

Mark E Dieckmann

List of Publications by Year in descending order

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130
papers

2,316
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236925

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163
all docs

163
docs citations

163
times ranked

1496
citing authors

#	ARTICLE	IF	CITATIONS
1	Effects of radiative losses on the relativistic jets of high-mass microquasars. <i>Astronomy and Astrophysics</i> , 2022, 658, A100.	5.1	6
2	Shocks and phase space vortices driven by a density jump between two clouds of electrons and protons. <i>Plasma Physics and Controlled Fusion</i> , 2020, 62, 025022.	2.1	9
3	Collisionless Rayleigh–Taylor-like instability of the boundary between a hot pair plasma and an electron–proton plasma: The undular mode. <i>Physics of Plasmas</i> , 2020, 27, .	1.9	4
4	Preferential acceleration of positrons by a filamentation instability between an electron–proton beam and a pair plasma beam. <i>Physics of Plasmas</i> , 2020, 27, 122102.	1.9	2
5	Particle trajectories in Weibel filaments: influence of external field obliquity and chaos. <i>Journal of Plasma Physics</i> , 2020, 86, .	2.1	0
6	Collisionless tangential discontinuity between pair plasma and electron–proton plasma. <i>Physics of Plasmas</i> , 2020, 27, .	1.9	5
7	Change of a Weibel-type to an Alfvénic shock in pair plasma by upstream waves. <i>Physics of Plasmas</i> , 2020, 27, 062107.	1.9	1
8	Sarri et al. Reply:. <i>Physical Review Letters</i> , 2020, 124, 179502.	7.8	1
9	10.1063/5.0018321.1., 2020, , .		0
10	10.1063/5.0018321.8., 2020, , .		0
11	Failed self-reformation of a sub-critical fast magnetosonic shock in collisionless plasma. <i>Plasma Research Express</i> , 2019, 1, 035001.	0.9	3
12	Simulation studies of temperature anisotropy driven pair-Alfvén and aperiodic instabilities in magnetized pair plasma. <i>Plasma Physics and Controlled Fusion</i> , 2019, 61, 085027.	2.1	5
13	Counterstreaming beams in magnetised Vlasov plasma. <i>Pramana - Journal of Physics</i> , 2019, 93, 1.	1.8	3
14	Structure of a collisionless pair jet in a magnetized electron–proton plasma: flow-aligned magnetic field. <i>Astronomy and Astrophysics</i> , 2019, 621, A142.	5.1	15
15	Electrostatic and magnetic instabilities in the transition layer of a collisionless weakly relativistic pair shock. <i>Monthly Notices of the Royal Astronomical Society</i> , 2018, 473, 198-209.	4.4	16
16	Electrostatic shock waves in the laboratory and astrophysics: similarities and differences. <i>Plasma Physics and Controlled Fusion</i> , 2018, 60, 014014.	2.1	7
17	Cocoon formation by a mildly relativistic pair jet in unmagnetized collisionless electron-proton plasma. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	6
18	Impact of the electron to ion mass ratio on unstable systems in particle-in-cell simulations. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	5

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19	Expansion of a mildly relativistic hot pair cloud into an electron-proton plasma. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	7
20	Quasi-perpendicular fast magnetosonic shock with wave precursor in collisionless plasma. <i>Physics of Plasmas</i> , 2018, 25, 074502.	1.9	1
21	Expansion of a radially symmetric blast shell into a uniformly magnetized plasma. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	10
22	One-dimensional thermal pressure-driven expansion of a pair cloud into an electron-proton plasma. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	10
23	Simulation study of the formation of a non-relativistic pair shock. <i>Journal of Plasma Physics</i> , 2017, 83, .	2.1	10
24	Experimental Observation of Thin-shell Instability in a Collisionless Plasma. <i>Astrophysical Journal Letters</i> , 2017, 834, L21.	8.3	8
25	Emergence of MHD structures in a collisionless PIC simulation plasma. <i>Physics of Plasmas</i> , 2017, 24, .	1.9	8
26	Expansion of a radial plasma blast shell into an ambient plasma. <i>Physics of Plasmas</i> , 2017, 24, .	1.9	3
27	The interplay of the collisionless non-linear thin-shell instability with the ion acoustic instability. <i>Monthly Notices of the Royal Astronomical Society</i> , 2017, 465, 4240-4248.	4.4	3
28	Departure from MHD prescriptions in shock formation over a guiding magnetic field. <i>Laser and Particle Beams</i> , 2017, 35, 513-519.	1.0	1
29	Hierarchy of instabilities for two counter-streaming magnetized pair beams: Influence of field obliquity. <i>Physics of Plasmas</i> , 2017, 24, .	1.9	6
30	Experimental Observation of a Current-Driven Instability in a Neutral Electron-Positron Beam. <i>Physical Review Letters</i> , 2017, 119, 185002.	7.8	44
31	Theory of the formation of a collisionless Weibel shock: pair vs. electron/proton plasmas. <i>Laser and Particle Beams</i> , 2016, 34, 362-367.	1.0	7
32	Particle-in-cell simulation study of a lower-hybrid shock. <i>Physics of Plasmas</i> , 2016, 23, .	1.9	8
33	The microphysics of collisionless shock waves. <i>Reports on Progress in Physics</i> , 2016, 79, 046901.	20.1	185
34	Overview of laser-driven generation of electron-positron beams. <i>Journal of Plasma Physics</i> , 2015, 81, .	2.1	26
35	Thin-shell instability in collisionless plasma. <i>Physical Review E</i> , 2015, 92, 031101.	2.1	9
36	Shocks in unmagnetized plasma with a shear flow: Stability and magnetic field generation. <i>Physics of Plasmas</i> , 2015, 22, 072104.	1.9	1

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37	Particle-in-cell simulation study of the interaction between a relativistically moving leptonic micro-cloud and ambient electrons. <i>Astronomy and Astrophysics</i> , 2015, 577, A137.	5.1	3
38	10.1063/1.4926525.3. , 2015, , .		0
39	Evolution of slow electrostatic shock into a plasma shock mediated by electrostatic turbulence. <i>New Journal of Physics</i> , 2014, 16, 073001.	2.9	15
40	Microphysics of Cosmic Plasmas: Hierarchies of Plasma Instabilities from MHD to Kinetic. <i>Space Science Reviews</i> , 2013, 178, 357-383.	8.1	6
41	Parametric study of non-relativistic electrostatic shocks and the structure of their transition layer. <i>Physics of Plasmas</i> , 2013, 20, .	1.9	19
42	Table-Top Laser-Based Source of Femtosecond, Collimated, Ultrarelativistic Positron Beams. <i>Physical Review Letters</i> , 2013, 110, 255002.	7.8	149
43	A table-top laser-based source of short, collimated, ultra-relativistic positron beams. <i>Proceedings of SPIE</i> , 2013, , .	0.8	2
44	Modification of the formation of high-Mach number electrostatic shock-like structures by the ion acoustic instability. <i>Physics of Plasmas</i> , 2013, 20, .	1.9	13
45	Time-Resolved Characterization of the Formation of a Collisionless Shock. <i>Physical Review Letters</i> , 2013, 110, 205001.	7.8	54
46	Laser-driven generation of collimated ultra-relativistic positron beams. <i>Plasma Physics and Controlled Fusion</i> , 2013, 55, 124017.	2.1	33
47	Microphysics of Cosmic Plasmas: Hierarchies of Plasma Instabilities from MHD to Kinetic. <i>Space Sciences Series of ISSI</i> , 2013, , 281-307.	0.0	0
48	Temporal evolution of high mach number electrostatic shocks in laboratory plasma. , 2012, , .		0
49	Magnetic field suppression in collision-less shocks generated during the expansion of a dense plasma into a rarefied medium. <i>EAS Publications Series</i> , 2012, 58, 33-36.	0.3	0
50	FIELD AMPLIFICATION, VORTEX FORMATION, AND ELECTRON ACCELERATION IN A PLASMA PROTOSHOCK: EFFECT OF ASYMMETRIC DENSITY PROFILE. <i>International Journal of Modern Physics Conference Series</i> , 2012, 08, 376-379.	0.7	1
51	Dynamics of Self-Generated, Large Amplitude Magnetic Fields Following High-Intensity Laser Matter Interaction. <i>Physical Review Letters</i> , 2012, 109, 205002.	7.8	70
52	Magnetic instability in a dilute circular rarefaction wave. <i>Physics of Plasmas</i> , 2012, 19, 122102.	1.9	8
53	Simulation of relativistically colliding laser-generated electron flows. <i>Physics of Plasmas</i> , 2012, 19, .	1.9	12
54	Weibel-Induced Filamentation during an Ultrafast Laser-Driven Plasma Expansion. <i>Physical Review Letters</i> , 2012, 108, 135001.	7.8	51

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55	Particle simulation study of electron heating by counter-streaming ion beams ahead of supernova remnant shocks. <i>Plasma Physics and Controlled Fusion</i> , 2012, 54, 085015.	2.1	11
56	PIC simulation of a thermal anisotropy-driven Weibel instability in a circular rarefaction wave. <i>New Journal of Physics</i> , 2012, 14, 023007.	2.9	6
57	Two-dimensional particle-in-cell simulation of the expansion of a plasma into a rarefied medium. <i>New Journal of Physics</i> , 2011, 13, 073023.	2.9	25
58	Generation of a Purely Electrostatic Collisionless Shock during the Expansion of a Dense Plasma through a Rarefied Medium. <i>Physical Review Letters</i> , 2011, 107, 025003.	7.8	35
59	Magnetic field amplification and electron acceleration to near-energy equipartition with ions by a mildly relativistic quasi-parallel plasma protoshock. <i>Astronomy and Astrophysics</i> , 2010, 524, A84.	5.1	7
60	Particle-in-cell simulation of a mildly relativistic collision of an electron-ion plasma carrying a quasi-parallel magnetic field. <i>Astronomy and Astrophysics</i> , 2010, 509, A89.	5.1	17
61	Progress in proton radiography for diagnosis of ICF-relevant plasmas. <i>Laser and Particle Beams</i> , 2010, 28, 277-284.	1.0	25
62	Resonant Weibel instability in counterstreaming plasmas with temperature anisotropies. <i>Journal of Plasma Physics</i> , 2010, 76, 49-56.	2.1	8
63	Simulation of a collisionless planar electrostatic shock in a proton-electron plasma with a strong initial thermal pressure change. <i>Plasma Physics and Controlled Fusion</i> , 2010, 52, 025001.	2.1	20
64	PIC simulations of the temperature anisotropy-driven Weibel instability: analysing the perpendicular mode. <i>Plasma Physics and Controlled Fusion</i> , 2010, 52, 085009.	2.1	15
65	Magnetic vortex growth in the transition layer of a mildly relativistic plasma shock. <i>Physics of Plasmas</i> , 2010, 17, .	1.9	4
66	Observation and characterization of laser-driven phase space electron holes. <i>Physics of Plasmas</i> , 2010, 17, 010701.	1.9	43
67	KINETIC PARTICLE-IN-CELL SIMULATIONS OF ASYMMETRIC QUASI-PARALLEL MILDLY RELATIVISTIC PLASMA COLLISIONS: FIELD AND ELECTRON DYNAMICS. <i>International Journal of Modern Physics D</i> , 2010, 19, 707-713.	2.1	3
68	Recent progresses in relativistic beam-plasma instability theory. <i>Annales Geophysicae</i> , 2010, 28, 2127-2132.	1.6	8
69	Shock creation and particle acceleration driven by plasma expansion into a rarefied medium. <i>Physics of Plasmas</i> , 2010, 17, 082305.	1.9	35
70	How large can the electron to proton mass ratio be in particle-in-cell simulations of unstable systems?. <i>Physics of Plasmas</i> , 2010, 17, 032109.	1.9	34
71	The application of laser-driven proton beams to the radiography of intense laser-hohlraum interactions. <i>New Journal of Physics</i> , 2010, 12, 045006.	2.9	38
72	Electric field generation by the electron beam filamentation instability: filament size effects. <i>Physica Scripta</i> , 2010, 81, 015502.	2.5	4

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73	Multidimensional Simulations of Magnetic Field Amplification and Electron Acceleration to Near-Energy Equipartition With Ions by a Mildly Relativistic Quasi-Parallel Plasma Collision. IEEE Transactions on Plasma Science, 2010, 38, 2985-2992.	1.3	5
74	Multidimensional electron beam-plasma instabilities in the relativistic regime. Physics of Plasmas, 2010, 17, .	1.9	197
75	One-dimensional particle simulation of the filamentation instability: Electrostatic field driven by the magnetic pressure gradient force. Physics of Plasmas, 2009, 16, .	1.9	16
76	The filamentation instability driven by warm electron beams: statistics and electric field generation. Plasma Physics and Controlled Fusion, 2009, 51, 124042.	2.1	16
77	PARTICLE-IN-CELL SIMULATION OF A STRONG DOUBLE LAYER IN A NONRELATIVISTIC PLASMA FLOW: ELECTRON ACCELERATION TO ULTRARELATIVISTIC SPEEDS. Astrophysical Journal, 2009, 694, 154-164.	4.5	19
78	Simulation study of the filamentation of counter-streaming beams of the electrons and positrons in plasmas. Plasma Physics and Controlled Fusion, 2009, 51, 065015.	2.1	18
79	PIC simulations of the thermal anisotropy-driven Weibel instability: field growth and phase space evolution upon saturation. Plasma Physics and Controlled Fusion, 2009, 51, 075014.	2.1	31
80	Ions motion effects on the full unstable spectrum in relativistic electron beam plasma interaction. Physics of Plasmas, 2008, 15, .	1.9	16
81	Two-dimensional PIC simulations of ion beam instabilities in Supernova-driven plasma flows. Plasma Physics and Controlled Fusion, 2008, 50, 065020.	2.1	14
82	Suppression of the filamentation instability by a flow-aligned magnetic field: testing the analytic threshold with PIC simulations. Plasma Physics and Controlled Fusion, 2008, 50, 025002.	2.1	31
83	Electron surfing acceleration by mildly relativistic beams: wave magnetic field effects. New Journal of Physics, 2008, 10, 013029.	2.9	13
84	Filamentation Instability of Counterpropagating Charged Particle Beams: Statistical Properties. , 2008, , .		0
85	Electromagnetic turbulence driven by the mixed mode instability. Physics of Plasmas, 2008, 15, 094503.	1.9	13
86	The Formation of a Relativistic Partially Electromagnetic Planar Plasma Shock. Astrophysical Journal, 2008, 675, 586-595.	4.5	29
87	Relativistic electron beam driven instabilities in the presence of an arbitrarily oriented magnetic field. Physics of Plasmas, 2008, 15, 062102.	1.9	15
88	The formation of relativistic plasma structures and their potential role in the generation of cosmic ray electrons. Nonlinear Processes in Geophysics, 2008, 15, 831-846.	1.3	8
89	The plasma filamentation instability in one dimension: nonlinear evolution. New Journal of Physics, 2007, 9, 247-247.	2.9	28
90	Aspects of self-similar current distributions resulting from the plasma filamentation instability. New Journal of Physics, 2007, 9, 10-10.	2.9	20

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91	Wakefield Acceleration in Relativistic Plasma Flows: Electron Acceleration to Cosmic Ray Energies. AIP Conference Proceedings, 2007, , .	0.4	0
92	Comparing electrostatic instabilities driven by mildly and highly relativistic proton beams. Plasma Physics and Controlled Fusion, 2007, 49, 1989-2004.	2.1	7
93	Phase Space Modulations in Magnetised Plasmas by a Mildly Relativistic Two-Stream Instability. , 2007, , 361-370.		0
94	Instability and dynamics of two nonlinearly coupled laser beams in a plasma. Physics of Plasmas, 2006, 13, 053104.	1.9	18
95	Evolution of the fastest-growing relativistic mixed mode instability driven by a tenuous plasma beam in one and two dimensions. Physics of Plasmas, 2006, 13, 112110.	1.9	35
96	Electron surfing acceleration by the electron two-stream instability in a weak magnetic field. Plasma Physics and Controlled Fusion, 2006, 48, 1515-1530.	2.1	14
97	Stabilisation of BGK modes by relativistic effects. Astronomy and Astrophysics, 2006, 452, 371-381.	5.1	14
98	Electron surfing acceleration in oblique magnetic fields. Monthly Notices of the Royal Astronomical Society, 2006, 367, 865-872.	4.4	8
99	Particle-in-cell simulation studies of the non-linear evolution of ultrarelativistic two-stream instabilities. Monthly Notices of the Royal Astronomical Society, 2006, 367, 1072-1082.	4.4	26
100	Electrostatic pair creation and recombination in quantum plasmas. JETP Letters, 2006, 83, 313-317.	1.4	4
101	Oblique electromagnetic instabilities for a hot relativistic beam interacting with a hot and magnetized plasma. Physics of Plasmas, 2006, 13, 082109.	1.9	51
102	Phase speed of electrostatic waves: the critical parameter for efficient electron surfing acceleration. Plasma Physics and Controlled Fusion, 2006, 48, 489-508.	2.1	11
103	On the ultrarelativistic two-stream instability, electrostatic turbulence and Brownian motion. New Journal of Physics, 2006, 8, 40-40.	2.9	25
104	Particle-in-cell simulations of plasma slabs colliding at a mildly relativistic speed. New Journal of Physics, 2006, 8, 225-225.	2.9	21
105	Theoretical and simulation studies of relativistic ion holes in astrophysical plasmas. New Journal of Physics, 2006, 8, 55-55.	2.9	16
106	Two-stream instability in collisionless shocks and foreshock. Plasma Physics and Controlled Fusion, 2006, 48, B303-B311.	2.1	10
107	Nonlinear aspects of the solar coronal heating. Plasma Physics and Controlled Fusion, 2006, 48, B249-B255.	2.1	20
108	Theory and simulations of nonlinear kinetic structures in plasmas. Plasma Physics and Controlled Fusion, 2006, 48, B257-B265.	2.1	2

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109	Formation of electrostatic structures by wakefield acceleration in ultrarelativistic plasma flows: Electron acceleration to cosmic ray energies. <i>Physics of Plasmas</i> , 2006, 13, 062905.	1.9	12
110	Simulation study of surfing acceleration in magnetized space plasmas. <i>New Journal of Physics</i> , 2005, 7, 136-136.	2.9	14
111	Surfatron and stochastic acceleration of electrons in astrophysical plasmas. <i>Journal of Plasma Physics</i> , 2005, 71, 127-141.	2.1	2
112	Particle Simulation of an Ultrarelativistic Two-Stream Instability. <i>Physical Review Letters</i> , 2005, 94, 155001.	7.8	20
113	Visualization of 4-D particle data sets. <i>IEEE Transactions on Plasma Science</i> , 2005, 33, 536-537.	1.3	2
114	Numerical simulation and visualization of stochastic and ordered electron motion forced by electrostatic waves in a magnetized plasma. <i>Physics of Plasmas</i> , 2005, 12, 092902.	1.9	3
115	Electron acceleration by fast electrostatic waves moving orthogonally across a magnetic field. <i>IEEE Transactions on Plasma Science</i> , 2005, 33, 530-531.	1.3	0
116	Proton phase space vortices generated by powerful beam driven electrostatic waves. <i>IEEE Transactions on Plasma Science</i> , 2005, 33, 550-551.	1.3	9
117	Electron acceleration to energies beyond GeV by a relativistic ion beam instability. <i>Physical Review E</i> , 2004, 70, 036401.	2.1	22
118	Streaming instabilities driven by mildly relativistic proton beams in plasmas. <i>Physics of Plasmas</i> , 2004, 11, 1394-1401.	1.9	26
119	Connecting Shock Velocities to Electron-Injection Mechanisms. <i>Physical Review Letters</i> , 2004, 92, 065006.	7.8	20
120	Simulating Thermal Noise. <i>Physica Scripta</i> , 2004, 69, 456-460.	2.5	33
121	Particle-in-cell simulations of electron acceleration by a simple capacitive antenna in collisionless plasma. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	3
122	Self-consistent Studies of Electron Acceleration to Ultrarelativistic Energies by Upper Hybrid Waves. <i>Astrophysical Journal</i> , 2004, 617, 1361-1370.	4.5	23
123	Three-dimensional visualization of electron acceleration in a magnetized plasma. <i>IEEE Transactions on Plasma Science</i> , 2002, 30, 20-21.	1.3	14
124	Energetic particles in magnetic confinement systems: synergies beyond fusion. <i>Nuclear Fusion</i> , 2002, 42, 986-998.	3.5	2
125	Surfatron and Stochastic Acceleration of Electrons at Supernova Remnant Shocks. <i>Physical Review Letters</i> , 2001, 87, 255002.	7.8	80
126	Large-scale numerical simulations of ion beam instabilities in unmagnetized astrophysical plasmas. <i>Physics of Plasmas</i> , 2000, 7, 5171-5181.	1.9	40

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127	Plasma sounding at the upper hybrid frequency. <i>Journal of Geophysical Research</i> , 2000, 105, 13103-13117.	3.3	1
128	The energy injection into waves with a zero group velocity. <i>Physics of Plasmas</i> , 1999, 6, 2681-2692.	1.9	5
129	The application of a shift theorem analysis technique to multipoint measurements. <i>Annales Geophysicae</i> , 1999, 17, 321-327.	1.6	0
130	Interactive visualization of particle-in-cell simulations. , 0, , .		5