

# Marian Lazar

## List of Publications by Citations

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130  
papers

2,457  
citations

25  
h-index

43  
g-index

147  
ext. papers

2,779  
ext. citations

3.1  
avg. IF

5.74  
L-index

#	Paper	IF	Citations
130	Kappa Distributions: Theory and Applications in Space Plasmas. <i>Solar Physics</i> , <b>2010</b> , 267, 153-174	2.6	424
129	On the interpretation and applicability of $\kappa$ -distributions. <i>Astronomy and Astrophysics</i> , <b>2016</b> , 589, A39	5.1	73
128	COSMOLOGICAL EFFECTS OF WEIBEL-TYPE INSTABILITIES. <i>Astrophysical Journal</i> , <b>2009</b> , 693, 1133-1141	4.7	65
127	Surface waves on a quantum plasma half-space. <i>Physics of Plasmas</i> , <b>2007</b> , 14, 124501	2.1	65
126	Destabilizing effects of the suprathermal populations in the solar wind. <i>Astronomy and Astrophysics</i> , <b>2015</b> , 582, A124	5.1	64
125	The Electron Temperature and Anisotropy in the Solar Wind. Comparison of the Core and Halo Populations. <i>Solar Physics</i> , <b>2016</b> , 291, 2165-2179	2.6	60
124	Counterstreaming magnetized plasmas with kappa distributions $\hat{\kappa}$ . Parallel wave propagation. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2008</b> , 390, 168-174	4.3	56
123	Dual Maxwellian-Kappa modeling of the solar wind electrons: new clues on the temperature of Kappa populations. <i>Astronomy and Astrophysics</i> , <b>2017</b> , 602, A44	5.1	47
122	Firehose instability in space plasmas with bi-kappa distributions. <i>Astronomy and Astrophysics</i> , <b>2009</b> , 494, 311-315	5.1	46
121	Evolution of the Electron Distribution Function in the Whistler Wave Turbulence of the Solar Wind. <i>Solar Physics</i> , <b>2011</b> , 269, 421-438	2.6	44
120	Cumulative effect of the Weibel-type instabilities in symmetric counterstreaming plasmas with kappa anisotropies. <i>Physics of Plasmas</i> , <b>2008</b> , 15, 042103	2.1	43
119	Spontaneous electromagnetic fluctuations in unmagnetized plasmas. III. Generalized Kappa distributions. <i>Physics of Plasmas</i> , <b>2012</b> , 19, 122108	2.1	39
118	Regularized $\kappa$ -distributions with non-diverging moments. <i>Europhysics Letters</i> , <b>2017</b> , 120, 50002	1.6	38
117	Clarifying the solar wind heat flux instabilities. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2018</b> , 480, 310-319	4.3	38
116	Proton firehose instability in bi-Kappa distributed plasmas. <i>Astronomy and Astrophysics</i> , <b>2011</b> , 534, A116	5.1	37
115	Instability of the parallel electromagnetic modes in Kappa distributed plasmas - I. Electron whistler-cyclotron modes. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2011</b> , 410, 663-670	4.3	34
114	Cumulative effect of the filamentation and Weibel instabilities in counterstreaming thermal plasmas. <i>Physics of Plasmas</i> , <b>2006</b> , 13, 102107	2.1	34

113	Firehose constraints of the bi-Kappa-distributed electrons: a zero-order approach for the suprathermal electrons in the solar wind. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2017</b> , 464, 564-571	4.3	33
112	Towards realistic parametrization of the kinetic anisotropy and the resulting instabilities in space plasmas. Electromagnetic electron-cyclotron instability in the solar wind. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2015</b> , 446, 3022-3033	4.3	32
111	Spontaneous electromagnetic fluctuations in unmagnetized plasmas. II. Relativistic form factors of aperiodic thermal modes. <i>Physics of Plasmas</i> , <b>2013</b> , 20, 052113	2.1	31
110	The Electron Firehose and Ordinary-Mode Instabilities in Space Plasmas. <i>Solar Physics</i> , <b>2014</b> , 289, 369-378.6		28
109	Instability of the parallel electromagnetic modes in Kappa distributed plasmas - III. Electromagnetic ion-cyclotron modes. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2014</b> , 437, 641-648	4.3	26
108	EFFECTS OF ELECTRONS ON THE SOLAR WIND PROTON TEMPERATURE ANISOTROPY. <i>Astrophysical Journal</i> , <b>2014</b> , 781, 49	4.7	25
107	Electron heat flux instability. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2017</b> , 465, 1672-1681	4.3	25
106	The electromagnetic ion-cyclotron instability in bi-Kappa distributed plasmas. <i>Astronomy and Astrophysics</i> , <b>2012</b> , 547, A94	5.1	25
105	Particle-in-cell Simulations of Firehose Instability Driven by Bi-Kappa Electrons. <i>Astrophysical Journal Letters</i> , <b>2019</b> , 873, L20	7.9	24
104	Spontaneous emission of electromagnetic fluctuations in Kappa magnetized plasmas. <i>Plasma Physics and Controlled Fusion</i> , <b>2017</b> , 59, 125003	2	24
103	Limits for the Firehose Instability in Space Plasmas. <i>Solar Physics</i> , <b>2009</b> , 258, 119-128	2.6	24
102	Alternative High-plasma Beta Regimes of Electron Heat-flux Instabilities in the Solar Wind. <i>Astrophysical Journal Letters</i> , <b>2020</b> , 900, L25	7.9	24
101	Modeling Space Plasma Dynamics with Anisotropic Kappa Distributions. <i>Thirty Years of Astronomical Discovery With UKIRT</i> , <b>2012</b> , 97-107	0.3	24
100	Beaming electromagnetic (or heat-flux) instabilities from the interplay with the electron temperature anisotropies. <i>Physics of Plasmas</i> , <b>2018</b> , 25, 082105	2.1	23
99	Shaping the solar wind temperature anisotropy by the interplay of electron and proton instabilities. <i>Astrophysics and Space Science</i> , <b>2017</b> , 362, 1	1.6	23
98	On the existence of Weibel instability in a magnetized plasma. I. Parallel wave propagation. <i>Physics of Plasmas</i> , <b>2009</b> , 16, 012106	2.1	23
97	The interplay of the solar wind proton core and halo populations: EMIC instability. <i>Journal of Geophysical Research: Space Physics</i> , <b>2016</b> , 121, 6031-6047	2.6	23
96	Firehose instabilities triggered by the solar wind suprathermal electrons. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2019</b> , 483, 5642-5648	4.3	23

95	Electromagnetic Electron Cyclotron Instability in the Solar Wind. <i>Journal of Geophysical Research: Space Physics</i> , <b>2018</b> , 123, 6-19	2.6	22
94	Quasi-linear approach of the whistler heat-flux instability in the solar wind. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2019</b> , 486, 4498-4507	4.3	21
93	On the existence of Weibel instability in a magnetized plasma. II. Perpendicular wave propagation: The ordinary mode. <i>Physics of Plasmas</i> , <b>2012</b> , 19, 072116	2.1	21
92	Electromagnetic electron whistler-cyclotron instability in bi-Kappa distributed plasmas. <i>Astronomy and Astrophysics</i> , <b>2013</b> , 554, A64	5.1	21
91	Counterstreaming magnetized plasmas with kappa distributions II. Perpendicular wave propagation. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2010</b> , 401, 362-370	4.3	21
90	The interplay of Kappa and core populations in the solar wind: Electromagnetic electron cyclotron instability. <i>Journal of Geophysical Research: Space Physics</i> , <b>2014</b> , 119, 9395-9406	2.6	19
89	Macroscopic description for the quantum Weibel instability. <i>Physical Review E</i> , <b>2008</b> , 77, 046404	2.4	19
88	Towards a complete parametrization of the ordinary-mode electromagnetic instability in counterstreaming plasmas. I. Minimizing ion dynamics. <i>Physics of Plasmas</i> , <b>2013</b> , 20, 012103	2.1	18
87	Modified temperature-anisotropy instability thresholds in the solar wind. <i>Physical Review Letters</i> , <b>2011</b> , 107, 201102	7.4	18
86	Is the Weibel instability enhanced by the suprathermal populations or not?. <i>Physics of Plasmas</i> , <b>2010</b> , 17, 062112	2.1	18
85	EFFECTS OF ELECTRONS ON THE ELECTROMAGNETIC ION CYCLOTRON INSTABILITY: SOLAR WIND IMPLICATIONS. <i>Astrophysical Journal</i> , <b>2015</b> , 814, 34	4.7	17
84	Temperature anisotropy instabilities stimulated by the interplay of the core and halo electrons in space plasmas. <i>Physics of Plasmas</i> , <b>2018</b> , 25, 022902	2.1	17
83	Spontaneously growing, weakly propagating, transverse fluctuations in anisotropic magnetized thermal plasmas. <i>Physics of Plasmas</i> , <b>2011</b> , 18, 012103	2.1	17
82	Particle-in-cell Simulation of Whistler Heat-flux Instabilities in the Solar Wind: Heat-flux Regulation and Electron Halo Formation. <i>Astrophysical Journal Letters</i> , <b>2020</b> , 903, L23	7.9	17
81	Whistler instability stimulated by the suprathermal electrons present in space plasmas. <i>Astrophysics and Space Science</i> , <b>2019</b> , 364, 1	1.6	16
80	MIXING THE SOLAR WIND PROTON AND ELECTRON SCALES: EFFECTS OF ELECTRON TEMPERATURE ANISOTROPY ON THE OBLIQUE PROTON FIREHOSE INSTABILITY. <i>Astrophysical Journal</i> , <b>2016</b> , 832, 64	4.7	16
79	Toward a realistic macroscopic parametrization of space plasmas with regularized $\kappa$ -distributions. <i>Astronomy and Astrophysics</i> , <b>2020</b> , 634, A20	5.1	16
78	Kinetic study of electrostatic twisted waves instability in nonthermal dusty plasmas. <i>Physics of Plasmas</i> , <b>2017</b> , 24, 033701	2.1	15

77	Effects of suprathermal electrons on the proton temperature anisotropy in space plasmas: Electromagnetic ion-cyclotron instability. <i>Astrophysics and Space Science</i> , <b>2016</b> , 361, 1	1.6	15
76	Moments of the Anisotropic Regularized $\mathcal{F}$ distributions. <i>Astrophysical Journal</i> , <b>2019</b> , 880, 118	4.7	15
75	On the Applicability of $\mathcal{F}$ distributions. <i>Astrophysical Journal</i> , <b>2019</b> , 881, 93	4.7	15
74	Particle-in-cell Simulations of the Whistler Heat-flux Instability in Solar Wind Conditions. <i>Astrophysical Journal Letters</i> , <b>2019</b> , 882,	7.9	15
73	Entropy of plasmas described with regularized $\mathcal{F}$ distributions. <i>Physical Review E</i> , <b>2018</b> , 98,	2.4	15
72	Modified $\mathcal{F}$ distribution of Solar Wind Electrons and Steady-state Langmuir Turbulence. <i>Astrophysical Journal</i> , <b>2018</b> , 868, 131	4.7	15
71	The Interplay of the Solar Wind Core and Suprathermal Electrons: A Quasilinear Approach for Firehose Instability. <i>Astrophysical Journal</i> , <b>2019</b> , 871, 237	4.7	14
70	A comparative study of the filamentation and Weibel instabilities and their cumulative effect. I. Non-relativistic theory. <i>Journal of Plasma Physics</i> , <b>2009</b> , 75, 19-33	2.7	14
69	Electromagnetic cyclotron instabilities in bi-Kappa distributed plasmas: A quasilinear approach. <i>Physics of Plasmas</i> , <b>2017</b> , 24, 042110	2.1	13
68	Whistler instabilities from the interplay of electron anisotropies in space plasmas: a quasi-linear approach. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2020</b> , 492, 3529-3539	4.3	12
67	Stimulated Mirror Instability From the Interplay of Anisotropic Protons and Electrons, and their Suprathermal Populations. <i>Journal of Geophysical Research: Space Physics</i> , <b>2018</b> , 123, 1754	2.6	12
66	THE INFLUENCE OF DISSIPATION RANGE POWER SPECTRA AND PLASMA-WAVE POLARIZATION ON COSMIC-RAY SCATTERING MEAN FREE PATH. <i>Astrophysical Journal</i> , <b>2010</b> , 719, 1497-1502	4.7	12
65	Quasilinear approach of the cumulative whistler instability in fast solar wind: Constraints of electron temperature anisotropy. <i>Astronomy and Astrophysics</i> , <b>2019</b> , 627, A76	5.1	11
64	Fast magnetization in counterstreaming plasmas with temperature anisotropies. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , <b>2008</b> , 372, 2446-2449	2.3	11
63	On the effects of suprathermal populations in dusty plasmas: The case of dust-ion-acoustic waves. <i>Planetary and Space Science</i> , <b>2018</b> , 156, 130-138	2	11
62	Nonlinear evolution of the electromagnetic electron-cyclotron instability in bi-Kappa distributed plasma. <i>Physics of Plasmas</i> , <b>2015</b> , 22, 062109	2.1	10
61	Revision of "Cumulative effect of the filamentation and Weibel instabilities in counterstreaming thermal plasmas" [Phys. Plasmas 13, 102107 (2006)]. <i>Physics of Plasmas</i> , <b>2008</b> , 15, 014501	2.1	10
60	Relativistic kinetic dispersion theory of linear parallel waves in magnetized plasmas with isotropic thermal distributions. <i>New Journal of Physics</i> , <b>2006</b> , 8, 66-66	2.9	10

59	Relativistic kinetic theory of electromagnetic waves in equilibrium magnetized plasma. General dispersion equations. <i>Canadian Journal of Physics</i> , <b>2003</b> , 81, 1377-1387	1.1	10
58	Quasilinear saturation of the aperiodic ordinary mode streaming instability. <i>Physics of Plasmas</i> , <b>2015</b> , 22, 092301	2.1	9
57	Electron streams formation and secondary two stream instability onset in the post-saturation regime of the classical Weibel instability. <i>Physics of Plasmas</i> , <b>2011</b> , 18, 052104	2.1	9
56	Covariant kinetic dispersion theory of linear transverse waves parallel propagating in magnetized plasmas with thermal anisotropy. <i>Physics of Plasmas</i> , <b>2006</b> , 13, 012110	2.1	9
55	Electromagnetic Ionâbn Instabilities in Space Plasmas: Effects of Suprathermal Populations. <i>Astrophysical Journal</i> , <b>2020</b> , 899, 20	4.7	9
54	Suprathermal Spontaneous Emissions in Ædistributed Plasmas. <i>Astrophysical Journal Letters</i> , <b>2018</b> , 868, L25	7.9	9
53	Kinetic theory of nonlinear waves interaction in relativistic plasmas. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , <b>2003</b> , 313, 418-423	2.3	8
52	Linear damping and energy dissipation of shear Alfvn waves in the interstellar medium. <i>Astronomy and Astrophysics</i> , <b>2003</b> , 410, 415-424	5.1	8
51	Linear dispersion theory of parallel electromagnetic modes for regularized Kappa-distributions. <i>Physics of Plasmas</i> , <b>2020</b> , 27, 042110	2.1	8
50	The instability condition of the aperiodic ordinary mode for new scalings of the counterstreaming parameters. <i>Physics of Plasmas</i> , <b>2015</b> , 22, 022129	2.1	7
49	Suprathermal Particle Populations in the Solar Wind and Corona <b>2012</b> ,		7
48	Resonant Weibel instability in counterstreaming plasmas with temperature anisotropies. <i>Journal of Plasma Physics</i> , <b>2010</b> , 76, 49-56	2.7	7
47	A comparative study of the filamentation and Weibel instabilities and their cumulative effect. II. Weakly relativistic beams. <i>Journal of Plasma Physics</i> , <b>2009</b> , 75, 529-543	2.7	7
46	Toward a general quasi-linear approach for the instabilities of bi-Kappa plasmas. Whistler instability. <i>Plasma Physics and Controlled Fusion</i> , <b>2021</b> , 63, 025011	2	7
45	The Æcookbook: a novel generalizing approach to unify Ælike distributions for plasma particle modelling. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2020</b> , 497, 1738-1756	4.3	7
44	Quasi-electrostatic twisted waves in Lorentzian dusty plasmas. <i>Planetary and Space Science</i> , <b>2018</b> , 156, 139-146	2	7
43	Low frequency electromagnetic fluctuations in Kappa magnetized plasmas. <i>Plasma Physics and Controlled Fusion</i> , <b>2018</b> , 60, 075010	2	7
42	Characteristics of solar wind suprathermal halo electrons. <i>Astronomy and Astrophysics</i> , <b>2020</b> , 642, A130	5.1	6

41	Ionospheric losses of Venus in the solar wind. <i>Advances in Space Research</i> , <b>2020</b> , 65, 129-137	2.4	6
40	Electromagnetic ion cyclotron instability stimulated by the suprathermal ions in space plasmas: A quasi-linear approach. <i>Physics of Plasmas</i> , <b>2021</b> , 28, 022103	2.1	6
39	Particle-in-cell Simulations of the Parallel Proton Firehose Instability Influenced by the Electron Temperature Anisotropy in Solar Wind Conditions. <i>Astrophysical Journal</i> , <b>2020</b> , 893, 130	4.7	5
38	Solar Wind Electron Strahls Associated with a High-Latitude CME: Ulysses Observations. <i>Solar Physics</i> , <b>2014</b> , 289, 4239-4266	2.6	5
37	Self-excited plasmon polaritons in counterstreaming quantum plasmas. <i>Physics of Plasmas</i> , <b>2009</b> , 16, 122106	2.1	5
36	Finite amplitude envelope surface solitons. <i>Physics of Plasmas</i> , <b>2008</b> , 15, 042301	2.1	5
35	Generalized anisotropic Cookbook: 2D fitting of Ulysses electron data. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2020</b> , 501, 606-613	4.3	5
34	On the interplay of solar wind proton and electron instabilities: linear and quasi-linear approaches. <i>Monthly Notices of the Royal Astronomical Society</i> , <b>2021</b> , 503, 3134-3144	4.3	5
33	Uncertainties in the heliosheath ion temperatures. <i>Annales Geophysicae</i> , <b>2018</b> , 36, 37-46	2	5
32	Towards realistic characterization of the solar wind suprathermal populations and their effects. <i>Physics of Plasmas</i> , <b>2017</b> , 24, 034501	2.1	4
31	Solar Wind Plasma Particles Organized by the Flow Speed. <i>Solar Physics</i> , <b>2020</b> , 295, 1	2.6	4
30	Self-excited surface plasmon-polaritons at the interface of counterstreaming plasmas. <i>Physics of Plasmas</i> , <b>2009</b> , 16, 052102	2.1	4
29	Relativistic Kinetic Theory of Waves in Equilibrium Magnetized Pair Plasma. General Dispersion Relations. <i>Physica Scripta</i> , <b>2003</b> , 68, 146-154	2.6	4
28	General dispersion properties of magnetized plasmas with drifting bi-Kappa distributions. DIS-K: Dispersion Solver for Kappa Plasmas. <i>Journal of Plasma Physics</i> , <b>2021</b> , 87,	2.7	4
27	Constraints for the aperiodic O-mode streaming instability. <i>Physics of Plasmas</i> , <b>2015</b> , 22, 012102	2.1	3
26	Solar wind temperature anisotropy constraints from streaming instabilities. <i>Astronomy and Astrophysics</i> , <b>2018</b> , 613, A23	5.1	3
25	Nonlinear response of a relativistic plasma to intense fields: Generation of strong quasistatic magnetic fields. <i>Physics of Plasmas</i> , <b>2006</b> , 13, 102302	2.1	3
24	Nonresonant electromagnetic instabilities in space plasmas: interplay of Weibel and firehose instabilities <b>2010</b> ,		2

23	Relativistic corrections to the nonlinear plasma permittivity: I. A covariant kinetic theory for longitudinal plasma wave interactions. <i>Plasma Physics and Controlled Fusion</i> , <b>2006</b> , 48, 911-926	2	2
22	A New Low-beta Regime for Unstable Proton Firehose Modes in Bi-kappa-distributed Plasmas. <i>Astrophysical Journal</i> , <b>2021</b> , 918, 37	4.7	2
21	A firehose-like aperiodic instability of the counter-beaming electron plasmas. <i>Plasma Physics and Controlled Fusion</i> , <b>2020</b> ,	2	1
20	Electromagnetic instabilities of low-beta alpha/proton beams in space plasmas. <i>Astrophysics and Space Science</i> , <b>2020</b> , 365, 1	1.6	1
19	Kinetic models for space plasmas: Recent progress for the solar wind and the Earth's magnetosphere <b>2016</b> ,		1
18	Cyclotron Electromagnetic Instabilities in a Laboratory Dipole Magnetospheric Plasma with bi-Kappa Distributions. <i>Plasma and Fusion Research</i> , <b>2017</b> , 12, 1403047-1403047	0.5	1
17	Relativistic corrections to the nonlinear plasma permittivity: II. Coupling of longitudinal and transverse waves. <i>Plasma Physics and Controlled Fusion</i> , <b>2007</b> , 49, 1661-1671	2	1
16	Covariant kinetic theory for nonlinear plasma waves interaction. <i>Journal of Plasma Physics</i> , <b>2006</b> , 72, 711	2.7	1
15	Transport coefficients enhanced by suprathermal particles in nonequilibrium heliospheric plasmas. <i>Astronomy and Astrophysics</i> ,	5.1	1
14	Ion escape from the upper ionosphere of Titan triggered by the solar wind. <i>Astrophysics and Space Science</i> , <b>2019</b> , 364, 1	1.6	0
13	Advanced Interpretation of Waves and Instabilities in Space Plasmas. <i>Astrophysics and Space Science Library</i> , <b>2021</b> , 185-218	0.3	0
12	Toward a Realistic Evaluation of Transport Coefficients in Non-equilibrium Space Plasmas. <i>Astrophysical Journal</i> , <b>2022</b> , 927, 159	4.7	0
11	Mixing the Solar Wind Proton and Electron Scales. Theory and 2D-PIC Simulations of Firehose Instability. <i>Astrophysical Journal</i> , <b>2022</b> , 930, 158	4.7	0
10	Cosmological magnetic field seeds produced by the Weibel instabilities. <i>Proceedings of the International Astronomical Union</i> , <b>2010</b> , 6, 387-388	0.1	
9	Piezoceramics for acousto-optics applications <b>1998</b> , 3581, 271		
8	Suprathermal Populations and Their Effects in Space Plasmas: Kappa vs. Maxwellian. <i>Astrophysics and Space Science Library</i> , <b>2021</b> , 15-38	0.3	
7	Kappa Distributions: Concluding Remarks and Perspectives. <i>Astrophysics and Space Science Library</i> , <b>2021</b> , 321-326	0.3	
6	From Standard Kappa to a Regularized Kappa, or Even More Generalized Kappa "Lookbook" <i>Astrophysics and Space Science Library</i> , <b>2021</b> , 307-318	0.3	



- 5 Proton-Alpha Drift Instability of Electromagnetic Ion-Cyclotron Modes: Quasilinear Development  
**2021**, 3, 1175-1189 2.1
- 4 Kappa Distribution Function: From Empirical to Physical Concepts. *Astrophysics and Space Science Library*, **2021**, 107-123 0.3
- 3 Kappa Distributions and Entropy. *Astrophysics and Space Science Library*, **2021**, 299-306 0.3
- 2 Advanced Numerical Tools for Studying Waves and Instabilities in Kappa Distributed Plasmas.  
*Astrophysics and Space Science Library*, **2021**, 163-184 0.3
- 1 Regularized Kappa Distributions: Linear Dispersion and Stability Theory. *Astrophysics and Space Science Library*, **2021**, 279-297 0.3