Michael Ruderman

List of Publications by Year
in descending order

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124 papers	3,671 citations	126907 33 h-index	149698 56 g-index
126 all docs	126 docs citations	126 times ranked	935 citing authors

#	Article	IF	Citations
1	The Damping of Coronal Loop Oscillations. Astrophysical Journal, 2002, 577, 475-486.	4.5	422
2	Resonant MHD Waves in the Solar Atmosphere. Space Science Reviews, 2011, 158, 289-338.	8.1	193
3	Transverse Oscillations of Coronal Loops. Space Science Reviews, 2009, 149, 199-228.	8.1	160
4	Observations of ubiquitous compressive waves in the Sunâ€™s chromosphere. Nature Communications, 2012, 3, 1315.	12.8	148
5	Transverse Oscillations of Longitudinally Stratified Coronal Loops with Variable Cross Section. Astrophysical Journal, 2008, 686, 694-700.	4.5	117
6	Non-Axisymmetric Oscillations of Thin Prominence Fibrils. Solar Physics, 2005, 229, 79-94.	2.5	115
7	Kinetic-Gasdynamic Modeling of the Heliospheric Interface. Space Science Reviews, 2009, 146, 329-351.	8.1	109
8	DNLS equation for large-amplitude solitons propagating in an arbitrary direction in a high-Î² Hall plasma. Journal of Plasma Physics, 2002, 67, 271-276.	2.1	98
9	Dynamics of modulationally unstable ion-acoustic wavepackets in plasmas with negative ions. Journal of Plasma Physics, 2008, 74, 639-656.	2.1	90
10	Resonantly damped oscillations of longitudinally stratified coronal loops. Astronomy and Astrophysics, 2006, 457, 1059-1070.	5.1	86
11	Structure of the region of solar wind?Interstellar medium interaction and its influence on H atoms penetrating the solar wind. Astrophysics and Space Science, 1979, 66, 441-451.	1.4	83
12	Nonaxisymmetric Oscillations ofÂThinÂTwistedÂMagneticÂTubes. Solar Physics, 2007, 246, 119-131.	2.5	71
13	Conservation laws and connection formulae for resonant MHD waves. Physica Scripta, 1995, T60, 171-184.	2.5	67
14	The resonant damping of oscillations of coronal loops with elliptic cross-sections. Astronomy and Astrophysics, 2003, 409, 287-297.	5.1	64
15	Long nonlinear waves in a compressible magnetically structured atmosphere. Solar Physics, 1987, 109, 247-263.	2.5	50
16	Damping of coronal loop kink oscillations due to mode conversion. Astronomy and Astrophysics, 2013, 555, A27.	5.1	47
17	Nonlinear propagating kink waves in thin magnetic tubes. Physics of Plasmas, 2010, 17, .	1.9	45
18	Transverse oscillations of two parallel coronal loops. Astronomy and Astrophysics, 2008, 485, 849-857.	5.1	41

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19	Nonlinear theory of resonant slow waves in dissipative layers. Physics of Plasmas, 1997, 4, 75-90.	1.9	40
20	Propagation of solitons of the Derivative Nonlinear SchrÃ¶dinger equation in a plasma with fluctuating density. Physics of Plasmas, 2002, 9, 2940-2945.	1.9	40
21	Transverse Oscillations of Coronal Loops with Slowly Changing Density. Solar Physics, 2011, 271, 41-54.	2.5	39
22	The geometry effect on transverse oscillations of coronal loops. Astronomy and Astrophysics, 2006, 459, 241-244.	5.1	39
23	Non-stationary resonant AlfvÃ©n surface waves in one-dimensional magnetic plasmas. Journal of Plasma Physics, 1995, 54, 129-148.	2.1	38
24	The dynamics of current carriers in standing AlfvÃ©n waves: Parallel electric fields in the auroral acceleration region. Journal of Geophysical Research, 2002, 107, SMP 19-1.	3.3	38
25	PROPAGATION AND DISPERSION OF SAUSAGE WAVE TRAINS IN MAGNETIC FLUX TUBES. Astrophysical Journal, 2015, 806, 56.	4.5	38
26	The Effect of Flows on Transverse Oscillations ofÂCoronal Loops. Solar Physics, 2010, 267, 377-391.	2.5	37
27	Propagating kink waves in thin twisted magnetic tubes with continuous equilibrium magnetic field. Astronomy and Astrophysics, 2015, 575, A130.	5.1	36
28	Coronal Loop Heating by Torsional Alfven Waves Directly Driven by Footpoint Motions: Harmonic Driving versus Stochastic Driving. Astrophysical Journal, 1999, 521, 851-858.	4.5	36
29	Nonlinear theory of slow dissipative layers in anisotropic plasmas. Physics of Plasmas, 1998, 5, 252-260.	1.9	34
30	On the model of the solar wind-interstellar medium interaction with two shock waves. Astrophysics and Space Science, 1976, 41, 481-490.	1.4	33
31	Nonlinear waves in the solar atmosphere. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2006, 364, 485-504.	3.4	33
32	Fast Sausage Waves in Current-Carrying Coronal Loops. Solar Physics, 2012, 280, 153-163.	2.5	33
33	PROPAGATION AND DISPERSION OF TRANSVERSE WAVE TRAINS IN MAGNETIC FLUX TUBES. Astrophysical Journal, 2014, 789, 48.	4.5	33
34	Dissipative instability of the MHD tangential discontinuity in magnetized plasmas with anisotropic viscosity and thermal conductivity. Journal of Plasma Physics, 1996, 56, 285-306.	2.1	32
35	Resonant damping of kink oscillations of cooling coronal magnetic loops. Astronomy and Astrophysics, 2011, 534, A78.	5.1	32
36	Damping of prominence longitudinal oscillations due to mass accretion. Astronomy and Astrophysics, 2016, 591, A131.	5.1	31

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37	On the Convection in a Porous Medium with Inclined Temperature Gradient and Vertical Throughflow. Part I. Normal Modes. Transport in Porous Media, 2009, 80, 137-151.	2.6	30
38	Long, nonlinear, non-axisymmetric surface-wave propagation in a magnetic tube. Journal of Plasma Physics, 1992, 47, 175-191.	2.1	29
39	Analytic solutions for resonant Alfvï¿½n waves in 1D magnetic flux tubes in dissipative stationary MHD. Solar Physics, 1995, 161, 123-138.	2.5	29
40	The absolute and convective instability of the magnetospheric flanks. Journal of Geophysical Research, 2000, 105, 385-393.	3.3	28
41	Kelvin-Helmholtz instability on the magnetospheric flanks: An absolute and convective instability approach. Journal of Geophysical Research, 2000, 105, 27685-27699.	3.3	27
42	ELECTRON THERMAL CONDUCTION AS A POSSIBLE PHYSICAL MECHANISM TO MAKE THE INNER HELIOSHEATH THINNER. Astrophysical Journal Letters, 2014, 795, L7.	8.3	27
43	An Analytical Model of the Kelvinâ€“Helmholtz Instability of Transverse Coronal Loop Oscillations. Astrophysical Journal, 2019, 870, 108.	4.5	27
44	Comment on â€œSlow nonlinear waves in magnetic flux tubesâ€•[Phys. Plasmas 11, 2256 (2004)]. Physics of Plasmas, 2005, 12, 034701.	1.9	26
45	Leaky and non-leaky kink oscillations of magnetic flux tubes. Journal of Plasma Physics, 2006, 72, 285.	2.1	26
46	On the Convection in a Porous Medium with Inclined Temperature Gradient and Vertical Throughflow. Part II. Absolute and Convective Instabilities, and Spatially Amplifying Waves. Transport in Porous Media, 2009, 80, 153-172.	2.6	26
47	On the Ratio of Periods of the Fundamental Harmonic and First Overtone of Magnetic Tube Kink Oscillations. Solar Physics, 2016, 291, 1143-1157.	2.5	26
48	Viscous damping of surface magnetohydrodynamic waves on magnetic interface in cold plasmas. Solar Physics, 1991, 131, 11-24.	2.5	22
49	Nonlinearity effects on resonant absorption of surface Alfvï¿½n waves in incompressible plasmas. Solar Physics, 1993, 143, 69-88.	2.5	22
50	Excitation of resonant AlfvÃ©n waves in the magnetosphere by negative energy surface waves on the magnetopause. Journal of Geophysical Research, 1998, 103, 26573-26584.	3.3	22
51	Nonlinear Damping of Standing Kink Waves Computed With ElsÃsser Variables. Astrophysical Journal, 2021, 910, 58.	4.5	22
52	Surface AlfvÃ©n waves of negative energy. Journal of Plasma Physics, 1995, 54, 149-155.	2.1	21
53	Nonlinear fast sausage waves in homogeneous magnetic flux tubes. Journal of Plasma Physics, 2015, 81, .	2.1	21
54	Standing kink oscillations of thin twisted magnetic tubes with continuous equilibrium magnetic field. Astronomy and Astrophysics, 2015, 580, A57.	5.1	20

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55	Kink and fluting modes of stratified coronal magnetic loops withÂelliptical cross-sections. Astronomy and Astrophysics, 2011, 527, A53.	5.1	20
56	MHD Waves and Instabilities in Space Plasma Flows. Space Science Reviews, 2011, 158, 505-523.	8.1	19
57	Title is missing!. Astrophysics and Space Science, 2000, 274, 327-341.	1.4	18
58	The structure of fast sausage waves in current-carrying coronal loops. Annales Geophysicae, 2014, 32, 1189-1193.	1.6	18
59	Nonlinear Kink Oscillations of Coronal Magnetic Loops. Solar Physics, 2014, 289, 1999-2020.	2.5	18
60	Torsional AlfvÃ©n waves: magneto-seismology in static and dynamic coronal plasmas. Astronomy and Astrophysics, 2011, 534, A27.	5.1	16
61	Kelvinâ€“Helmholtz absolute and convective instabilities of, and signalling in, an inviscid fluidâ€“viscous fluid configuration. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2004, 460, 847-874.	2.1	15
62	On the vertical and horizontal transverse oscillations of curved coronal loops. Astronomy and Astrophysics, 2009, 506, 885-893.	5.1	15
63	Damped kink oscillations of flowing prominence threads. Astronomy and Astrophysics, 2012, 546, A82.	5.1	15
64	Kink oscillations of cooling coronal loops with variable cross-section. Astronomy and Astrophysics, 2017, 602, A50.	5.1	15
65	The stability of parallel-propagating circularly polarized Alfvn waves revisited. Journal of Plasma Physics, 2004, 70, 143-153.	2.1	14
66	The effect of density stratification on the transverse oscillations of two parallel coronal loops. Astronomy and Astrophysics, 2010, 515, A33.	5.1	14
67	Interaction of sound waves with an inhomogeneous magnetized plasma in a strongly nonlinear resonant slow-wave layer. Journal of Plasma Physics, 2000, 63, 43-77.	2.1	13
68	Longitudinal propagation of nonlinear surface Alfven waves at a magnetic interface in a compressible atmosphere. Plasma Physics and Controlled Fusion, 1988, 30, 1117-1125.	2.1	12
69	Compressibility Effect on the Rayleighâ€“Taylor Instability with Sheared Magnetic Fields. Solar Physics, 2017, 292, 1.	2.5	12
70	Excitation of decayless kink oscillations by random motion. Monthly Notices of the Royal Astronomical Society, 0, , .	4.4	12
71	Resonantly damped oscillations of two coronal loops. Astronomy and Astrophysics, 2011, 525, A4.	5.1	11
72	On the effect of transport coefficient anisotropy on the plasma flow in heliospheric interface. Monthly Notices of the Royal Astronomical Society, 2013, 434, 3202-3207.	4.4	11

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73	The nature of convectively unstable waveguide mode disturbances on the magnetospheric flanks. Journal of Geophysical Research, 2002, 107, SMP 14-1.	3.3	10
74	Nonlinear Generation of Fluting Perturbations by Kink Mode. Solar Physics, 2017, 292, 111.	2.5	10
75	Resonant damping of kink oscillations of thin cooling and expanding coronal magnetic loops. Astronomy and Astrophysics, 2018, 619, A173.	5.1	10
76	Rayleigh-Taylor instabilities with sheared magnetic fields in partially ionised plasmas. Astronomy and Astrophysics, 2018, 609, A23.	5.1	10
77	Effect of siphon flow on resonant damping of kink oscillations in magnetic flux tubes. Astronomy and Astrophysics, 2019, 631, A31.	5.1	10
78	Resonant damping and instability of propagating kink waves in flowing and twisted magnetic flux tubes. Monthly Notices of the Royal Astronomical Society, 2020, 496, 67-79.	4.4	10
79	Rayleigh-Taylor instability of a magnetic tangential discontinuity in the presence of flow. Astronomy and Astrophysics, 2015, 580, A37.	5.1	10
80	Stability of an MHD shear flow with a piecewise linear velocity profile. Astronomy and Astrophysics, 2006, 448, 1177-1184.	5.1	9
81	Comment on â€œNote on the Initial Value Problem for Coronal Loop Kink Wavesâ€•By P. S. Cally. Solar Physics, 2006, 237, 119-121.	2.5	9
82	Non-reflective Propagation of Kink Waves in Coronal Magnetic Loops. Solar Physics, 2013, 286, 417-426.	2.5	9
83	Non-reflective Propagation of Kink Pulses in Magnetic Waveguides in the Solar Atmosphere. Solar Physics, 2015, 290, 1323-1335.	2.5	9
84	Resonant damping of kink oscillations of thin expanding magnetic tubes. Astronomy and Astrophysics, 2018, 615, A156.	5.1	9
85	Propagation of nonlinear Alfvï¿½n surface waves along a tangential magnetohydrodynamic discontinuity in an incompressible fluid. Fluid Dynamics, 1985, 20, 85-92.	0.9	8
86	Resonantly damped oscillations of longitudinally stratified coronal loops. Astronomy and Astrophysics, 2007, 463, 759-759.	5.1	8
87	Stability of MHD shear flows: Application to space physics. Journal of Physics: Conference Series, 2010, 216, 012016.	0.4	8
88	The structure of the hydrodynamic plasma flow near the heliopause stagnation point. Monthly Notices of the Royal Astronomical Society, 2010, 401, 607-612.	4.4	8
89	Phase mixing of AlfvÃ©n waves propagating in non-reflective magnetic plasma configurations. Astronomy and Astrophysics, 2017, 600, A122.	5.1	8
90	Propagation of Torsional AlfvÃ©n Pulses in Zero-beta Flux Tubes. Astrophysical Journal, 2021, 911, 39.	4.5	8

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91	Decayless Kink Oscillations Excited by Random Driving: Motion in Transitional Layer. Solar Physics, 2021, 296, 1.	2.5	8
92	Nonlinear Waves in the Magnetically Structured Solar Atmosphere. NATO Science Series Series II, Mathematics, Physics and Chemistry, 2003, , 239-274.	0.1	8
93	Transverse oscillations of non-planar coronal loops. Astronomy and Astrophysics, 2011, 529, A33.	5.1	8
94	Absolute and convective instabilities of parallel propagating circularly polarized AlfvÃ©n waves: Beat instability. Physics of Plasmas, 2005, 12, 062103.	1.9	7
95	Absolute and convective instabilities of parallel propagating circularly polarized AlfvÃ©n waves: numerical results. Astronomy and Astrophysics, 2006, 452, 641-646.	5.1	7
96	Negative energy standing wave instability in the presence of flow. Journal of Plasma Physics, 2018, 84, .	2.1	7
97	Nonlinear dissipation of surface Alfven waves in the solar corona. Astrophysical Journal, 1992, 399, 724.	4.5	7
98	Absolute and convective instabilities of parallel propagating circularly polarized AlfvÃ©n waves: Decay instability. Physics of Plasmas, 2004, 11, 4178-4187.	1.9	6
99	Parametric instabilities of circularly polarized small-amplitude AlfvÃ©n waves in Hall plasmas. Journal of Plasma Physics, 2008, 74, 119-138.	2.1	6
100	Nonlinear Effects in Resonant Layers in Solar and Space Plasmas. Space Science Reviews, 2011, 158, 421-450.	8.1	6
101	Phase mixing of AlfvÃ©n waves in axisymmetric non-reflective magnetic plasma configurations. Monthly Notices of the Royal Astronomical Society, 2018, 474, 2289-2301.	4.4	6
102	Phase mixing of AlfvÃ©n waves in two-dimensional magnetic plasma configurations with exponentially decreasing density. Astronomy and Astrophysics, 2018, 620, A44.	5.1	6
103	Resonant Damping of Propagating Kink Waves in Non-stationary, Longitudinally Stratified, and Expanding Solar Waveguides. Frontiers in Astronomy and Space Sciences, 2019, 6, .	2.8	6
104	Formation of Chromospheric Spicules in Magnetic Bright Points: An Analytical Approach Using Cartesian Slab Geometry. Astrophysical Journal, 2020, 905, 168.	4.5	6
105	Coronal Seismology Using Transverse Oscillations of Non-planar Coronal Loops. Solar Physics, 2012, 278, 177-185.	2.5	5
106	Unified theory of damping of linear surface AlfvÃ©n waves in inhomogeneous incompressible plasmas. Journal of Plasma Physics, 1996, 56, 107-125.	2.1	4
107	Possible Cross-Section for a Coronal Loop of Given Shape?. Solar Physics, 2015, 290, 423-435.	2.5	4
108	Significance of Cooling Effect on Comprehension of Kink Oscillations of Coronal Loops. Frontiers in Astronomy and Space Sciences, 2021, 7, .	2.8	4

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109	Reflection and Evolution of Torsional AlfvÃ©n Pulses in Zero-beta Flux Tubes. Astrophysical Journal, 2021, 922, 118.	4.5	4
110	Nonlinear radial oscillations of coronal loops. Geomagnetism and Aeronomy, 2016, 56, 1040-1044.	0.8	3
111	Propagation of leaky surface waves on contact magnetohydrodynamic discontinuities in incompressible plasmas. Physics of Plasmas, 2018, 25, .	1.9	3
112	Quasi-parallel propagation of solitary waves in magnetised non-relativistic electronâ€“positronÂplasmas. Journal of Plasma Physics, 2020, 86, .	2.1	3
113	Effect of Transitional Layer on Frequency of Kink Oscillations. Solar Physics, 2022, 297, .	2.5	3
114	Absolute and Convective Instabilities of Circularly Polarized AlfvÃ©n Waves. Space Science Reviews, 2005, 121, 287-297.	8.1	2
115	Resonant Instability of Kink Oscillations in Magnetic Flux Tubes with Siphon Flow. Solar Physics, 2021, 296, 1.	2.5	2
116	On the Evolution of Pre-Flare Patterns of a 3-Dimensional Model of AR 11429. Proceedings of the International Astronomical Union, 2017, 13, 294-297.	0.0	1
117	Rayleighâ€“Taylor instability of a magnetic tangential discontinuity in the presence of oscillating gravitational acceleration. Astronomy and Astrophysics, 2018, 615, A130.	5.1	1
118	On the stability of tangential discontinuity in the interaction of solar wind and cometary atmospheres. Monthly Notices of the Royal Astronomical Society, 0, , .	4.4	1
119	Interaction of sound waves with inhomogeneous magnetized plasma in strongly nonlinear resonant slow wave layer. AIP Conference Proceedings, 2000, , .	0.4	0
120	Non-axisymmetric oscillations of thin twisted magnetic tubes. Proceedings of the International Astronomical Union, 2007, 3, 344-350.	0.0	0
121	Theory of Transverse Oscillations of Solar Coronal Loops. , 2009, , .		0
122	Effect of stratification on the frequency of bounded Rossby modes over a non-flat bottom. Geophysical and Astrophysical Fluid Dynamics, 2013, 107, 541-563.	1.2	0
123	Kink Oscillations of Thin Magnetic Tubes with Discontinuous Density. Solar Physics, 2014, 289, 2473-2485.	2.5	0
124	10.1063/1.3464464.1. , 2010, , .		0