Merav Opher

List of Publications by Year
in descending order

104 papers	4,292 citations	117625 34 h-index	118850 62 g-index
109 all docs	109 docs citations	109 times ranked	2585 citing authors

#	Article	IF	Citations
1	Adaptive numerical algorithms in space weather modeling. Journal of Computational Physics, 2012, 231, 870-903.	3.8	560
2	Nuclear reaction rates and energy in stellar plasmas: The effect of highly damped modes. Physics of Plasmas, 2001, 8, 2454-2460.	1.9	305
3	A MAGNETIC RECONNECTION MECHANISM FOR THE GENERATION OF ANOMALOUS COSMIC RAYS. Astrophysical Journal, 2010, 709, 963-974.	4.5	239
4	M-dwarf stellar winds: the effects of realistic magnetic geometry on rotational evolution and planets. Monthly Notices of the Royal Astronomical Society, 2014, 438, 1162-1175.	4.4	139
5	Threeâ€dimensional MHD Simulation of the 2003 October 28 Coronal Mass Ejection: Comparison with LASCO Coronagraph Observations. Astrophysical Journal, 2008, 684, 1448-1460.	4.5	137
6	The Effects of a Local Interstellar Magnetic Field on Voyager 1 and 2 Observations. Astrophysical Journal, 2006, 640, L71-L74.	4.5	134
7	THE VECTOR DIRECTION OF THE INTERSTELLAR MAGNETIC FIELD OUTSIDE THE HELIOSPHERE. Astrophysical Journal, 2010, 710, 1769-1775.	4.5	131
8	Three-dimensional MHD simulation of a flux rope driven CME. Journal of Geophysical Research, 2004, 109, .	3.3	130
9	A strong, highly-tilted interstellar magnetic field near the Solar System. Nature, 2009, 462, 1036-1038.	27.8	122
10	The stellar wind cycles and planetary radio emission of the Ï„ Boo system. Monthly Notices of the Royal Astronomical Society, 2012, 423, 3285-3298.	4.4	112
11	A MODEL OF ACCELERATION OF ANOMALOUS COSMIC RAYS BY RECONNECTION IN THE HELIOSHEATH. Astrophysical Journal, 2009, 703, 8-21.	4.5	110
12	MAGNETIZED JETS DRIVEN BY THE SUN: THE STRUCTURE OF THE HELIOSPHERE REVISITED. Astrophysical Journal Letters, 2015, 800, L28.	8.3	103
13	GLOBAL TRENDS OF CME DEFLECTIONS BASED ON CME AND SOLAR PARAMETERS. Astrophysical Journal, 2015, 805, 168.	4.5	94
14	The Orientation of the Local Interstellar Magnetic Field. Science, 2007, 316, 875-878.	12.6	90
15	FORECASTING A CORONAL MASS EJECTION'S ALTERED TRAJECTORY: ForeCAT. Astrophysical Journal, 2013, 775, 5.	4.5	89
16	Powerful winds from low-mass stars: V374 Peg. Monthly Notices of the Royal Astronomical Society, 2011, 412, 351-362.	4.4	75
17	IS THE MAGNETIC FIELD IN THE HELIOSHEATH LAMINAR OR A TURBULENT SEA OF BUBBLES?. Astrophysical Journal, 2011, 734, 71.	4.5	71
18	Implications of solar wind suprathermal tails for IBEX ENA images of the heliosheath. Journal of Geophysical Research, 2008, 113, .	3.3	67

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19	SIMULATIONS OF WINDS OF WEAK-LINED T TAURI STARS. II. THE EFFECTS OF A TILTED MAGNETOSPHERE AND PLANETARY INTERACTIONS. Astrophysical Journal, 2010, 720, 1262-1280.	4.5	54
20	PROBABILITY OF CME IMPACT ON EXOPLANETS ORBITING M DWARFS AND SOLAR-LIKE STARS. Astrophysical Journal, 2016, 826, 195.	4.5	54
21	A small and round heliosphere suggested by magnetohydrodynamic modelling of pick-up ions. Nature Astronomy, 2020, 4, 675-683.	10.1	50
22	THE HELIOCENTRIC DISTANCE WHERE THE DEFLECTIONS AND ROTATIONS OF SOLAR CORONAL MASS EJECTIONS OCCUR. Astrophysical Journal Letters, 2015, 811, L36.	8.3	49
23	GLOBAL NUMERICAL MODELING OF ENERGETIC PROTON ACCELERATION IN A CORONAL MASS EJECTION TRAVELING THROUGH THE SOLAR CORONA. Astrophysical Journal, 2013, 778, 43.	4.5	48
24	Probing the Edge of the Solar System: Formation of an Unstable Jet-Sheet. Astrophysical Journal, 2003, 591, L61-L65.	4.5	47
25	A POROUS, LAYERED HELIOPAUSE. Astrophysical Journal Letters, 2013, 774, L8.	8.3	44
26	A MODEL OF THE HELIOSPHERE WITH JETS. Astrophysical Journal Letters, 2015, 808, L44.	8.3	43
27	AlfvÃ©n Profile in the Lower Corona: Implications for Shock Formation. Astrophysical Journal, 2008, 687, 1355-1362.	4.5	42
28	THREE-DIMENSIONAL NUMERICAL SIMULATIONS OF MAGNETIZED WINDS OF SOLAR-LIKE STARS. Astrophysical Journal, 2009, 699, 441-452.	4.5	42
29	SIMULATIONS OF WINDS OF WEAK-LINED T TAURI STARS: THE MAGNETIC FIELD GEOMETRY AND THE INFLUENCE OF THE WIND ON GIANT PLANET MIGRATION. Astrophysical Journal, 2009, 703, 1734-1742.	4.5	38
30	ON THE ROTATION OF THE MAGNETIC FIELD ACROSS THE HELIOPAUSE. Astrophysical Journal Letters, 2013, 778, L26.	8.3	38
31	CORONAL HEATING BY SURFACE ALFVÃ‰N WAVE DAMPING: IMPLEMENTATION IN A GLOBAL MAGNETOHYDRODYNAMICS MODEL OF THE SOLAR WIND. Astrophysical Journal, 2012, 756, 155.	4.5	37
32	Magnetic Effects at the Edge of the Solar System: MHD Instabilities, the de Laval Nozzle Effect, and an Extended Jet. Astrophysical Journal, 2004, 611, 575-586.	4.5	36
33	Predicting the Magnetic Field of Earth-impacting CMEs. Astrophysical Journal, 2017, 835, 117.	4.5	36
34	A slow bow shock ahead of the heliosphere. Geophysical Research Letters, 2013, 40, 2923-2928.	4.0	35
35	Confronting Observations and Modeling: The Role ofÂtheÂInterstellar Magnetic Field in Voyager 1 and 2 Asymmetries. Space Science Reviews, 2009, 143, 43-55.	8.1	34
36	KINETIC VERSUS MULTI-FLUID APPROACH FOR INTERSTELLAR NEUTRALS IN THE HELIOSPHERE: EXPLORATION OF THE INTERSTELLAR MAGNETIC FIELD EFFECTS. Astrophysical Journal, 2011, 734, 45.	4.5	32

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37	The Twist of the Draped Interstellar Magnetic Field Ahead of the Heliopause: A Magnetic Reconnection Driven Rotational Discontinuity. Astrophysical Journal Letters, 2017, 839, L12.	8.3	26
38	NEAR THE BOUNDARY OF THE HELIOSPHERE: A FLOW TRANSITION REGION. Astrophysical Journal, 2012, 751, 80.	4.5	25
39	USING ForeCAT DEFLECTIONS AND ROTATIONS TO CONSTRAIN THE EARLY EVOLUTION OF CMEs. Astrophysical Journal, 2016, 827, 70.	4.5	25
40	EVOLUTION OF PILED-UP COMPRESSIONS IN MODELED CORONAL MASS EJECTION SHEATHS AND THE RESULTING SHEATH STRUCTURES. Astrophysical Journal, 2011, 729, 112.	4.5	24
41	Combined â^¼10 eV to â^¼344 MeV Particle Spectra and Pressures in the Heliosheath along the Voyager 2 Trajectory. Astrophysical Journal Letters, 2020, 905, L24.	8.3	24
42	MAGNETIC FLUX CONSERVATION IN THE HELIOSHEATH. Astrophysical Journal Letters, 2013, 762, L14.	8.3	23
43	The Structure of the Large-Scale Heliosphere as Seen by Current Models. Space Science Reviews, 2022, 218, .	8.1	23
44	A Simulation of a Coronal Mass Ejection Propagation and Shock Evolution in the Lower Solar Corona. Astrophysical Journal, 2008, 680, 757-763.	4.5	22
45	Properties and Selected Implications of Magnetic Turbulence for Interstellar Medium, Local Bubble andÂSolar Wind. Space Science Reviews, 2009, 143, 387-413.	8.1	22
46	Was The Electromagnetic Spectrum A Blackbody Spectrum In The Early Universe?. Physical Review Letters, 1997, 79, 2628-2631.	7.8	21
47	Seed magnetic Fields Generated by Primordial Supernova Explosions. Monthly Notices of the Royal Astronomical Society, 1998, 301, 547-550.	4.4	21
48	A Turbulent Heliosheath Driven by the Rayleighâ€"Taylor Instability. Astrophysical Journal, 2021, 922, 181.	4.5	21
49	Hybrid Simulations of Interstellar Pickup Protons Accelerated at the Solar-wind Termination Shock at Multiple Locations. Astrophysical Journal, 2021, 911, 27.	4.5	20
50	SURFACE ALFVÃ‰N WAVE DAMPING IN A THREE-DIMENSIONAL SIMULATION OF THE SOLAR WIND. Astrophysical Journal, 2009, 703, 179-186.	4.5	19
51	DEPENDENCE OF ENERGETIC ION AND ELECTRON INTENSITIES ON PROXIMITY TO THE MAGNETICALLY SECTORED HELIOSHEATH:<i>VOYAGER 1</i>AND<i>2</i>OBSERVATIONS. Astrophysical Journal, 2014, 781, 94.	4.5	19
52	Constraining the pickup ion abundance and temperature through the multifluid reconstruction of the Voyager 2 termination shock crossing. Journal of Geophysical Research: Space Physics, 2015, 120, 7130-7153.	2.4	19
53	Interstellar Probe: Humanity's exploration of the Galaxy Begins. Acta Astronautica, 2022, 199, 364-373.	3.2	19
54	PROBING THE NATURE OF THE HELIOSHEATH WITH THE NEUTRAL ATOM SPECTRA MEASURED BY <i>IBEX</i> IN THE <i>VOYAGER 1</i> DIRECTION. Astrophysical Journal Letters, 2013, 776, L32.	8.3	17

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55	PLASMA FLOWS IN THE HELIOSHEATH ALONG THE<i>VOYAGER 1</i>AND<i>2</i>TRAJECTORIES DUE TO EFFECTS OF THE 11 YR SOLAR CYCLE. Astrophysical Journal, 2014, 794, 29.	4.5	17
56	CONSTRAINING THE MASSES AND THE NON-RADIAL DRAG COEFFICIENT OF A SOLAR CORONAL MASS EJECTION. Astrophysical Journal Letters, 2015, 801, L21.	8.3	17
57	Voyager 2 solar plasma and magnetic field spectral analysis for intermediate data sparsity. Journal of Geophysical Research: Space Physics, 2016, 121, 3905-3919.	2.4	17
58	The Confinement of the Heliosheath Plasma by the Solar Magnetic Field as Revealed by Energetic Neutral Atom Simulations. Astrophysical Journal Letters, 2020, 895, L26.	8.3	17
59	The Heliosphere and Local Interstellar Medium from Neutral Atom Observations at Energies Below 10 keV. Space Science Reviews, 2022, 218, .	8.1	17
60	The Downwind Solar Wind: Model Comparison with Pioneer 10 Observations. Astrophysical Journal Letters, 2020, 901, L23.	8.3	16
61	Magnetic Reconnection in the Interior of Interplanetary Coronal Mass Ejections. Physical Review Letters, 2014, 113, 031101.	7.8	15
62	The Formation of Magnetic Depletions and Flux Annihilation Due to Reconnection in the Heliosheath. Astrophysical Journal, 2017, 837, 159.	4.5	15
63	Dynamic Screening in Thermonuclear Reactions. Astrophysical Journal, 2000, 535, 473-474.	4.5	14
64	Variability of Jupiter's IR H₃⁺ aurorae during Juno approach. Geophysical Research Letters, 2017, 44, 4513-4522.	4.0	14
65	Signature of a Heliotail Organized by the Solar Magnetic Field and the Role of Nonideal Processes in Modeled IBEX ENA Maps: A Comparison of the BU and Moscow MHD Models. Astrophysical Journal, 2021, 921, 164.	4.5	14
66	The Development of a Split-tail Heliosphere and the Role of Non-ideal Processes: A Comparison of the BU and Moscow Models. Astrophysical Journal, 2021, 923, 179.	4.5	14
67	MAGNETIC FLUX CONSERVATION IN THE HELIOSHEATH INCLUDING SOLAR CYCLE VARIATIONS OF MAGNETIC FIELD INTENSITY. Astrophysical Journal Letters, 2015, 803, L6.	8.3	13
68	Magnetized jets driven by the Sun: The structure of the heliosphere revisitedâ€"Updates. Physics of Plasmas, 2016, 23, .	1.9	13
69	Interstellar Neutrals, Pickup Ions, and Energetic Neutral Atoms Throughout the Heliosphere: Present Theory and Modeling Overview. Space Science Reviews, 2022, 218, 1.	8.1	13
70	The Dynamic Heliosphere: Outstanding Issues. Space Science Reviews, 2009, 143, 57-83.	8.1	12
71	THE IMPRINT OF THE VERY LOCAL INTERSTELLAR MAGNETIC FIELD IN SIMULATED ENERGETIC NEUTRAL ATOM MAPS. Astrophysical Journal, 2010, 716, 550-555.	4.5	12
72	LEARNING FROM THE OUTER HELIOSPHERE: INTERPLANETARY CORONAL MASS EJECTION SHEATH FLOWS AND THE EJECTA ORIENTATION IN THE LOWER CORONA. Astrophysical Journal, 2011, 728, 41.	4.5	12

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73	Globally Distributed Energetic Neutral Atom Maps for the â€œCroissantâ€•Heliosphere. Astrophysical Journal, 2018, 865, 84.	4.5	12
74	Magnetic field spectrum in a plasma in thermal equilibrium in the epoch of primordial nucleosynthesis. Physical Review D, 1997, 56, 3296-3306.	4.7	11
75	On the Energization of Pickup Ions Downstream of the Heliospheric Termination Shock by Comparing 0.52â€"55 keV Observed Energetic Neutral Atom Spectra to Ones Inferred from Proton Hybrid Simulations. Astrophysical Journal Letters, 2022, 931, L21.	8.3	11
76	Kirchhoff's theorem and the Casimir effect. Europhysics Letters, 1997, 38, 245-248.	2.0	10
77	Signatures of two distinct driving mechanisms in the evolution of coronal mass ejections in the lower corona. Journal of Geophysical Research, 2011, 116, n/a-n/a.	3.3	10
78	The Heliosphere: What Did We Learn in Recent Years and the Current Challenges. Space Science Reviews, 2016, 200, 475-494.	8.1	10
79	Consequences of Treating the Solar Magnetic Field as a Dipole on the Global Structure of the Heliosphere and Heliosheath. Astrophysical Journal, 2018, 860, 171.	4.5	10
80	Cross and magnetic helicity in the outer heliosphere from Voyager 2 observations. European Journal of Mechanics, B/Fluids, 2016, 55, 394-401.	2.5	9
81	The Impact of Kinetic Neutrals on the Heliotail. Astrophysical Journal, 2021, 906, 37.	4.5	9
82	Energetic Neutral Atom Fluxes from the Heliosheath: Constraints from in situ Measurements and Models. Astrophysical Journal Letters, 2021, 915, L26.	8.3	9
83	Downstream structure and evolution of a simulated CME-driven sheath in the solar corona. Astronomy and Astrophysics, 2011, 527, A46.	5.1	8
84	VOYAGER OBSERVATIONS OF MAGNETIC SECTORS AND HELIOSPHERIC CURRENT SHEET CROSSINGS IN THE OUTER HELIOSPHERE. Astrophysical Journal, 2016, 831, 115.	4.5	8
85	The Deflection of the Cartwheel CME: ForeCAT Results. Astrophysical Journal, 2017, 839, 37.	4.5	8
86	Energy of a Plasma in the Classical Limit. Physical Review Letters, 1999, 82, 4835-4838.	7.8	6
87	The Solar Wind with Hydrogen Ion Exchange and Large-scale Dynamics (SHIELD) Code: A Self-consistent Kineticâ€"Magnetohydrodynamic Model of the Outer Heliosphere. Astrophysical Journal, 2022, 924, 105.	4.5	6
88	Interstellar Mapping and Acceleration Probe (IMAP). Journal of Physics: Conference Series, 2016, 767, 012025.	0.4	5
89	Kelvinâ€"Helmholtz Instability at the CMEâ€"Sheath and Sheathâ€"Solar-wind Interfaces. Astrophysical Journal, 2017, 851, 112.	4.5	5
90	Dispersive Fast Magnetosonic Waves and Shockâ€Driven Compressible Turbulence in the Inner Heliosheath. Journal of Geophysical Research: Space Physics, 2020, 125, e2020JA028393.	2.4	5

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91	Using Magnetic Flux Conservation to Determine Heliosheath Speeds. Astrophysical Journal Letters, 2021, 919, L28.	8.3	5
92	DO COROTATING INTERACTION REGION ASSOCIATED SHOCKS SURVIVE WHEN THEY PROPAGATE INTO THE HELIOSHEATH?. Astrophysical Journal Letters, 2012, 756, L37.	8.3	4
93	The Heliosheath: The Ultimate Solar System Frontier. The Astronomical Review, 2012, 7, 68-78.	4.0	3
94	Voyager 2 Observations Near the Heliopause. Journal of Physics: Conference Series, 2020, 1620, 012016.	0.4	3
95	Corrugated Features in Coronal-mass-ejection-driven Shocks: A Discussion on the Predisposition to Particle Acceleration. Astrophysical Journal, 2019, 879, 122.	4.5	2
96	The Heliosphere: What Did We Learn in Recent Years and the Current Challenges. Space Sciences Series of ISSI, 2016, , 211-230.	0.0	2
97	CME deflections due to magnetic forces from the Sun and Kepler-63. Proceedings of the International Astronomical Union, 2019, 15, 421-425.	0.0	1
98	MSWIM2D: Two-dimensional Outer Heliosphere Solar Wind Modeling. Astrophysical Journal, Supplement Series, 2022, 260, 43.	7.7	1
99	Pinning Down the Intensity and Direction of the Local Interstellar Magnetic Field. , 2009, , .		0
100	Conditions for the existence of Kelvin-Helmholtz instability in a CME. Proceedings of the International Astronomical Union, 2015, 11, 218-220.	0.0	0
101	Appreciation of 2017 GRL Peer Reviewers. Geophysical Research Letters, 2018, 45, 4494-4528.	4.0	0
102	Thank You to Our 2018 Peer Reviewers. Geophysical Research Letters, 2019, 46, 12608-12636.	4.0	0
103	Thank You to Our 2019 Peer Reviewers. Geophysical Research Letters, 2020, 47, e2020GL088048.	4.0	0
104	Thank You to Our 2020 Peer Reviewers. Geophysical Research Letters, 2021, 48, e2021GL093126.	4.0	0