Slava Merkin

List of Publications by Year
in descending order

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87 papers	2,718 citations	159573 30 h-index	214788 47 g-index
103 all docs	103 docs citations	103 times ranked	1745 citing authors

#	Article	IF	Citations
1	Effects of the lowâ€latitude ionospheric boundary condition on the global magnetosphere. Journal of Geophysical Research, 2010, 115, .	3.3	172
2	Development of large-scale Birkeland currents determined from the Active Magnetosphere and Planetary Electrodynamics Response Experiment. Geophysical Research Letters, 2014, 41, 3017-3025.	4.0	156
3	Initial results from a dynamic coupled magnetosphereâ€ionosphereâ€ring current model. Journal of Geophysical Research, 2012, 117, .	3.3	102
4	Highâ€resolution global magnetohydrodynamic simulation of bursty bulk flows. Journal of Geophysical Research: Space Physics, 2015, 120, 4555-4566.	2.4	90
5	Spontaneous formation of dipolarization fronts and reconnection onset in the magnetotail. Geophysical Research Letters, 2013, 40, 22-27.	4.0	87
6	Role of magnetosheath force balance in regulating the dayside reconnection potential. Journal of Geophysical Research, 2010, 115, .	3.3	81
7	Explosive Magnetotail Activity. Space Science Reviews, 2019, 215, 31.	8.1	75
8	Influence of cusp O⁺ outflow on magnetotail dynamics in a multifluid MHD model of the magnetosphere. Journal of Geophysical Research, 2010, 115, .	3.3	73
9	GAMERA: A Three-dimensional Finite-volume MHD Solver for Non-orthogonal Curvilinear Geometries. Astrophysical Journal, Supplement Series, 2019, 244, 20.	7.7	71
10	Magnetic reconnection, buoyancy, and flapping motions in magnetotail explosions. Journal of Geophysical Research: Space Physics, 2014, 119, 7151-7168.	2.4	64
11	A kinematically distorted flux rope model for magnetic clouds. Journal of Geophysical Research, 2006, 111, .	3.3	60
12	Ballooningâ€interchange Instability in the Nearâ€Earth Plasma Sheet and Auroral Beads: Global Magnetospheric Modeling at the Limit of the MHD Approximation. Geophysical Research Letters, 2020, 47, e2020GL088227.	4.0	59
13	Contribution of Bursty Bulk Flows to the Global Dipolarization of the Magnetotail During an Isolated Substorm. Journal of Geophysical Research: Space Physics, 2019, 124, 8647-8668.	2.4	58
14	Kelvinâ€Helmholtz instability of the magnetospheric boundary in a threeâ€dimensional global MHD simulation during northward IMF conditions. Journal of Geophysical Research: Space Physics, 2013, 118, 5478-5496.	2.4	55
15	Global MHD simulations of the strongly driven magnetosphere: Modeling of the transpolar potential saturation. Journal of Geophysical Research, 2005, 110, .	3.3	49
16	Ion Trapping and Acceleration at Dipolarization Fronts: Highâ€Resolution MHD and Testâ€Particle Simulations. Journal of Geophysical Research: Space Physics, 2018, 123, 5580-5589.	2.4	48
17	Modeling the Depletion and Recovery of the Outer Radiation Belt During a Geomagnetic Storm: Combined MHD and Test Particle Simulations. Journal of Geophysical Research: Space Physics, 2018, 123, 5590-5609.	2.4	47
18	Effects of nightside O⁺ outflow on magnetospheric dynamics: Results of multifluid MHD modeling. Journal of Geophysical Research, 2010, 115, .	3.3	46

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19	Timeâ€dependent magnetohydrodynamic simulations of the inner heliosphere. Journal of Geophysical Research: Space Physics, 2016, 121, 2866-2890.	2.4	42
20	Kinetic Dissipation Around a Dipolarization Front. Geophysical Research Letters, 2018, 45, 4639-4647.	4.0	42
21	Rapid acceleration of protons upstream of earthward propagating dipolarization fronts. Journal of Geophysical Research: Space Physics, 2013, 118, 4952-4962.	2.4	41
22	Ion acceleration at dipolarization fronts in the inner magnetosphere. Journal of Geophysical Research: Space Physics, 2017, 122, 3040-3054.	2.4	41
23	Effects of electrojet turbulence on a magnetosphereâ€ionosphere simulation of a geomagnetic storm. Journal of Geophysical Research: Space Physics, 2017, 122, 5008-5027.	2.4	41
24	Energetic particle loss through the magnetopause: A combined global MHD and testâ€particle study. Journal of Geophysical Research: Space Physics, 2017, 122, 9329-9343.	2.4	38
25	Comparison of predictive estimates of highâ€latitude electrodynamics with observations of globalâ€scale Birkeland currents. Space Weather, 2017, 15, 352-373.	3.7	35
26	Why doesn't the ring current injection rate saturate?. Journal of Geophysical Research, 2009, 114, .	3.3	34
27	Asymmetric Kelvinâ€Helmholtz Instability at Jupiter's Magnetopause Boundary: Implications for Corotationâ€Dominated Systems. Geophysical Research Letters, 2018, 45, 56-63.	4.0	34
28	Solar Wind Ion Entry Into the Magnetosphere During Northward IMF. Journal of Geophysical Research: Space Physics, 2019, 124, 5461-5481.	2.4	34
29	Generalized magnetotail equilibria: Effects of the dipole field, thin current sheets, and magnetic flux accumulation. Journal of Geophysical Research: Space Physics, 2016, 121, 7664-7683.	2.4	33
30	Global evolution of Birkeland currents on 10 min timescales: MHD simulations and observations. Journal of Geophysical Research: Space Physics, 2013, 118, 4977-4997.	2.4	31
31	How Jupiterâ€™s unusual magnetospheric topology structures its aurora. Science Advances, 2021, 7, .	10.3	31
32	Does a Local Bâ€Minimum Appear in the Tail Current Sheet During a Substorm Growth Phase?. Geophysical Research Letters, 2018, 45, 2566-2573.	4.0	30
33	The role of the bow shock in solar wind-magnetosphere coupling. Annales Geophysicae, 2011, 29, 1129-1135.	1.6	29
34	Thermospheric Density Perturbations Produced by Traveling Atmospheric Disturbances During August 2005 Storm. Journal of Geophysical Research: Space Physics, 2022, 127, .	2.4	28
35	Do we know the actual magnetopause position for typical solar wind conditions?. Journal of Geophysical Research: Space Physics, 2016, 121, 6493-6508.	2.4	27
36	The Effect of a Guide Field on Local Energy Conversion During Asymmetric Magnetic Reconnection: Particleâ€inâ€Cell Simulations. Journal of Geophysical Research: Space Physics, 2017, 122, 11,523.	2.4	27

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37	SAPS in the 17 March 2013 Storm Event: Initial Results From the Coupled Magnetosphereâ€Ionosphereâ€Thermosphere Model. Journal of Geophysical Research: Space Physics, 2019, 124, 6212-6225.	2.4	27
38	Signatures of Nonideal Plasma Evolution During Substorms Obtained by Mining Multimission Magnetometer Data. Journal of Geophysical Research: Space Physics, 2019, 124, 8427-8456.	2.4	27
39	Effect of anomalous electron heating on the transpolar potential in the LFM global MHD model. Geophysical Research Letters, 2005, 32, n/a-n/a.	4.0	24
40	Disruption of a heliospheric current sheet fold. Geophysical Research Letters, 2011, 38, n/a-n/a.	4.0	24
41	Structure of High Latitude Currents in Magnetosphere-Ionosphere Models. Space Science Reviews, 2017, 206, 575-598.	8.1	24
42	Magnetospheric modes and solar wind energy coupling efficiency. Journal of Geophysical Research, 2010, 115, .	3.3	23
43	Magnetospheric convection during intermediate driving: Sawtooth events and steady convection intervals as seen in Lyonâ€Fedderâ€Mobarry global MHD simulations. Journal of Geophysical Research, 2007, 112, .	3.3	22
44	Geotail and LFM comparisons of plasma sheet climatology: 1. Average values. Journal of Geophysical Research, 2008, 113, .	3.3	22
45	Simulation of the acceleration of relativistic electrons in the inner magnetosphere using RCM-VERB coupled codes. Journal of Geophysical Research, 2011, 116, n/a-n/a.	3.3	22
46	Solar cycle dependence of nightside fieldâ€aligned currents: Effects of dayside ionospheric conductivity on the solar windâ€magnetosphereâ€ionosphere coupling. Journal of Geophysical Research: Space Physics, 2014, 119, 322-334.	2.4	22
47	Evolution of generalized twoâ€dimensional magnetotail equilibria in ideal and resistive MHD. Journal of Geophysical Research: Space Physics, 2015, 120, 1993-2014.	2.4	22
48	Data assimilation of lowâ€altitude magnetic perturbations into a global magnetosphere model. Space Weather, 2016, 14, 165-184.	3.7	22
49	On the origin of the dawnâ€dusk asymmetry of toroidal Pc5 waves. Journal of Geophysical Research: Space Physics, 2016, 121, 9632-9650.	2.4	22
50	Distinctive features of internally driven magnetotail reconnection. Geophysical Research Letters, 2017, 44, 3028-3037.	4.0	21
51	On the origin of plasma sheet reconfiguration during the substorm growth phase. Geophysical Research Letters, 2017, 44, 8696-8702.	4.0	21
52	The Role of Diffuse Electron Precipitation in the Formation of Subauroral Polarization Streams. Journal of Geophysical Research: Space Physics, 2021, 126, .	2.4	19
53	Predicting magnetospheric dynamics with a coupled Sunâ€toâ€Earth model: Challenges and first results. Space Weather, 2007, 5, .	3.7	18
54	Stability of magnetotail equilibria with a tailward B_z gradient. Journal of Geophysical Research: Space Physics, 2016, 121, 9411-9426.	2.4	18

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55	Anomalous electron heating effects on the E region ionosphere in TIEGCM. Geophysical Research Letters, 2016, 43, 2351-2358.	4.0	18
56	MHD Stability of Magnetotail Configurations With a B_z Hump. Journal of Geophysical Research: Space Physics, 2018, 123, 3477-3492.	2.4	18
57	The substorm cycle as reproduced by global MHD models. Space Weather, 2017, 15, 131-149.	3.7	17
58	Conservative averaging-reconstruction techniques (Ring Average) for 3-D finite-volume MHD solvers with axis singularity. Journal of Computational Physics, 2019, 376, 276-294.	3.8	17
59	COUPLING OF CORONAL AND HELIOSPHERIC MAGNETOHYDRODYNAMIC MODELS: SOLUTIONÂCOMPARISONSÂAND VERIFICATION. Astrophysical Journal, 2016, 831, 23.	4.5	16
60	Relationship between the ionospheric conductance, field aligned current, and magnetopause geometry: Global MHD simulations. Planetary and Space Science, 2005, 53, 873-879.	1.7	15
61	Does the polar cap area saturate?. Geophysical Research Letters, 2007, 34, .	4.0	15
62	MMS Observations of the Multiscale Wave Structures and Parallel Electron Heating in the Vicinity of the Southern Exterior Cusp. Journal of Geophysical Research: Space Physics, 2021, 126, e2019JA027698.	2.4	15
63	Geotail and LFM comparisons of plasma sheet climatology: 2. Flow variability. Journal of Geophysical Research, 2008, 113, .	3.3	13
64	Modeling Kelvinâ€Helmholtz Instability at the Highâ€Latitude Boundary Layer in a Global Magnetosphere Simulation. Geophysical Research Letters, 2021, 48, e2021GL094002.	4.0	12
65	Empirical Modeling of Extreme Events: Storm-Time Geomagnetic Field, Electric Current, and Pressure Distributions. , 2018, , 259-279.		11
66	Can Earth's Magnetotail Plasma Sheet Produce a Source of Relativistic Electrons for the Radiation Belts?. Geophysical Research Letters, 2021, 48, e2021GL095495.	4.0	11
67	A global MHD simulation of an event with a quasi-steady northward IMF component. Annales Geophysicae, 2007, 25, 1345-1358.	1.6	10
68	Electrodynamic context of magnetopause dynamics observed by magnetospheric multiscale. Geophysical Research Letters, 2016, 43, 5988-5996.	4.0	10
69	Reconstruction of Extreme Geomagnetic Storms: Breaking the Data Paucity Curse. Space Weather, 2020, 18, e2020SW002561.	3.7	10
70	Global Effects of a Polar Solar Eclipse on the Coupled Magnetosphereâ€Ionosphere System. Geophysical Research Letters, 2021, 48, .	4.0	10
71	Electrojet Estimates From Mesospheric Magnetic Field Measurements. Journal of Geophysical Research: Space Physics, 2021, 126, e2020JA028644.	2.4	9
72	Storm Time Plasma Pressure Inferred From Multimission Measurements and Its Validation Using Van Allen Probes Particle Data. Space Weather, 2020, 18, e2020SW002583.	3.7	9

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73	Solar concept of flux transport by interchange reconnection applied to the magnetosphere. Journal of Geophysical Research, 2008, 113, .	3.3	8
74	Modeling the effects of ionospheric oxygen outflow on bursty magnetotail flows. Journal of Geophysical Research: Space Physics, 2015, 120, 8723-8737.	2.4	8
75	Oxygen Ion Escape at Venus Associated With Threeâ€Dimensional Kelvinâ€Helmholtz Instability. Geophysical Research Letters, 2022, 49, .	4.0	7
76	Mesoscale perturbations in midtail lobe/mantle during steady northward IMF: ARTEMIS observation and MHD simulation. Journal of Geophysical Research: Space Physics, 2017, 122, 6430-6441.	2.4	6
77	Cross-scale energy cascade powered by magnetospheric convection. Scientific Reports, 2022, 12, 4446.	3.3	6
78	Poynting flux-conserving low-altitude boundary conditions for global magnetospheric models. Journal of Geophysical Research: Space Physics, 2015, 120, 384-400.	2.4	5
79	Local Mapping of Polar Ionospheric Electrodynamics. Journal of Geophysical Research: Space Physics, 2022, 127, .	2.4	5
80	Effects of ionospheric O[sup +] on the magnetopause boundary wave activity. , 2011, , .		4
81	Highâ€Latitude Electrodynamics Specified in SAMI3 Using AMPERE Fieldâ€Aligned Currents. Space Weather, 2022, 20, .	3.7	4
82	Incorporating Inner Magnetosphere Current-driven Electron Acceleration in Numerical Simulations of Exoplanet Radio Emission. Astrophysical Journal, 2021, 914, 60.	4.5	3
83	The Structure of the Cusp Diamagnetic Cavity and Test Particle Energization in the GAMERA Global MHD Simulation. Journal of Geophysical Research: Space Physics, 2021, 126, .	2.4	2
84	Kinetic Properties of Mesoscale Plasma Injections. , 2019, , .		1
85	Global Radiation Belt Modeling: Combined MHD, Ring Current and Test-Particle Simulations. , 2018, , .		0
86	Structure of High Latitude Currents in Magnetosphere-Ionosphere Models. Space Sciences Series of ISSI, 2018, , 583-606.	0.0	0
87	High-resolution Simulations of the Inner Heliosphere in Search of the Kelvinâ€“Helmholtz Waves. Astrophysical Journal, 2022, 925, 181.	4.5	0