

Frank Verheest

List of Publications by Year in descending order

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134
papers

4,640
citations

94269

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110170

64
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134
all docs

134
docs citations

134
times ranked

807
citing authors

#	ARTICLE	IF	CITATIONS
1	Waves in Dusty Space Plasmas. Astrophysics and Space Science Library, 2000, , .	1.0	625
2	Waves and instabilities in dusty space plasmas. Space Science Reviews, 1996, 77, 267.	3.7	312
3	Large amplitude dust-acoustic solitary waves and double layers in nonthermal plasmas. Physics of Plasmas, 2008, 15, .	0.7	151
4	Nonlinear dust-acoustic waves in multispecies dusty plasmas. Planetary and Space Science, 1992, 40, 1-6.	0.9	136
5	Ion- and electron-acoustic solitons in two-electron temperature space plasmas. Physics of Plasmas, 2008, 15, .	0.7	116
6	New light on ion acoustic solitary waves in a plasma with two-temperature electrons. Europhysics Letters, 2010, 91, 15001.	0.7	116
7	Study of nonlinear ion- and electron-acoustic waves in multi-component space plasmas. Nonlinear Processes in Geophysics, 2008, 15, 903-913.	0.6	101
8	Influence of dust mass distributions on generalized Jeans-Buneman instabilities in dusty plasmas. Planetary and Space Science, 1997, 45, 449-454.	0.9	88
9	Dust-ion-acoustic supersolitons in dusty plasmas with nonthermal electrons. Physical Review E, 2013, 87, 043107.	0.8	85
10	Nonlinear perpendicular propagation of ordinary mode electromagnetic wave packets in pair plasmas and electron-positron-ion plasmas. Physics of Plasmas, 2007, 14, 022306.	0.7	83
11	Existence of bulk acoustic modes in pair plasmas. Physics of Plasmas, 2006, 13, 082301.	0.7	81
12	Ion-acoustic solitons in multi-component plasmas including negative ions at critical densities. Journal of Plasma Physics, 1988, 39, 71-79.	0.7	76
13	Nonlinear acoustic waves in nonthermal plasmas with negative and positive dust. Physics of Plasmas, 2009, 16, .	0.7	72
14	Head-on collisions of electrostatic solitons in nonthermal plasmas. Physical Review E, 2012, 86, 036402.	0.8	68
15	Electrostatic supersolitons in three-species plasmas. Physics of Plasmas, 2013, 20, .	0.7	67
16	Ion-acoustic supersolitons in plasmas with two-temperature electrons: Boltzmann and kappa distributions. Physics of Plasmas, 2013, 20, .	0.7	66
17	Generation mechanism for electron acoustic solitary waves. Physics of Plasmas, 2007, 14, 052305.	0.7	65
18	Potential hill electron-acoustic solitons and double layers in plasmas with two electron species. Physics of Plasmas, 2005, 12, 042901.	0.7	64

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19	Compressive and Rarefactive Electron-Acoustic Solitons and Double Layers in Space Plasmas. Space Science Reviews, 2005, 121, 299-311.	3.7	62
20	Re-examining the Cairns-Tsallis model for ion acoustic solitons. Physical Review E, 2013, 88, 023103.	0.8	60
21	Gas-dynamic description of electrostatic solitons. Journal of Plasma Physics, 2004, 70, 237-250.	0.7	59
22	Necessary conditions for the generation of acoustic solitons in magnetospheric and space plasmas with hot ions. Astrophysics and Space Sciences Transactions, 2007, 3, 15-20.	1.0	57
23	Acoustic solitary waves in dusty and/or multi-ion plasmas with cold, adiabatic, and hot constituents. Physics of Plasmas, 2008, 15, 112309.	0.7	56
24	A Schamel equation for ion acoustic waves in superthermal plasmas. Physics of Plasmas, 2014, 21, .	0.7	55
25	Compressive and rarefactive solitary waves in nonthermal two-component plasmas. Physics of Plasmas, 2010, 17, .	0.7	54
26	Alfvénic Solitons in Ultrarelativistic Electron-Positron Plasmas. Astrophysics and Space Science, 1997, 253, 97-106.	0.5	51
27	Ion- and dust-acoustic solitons in dusty plasmas: Existence conditions for positive and negative potential solutions. Physics of Plasmas, 2005, 12, 082308.	0.7	51
28	Dust-acoustic waves in collisional dusty plasmas of planetary rings. Astronomy and Astrophysics, 2007, 461, 385-391.	2.1	45
29	The Bohm sheath criterion in strongly coupled complex plasmas. New Journal of Physics, 2009, 11, 073013.	1.2	45
30	Nonlinear acoustic waves in nonthermal dusty or pair plasmas. Physics of Plasmas, 2010, 17, 062302.	0.7	45
31	Electrostatic solitons in multispecies electron-positron plasmas. Astrophysics and Space Science, 1996, 239, 125-139.	0.5	44
32	Dust-acoustic supersolitons in a three-species dusty plasma with kappa distributions. Journal of Plasma Physics, 2013, 79, 1039-1043.	0.7	43
33	Ion-acoustic double layers and solitons in multispecies auroral beam-plasmas. Planetary and Space Science, 1992, 40, 1055-1062.	0.9	42
34	Note on the single-shock solutions of the Korteweg-de Vries-Burgers equation. Astrophysics and Space Science, 2012, 338, 245-249.	0.5	42
35	Ambiguities in the Tsallis description of non-thermal plasma species. Journal of Plasma Physics, 2013, 79, 1031-1034.	0.7	41
36	Nonthermal effects on existence domains for dust-acoustic solitary structures in plasmas with two-temperature ions. Physics of Plasmas, 2010, 17, .	0.7	38

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37	Head-on collisions of electrostatic solitons in multi-ion plasmas. <i>Physics of Plasmas</i> , 2012, 19, .	0.7	38
38	No electrostatic supersolitons in two-component plasmas. <i>Physics of Plasmas</i> , 2014, 21, .	0.7	38
39	Dust-acoustic solitary structures in plasmas with nonthermal electrons and positive dust. <i>Nonlinear Processes in Geophysics</i> , 2008, 15, 551-555.	0.6	37
40	Dust-acoustic waves in self-gravitating dusty plasmas with fluctuating dust charges. <i>Journal of Plasma Physics</i> , 1997, 58, 163-170.	0.7	36
41	Unified derivation of Korteweg-de Vries- Zakharov-Kuznetsov equations in multispecies plasmas. <i>Journal of Physics A</i> , 2002, 35, 795-806.	1.6	36
42	Compressive and rarefactive ion-acoustic solitons in bi-ion plasmas. <i>Physics of Plasmas</i> , 2004, 11, 1762-1769.	0.7	36
43	Oblique propagation of large amplitude electromagnetic solitons in pair plasmas. <i>Physics of Plasmas</i> , 2005, 12, 032304.	0.7	36
44	Electrostatic modes in (self-gravitating) dusty plasmas with charge and mass distributions. <i>Physics of Plasmas</i> , 2002, 9, 2479-2485.	0.7	35
45	Large amplitude solitary electromagnetic waves in electron-positron plasmas. <i>Physics of Plasmas</i> , 2004, 11, 3078-3082.	0.7	35
46	Effect of non-thermal ion distributions on the Jeans instability in dusty plasmas. <i>Journal of Plasma Physics</i> , 2005, 71, 177-184.	0.7	35
47	Nonlinear dust-acoustic solitary waves in strongly coupled dusty plasmas. <i>Physical Review E</i> , 2012, 86, 066404.	0.8	34
48	Conservations laws and solitary wave solutions for generalized Schamel equations. <i>Physica Scripta</i> , 1994, 50, 611-614.	1.2	32
49	On the existence of ion-acoustic double layers in two-electron temperature plasmas. <i>Physics of Plasmas</i> , 2006, 13, 042301.	0.7	32
50	Arbitrary amplitude ion-acoustic soliton coexistence and polarity in a plasma with two ion species. <i>Physics of Plasmas</i> , 2012, 19, 032305.	0.7	32
51	Modified Korteweg-de Vries solitons at supercritical densities in two-electron temperature plasmas. <i>Journal of Plasma Physics</i> , 2016, 82, .	0.7	32
52	Dust-acoustic solitary modes in plasmas with isothermal and nonthermal ions: Polarity switches and coexistence domains. <i>Physics of Plasmas</i> , 2011, 18, .	0.7	31
53	Oblique propagation of solitary electrostatic waves in multispecies plasmas. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2009, 42, 285501.	0.7	30
54	Large acoustic solitons and double layers in plasmas with two positive ion species. <i>Physics of Plasmas</i> , 2011, 18, 042309.	0.7	30

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55	Electrostatic supersolitons and double layers at the acoustic speed. <i>Physics of Plasmas</i> , 2015, 22, .	0.7	30
56	On the nonexistence of large amplitude stationary solitary waves in symmetric unmagnetized pair plasmas. <i>Nonlinear Processes in Geophysics</i> , 2005, 12, 569-574.	0.6	28
57	Solitary Alfvén modes in relativistic electron-positron plasmas. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1996, 213, 177-182.	0.9	25
58	Nonlinear waves in multispecies self-gravitating dusty plasmas. <i>Physica Scripta</i> , 1997, 55, 83-85.	1.2	25
59	Static configurations of gravitating dusty plasmas. <i>Physical Review E</i> , 2002, 66, 056404.	0.8	24
60	Note on rarefactive and compressive ion-acoustic solitons in a plasma containing two ion species. <i>Physics of Plasmas</i> , 2005, 12, 102305.	0.7	24
61	Korteweg-de Vries equation for magnetosonic modes in dusty plasmas. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1996, 219, 299-302.	0.9	22
62	Kinetic Theory of Dust-Acoustic Waves in Plasmas With Dust Distributions and Charge Fluctuations. <i>IEEE Transactions on Plasma Science</i> , 2004, 32, 537-541.	0.6	22
63	Oblique solitary Alfvén modes in relativistic electron-positron plasmas. <i>Astrophysics and Space Science</i> , 1996, 240, 215-224.	0.5	21
64	Large amplitude parallel propagating electromagnetic oscillitons. <i>Physics of Plasmas</i> , 2005, 12, 012307.	0.7	21
65	Bohm sheath criteria and double layers in multispecies plasmas. <i>Journal of Plasma Physics</i> , 1997, 57, 465-477.	0.7	20
66	The Alfvén resonance in a dusty plasma with a distribution of grain sizes. <i>Physics of Plasmas</i> , 2002, 9, 4845-4850.	0.7	18
67	Dust-acoustic shocks in strongly coupled dusty plasmas. <i>Physical Review E</i> , 2014, 89, 043103.	0.8	18
68	Collision properties of overtaking supersolitons with small amplitudes. <i>Physics of Plasmas</i> , 2018, 25, .	0.7	18
69	Dust-acoustic modes in self-gravitating plasmas with dust size distributions. <i>Physical Review E</i> , 2001, 64, 036401.	0.8	17
70	Whistler oscillitons revisited: the role of charge neutrality?. <i>Nonlinear Processes in Geophysics</i> , 2004, 11, 447-452.	0.6	17
71	Solitary waves in self-gravitating molecular clouds. <i>Astronomy and Astrophysics</i> , 2005, 438, 23-29.	2.1	16
72	Obliquely propagating large amplitude solitary waves in charge neutral plasmas. <i>Nonlinear Processes in Geophysics</i> , 2007, 14, 49-57.	0.6	16

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73	Ion-acoustic solitons in plasmas with two adiabatic constituents. <i>Journal of Plasma Physics</i> , 2010, 76, 277-286.	0.7	16
74	Collisions of acoustic solitons and their electric fields in plasmas at critical compositions. <i>Journal of Plasma Physics</i> , 2019, 85, .	0.7	16
75	Charge and Mass Fluctuations in Dusty Plasmas Revisited. <i>Physica Scripta</i> , 2001, 64, 494-500.	1.2	15
76	Dust-acoustic instability in inhomogeneous complex plasmas. <i>Physics of Plasmas</i> , 2003, 10, 3834-3840.	0.7	15
77	Compressive and rarefactive ion-acoustic solitons in a two component electron plasma. <i>Journal of Plasma Physics</i> , 2005, 71, 163-176.	0.7	15
78	Kinetic approach to low-frequency waves in dusty self-gravitating plasmas. <i>Physical Review E</i> , 2001, 63, 066406.	0.8	14
79	Existence domains for nonlinear structures in complex two-ion-temperature plasmas. <i>Journal of Physics A</i> , 2006, 39, 3137-3146.	1.6	14
80	Effects of hot electron inertia on electron-acoustic solitons and double layers. <i>Physics of Plasmas</i> , 2015, 22, .	0.7	14
81	Electrostatic modes in dusty plasmas with continuous size distributions. <i>Physical Review E</i> , 2003, 67, 016406.	0.8	13
82	Ion-acoustic solitons in plasmas with two-temperature ions. <i>Physics of Plasmas</i> , 2008, 15, .	0.7	13
83	Stopbands in the existence domains of acoustic solitons. <i>Physics of Plasmas</i> , 2014, 21, 102301.	0.7	12
84	Instabilities of Alfvén and magnetosonic waves in dusty cometary plasmas with an ion ring beam. <i>Physics of Plasmas</i> , 1999, 6, 36-43.	0.7	11
85	Research Note Dust Alfvén envelope solitons in astrophysical dusty plasmas. <i>Astronomy and Astrophysics</i> , 2003, 401, 849-850.	2.1	11
86	Oblique propagation of solitary electrostatic waves in magnetized plasmas with cold ions and nonthermal electrons. <i>Physics of Plasmas</i> , 2017, 24, .	0.7	11
87	Electromagnetic modes in dusty plasmas with charge and mass distributions. <i>Physics of Plasmas</i> , 2003, 10, 956-962.	0.7	9
88	Electrostatic nonlinear supersolitons in dusty plasmas. <i>Journal of Plasma Physics</i> , 2014, 80, 787-793.	0.7	9
89	Small-amplitude supersolitons near supercritical plasma compositions. <i>Journal of Plasma Physics</i> , 2017, 83, .	0.7	9
90	General Discussion of Nonlinear Electrostatic Modes in Multispecies Plasmas. <i>Physica Scripta</i> , 1999, T82, 98.	1.2	8

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91	Nonlinear structures of strongly coupled complex plasmas in the proximity of a presheath/sheath edge. <i>New Journal of Physics</i> , 2010, 12, 073038.	1.2	8
92	Assumptions and ambiguities in nonplanar acoustic soliton theory. <i>Physics of Plasmas</i> , 2014, 21, 022307.	0.7	8
93	Critical densities for Kortewegâ€“de Vries-like acoustic solitons in multi-ion plasmas. <i>Journal of Plasma Physics</i> , 2015, 81, .	0.7	8
94	Kortewegâ€“de Vries Equation for Oblique Modes in Magnetized Multiâ€“Ion Plasmas. <i>Journal of the Physical Society of Japan</i> , 1996, 65, 2522-2525.	0.7	7
95	Comment on â€œA new mathematical approach for finding the solitary waves in dusty plasmaâ€•[<i>Phys. Plasmas</i> 5, 3918 (1998)]. <i>Physics of Plasmas</i> , 1999, 6, 4392-4393.	0.7	7
96	Nonlinear electrostatic modes in astrophysical plasmas with charged dust distributions. <i>Astronomy and Astrophysics</i> , 2009, 503, 683-690.	2.1	7
97	Electrostatic triple root structures: Connections to supersolitons, double layers, and acoustic speed solitons in nonthermal plasmas with negative and positive dust. <i>Physics of Plasmas</i> , 2017, 24, .	0.7	7
98	Comment on â€œEffects of charged dust particles on nonlinear ion acoustic solitary waves in a relativistic plasmaâ€•[<i>Phys. Plasmas</i> 16, 043701 (2009)]. <i>Physics of Plasmas</i> , 2009, 16, 064701.	0.7	6
99	Comment on â€œHead-on collision of electron acoustic solitary waves in a plasma with nonextensive hot electronsâ€•. <i>Astrophysics and Space Science</i> , 2012, 339, 203-205.	0.5	6
100	A small-amplitude study of solitons near critical plasma compositions. <i>Journal of Plasma Physics</i> , 2016, 82, .	0.7	6
101	Stringent limitations on reductive perturbation studies of nonplanar acoustic solitons in plasmas. <i>Physics of Plasmas</i> , 2016, 23, 060801.	0.7	6
102	The Jeans-Buneman Instability in the Presence of an Ion Beam in a Dusty Plasma and the Influence of Dust-Size Distribution. <i>Physica Scripta</i> , 2000, 61, 112-118.	1.2	5
103	Oblique non-neutral solitary AlfvÃ©n modes in weakly nonlinear pair plasmas. <i>New Journal of Physics</i> , 2005, 7, 94-94.	1.2	5
104	Symmetries and charge neutrality of electromagnetic solitons in perfect pair plasmas. <i>Physica Scripta</i> , 2015, 90, 068002.	1.2	5
105	Asymptotic analysis of solitons and double layers at the acoustic speed. <i>Journal of Plasma Physics</i> , 2017, 83, .	0.7	5
106	Nonlinear solitary waves (oscillitons) in dusty magnetized pair plasmas. <i>Physics of Plasmas</i> , 2018, 25, .	0.7	5
107	Dust-magnetosonic modes in planetary rings. <i>IEEE Transactions on Plasma Science</i> , 2001, 29, 283-287.	0.6	4
108	Parallel Propagating Electromagnetic Solitons and Oscillitons in Space Plasmas and in Relativistic ElectronPositron Plasmas. <i>Physica Scripta</i> , 2005, , 62.	1.2	4

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109	Reply to J. F. McKenzie et al.'s comment on "Obliquely propagating large amplitude solitary waves in charge neutral plasmas". Nonlinear Processes in Geophysics, 2007, 14, 545-546.	0.6	4
110	The effects of finite mass, adiabaticity, and isothermality in nonlinear plasma wave studies. Physics of Plasmas, 2018, 25, 032303.	0.7	4
111	Stopbands in fast ion-acoustic soliton propagation revisited. Physics of Plasmas, 2020, 27, .	0.7	4
112	Electrostatic flat-top solitons near double layers and triple root structures in multispecies plasmas: How realistic are they?. Physics of Plasmas, 2020, 27, 062306.	0.7	4
113	MULTIFLUID THEORY OF SOLITONS. , 2008, , .		4
114	Nonlinear electromagnetic modes in astrophysical plasmas with dust distributions. Astronomy and Astrophysics, 2004, 421, 17-21.	2.1	3
115	Waves in Complex Plasmas With Dust Distributions (Charge/Size/Mass) Revisited. IEEE Transactions on Plasma Science, 2004, 32, 653-658.	0.6	3
116	The Alfvén and compressive resonances in a dusty self-gravitating plasma. Physics of Plasmas, 2005, 12, 082902.	0.7	3
117	Fast and slow beam mode ion-acoustic solitons in plasmas with counterstreaming cold protons. Physica Scripta, 2021, 96, 045603.	1.2	3
118	Transition from Langmuir-Jeans to Alfvén-Jeans Modes in Dusty Plasmas. Physica Scripta, 2000, T84, 171.	1.2	3
119	Finite-amplitude circularly polarized waves in a magnetized multispecies plasma with drifts. Plasma Physics and Controlled Fusion, 1989, 31, 103-109.	0.9	2
120	Comment on "Large amplitude double layers in a positively charged dusty plasma with nonthermal electrons" [Phys. Plasmas 16, 063708 (2009)]. Physics of Plasmas, 2009, 16, 124703.	0.7	2
121	Overtaking collisions of double layers and solitons: Tripolar structures and dynamical polarity switches. Physics of Plasmas, 2020, 27, .	0.7	2
122	Linear and Alfvén waves in incompressible beam-plasma systems. International Journal of Electronics, 1972, 33, 201-207.	0.9	1
123	Magnetosonic modes with a beam of dust or secondary ions. Physics of Plasmas, 2004, 11, 4589-4595.	0.7	1
124	Comment on the paper "Dust acoustic solitary waves in dusty plasma with nonthermal ions". Astrophysics and Space Science, 2010, 326, 151-152.	0.5	1
125	Perpendicular propagation of electromagnetic solitons in magnetized thermal pair plasmas. Physica Scripta, 2016, 91, 025603.	1.2	1
126	On a semiclassical model for ion-acoustic solitons in ultrarelativistic pair plasmas and its classical counterpart. Physics of Plasmas, 2019, 26, .	0.7	1

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127	Comment on "Electron acoustic super solitary waves in a magnetized plasma", J. Plasma Phys. 84, 905840406 (2018). Journal of Plasma Physics, 2019, 85, .	0.7	1
128	Linear description of nonlinear electromagnetic cold plasma modes based on generalized vorticity. Physics of Plasmas, 2009, 16, 082104.	0.7	0
129	Comment on "Acoustic solitons in inhomogeneous pair-ion plasmas" [Phys. Plasmas 17, 122302 (2010)]. Physics of Plasmas, 2011, 18, .	0.7	0
130	Comment on "Propagation of solitary waves and shock wavelength in the pair plasma (J. Plasma Phys.)" Tj ETQq0 0 0 rgBT /Qverlock 10	0.7	0
131	Comment on "Phase plane analysis of small amplitude electron-acoustic supernonlinear and nonlinear waves in magnetized plasmas" (2020 Physica Scripta 95 105604). Physica Scripta, 2021, 96, 107001.	1.2	0
132	Comment on "Dust-Ion-Acoustic Waves in unmagnetized 4-component plasma" [Adv. Space Res. 67 (2021) 1244-1253]. Advances in Space Research, 2021, 68, 2361-2366.	1.2	0
133	NONLINEAR WAVEPACKETS IN PAIR-ION AND ELECTRON-POSITRON-ION PLASMAS. , 2008, , .		0
134	Comment on "Shock waves in ultra-relativistic degenerate astrophysical e-p-i plasmas" [Astrophys. Space Sci. (2021) 366:121]. Astrophysics and Space Science, 2022, 367, .	0.5	0