

Mark E Dieckmann

List of Publications by Year in descending order

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130
papers

2,316
citations

236925

25
h-index

265206

42
g-index

163
all docs

163
docs citations

163
times ranked

1496
citing authors

#	ARTICLE	IF	CITATIONS
1	Multidimensional electron beam-plasma instabilities in the relativistic regime. <i>Physics of Plasmas</i> , 2010, 17, .	1.9	197
2	The microphysics of collisionless shock waves. <i>Reports on Progress in Physics</i> , 2016, 79, 046901.	20.1	185
3	Table-Top Laser-Based Source of Femtosecond, Collimated, Ultrarelativistic Positron Beams. <i>Physical Review Letters</i> , 2013, 110, 255002.	7.8	149
4	Surfatron and Stochastic Acceleration of Electrons at Supernova Remnant Shocks. <i>Physical Review Letters</i> , 2001, 87, 255002.	7.8	80
5	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
6	Time-Resolved Characterization of the Formation of a Collisionless Shock. <i>Physical Review Letters</i> , 2013, 110, 205001.	7.8	54
7	Oblique electromagnetic instabilities for a hot relativistic beam interacting with a hot and magnetized plasma. <i>Physics of Plasmas</i> , 2006, 13, 082109.	1.9	51
8	Weibel-Induced Filamentation during an Ultrafast Laser-Driven Plasma Expansion. <i>Physical Review Letters</i> , 2012, 108, 135001.	7.8	51
9	Experimental Observation of a Current-Driven Instability in a Neutral Electron-Positron Beam. <i>Physical Review Letters</i> , 2017, 119, 185002.	7.8	44
10	Observation and characterization of laser-driven phase space electron holes. <i>Physics of Plasmas</i> , 2010, 17, 010701.	1.9	43
11	Large-scale numerical simulations of ion beam instabilities in unmagnetized astrophysical plasmas. <i>Physics of Plasmas</i> , 2000, 7, 5171-5181.	1.9	40
12	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
13	Evolution of the fastest-growing relativistic mixed mode instability driven by a tenuous plasma beam in one and two dimensions. <i>Physics of Plasmas</i> , 2006, 13, 112110.	1.9	35
14	Shock creation and particle acceleration driven by plasma expansion into a rarefied medium. <i>Physics of Plasmas</i> , 2010, 17, 082305.	1.9	35
15	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
16	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
17	Simulating Thermal Noise. <i>Physica Scripta</i> , 2004, 69, 456-460.	2.5	33
18	Laser-driven generation of collimated ultra-relativistic positron beams. <i>Plasma Physics and Controlled Fusion</i> , 2013, 55, 124017.	2.1	33

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19	Suppression of the filamentation instability by a flow-aligned magnetic field: testing the analytic threshold with PIC simulations. <i>Plasma Physics and Controlled Fusion</i> , 2008, 50, 025002.	2.1	31
20	PIC simulations of the thermal anisotropy-driven Weibel instability: field growth and phase space evolution upon saturation. <i>Plasma Physics and Controlled Fusion</i> , 2009, 51, 075014.	2.1	31
21	The Formation of a Relativistic Partially Electromagnetic Planar Plasma Shock. <i>Astrophysical Journal</i> , 2008, 675, 586-595.	4.5	29
22	The plasma filamentation instability in one dimension: nonlinear evolution. <i>New Journal of Physics</i> , 2007, 9, 247-247.	2.9	28
23	Streaming instabilities driven by mildly relativistic proton beams in plasmas. <i>Physics of Plasmas</i> , 2004, 11, 1394-1401.	1.9	26
24	Particle-in-cell simulation studies of the non-linear evolution of ultrarelativistic two-stream instabilities. <i>Monthly Notices of the Royal Astronomical Society</i> , 2006, 367, 1072-1082.	4.4	26
25	Overview of laser-driven generation of electron-positron beams. <i>Journal of Plasma Physics</i> , 2015, 81, .	2.1	26
26	On the ultrarelativistic two-stream instability, electrostatic turbulence and Brownian motion. <i>New Journal of Physics</i> , 2006, 8, 40-40.	2.9	25
27	Progress in proton radiography for diagnosis of ICF-relevant plasmas. <i>Laser and Particle Beams</i> , 2010, 28, 277-284.	1.0	25
28	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
29	Self-consistent Studies of Electron Acceleration to Ultrarelativistic Energies by Upper Hybrid Waves. <i>Astrophysical Journal</i> , 2004, 617, 1361-1370.	4.5	23
30	Electron acceleration to energies beyond GeV by a relativistic ion beam instability. <i>Physical Review E</i> , 2004, 70, 036401.	2.1	22
31	Particle-in-cell simulations of plasma slabs colliding at a mildly relativistic speed. <i>New Journal of Physics</i> , 2006, 8, 225-225.	2.9	21
32	Connecting Shock Velocities to Electron-Injection Mechanisms. <i>Physical Review Letters</i> , 2004, 92, 065006.	7.8	20
33	Particle Simulation of an Ultrarelativistic Two-Stream Instability. <i>Physical Review Letters</i> , 2005, 94, 155001.	7.8	20
34	Nonlinear aspects of the solar coronal heating. <i>Plasma Physics and Controlled Fusion</i> , 2006, 48, B249-B255.	2.1	20
35	Aspects of self-similar current distributions resulting from the plasma filamentation instability. <i>New Journal of Physics</i> , 2007, 9, 10-10.	2.9	20
36	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

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37	PARTICLE-IN-CELL SIMULATION OF A STRONG DOUBLE LAYER IN A NONRELATIVISTIC PLASMA FLOW: ELECTRON ACCELERATION TO ULTRARELATIVISTIC SPEEDS. <i>Astrophysical Journal</i> , 2009, 694, 154-164.	4.5	19
38	Parametric study of non-relativistic electrostatic shocks and the structure of their transition layer. <i>Physics of Plasmas</i> , 2013, 20, .	1.9	19
39	Instability and dynamics of two nonlinearly coupled laser beams in a plasma. <i>Physics of Plasmas</i> , 2006, 13, 053104.	1.9	18
40	Simulation study of the filamentation of counter-streaming beams of the electrons and positrons in plasmas. <i>Plasma Physics and Controlled Fusion</i> , 2009, 51, 065015.	2.1	18
41	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
42	Theoretical and simulation studies of relativistic ion holes in astrophysical plasmas. <i>New Journal of Physics</i> , 2006, 8, 55-55.	2.9	16
43	Ions motion effects on the full unstable spectrum in relativistic electron beam plasma interaction. <i>Physics of Plasmas</i> , 2008, 15, .	1.9	16
44	One-dimensional particle simulation of the filamentation instability: Electrostatic field driven by the magnetic pressure gradient force. <i>Physics of Plasmas</i> , 2009, 16, .	1.9	16
45	The filamentation instability driven by warm electron beams: statistics and electric field generation. <i>Plasma Physics and Controlled Fusion</i> , 2009, 51, 124042.	2.1	16
46	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
47	Relativistic electron beam driven instabilities in the presence of an arbitrarily oriented magnetic field. <i>Physics of Plasmas</i> , 2008, 15, 062102.	1.9	15
48	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
49	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
50	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
51	Three-dimensional visualization of electron acceleration in a magnetized plasma. <i>IEEE Transactions on Plasma Science</i> , 2002, 30, 20-21.	1.3	14
52	Simulation study of surfing acceleration in magnetized space plasmas. <i>New Journal of Physics</i> , 2005, 7, 136-136.	2.9	14
53	Electron surfing acceleration by the electron two-stream instability in a weak magnetic field. <i>Plasma Physics and Controlled Fusion</i> , 2006, 48, 1515-1530.	2.1	14
54	Stabilisation of BGK modes by relativistic effects. <i>Astronomy and Astrophysics</i> , 2006, 452, 371-381.	5.1	14

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55	Two-dimensional PIC simulations of ion beam instabilities in Supernova-driven plasma flows. <i>Plasma Physics and Controlled Fusion</i> , 2008, 50, 065020.	2.1	14
56	Electron surfing acceleration by mildly relativistic beams: wave magnetic field effects. <i>New Journal of Physics</i> , 2008, 10, 013029.	2.9	13
57	Electromagnetic turbulence driven by the mixed mode instability. <i>Physics of Plasmas</i> , 2008, 15, 094503.	1.9	13
58	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
59	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
60	Simulation of relativistically colliding laser-generated electron flows. <i>Physics of Plasmas</i> , 2012, 19, .	1.9	12
61	Phase speed of electrostatic waves: the critical parameter for efficient electron surfing acceleration. <i>Plasma Physics and Controlled Fusion</i> , 2006, 48, 489-508.	2.1	11
62	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
63	Two-stream instability in collisionless shocks and foreshock. <i>Plasma Physics and Controlled Fusion</i> , 2006, 48, B303-B311.	2.1	10
64	Simulation study of the formation of a non-relativistic pair shock. <i>Journal of Plasma Physics</i> , 2017, 83, .	2.1	10
65	Expansion of a radially symmetric blast shell into a uniformly magnetized plasma. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	10
66	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
67	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
68	Thin-shell instability in collisionless plasma. <i>Physical Review E</i> , 2015, 92, 031101.	2.1	9
69	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
70	Electron surfing acceleration in oblique magnetic fields. <i>Monthly Notices of the Royal Astronomical Society</i> , 2006, 367, 865-872.	4.4	8
71	The formation of relativistic plasma structures and their potential role in the generation of cosmic ray electrons. <i>Nonlinear Processes in Geophysics</i> , 2008, 15, 831-846.	1.3	8
72	Resonant Weibel instability in counterstreaming plasmas with temperature anisotropies. <i>Journal of Plasma Physics</i> , 2010, 76, 49-56.	2.1	8

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73	Recent progresses in relativistic beam-plasma instability theory. <i>Annales Geophysicae</i> , 2010, 28, 2127-2132.	1.6	8
74	Magnetic instability in a dilute circular rarefaction wave. <i>Physics of Plasmas</i> , 2012, 19, 122102.	1.9	8
75	Particle-in-cell simulation study of a lower-hybrid shock. <i>Physics of Plasmas</i> , 2016, 23, .	1.9	8
76	Experimental Observation of Thin-shell Instability in a Collisionless Plasma. <i>Astrophysical Journal Letters</i> , 2017, 834, L21.	8.3	8
77	Emergence of MHD structures in a collisionless PIC simulation plasma. <i>Physics of Plasmas</i> , 2017, 24, .	1.9	8
78	Comparing electrostatic instabilities driven by mildly and highly relativistic proton beams. <i>Plasma Physics and Controlled Fusion</i> , 2007, 49, 1989-2004.	2.1	7
79	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
80	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
81	Electrostatic shock waves in the laboratory and astrophysics: similarities and differences. <i>Plasma Physics and Controlled Fusion</i> , 2018, 60, 014014.	2.1	7
82	Expansion of a mildly relativistic hot pair cloud into an electron-proton plasma. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	7
83	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
84	Microphysics of Cosmic Plasmas: Hierarchies of Plasma Instabilities from MHD to Kinetic. <i>Space Science Reviews</i> , 2013, 178, 357-383.	8.1	6
85	Hierarchy of instabilities for two counter-streaming magnetized pair beams: Influence of field obliquity. <i>Physics of Plasmas</i> , 2017, 24, .	1.9	6
86	Cocoon formation by a mildly relativistic pair jet in unmagnetized collisionless electron-proton plasma. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	6
87	Effects of radiative losses on the relativistic jets of high-mass microquasars. <i>Astronomy and Astrophysics</i> , 2022, 658, A100.	5.1	6
88	The energy injection into waves with a zero group velocity. <i>Physics of Plasmas</i> , 1999, 6, 2681-2692.	1.9	5
89	Interactive visualization of particle-in-cell simulations. , 0, , .		5
90	Multidimensional Simulations of Magnetic Field Amplification and Electron Acceleration to Near-Energy Equipartition With Ions by a Mildly Relativistic Quasi-Parallel Plasma Collision. <i>IEEE Transactions on Plasma Science</i> , 2010, 38, 2985-2992.	1.3	5

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91	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
92	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
93	Collisionless tangential discontinuity between pair plasma and electron-proton plasma. <i>Physics of Plasmas</i> , 2020, 27, .	1.9	5
94	Electrostatic pair creation and recombination in quantum plasmas. <i>JETP Letters</i> , 2006, 83, 313-317.	1.4	4
95	Magnetic vortex growth in the transition layer of a mildly relativistic plasma shock. <i>Physics of Plasmas</i> , 2010, 17, .	1.9	4
96	Electric field generation by the electron beam filamentation instability: filament size effects. <i>Physica Scripta</i> , 2010, 81, 015502.	2.5	4
97	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
98	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
99	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
100	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
101	Expansion of a radial plasma blast shell into an ambient plasma. <i>Physics of Plasmas</i> , 2017, 24, .	1.9	3
102	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
103	Failed self-reformation of a sub-critical fast magnetosonic shock in collisionless plasma. <i>Plasma Research Express</i> , 2019, 1, 035001.	0.9	3
104	Counterstreaming beams in magnetised Vlasov plasma. <i>Pramana - Journal of Physics</i> , 2019, 93, 1.	1.8	3
105	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
106	Energetic particles in magnetic confinement systems: synergies beyond fusion. <i>Nuclear Fusion</i> , 2002, 42, 986-998.	3.5	2
107	Surfatron and stochastic acceleration of electrons in astrophysical plasmas. <i>Journal of Plasma Physics</i> , 2005, 71, 127-141.	2.1	2
108	Visualization of 4-D particle data sets. <i>IEEE Transactions on Plasma Science</i> , 2005, 33, 536-537.	1.3	2

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109	Theory and simulations of nonlinear kinetic structures in plasmas. <i>Plasma Physics and Controlled Fusion</i> , 2006, 48, B257-B265.	2.1	2
110	A table-top laser-based source of short, collimated, ultra-relativistic positron beams. <i>Proceedings of SPIE</i> , 2013, , .	0.8	2
111	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
112	Plasma sounding at the upper hybrid frequency. <i>Journal of Geophysical Research</i> , 2000, 105, 13103-13117.	3.3	1
113	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
114	Shocks in unmagnetized plasma with a shear flow: Stability and magnetic field generation. <i>Physics of Plasmas</i> , 2015, 22, 072104.	1.9	1
115	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
116	Quasi-perpendicular fast magnetosonic shock with wave precursor in collisionless plasma. <i>Physics of Plasmas</i> , 2018, 25, 074502.	1.9	1
117	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
118	Sarri et al. Reply:. <i>Physical Review Letters</i> , 2020, 124, 179502.	7.8	1
119	The application of a shift theorem analysis technique to multipoint measurements. <i>Annales Geophysicae</i> , 1999, 17, 321-327.	1.6	0
120	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
121	Wakefield Acceleration in Relativistic Plasma Flows: Electron Acceleration to Cosmic Ray Energies. <i>AIP Conference Proceedings</i> , 2007, , .	0.4	0
122	Filamentation Instability of Counterpropagating Charged Particle Beams: Statistical Properties. , 2008, , .		0
123	Temporal evolution of high mach number electrostatic shocks in laboratory plasma. , 2012, , .		0
124	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
125	Particle trajectories in Weibel filaments: influence of external field obliquity and chaos. <i>Journal of Plasma Physics</i> , 2020, 86, .	2.1	0
126	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

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127	10.1063/1.4926525.3., 2015,, .		0
128	Phase Space Modulations in Magnetised Plasmas by a Mildly Relativistic Two-Stream Instability. , 2007, , 361-370.		0
129	10.1063/5.0018321.1., 2020,, .		0
130	10.1063/5.0018321.8., 2020,, .		0