.1	13
62	Transport coefficients in strongly coupled plasmas. Physics of Plasmas, 2012, 19, .	1.9	30
63	Determining the Bohm criterion in plasmas with two ion species. Physics of Plasmas, 2011, 18, .	1.9	44
64	Particle-in-cell simulations of a current-free double layer. Physics of Plasmas, 2011, 18, 063502.	1.9	24
65	Kinetic theory of the presheath and the Bohm criterion. Plasma Sources Science and Technology, 2011, 20, 025013.	3.1	56
66	Hall magnetohydrodynamic reconnection in the plasmoid unstable regime. Physics of Plasmas, 2011, 18, .	1.9	38
67	Kinetic theory of instability-enhanced collisional effects. Physics of Plasmas, 2010, 17, .	1.9	23
68	Instability-Enhanced Collisional Friction Can Determine the Bohm Criterion in Multiple-Ion-Species Plasmas. Physical Review Letters, 2009, 103, 205002.	7.8	61
69	Instability-Enhanced Collisional Effects and Langmuirâ€™s Paradox. Physical Review Letters, 2009, 102, 245005.	7.8	36
70	Equilibrium states of anodic double layers. Plasma Sources Science and Technology, 2009, 18, 035002.	3.1	78
71	Enhanced electron scattering due to the ion acoustic instability. , 2008, , .		0
72	A kinetic equation for unstable plasmas in a finite space-time domain. Physics of Plasmas, 2008, 15, .	1.9	18

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73	Global nonambipolar flow: Plasma confinement where all electrons are lost to one boundary and all positive ions to another boundary. Physics of Plasmas, 2007, 14, 042109.	1.9	75
74	Nonambipolar electron source. Review of Scientific Instruments, 2006, 77, 113504.	1.3	22